

**Submission
No 182**

INQUIRY INTO COAL SEAM GAS

Organisation: Save Bunnan Inc and Wybong Action Group

Name: Dr David Stevenson

Date received: 3/09/2011

Submission re Coal Seam Gas Drilling in PEL 456

We respectfully present this submission to the Legislative Council Standing Committee No 5, from the residents of Bunnan in the Upper Hunter Valley, in PEL 456 under license to Santos QNT.

As background, Bunnan is a small village 30 kms west of Scone and 32 kms east of Merriwa. It is at the extreme top of the Hunter Valley just south of the Liverpool range. The village has twenty eight houses, a hall, a tennis club and two churches, with families working rurally and in the nearby towns.

The surrounding area is highly productive agricultural land based on the Wybong Creek, but includes the Dartbrook, Gibbergunyah, Cuan Cua and Halls Creek. These all supply fresh water into the Goulburn and then into the Hunter River. The Hunter- Central Rivers Catchment Management Authority acknowledges that this area is a pristine watershed for the Hunter River and essential via its substantial, drought resistant, volumetric contribution to the maintenance of the quality and quantity of fresh water to the populations and agricultural and horticultural producers in the Lower Hunter River Valley.

There are overwhelming scientific and multiple other reasons why exploratory drilling for CSG and extraction should not be undertaken in the Bunnan region specifically and in any of the Upper Reach Catchments of the Hunter River. These are:

- The substantial undisturbed environmental assets of the upper reach catchments including old growth vegetated slopes, basalt and sandstone ridges and native grassed slopes and plains that are essential to the maintaining the aquifer recharge and environmental quality and biota of the complete Hunter River Valley
- The collecting, filtering and cleansing functions of the upper reach catchments for water quality within the Hunter River Catchment ecosystem
- The essential ecological processes of the unregulated water sources, maintenance of pool and riffle sequences and their natural flow controls
- The quality, quantum and economic value of the agricultural production of the upper catchments and Hunter Valley in total
- The inherent dangers and extreme risk of extreme environmental damage that cannot be wholly mitigated, ever reinstated, or made good that are involved in the process of exploration, let alone in the higher risk proving of the resource and extreme risk extraction of the product from the coal seams.

Prime productive agricultural land.

Bunnan is the centre of a major agricultural area that continues from the very upper reaches of its creeks to their confluence with the Goulburn; the area centered on Bunnan

Submission: Legislative Council Standing Committee No 5 Inquiry into Coal Seam Gas

is blessed with self mulching black basalt volcanic soils of very considerable depth. Our soil quality is recognised as being of a standard equal to the best- Liverpool Plains, NSW and Darling Downs, Queensland. Being at the top of the watershed of the Goulburn and Hunter Rivers we have pristine surface water but due to the permeability of the aquifer recharge ridges and slopes and the basalt soils this is not able to be captured in quantities sufficient to alone support agricultural and human needs, hence we, and the agricultural economy, rely completely for our water needs on subterranean water.

Cropping: Considerable cropping takes place in the Bunnan region increasing at its western side that abuts the major cropping centre of Merriwa. The property bordering a proposed drill site on the Wybong Creek, frequently harvests 5 tonne per hectare of wheat, and 3 tonne per hectare of soya beans.

Wool Production and Fat lambs have been the backbone of early agricultural pursuits in the area and still remain important. Excellent lamb and wool prices have been achieved recently.

Cattle: Well known cattle studs (Shorthorn, Angus, Wagyu breeds) are well established and well sought after for their breeding potential. There are two Wagyu enterprises with 1000 cow breeding herds, numerous large efficient cattle breeding and trading businesses, strongly supporting one of the State's busiest sale yards in Scone. These large, reliable numbers of local stock provided confidence to Primo to build an abattoir and meat processing plant in Scone, offering opportunities for considerable employment. Primo supplies a percentage of Australia's meat smallgoods.

Stockfeed: Several properties specialize in supplying high quality lucerne hay to the horse studs of Scone and surrounding areas, some 20 km to the east. Scone is recognised as one of the four major thoroughbred breeding areas in the world, hence secure feed for these studs is essential. One property cuts 3.5 tonne per hectare of lucerne 6 times a year to supply these studs. This is possible because of our deep fertile basalt soil, our pure, regular aquifer water supply and our temperate climate, even in winter.

Olives: The area has a large olive farm with 100,000 trees, crushing and processing its olive oil on farm. There are also **vineyards, a quail farm and a herb farm.**

All these enterprises support major supply and service businesses in Scone and Merriwa. The fact that this an extremely important agricultural area is confirmed by the fact that Scone has five stock and station agents, including National companies (Landmark and Elders) and private companies, such as one in partnership with the Inglis Thoroughbred group. Merriwa, 60 km west of Scone has another three agencies. Bunnan, some 30 km from each town is a major supporter of both groups. Really they exist because the area of Bunnan is so agriculturally productive.

In the south of the catchment in the Manobalái-Wybong region, where major open cut mining is already occurring there are numbers of smaller acreage properties producing similar agricultural outcomes on the alluvial flats and improved pastures. Olive, Equine

Submission: Legislative Council Standing Committee No 5 Inquiry into Coal Seam Gas

and Viticulture activities are prominent and growing in economic contribution in this region and are wholly dependent on the maintenance of water flows and water quality from the Upper Catchments surrounding Bunnan. This region also supports numbers of rural residential and conservation agreement properties and is a focus area for the Greater Eastern Ranges Continental Biodiversity Project organized by Federal and State Authorities but largely supported through landholder participation and contribution.

Directly adjacent to this region are the Environmentally Significant Regions of Manobalai Nature Reserve, its Southern, South Eastern and Eastern Crown Lands and limited accessibility Old Growth Woodlands of Black Jack Mountain and Rossgole, separated and dependent in terms of maintenance of the native faunal biota by Wybong Creek and its intermittent streams and watercourses in that region.

The Manobalai-Wybong Region represents the sole, regionally significant agglomeration of undisturbed Hunter Valley Floor Woodlands and is haven to many TSC Act (NSW) and EPBC Act (Cwlth) registered threatened and vulnerable native flora, fauna and migratory bird species for which the maintenance of the waters of Wybong Creek, largely derived from the Upper Catchment surrounding Bunnan and the outcropping of Bunnan region aquifer recharge together with the intermittent streams and watercourses of the Manobalai-Wybong region.

This Manobalai-Wybong region will be significantly and adversely affected and its ecological values impaired by any injury to the quality and quantities of water sourced in the Upper Catchment centered on Bunnan.

Environmental issues.

The Manobalai-Wybong region together with Bunnan and its Upper Catchment, which is at the extreme top of the Hunter valley presents for all time the one hope and sole opportunity in all of NSW for the prospect of achieving the Greater Eastern Ranges initiative of biodiversity bridging the Hunter Valley and producing a continuous biodiversity corridor from the Greater Blue Mountains World Heritage Area to The Greater Eastern Rainforests World Heritage Area (Wollemi to Barrington) and hence from the Atherton Tablelands to the Victorian Alps.

The Hunter Valley south of the Bunnan-Manobalai-Wybong Region to the Coast is wholly disrupted by open cut coal mines and completely denuded of other than isolated patches of poor quality regeneration.

The Bunnan-Manobalai-Wybong Region Catchment of Wybong Creek is the last hope for the Australian and NSW Government Initiative to re-link the biota of the Greater Blue Mountains World Heritage Area to The Greater Eastern Rainforests World Heritage Area, through community participation in Biodiversity Corridor Connectivity, for this project to come to fruition.

Water

The town of Bunnan and the surrounding area is dependent on aquifer water by bores and all agricultural pursuits are reliant on reliable supplies of high grade water; this with the fertile soil and the climate is the basis of our success and in fact, our existence. Because of the porosity of basalt soil, dams are inefficient; our surface water is unreliable hence all our water is obtained from subterranean aquifers.

This, until now, has been used very judiciously by individual landholders, recognising that, as the aquifer flows beneath us, this is a shared resource. It is not the property of any one landholder and certainly not of individual industrial companies.

No water analysis study has been done in our area and yet drilling has begun. There has been no routine analysis of organic carbon (hydrocarbons) in the produced water and no mapping has been done to reveal the interconnectivity of the underground aquifers. They are just blindly drilling and hoping there will be no problems. The science of the process used by Santos has not yet been proven and we cannot risk the permanent destruction of our water and our land.

It has been consistently shown world wide (USA and Chinchilla Q) that the aquifers are inevitably affected by the process of CSG extraction and more so if the fracking process is used. Santos has stated absolutely and consistently that they will be 'fracking' and this is clearly stated on their website.

The produced water pumped out of the coal seam gas well, is toxic, extremely saline and contains a very broad range of carcinogens, heavy metals as well as man-made chemicals used in the drilling and fracking process. In the Surat Basin (Q) a million tonnes of salt each year is brought to the surface by coal seam gas drilling. The large volume of water produced has to be stored or transported away from the site by road and by many heavy vehicles.

Water quality is a vital issue. If we do not have intact, unpolluted aquifers, the area from Scone to Merriwa and beyond, will be a useless, uninhabitable area. At least one of the aquifers affected by the drilling in this region extends north 250 km to Gunnedah and no effective aquifer mapping has ever been done.

The Bunnan Catchment and associated creeks (Dartbrook, Gibbergunyah, Cuan Cua, Wybong and Halls creek) are regarded by the Hunter- Central Rivers CMA as vital for the health and viability of the Goulburn and the already at risk, Hunter River. The Lower Hunter Valley depends on the intactness of this pristine Catchment for its long term survival.

The industries of grazing, cropping, agriculture, viticulture, horticulture and coal/coal seam gas are incompatible. They cannot co-exist. We have very little grazing and farming land in Australia and even less prime grazing and farming land and this should be

Submission: Legislative Council Standing Committee No 5 Inquiry into Coal Seam Gas

permanently zoned to being 'non industrial' to safeguard its integrity and preserve its productivity for this and future generations.

We humbly request the Committee strongly recommend to the NSW Government:

1. a moratorium on coal seam gas drilling until the environmental, social and health impacts have been independently assessed,
2. the provision of a right in the Mining Act and Petroleum (Onshore) Act to allow landholders to refuse consent for coal and coal seam gas exploration or production on their land,
3. a prohibition of coal seam gas exploration and mining on productive farmland and where communities through the process of their Local Environment Plans determine that such industries should not proceed.

David Stevenson MB BS FRACS FRCS
Secretary 'Save Bunnan Inc'

&

John Shewan
President
Wybong Action Group

Authorised by the Executive Committee and Members of 'Save Bunnan Inc'
and
the Membership of the Wybong Action Group.