

Submission
No 360

INQUIRY INTO COAL SEAM GAS

Name: Mr Paul Huchings
Organisation: Border Rivers - Gwydir Catchment Management Authority
Date received: 07/09/2011



6th September, 2011

Our Ref: A607115

Director, GPSC 5
Legislative Council,
Parliament House
Macquarie Street
Sydney NSW 2000

Via Email GPSCno5@parliament.nsw.gov.au

ATTN: Ms Beverly Duffy

Dear Ms Duffy

RE: Submission to Coal Seam Gas Inquiry

The Border Rivers – Gwydir Catchment Management Authority (CMA) welcomes the Inquiry into the environmental, economic and social issues of coal seam gas (CSG) activities. This document forms a response to the terms of reference for the Standing Committee.

Border Rivers – Gwydir CMA Policy Position

The purpose of the Border Rivers – Gwydir CMA is “to help people in our communities look after their land for future generations”. The CMA does this through implementing the region’s Catchment Action Plan to achieve the strategic vision of “balanced production and conservation within resilient landscapes”. Coal seam gas activity has only recently impacted on the Border Rivers – Gwydir CMA and it has become an area of specific interest or concern to our clients and partners. The Border Rivers – Gwydir CMA has consequently adopted the following policy position with respect to coal seam gas:

1. That full environmental impact assessment must precede any exploration or production activity.
2. That cumulative impact assessment must be conducted in any area identified for exploration in addition to site specific environmental impact assessment.

Head Office
PO Box 411
15 Vivian Street
INVERELL NSW 2360
Telephone (02) 6728 8020
Facsimile (02) 6728 8098

Moree Office
PO Box 569
66-68 Frome Street
MOREE NSW 2400
Telephone (02) 6757 2550
Facsimile (02) 6757 2568

Armidale Office
PO Box U245, UNE
Trevenna Road
ARMIDALE NSW 2350
Telephone (02) 6773 5269
Facsimile (02) 6773 5288

3. That the protection of agricultural land and natural resources within the region must be core to any decisions relating to coal or coal seam gas exploration or production.
4. That regional development of the coal and coal seam gas industry must account for social and environmental issues on equal terms with economic issues.
5. That a long term planning horizon that extends beyond the local viability of the coal seam gas industry is applied in any planning decisions.
6. That the Border Rivers – Gwydir CMA will support landholders, government and industry in understanding or interpreting natural resource management issues of relevance.

Comments against Terms of Reference

1. The Environmental and Health impact of CSG activities, including the:

a) Effect on ground and surface water systems

Being a part of the Murray Darling Basin, the CSG exploration area within the Border Rivers – Gwydir CMA (refer Attachment 1) has hundreds of metres of mostly horizontally bedded, lacustrine and riverine sediments (sand, clay and gravel lenses) forming a relatively flat floodplain. This leads to a complex series of aquifers (in sand and gravel) divided by aquitards (clay lenses or various natural ‘cements’). Many aquifers are saline, however others are used for irrigation and many for stock and domestic use. Deeper in the series is the Great Artesian Basin (GAB), the importance of which is known world wide.

The complex system of aquifers in the exploration area makes intermixing of aquifers a potential risk.

Near to the ground surface in the south east of the CSG exploration area, the sediments are interspersed with more recent basalt soil and undulating terrain resultant from volcanism. There is a variety of causes of localised areas of sodic and saline soils which have serious erosion and pollution potential. It is imperative that no increase of seepage or aquifer recharge occurs as a result of exploration or mining in areas that are already identified at risk to saline groundwater.

Saline aquifers have caused the decommissioning of many bores across the region, including potential pollution of the GAB. Double bore casings with a cemented outer cavity have been used to overcome this problem and similar engineering controls should be applied by the CSG industry.

The connection of groundwater to groundwater dependant ecosystems must also be considered. For example, the Semi Evergreen Vine Thicket Threatened Ecological Community western complex can incorporate stands of the Threatened Species Carbeen. Carbeens are present only where groundwater is accessible and alteration to groundwater regimes would impact on the survival of these vegetation communities and the fauna dependant upon them. These hilltops are the patches forming connectivity with roadsides and waterways – all essential for both flora and fauna genetic distribution and survival.

It is recommended that studies be undertaken to identify likely outcomes of exploration and mining on geology, aquifers, soils and groundwater dependant ecosystems and that mitigation measures be an essential prerequisite for CSG operations.

b) Effects related to the use of chemicals

The Border Rivers – Gwydir CMA advocates that the impacts of chemical use must be fully understood and the precautionary principle applied when dealing with uncertainty. Production development of CSG will require detailed environmental monitoring and response programs.

c) Effects related to hydraulic fracturing

The Border Rivers – Gwydir CMA recommends that prior to the use of this method in any locality that the interaction between the groundwater systems are fully investigated and understood. The groundwater flow systems under the Brigalow Belt South and Darling Riverine Plains Interim Biogeographic Regions of Australia in particular have complex aquifer systems with connectivity to the Great Artesian Basin. Hydraulic fracturing may initiate interaction between aquifers where there was naturally an impermeable barrier. The water resources need to be protected from contamination at both the site and regional scales.

The use of paired horizontal wells along the seam is a preferred method of extraction.

d) Effect on Crown Lands including travelling stock reserves and State forests

A primary issue for consideration in CSG development in the region relates to the impacts on remnant native vegetation – on both freehold and Crown Lands.

The remaining vegetation linkages found within the CSG exploration area of the Border Rivers and Gwydir catchments are largely along roadsides and watercourses. Many are Travelling Stock Reserves. All remnants of native vegetation are essential for biodiversity and habitat, ecosystem services and resilience in the landscape. Most of the remaining native vegetation in the exploration area is either Environment Protection and Biodiversity Conservation Act (EPBC) listed, Threatened Ecological Communities (TECs) or provides Habitat for EPBC listed Threatened Species.

Roadsides and Travelling Stock Reserves (TSRs) represent many of the most important conservation areas remaining in the region. The risk to these areas is where easements, trafficking or infrastructure result in the clearing or degradation of native vegetation, including native groundcover.

It is well documented in areas that have CSG that properties (freehold or Crown Land) have multiple easements for pipelines, power lines etc but may not have a well. This infrastructure may serve to further fragment the landscape.

The issues are potentially compounded by the industries awareness of these issues. For example, the Eastern Star exploration area has large areas of the EPBC listed Natural Grassland TEC containing many threatened groundcover species which was mistakenly assessed as “cleared land” in a Review of Environmental Factors.

Weed infestation has also been identified as a major threat to TECs. Weed infestation exacerbated by vehicular movement and roadside slashing are major management issues for the Border Rivers - Gwydir CMA as well Local Government.

With significant public investment in native vegetation management in the region, the Border Rivers – Gwydir CMA has spatial information that could be accessed by the industry to inform decisions with respect to native vegetation.

e) Nature and effectiveness of remediation required under the Act

The Border Rivers – Gwydir CMA makes no submission against this line of inquiry.

f) Effect on greenhouse gas and other emissions

The Border Rivers – Gwydir CMA makes no submission against this line of inquiry.

g) Relative air quality and environmental impacts compared to alternative fossil fuels.

The Border Rivers – Gwydir CMA makes no submission against this line of inquiry.

2. The economic and social implications of CSG activities including those which effect:

a) Legal rights of property owners and property values

The Border Rivers – Gwydir CMA recommends that any CSG development must ensure communities are respected and consulted and that locally relevant political, economic, social, technological, environmental and legal issues are thoroughly researched and addressed in planning and operational processes. Further, appropriate remediation methods need to be agreed and understood by all stakeholders before exploration and mining are approved.

When a new industry/landuse such as mineral exploration commences in a district, there is no formal way of communicating local concerns and issues and ensuring they are properly addressed.

Indigenous cultural heritage values are rich in parts of the exploration area and there are significant Aboriginal ties with much of the land. This also needs to be considered in any CSG development.

b) Food security and agricultural activity

Coal Seam Gas and petroleum potential extends under approximately two thirds of the Border Rivers and Gwydir Catchments in a north-south band, approximately 200 kilometres wide. Regarded as highly productive agricultural land, the soils in this area, valued at \$4,200 to \$4,900 per hectare, produce both irrigated and dryland summer and winter crops including cotton, sorghum, corn, wheat, millet, legumes, corn, stock fodder, fruit and nuts. Grazing, predominately by cattle, is a valuable and integral component on many properties in the area.

The protection of agricultural land and natural resources within the region must be core to any decisions relating to coal or coal seam gas exploration or production. With global population increases and food security being significant issues, a long term planning horizon that extends beyond the local viability of the coal seam gas industry must be applied in any planning decisions.

Farmers use control traffic or GPS guidance cropping systems is to avoid compaction and loss of crop production in compacted soils caused by varying configurations of tyre tracks. A similar long term view of soil impacts needs to be adopted by the CSG industry.

c) Regional development, investment and employment and State competitiveness

The social impact of the establishment of large scale CSG in a region can be significant, with both positive and negative outcomes. Major change in rural communities is a foreseeable result of CSG development and must be properly planned to allow communities to understand and adapt to potential change.

Evidence of this can be seen in the Surat Basin in Queensland. For example, the population, social demographic, land values, rental availability, employment opportunities are all impacted by the development of a new industry at large scale.

The industry needs to develop and integrate with the rural community and not establish itself in isolation.

d) Royalties payable to the State

The Border Rivers – Gwydir CMA makes no submission against this line of inquiry.

e) Local Government including provision of local/regional infrastructure and local planning control mechanisms

While outside the core business of the Border Rivers – Gwydir CMA, through membership on the Border Regional Organisation of Councils, it is worth noting that the careful planning of infrastructure and services and their long term resourcing represent key challenges for Local Government in the rapid growth of the CSG industry in a region.

In the experience of the Border Rivers – Gwydir CMA, the current approach to determining environmental harm through a Review of Environmental Factors is limited by the application and knowledge of the developer and the skills of the determining authority.

The documentation of environmental harm through an REF often demonstrates a limited understanding of landscape scale processes and connections of rainfall and runoff, native vegetation and biodiversity and soil management issues, particularly the long term impacts.

Current legislation is inadequate as it fails to adequately consider cumulative impacts of hundreds of kilometres of slashing, compaction, disturbance of threatened species, the risk of soil erosion and the threat of transporting weeds.

Exploration and mining represents a change of landuse and should be required to address economic, social and environmental issues rigorously.

Adequate resources must be provided to consent authorities to fully resource the process of reviewing exploration and mining applications and addressing the impacts of CSG mining.

3. The role of CSG in meeting the future energy needs of NSW.

The Border Rivers – Gwydir CMA makes no submission against this line of inquiry.

4. The interaction of the Act with other legislation and regulations, including the Land Acquisition (Just Terms Compensation) Act 1991.

The Catchment Management Authorities Act, 2003 requires that the CMAs develop and implement Catchment Action Plans (CAP) to guide natural resource management investment in each region.

The current CAPs are under review and the pilot CAPs undertaken by Namoi and Central West CMAs demonstrate that the revised CAPs will be an effective resource based on a Resilience Thinking framework. The Border Rivers – Gwydir CMAs CAP should be considered in any landuse decisions by the CSG industry and consent authorities.

5. The impact similar industries have had in other jurisdictions.

The Border Rivers – Gwydir CMA is a member of the Border Regional Organisation of Councils, which is a cross NSW-QLD border forum.

The Western Downs Regional Council has useful insight to the development of the CSG industry in the Surat Basin and lessons that could be learnt by other planning jurisdictions.

Thank you for the opportunity to make a submission to the Inquiry into coal seam gas. Should you require additional information, please don't hesitate to contact me on (02) 6728 8025 and I would welcome the opportunity to address the Committee at one of its regional community meetings.

Yours sincerely

Paul Hutchings
General Manager

Attachments:

1. Petroleum Exploration Licences within the Border Rivers – Gwydir CMA.
-