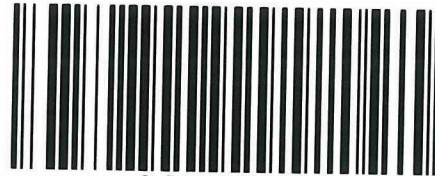


Name : Malcolm Donaldson

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Boggabri NSW 2382

Date: 15/5/2017



PCU070882

Attention Executive Director, Resource Assessments

Department of Planning and Environment

GPO Box 39

Sydney NSW 2001



This is a submission with regard to the Narrabri Gas Project EIS by Santos.

I object to this project.

Introduction.

My name is Malcolm Donaldson and I am a farmer operating a mixed cropping and beef cattle farming operation on the south eastern edge of the Pilliga forest.

Our family have owned and operated a farming business since the 1880's. We are locals...we are not blow ins. We currently have 3 generations of our family living on the property. Our farm is located directly in front (to the east) of the Willala hills and as such is less than 20 km south east of the Bibblewindi state forest.

Our farming operation is well established and well recognised. We were the 1988 Brownhill cup recipients for Conservation farmer of the year, and we have maintained these high standards to the present day. We produce EU and MSA accredited cattle, and grow winter crops such as wheat, canola, and barley.

We have spent some time examining the Santos EIS for the Narrabri Gas project.

Grounds for Objection.

These are numerous, however I will limit my response to bushfire risk, risk to our underground water supplies, risks to wildlife, and light pollution risk to scientific research at siding springs observatory.

## Fire

The Pilliga is one of the most bushfire prone areas in the state with bushfire events common. Most fires are caused by either lightning strikes or man made events which can take many forms, including accidents and mechanical failures.

Santos's analysis of the fire risk to its staff and to the regions surrounding the project area are disturbing and misguided. Recent improvements in pastures and no till farming techniques in areas adjacent to the forest has meant that with the increased ground cover there is an increased risk of a major event if a Pilliga fire was to escape the confines of the scrub.

Our property is located less than 20 km south east of the proposed gas field. The main prevailing wind during the fire season is north westerly. As we are south east of the gas field, that puts us directly down wind of any potential ignition point.

We are well aware of the consequences of a Pilliga fire. Our most recent incursion was in December 2006, where we lost about 20% of our farm to an extreme bush fire event that burned out over 11,000 ha in 3 hours. Flame height was at least 30m. (photo). Fire intensity was such that the ground was vacuumed clean and free of ash and debris. We lost fences and pastures and lost productive (grazing) for 2 years as the land recovered slowly. We had to reduce stock numbers and suffered financially.



Our property 2006

I first joined the local rural fire service towards the end of 1978 and have been actively involved with the RFS, fighting local fires ever since. I am well aware of the risks and consequences of Pilliga bushfires.





Pilliga 2006

During the recent catastrophic 2017 fire conditions experienced in our district, Santos maintained large gas flares in the middle of the pilliga exploration area.

Whilst fighting the 2017 Boggabri fire in these same conditions, we observed the ignition of vehicle tyres as a result of a single spark whilst parked in a cleared debris free carpark. We observed and extinguished spark ignited truck tyres and bunker tarps that were in cleared areas. We are told to expect more of these extreme fire danger events.

Whilst on this occasion there was no incident or ignition in the Pilliga attributable to the Santos flares, it was more a case of good luck than good management. A single leaf blown through a Santos flare, or a single spark emitted from one, has a high likelihood of starting fire with potentially catastrophic consequences.

(photo below "Braemar" December 2006)



## Agricultural Impact

According to the EIS, Santos has "consulted widely" with 5 farmers that Santos has deemed suitable for consultations.... In other words, Santos has found 5 compliant farmers of unknown credentials to represent the views of the rest.

Time and again the phrase "...in the project area.." is used in the EIS without considering Agricultural impact in areas outside the project area... agricultural impact extends well beyond the confines of the project area.

These include poaching of agricultural and specialist service industry staff.

Inflated charges for farmers accessing mechanical and other trades services, as local businesses have to increase their fees to cover the higher wages needed to retain staff.

Increased traffic and risks to road users, and damage to vehicles. Local traffic showered with rocks from resource industry traffic is a universal experience.

Fire risk from CSG flares are a hazard to any agricultural activity within at least 50km. Santos' operations and attitude to fire risk are a major factor in the likely agricultural impact both inside the project area, and also the entire region.....and this has been largely overlooked in the EIS . . I regard the continued use of these flares as reckless.

Santos has released maps to its shareholders that include potential gas fields in the Tooraweenah area (SW of the project area), Bando (Mulalley/Tambar springs) ..SE of the project area), Gunnedah (ESE of the Project area), and Muswellbrook (Liverpool plains) .

Whilst the initial project area has an impact as stated above, the expansion to these additional areas will have an enormous impact on this highly productive region's ability to produce clean and safe food . Our market for our agricultural products rely on our ability to produce a guaranteed clean and safe product.

Any risk to the environment in which these agricultural products are grown, will in turn risk Australia's access to our current and future markets.



## Water.

On our farm our main water supplies are all underground from bores and wells of various depths. We also use some surface water supplies to supplement our underground water, which is not in abundant supply. The underground water supplies are all low yield stock water supplies and are not suitable for irrigation.

One of our main supplies is also our deepest at 1030 feet deep. It is one of the deepest non artesian bores in the region. It supplies around 500-600 litres of water per hour.

We have serious concerns that this supply ( and our other bores and well) will be adversely affected by the project activities.

There is no mention of sulphate reducing bacteria that will be released from the CSG coal seams, and the effect they may have on infrastructure and well integrity.

In table 7.3 on page 321/660 (Groundwater Impact) , Santos have rated "...induced aquifer connectivity via vertical leakage in CSG wells " as a moderate Risk.

It also rated "...a drawdown in existing groundwater bores.." as a moderate risk.

Nothing written or referred to in the EIS has reassured us that our long term access to underground water is safe, .. in fact to use Santos' own words ... it's a moderate risk

A risk not worth taking.

## Risks to wildlife.

As I live on the edge of the Pilliga forest I am well aware of the amount of wildlife that inhabit it. Of particular interest to me is the bird life. If you sit quietly and listen to the forest you will become aware of the large numbers of different types of birds that inhabit this area. They are often seen watering at some of our dams on the edge of the scrub.

Santos proposes to use large open plastic lined dams to store treated and untreated water. They are planning some form of exclusion fence for the exclusion of land based wild life, but it would appear there are no provisions for the exclusion of birdlife from these "unhealthy" sources of water.

## Light pollution.

Siding Springs observatory in the Warumbungles is adjacent to the Pilliga forest, and is dependant on dark sky conditions for its continued world class research.

Santos is proposing to build numerous flares in the development area that will cause unacceptable levels of light pollution and will put at risk the entire scientific operation of the observatory. The facility is already experiencing some light pollution issues with the Boggabri coal mine developments and this Santos proposal will significantly increase the risks to over 30 scientific based jobs and various scientific projects based at this facility. There appeared to be little reference to this issue in the EIS.

This is a move over .. out of my way attitude that I find disturbing.

## Conclusion.

This project has many shortcomings, and the EIS, despite its daunting size, is an underwhelming document. The risks to water are considerable. The chances of rectifying a mistake are limited. The project life is suggested to be 25 years, and yet the full impacts in Santos' view (Chapter 11 Timing P.60) will be 2-700 years? In Queensland the adverse CSG impacts started to materialise inside the 25 year life of the project

Full recovery to the existing status quo in 1500 years...?

In the meantime we are asked to endure wildfires, loss of water resources, risks to birdlife, substantial risks to one of Australia's premier food producing regions, and various social and financial hardships.

NO THANK YOU ....I strongly object to the Narrabri Gas Project



Malcolm Donaldson

"Braemar"

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