

**NSW Government**

**Dept. of Planning and Infrastructure**

Title: Santos NSW (Eastern) Pty Ltd, Dewhurst Gas Exploration Pilot Expansion, EIS - Reference

Number: SSD 13\_5934

11 December 2013

**Re: Dewhurst Gas Exploration Pilot Expansion SSD 13\_5934**

Dear Sir/Madam,

I wish to lodge a formal objection to Santos' Dewhurst Pilot expansion plan, on behalf of myself (as a farmer and grazier), and also on behalf of the NSW Artesian Bore Water Users Association, of which I am president.

There are many grounds for my objection. Firstly, the fact that Santos have escaped approval of this stage by the EPA and instead can get approval by the Planning Minister, because of a Clause in Sec 1 of the SRD SEPP clause 7(2) which says "the planning minister is the decision maker where there are a set of more than 5 wells that are more than 3 km from any other well in the same petroleum title. The decision maker should be the EPA."

Santos have stated publicly that this exploration project is just the beginning and that they plan to drill 850 wells across the pristine Pilliga Forest, the largest inland forest left in NSW, and the recharge zone for the Great Artesian Basin. I have already written a submission objecting to another Santos coal seam gas EIS only a short time ago, and I wish to lodge a formal objection to the fact that Santos is applying for these approvals well by well, to hide the cumulative impacts that this exploration will have on the Pilliga Forest, and on the Great Artesian Basin. I can only re-iterate the points I raised in my previous submission, to also object to this new and damaging proposal.

Santos already have approval to build two enormous 300 million litre wastewater holding ponds, drill eight new wells without adequate groundwater monitoring or modelling, and bulldoze extensive areas for pipelines and roads. This is all taking place in a critical recharge zone for the Great Artesian Basin. To meet the Director General's requirements, and the public's expectations, this massive project should be assessed as the single enormous project that it is, not assessed separately.

The 'Triple-Stacked' drilling of horizontal coal seam gas wells through the casing of the existing wells, at Dewhurst 13-18H and 31, poses an even greater danger to the Great Artesian Basin and other aquifers than from ordinary wells, as it is very difficult, if not impossible, to seal the junction between the casing and the lateral. When questioned about sealing these junctions in July this year, NSW Chief Scientist Professor Mary O'Kane said she had been told by Santos that they had difficulty sealing these junctions known as Kick Off Points (KOPs). It is clear that Santos hold little concern for the pollution of aquifers by either drill fluids or gas escapes and the down draining of aquifers. All gas wells leak in time, 6% leak immediately, and within 20 years, 30% leak. As Santos will be long gone by then, who will bear the future cost of rehabilitating the corroding and crumbling wells, that have lost their integrity?

The drilling of these wells will produce an additional 331 and 413 megalitres over three years for the operation of Dewhurst 13-18H and Dewhurst 26-31 pilots respectively, of highly saline waste-water

containing heavy-metals and petrochemicals. Santos still do not have approval for any long-term sustainable management of this toxic produced water that poses a huge threat to the local creeks and groundwater from spills and contamination. The Narrabri wastewater treatment facility that Santos hopes to build, poses more unanswered questions. Will the drilling waste be tested for radioactivity, salinity, heavy metals etc, or do they intend carting it away before they test it? Do they test waste at all and what standard do they test to? Does the treatment works treat solids? And if not, what do Santos intend doing with the solids? What happens when the Water Treatment Facility shuts down? (one third of the time, WTF's are shut down and out of action – clogged by bacteria etc.). Santos must publish a clear, approved and ongoing strategy for dealing with the enormous quantities of waste, before they commence this project.

In addition, despite the risks posed by the new tri-lateral wells, there is no established baseline data for the important groundwater systems underlying the Pilliga such as the recharge zone for the Great Artesian Basin. The aquifer monitoring bores required to do this have not yet been commissioned and some are still to be constructed. The cumulative water model used by Santos has been shown by many expert hydrogeologists to lack the basic data required to assess the impacts of drilling for CSG on groundwater in the future (see attached letter and submission).

Of great concern are the potential impacts of CSG exploration on the groundwater quality and quantity within the Great Artesian Basin (GAB) Pilliga Sandstone aquifer beds and the Quaternary (recent) unconsolidated alluvial aquifers beds. The GAB aquifer beds within PAL 2 provide vital water for stock and domestic purposes. Of equal concern is that the CSG Program is located within the Pilliga Sandstone recharge beds to the GAB, which are unique to the region. Any activity which intercepts and potentially removes water from the recharge areas, or potentially allows cross contamination of GAB waters with the poor water quality from the coal seams should be scrutinised in light of these potential risks. Any degradation of the GAB beds will cause significant and irreversible damage to this unique and highly valuable water supply.

The further drilling required for these wells could well spell annihilation for the Federal and State listed threatened species that live in the Pilliga Forest. These include the Pilliga Mouse (found only in the Pilliga), Koalas, the Black Striped Wallaby, Eastern Pygmy Possum and many more. The Pilliga is also a haven for birdlife, including the internationally protected Rainbow Bee-eater. The breeding status and population dynamics of the threatened species in the Pilliga are very poorly understood. There must be baseline ecological surveys to assess the population dynamics and status of the Pilliga Mouse and other threatened species. A little known fact is that the Black-striped Wallaby is perhaps the most critically endangered wallaby in NSW, and the most important population left lives in the northern Pilliga area and leads a precarious life moving between the Pilliga and the Brigalow Park Nature Reserve 20 km to the north. The CSG field is right in the middle of where this wallaby colony lives and they will be under threat from increased truck volumes, poisoned water and increased risk of wildfire because of flaring at the gas sites.

The Pilliga is highly susceptible to fires, largely due to the high incidence of ironstone attracting lightning strikes. It is not unusual for the Rural Fire Service to record up to 1000 over a 24 hour period in the Pilliga region. Santos does not appear to have a clear bushfire strategy, especially for gas flaring, which cannot be shut down on catastrophic fire days. The coal seam gas industry is exempt from total fire bans, which everyone else must obey, and this should certainly be taken into consideration when granting approval to such a fire-prone industry, in the middle of such a tinder-dry forest. The captain of the Warrumbungle bushfire brigade has stated publicly that if a fire breaks out in the Pilliga forest, the firemen will not even attempt to fight it, as it would be impossible to extinguish, and far too life-endangering for the firemen. Do Santos intend to go out themselves and try to fight the fire they will have created? I was told that if they shut down the gas

flaring (during fire-bans), then the gas will explode. Altogether it is an insanely risky proposition to have venting flares and high pressure gas pipelines in this forest, and in this environment.

The baseline atmospheric methane data collection against which to assess any future potential fugitive emissions and Independent Health Impact Assessment of north-west NSW to establish baseline health data and air quality information has not yet been conducted.

The latest studies of unconventional gas drilling from Harvard University have suggested gas emissions from drilling and fracking are 50% worse than previously thought. A 2012 study by researchers at the Southern Cross University found significant amounts of methane appeared to be leaking from the country's largest coal-seam field, near Condamine on Queensland's Western Downs.

From an economic perspective, the assessment that has been done does not take into account any costs of the project, only the claimed benefits. This approach has been labelled as "biased", "abused" and "deficient" by the ABS, Productivity Commission and Land and Environment Court respectively and does not comply with DGRs. DGRs call for a demonstration of "net benefit" to the NSW community. To an economist, this is a clear call for cost benefit analysis. There is no cost benefit analysis in the EIS. NSW Treasury and Department of Planning put out guidelines in November last year, specifically to guide cost benefit analysis of mining and CSG projects. These have not been followed.

I ask you to read the following paper (see link below) by Professor Alan Randall; and then I ask that you will take into consideration the short and long term risks presented by this project, in comparison to the perceived profit.

Yours faithfully,

Anne Kennedy

"Yuma"

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(President NSW Artesian BoreWater Users Association)

0429-023007

**Recommended Citation:** Chen, Cindy and Randall, Alan (2013) "The Economic Contest Between Coal Seam Gas Mining and Agriculture on Prime Farmland: It May Be Closer than We Thought," *Journal of Economic and Social Policy*: Vol. 15: Iss. 3, Article 5. Available at: <http://epubs.scu.edu.au/jesp/vol15/iss3/5>