

Submission to Inquiry into the Impacts of Mining in the Murray Darling Basin

To: Senate Standing Committee on Environment, Communications and the Arts

From: Nevin Olm



Background

I am an organic grain grower in partnership with my wife at Glenoak and Oaklands which are properties located on the Haystack Plain which is part of an alluvial flood plain (Condamine Floodplain) within the Murray Darling Basin. These floodplains which were formed by thousands of years of episodic flooding are extremely flat with topography of less than 0.02 percent. The floodplains are renowned for their rich, deep layers of self-mulching, cracking-clay soils and high moisture holding capacity. My grandfather commenced primary production at Glenoak in 1908. At that time the area was covered with mostly dense Brigalow scrub, a legume which in turn contributed to an abundance of natural fertility. This natural fertility which has been enhanced by organic farming practices remains to this day with dry land organic wheat production last year producing gross margins exceeding \$1,680 per hectare.

Our properties now form part of the Mineral Development Licence 383 which Tarong Energy say they own. Tarong Energy is a state government owned corporation that plans to on-sell the licence which covers approximately 13,000 hectares, for the production of an open cut coal mine. Last winter crop season, the area covered by MDL 383 produced enough wheat to bake 68 million loaves of bread or feed 27,000 African families for one year.

Submission

On the 1st of September 2008 the Queensland government issued Tarong Energy, their state owned corporation, a Mineral Development Licence over the Haystack Road coal deposit. Tarong Energy openly stated at a public meeting on Thursday, 25th September 2008 that they have more than enough coal at their Kunioon and Meandu deposits to service their power generation requirements for the life of their power station. Tarong Energy representative openly declare they have no intention of mining the Haystack Road coal resource but will sell "their resource" to another mining company. Tarong CEO confirmed in writing that "due to market uncertainty caused by the global financial crisis, Tarong will now delay their approach to the market".

Clearly the global financial crisis has provided time for the state government to reassess the need to destroy some of the world's most productive dry land farming regions for the short sited financial benefits through the sale of "their asset" and corresponding injection of royalties.

But they have not. The Queensland government refuses to rule out the sale of MDL 383 despite repeated calls for a moratorium on mining development of prime farming land until the completion of a planning process identifying premium farming land within the Surat Basin.

The Haystack Road coal deposit is located on the Brigalow floodplain and a sub catchment of the Condamine floodplain within the Murray Darling Basin. The Brigalow Floodplain along with the Jimbour, Pirriuan, Felton and Brookstead floodplains are some of the most productive farming regions within Australia and most likely the world. All these farming areas quoted, are subject to either application or granted permits to explore for either coal, petroleum or mining. The Queensland Premier has stated that we have sufficient known coal reserves to last 300 years. Why then is it necessary to destroy our most productive food producing land when clearly there is no shortage of coal.

The key impacts on the Murray Darling Basin include:

1. The destruction of prime agriculture land.
2. Overland flow diversions leading to a significant increase in degradation.
3. The affect on the local community and commerce.
4. The impact on the world's food production.

The Destruction of Prime Agriculture Land

At current coal values it is not economically viable to rehabilitate prime farming land on the floodplains. The Haystack Plain is renowned for its rich, deep layers of self-mulching, cracking-clay soils. The unique mix of sand, silt and clay that were laid down by thousands of years of episodic flooding provides the high moisture holding capacity (PAWC 280mm) which can not be replicated by current technology. There is no known technology that can remove and then replace these soils and maintain the current structure, bulk density and water holding capacity.

There is scientific data (Tolmie et al.2003) which shows that there is in excess of 31 tonnes per hectare of chloride (salt) in the soils at Haystack within 4.5m of the surface. The surface is strongly alkaline (pH8.5) while the subsurface is strongly acidic (pH 4.5). Soil structure weakens at depth to become strongly sodic and saline below rooting zone. (Biggs et al. 1999) Tarong plans to sell MDL 383 for the development of an open cut mining operation, therefore this material must all be contained to prevent large scale degradation beyond the existing tenement and avoid leaching throughout the Murray Darling Basin. The chemical and physical properties of the soil on the Haystack plain will be impossible to rehabilitate, period.

Overland Flow Diversions Leading to a Significant Increase in Degradation

The Haystack plain is located within the Brigalow Floodplain and has typical slopes of 0.02 percent. There is 90,000 hectares of farming land on the Brigalow Floodplain and while not all of it is as highly productive as the Haystack Plain, they are intrinsically linked due to the dynamic nature of the floodplains. Any diversion or disruption to beneficial flooding will cause significant loss of productivity and exacerbate severe erosion and degradation.

The physical characteristic of the floodplains were formed over thousands of years of episodic flooding. In the early 1900's the Brigalow Floodplains was first opened up to agriculture. At that time the very deep self mulching cracking clay was covered with mostly dense Brigalow scrub, dotted with gilgais or melon holes. The floodplains are fed by floodwaters from the western

slopes of the Great Dividing Range where the catchment boundaries are very easily defined. (>2-4% slope). However where the floodwaters meet the floodplains the topography changes dramatically as the micro catchment boundaries on the Brigalow Floodplains are impossible to identify with the naked eye. As the land was clear of native vegetation for agriculture, fences, roads and farming practices changed the direction of the natural water flow and floodwaters became diverted from one micro catchment to another. These flow diversions impacted significantly on the natural resources, leading to severe degradation from soil erosion, ponding and denitrification. As well as the steep decline in productivity, local government found it impossible to achieve consensus amongst landowners when providing services such as road infrastructure. There were also court cases, poor community spirit and even physical fights between landowners.

In 1992, the Brigalow Floodplains Group was formed to address these increasingly complex issues. Managed by the community with technical support from state agencies and involvement from local government, the Brigalow Floodplains Group spearheaded the first large scale integrated catchment management project in Queensland. Since that time, all three levels of government and community members have contributed approximately \$30 million to overcome previously unsustainable practices. The key objectives of the Brigalow Floodplains Group include:

- Fixing up the water flow on farms by restoring the integrity of the micro catchments.
- Installing new flood ways and drainage systems across roads and under railways.
- Increasing cover on properties to replicate pre European settlement and spread the water flow.
- Increase the awareness of the processes involved and the need for flood mitigation.
- Provide educational workshops for land managers to increase the knowledge and skills on how to implement change.
- Provide incentives to accelerate change.

Over the past 17 years the Brigalow Floodplains Group now known as the Brigalow Jimbour Floodplains Group has received many state and national awards and accolades from around the world. The floodplains are now more productive than in anytime in the history (>100 years) of agriculture.

If MDL 383 is mined, all this work will be undone. There would be an obvious need to contain mullock heaps which will contain many tonnes of salt to prevent any leaching beyond the existing tenement and throughout the Murray Darling Basin. Clearly any winding back of the clock in terms of impediment of overland flow or diversions even minor in nature will cause degradation well beyond the 13,000 hectare MDL 383 that Tarong wants to sell for an open cut coal mine.

The Affect on the Local Community and Commerce

Agriculture across the entire Murray Darling Basin has provided a steady rate of growth for economies since European settlement. Locally, the community and small towns like Dalby and Chinchilla have survived adverse seasonal conditions and boom and bust cycles in commodity prices. In good seasons, all agricultural land can produce positive economic returns. However in adverse seasons, it is the prime agricultural land like the Haystack Plain that contributes

disproportionately to the farm sector and the welfare of the community.

Our community, our nation and indeed the human race simply can not afford to lose significant areas of agricultural production for the sake of a one off capital windfall and 25 year injection of royalties. Support industries such as grain storage facilities, machinery suppliers, agronomic services, merchants, retail suppliers of fertilizer and chemicals are all geared up to supply the local farm sector. These support industries will become unviable if agricultural production is precluded from the Haystack Plain due to coal production. Clearly the infrastructure that has survived downturns and prospered during abundant seasons will no longer be sustainable resulting in the total collapse of these services as well as the farm sector in this community and region.

The Impact on the World's Food Production

For the local community, the granting of the mineral development licence at Haystack was the line in the sand. "If we can not stop mining at Haystack which is arguably amongst our nation's most productive dry land regions, then we might as well pack up". By December 2008 there were 6.98 million hectares of Good Quality Agricultural Land (GQAL) within the Queensland section of the Murray Darling Basin granted for exploration permits. (Coal 1.52m ha, Petroleum 5.3m ha, Mineral .16m ha). While there are overlaps in exploration permits, a further 5.51 million hectares is currently under application for exploration. Clearly the pendulum has swung too far as government decision-making process is being tainted by the relatively short term economic spike that mining provides and is putting at risk the very essentials of life – "food". We are losing highly productive food producing land at a rapid rate to urban encroachment, degradation and now mining. Some literature suggests as much as 35 percent of farming land will be lost within the Murray Darling Basin due to climate change which ironically is exacerbated by burning fossil fuel.

The Commonwealth government must intervene and apply a brake to this "mine anything" mentality within the Basin. The World Bank recently noted that "to meet projected demand, cereal production will have to increase by nearly 50 percent and meat production by 85 percent from 2000 to 2030." And it further cautions that: "managing the aggregate response of agriculture to rising demand will require good policy and sustained investments, not business as usual". The World Bank, 2008a, *World Development Report 2008; Agriculture for Development*, Washington.

<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/EXTWDR2008/0,,menuPK:2795178~pagePK:64167702~piPK:64167676~theSitePK:2795143,00.htm>
[Accessed 25 November 2008.

Today, more than 6 billion people rely on food grown on just 11 percent of the global land surface. Even less ground – a scant 3 percent of the Earth's surface offers inherently fertile soil. (Charles C. Mann *National Geographic*) The Condamine Floodplain within the Murray Darling Basin provides some of our nation's most resilient soil types and Haystack is at the forefront.

United Nation's recent report states "farmers will need to grow as much food in the next 50 years as we have produced in the last 10, 000 years. We will have another population the size of China to feed in Asia, and equivalent to another China in the rest of the world, in the next 40 years". Any further loss of our best food producing land due to unnecessary mining while overseen by government inaction will be judged harshly by future generations of Australia and

the world.

In the short to medium term the latest (2008) joint OECD-FAO assessment, which covers the period 2008 to 2017, notes that: "For the Least Developed Countries, especially the food-deficit group, the projections thus show greatly increased vulnerability and uncertain food supplies during an era of high commodity prices and high price volatility" and "over the longer term, agricultural supply is facing increased uncertainties and limitations to the amount of new land that can be taken into cultivation". OECD-FAO, 2008, *Agricultural Outlook 2008-2017*, http://dpl/Ejournals/OECD_FAOAgriculturalOutlook/2008-2017.pdf Accessed 25 November 2008.

It should not be forgotten that prior to the sharp rise in food and fuel prices, some subregions and a number of countries had made significant progress in reducing hunger. This demonstrates that good policies can assist tackle the persistent challenges of hunger. The effects of the food and fuel crisis on malnutrition and schooling can undermine years of progress on the Millennium Development Goals. Early malnutrition, while preventable, has irreversible costs as malnourished children cannot develop into healthy adults. This is a tragic loss of human and economic potential. Unhealthy, less-productive populations are less able to generate the growth needed to lift themselves and their country out of poverty. This section extracts heavily from the Assessment of the World Food Security and Nutrition Situation prepared for the FAO's Committee on World Food Security, Thirty-fourth Session, Rome, 14-17 October 2008. <ftp://ftp.fao.org/docrep/fao/meeting/014/K3058E1.pdf> Accessed 29 November 2008

Conclusion

Haystack plain farmers have produced food for the nation for over 100 years. We are more sustainable, more productive than anytime in the past. Our farm managers and workforce are highly skilled. And together with current farming systems in place, coupled with the likelihood of further developments including plant technology, there is no obvious reason why we can not continue to produce high quality food for another 1,000 years. While climate change is likely to provide many challenges, the destruction of our primary resource through unnecessary mining is by far our greatest threat.

Nevin Olm
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