

SOS LIVERPOOL PLAINS SUBMISSION TO THE SHENHUA WATERMARK COAL PROJECT PAC

Kirrily Blomfield representing SOS Liverpool Plains

These are notes to accompany the verbal submission from the day. The key points are recorded.

GENERAL

- “If you take a 50c piece and put it on a dinnerplate, the coin is the Hunter Valley and the plate is the Gunnedah Basin”. This is a direct quote from the Namoi Valley ‘Energy’ Magazine from some years ago.
- We support Doug Anderson’s presentation - NSW Irrigators Council which describes the potential damage on underground water in areas surrounding the mine.
- Farmers in surrounding areas rely on underground water to operate their farms. The water is used for stock water, domestic use and for crop irrigation.
- This region of the Liverpool Plains has already had up to 90% cutbacks in their irrigation licences, in order to achieve equilibrium in the aquifers. Not net drawdown after irrigation water is removed – a commendable achievement.
- Just 6.2% of Australia is arable and just 0.7% of Australia has soils the quality of those in the surrounding areas of the Shenhua Watermark coal project, where crop yields average 40% above the national average.
- The very document referred to by former Minister Hazzard in the Terms of Reference – the New England North West Strategic Regional Land Use Plan states that the area “has the highest agricultural productivity in NSW, an exclusive combination of volcanic soils, rainfall reliability, climate and availability of surface and groundwater.”

CUMULATIVE IMPACTS

- The New England North West Strategic Regional Land Use Plan referred to in the terms of reference considers the cumulative effect of mining on infrastructure like rail – so shouldn’t the cumulative effects of the mines planned for the region be considered with regard to water, soils and agricultural productivity?
- There is no necessity for the cumulative impacts of multiple projects to be considered in the mining approval process. SOS Liverpool Plains requests that the PAC make recommendations to the minister about introducing cumulative impact considerations into the planning process.
- Please refer to the attached document which is one of the most comprehensive water models done on the impacts of a mine on water resources that has ever been done. This relates to the planned BHP Caroonna mine, directly to the south of the proposed Shenhua mine. BHP’s own modelling shows water impacts over a MASSIVE area of land – including that area of the Shenhua mine. So, what are the cumulative impacts of the two?
- Then consider coal seam gas wells dotted all over the landscape – as planned by Santos. This is without other licenses yet to be released too. Remember the 50c piece?
- **WE REQUEST THAT THE PAC CONSIDER THE CUMULATIVE IMPACTS OF A NUMBER OF PROJECTS PLANNED FOR THE REGION. IF THE PAC DOESN’T- WHEN EVER WILL IT BE CONSIDERED FROM A CUMULATIVE POINT OF VIEW?**

Please refer to the attached document, which shows BHP's expected impact on water bores in their planned mine area - just to the south of the Shenhua Watermark planned mine. Please see pages 17, 18 and 19 of the attachment – taken directly from BHP's presentation to the community. Note that the document shows water drawdowns of up to 185 metres!

PROJECT IMPORTANCE

The planned life of the project is 30 years, with employment of 400 jobs. This is but one generation of workers. Agriculture will go on providing jobs for this region for eons. According to the document from the terms of reference "New England North West Strategic Regional Land Use plan",

42% of this region's employment comes directly and indirectly from agriculture.

We cannot place this at risk by allowing this Shenhua Watermark mine to go ahead.

WE REQUEST THAT THE PAC COME BACK TO THE REGION AND TOUR THE AREA TO GET A BETTER IDEA OF THE IMMENSE PRODUCTIVITY THAT THE AREA SURROUNDING THE MINE PROVIDES – AND IS BEING PUT AT RISK.

To put the production of this area into perspective with regard to food.....

Each year I, Kirrily Blomfield produce enough beef for 364,700 meals and 1200 bottles of olive oil. And other ladies from the group.....

"My name is **Sue Cudmore** and I come from [REDACTED]. We produce

- enough beef to make over 760,000 meals
- we grow 1500 tonnes of sorghum which goes to feed enough chickens to make tens of thousands of meals of chicken curry.

I am **Jane Gulliver** and we are farmers on the Liverpool Plains. Our farm produces:

- enough cotton to produce 4,321,000 pairs of socks
- enough Durum wheat to produce 7,716,000 serves of spaghetti.

My name is **Robina Burns** and on our farm we produce

- 4500 tonnes of sorghum which feeds chickens to produce, tens of thousands of BBQ chickens.
- enough Barley for 15,200,000 stubbies of beer
- enough Beef for 343,860 prime beef meals

I am **Jackie Crossing**. In the last 12 months our family business has produced:

- 4,500t of sorghum which feeds chickens to produce tens of thousands of BBQ chickens;
- enough barley for 15,200,000 stubbies of beer;
- enough beef for 343,000 prime beef meals;
- corn tonnage equivalent to 2,580,000 boxes of cornflakes
- enough durum wheat for 30, 979,000 serves of spaghetti
- & additional tonnage of canola, mung beans, soy beans and chick peas.

I am Amanda Murray and the Murray family farm produces:

- lucerne hay to produce 3.1 million litres of milk
- sorghum to feed chickens who lay 33 million eggs
- wheat to bake 1,267,500 loaves of bread
- barley to make 7.6 million stubbies of beer
- cattle to produce 364,700 meals and 222,222 burgers

My name is **Sue Willis**. Our farm produces:

- Enough beef for 416,800 meals
- Enough barley for 3,040,000 stubbies of beer
- Enough chick peas for 432,900 cans of chick peas for curry dinners
- Enough wheat to produce 1,521,000 loaves of bread
- 600t of sorghum which goes to feed many, many chickens which produces hundreds of thousands of finger licking dinners

I am **Sue Wilmott** and our family produces:

- enough bread wheat to make 5,070,000 loaves of bread
- enough barley to make 11,400,000 stubbies of beer

Our sunflower, canola, Lucerne, sorghum plus the White Box, Yellow Box, Apple and Stringybark Eucalyptus Trees produce enough honey per year for 20,000 x 500g jars of honey from the properties around Blackville.

I am **Lisa Norman** and I produce

- enough beef for 52,100 meals
- 3000t of sorghum to feed chickens and produce ten's of thousands's of Chicken Parmigiana's
- enough durum wheat for 7,716,000, serves of spaghetti

I am **Margie Wilmott** and our family produces:

- enough canola for 325,500 bottles of cooking oil
- enough durum wheat for 11,574,000 serves of spaghetti
- enough sunflowers for 1,690,000 tubs of margarine
- enough beef for 260,000 meals

I am **Prue Lee** and we are stud and commercial beef producers.

- Our beef genetics spread across Australia and we produce
- enough pasture fed beef, each year, for 458,000 meals.

I am **Margurithe Uther** and I produce enough beef every year for 277,172 meals

I am **Heather Ranclaud** and I produce:

- Enough beef for 52,000 meals
- Enough durum wheat for 2million pasta meals
- enough eggs for 8.76 million breakfasts

I am **Phoebe Clift** and I produce

- enough cotton for 27,222,300 pairs of cotton socks
- just under 4,000 tonnes of sorghum that goes to feed pigs for thousands of pork dinners

I am **Prue Green**. My husband and I have a plumbing business in Quirindi.

- We employ 10 staff who live and spend in the community.
- 70% of our business income arises from business such as those above.

I am **Sharron Brown** and I produce:

- 10.95 million free range eggs
- Enough corn for 1.35million boxes of cornflakes
- enough wheat for 1.25 million loaves of bread

I am **Marie Grant** and I produce:

- enough cotton for 1,920,000 T-shirts,
- sorghum to produce 2,000,000 serves of Chicken Kiev,

- enough wheat to produce 4,629,000 serves of spaghetti

I am **Vicki Braun** and produce enough beef for 521,000 meals of beef per year.

I am **Mally Carter** and I produce:

- 3,000t of wheat to bake 7.6million loaves of bread
- enough cotton for 6.5 million pairs of socks
- 5,500t of sorghum , which goes to feed chickens that produces tens of thousands of roast chicken dinners.

I am **Julie Prowse** and I produce

- enough canola for 703,080 bottles of cooking oil and 630 tonnes of high protein meal stockfeed
 - 4200 tonnes sorghum, which goes to tens of thousands of chicken stirfries
 - enough durum wheat for 22,993,680 serves of spaghetti
- We also grow sunflowers, mung beans, chickpeas and bread wheat.

I am Jacky Cadell and I produce:

- enough wheat for 3.04 million loaves of bread
- 1500 tonnes of sorghum to feed thousands of chickens
- enough beef to produce 250,080 meals

I am **Rosemary Nankivell** and I produce:

- enough beef for 312,600 meals – domestically and internationally
- 93,780 meals of wagyu/angus cross beef to Japan and speciality restaurants
- enough wheat for 3,802,500 loaves of bread
- 1200 tons of sorghum for a variety of chicken, cattle, pig and dairy feeders and most recently Chinese Wine.
- enough sunflowers for 1,014,000 tubs of butter substitute or 202,800 bottles of sunflower oil (500mls). (Sunflowers are being considered as a biofuel, and they go to skin and hair products as well as cooking oils and sprays, and residue for horse and cattle feeds).
- we also grow mungbeans, faba beans and chickpeas.”

These calculations are based on single product use, but the grains produced here fulfil a lot of purposes eg. wheat is not just for bread, that there are many other uses for it – as thickeners, for use in dog and horse feed and cattle feed. Similarly, sunflowers are not just for butter substitutes but are used as oil, face products and animal feed.

The astounding production of food and other products coming from the Liverpool Plains is obvious from the above figures.

SOS Liverpool Plains would like the PAC to recommend to the Minister that there is too much risk associated with this Shenhua Watermark project and its potential effects on water and agricultural production, and that it should not proceed.

The Gateway process

The Gateway process is established through Part 4AA of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (the Mining SEPP). The Gateway Panel assesses applications against specific criteria set out in the Mining SEPP.

The Gateway process applies to certain types of State significant mining or petroleum development on Strategic Agricultural Land (SAL):

- State significant mining development that requires a new or extended mining lease;
- Extraction of a bulk sample of more than 20,000 tonnes of coal or any mineral ore (i.e. State significant mining exploration activity);
- State significant petroleum development that requires a new or extended petroleum production lease; and,
- State significant petroleum exploration activity.

Gateway only concerned with SAL

SAL is highly productive land that has both unique natural resource characteristics (such as soil and water resources) as well as socio-economic value (such as high productivity, infrastructure availability and access to markets).

Two categories of SAL have been identified:

- Biophysical SAL (BSAL), and
- Critical Industry Clusters (CICs).

There are no CICs in the New England North West Region. Here, SAL is only found as BSAL.

Gateway process

- Lodge via Gateway Panel website
- No public consultation
- Referred to Commonwealth Independent Expert Scientific Committee
- Referred to NSW Office of Water
- 90 days (max. 120 days with one 30 day stop-the-clock request for information)
- Two possible outcomes:
 1. Unconditional Gateway Certificate – if meets the criteria
 2. Conditional Gateway Certificate – more work required
- Lodge Development Application, commence EIS, commence AIS

Covid horizon
→ then
Acceptable
IF
RBS

Gateway only concerned with SAL

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Agricultural impact assessment

Project assessment areas –

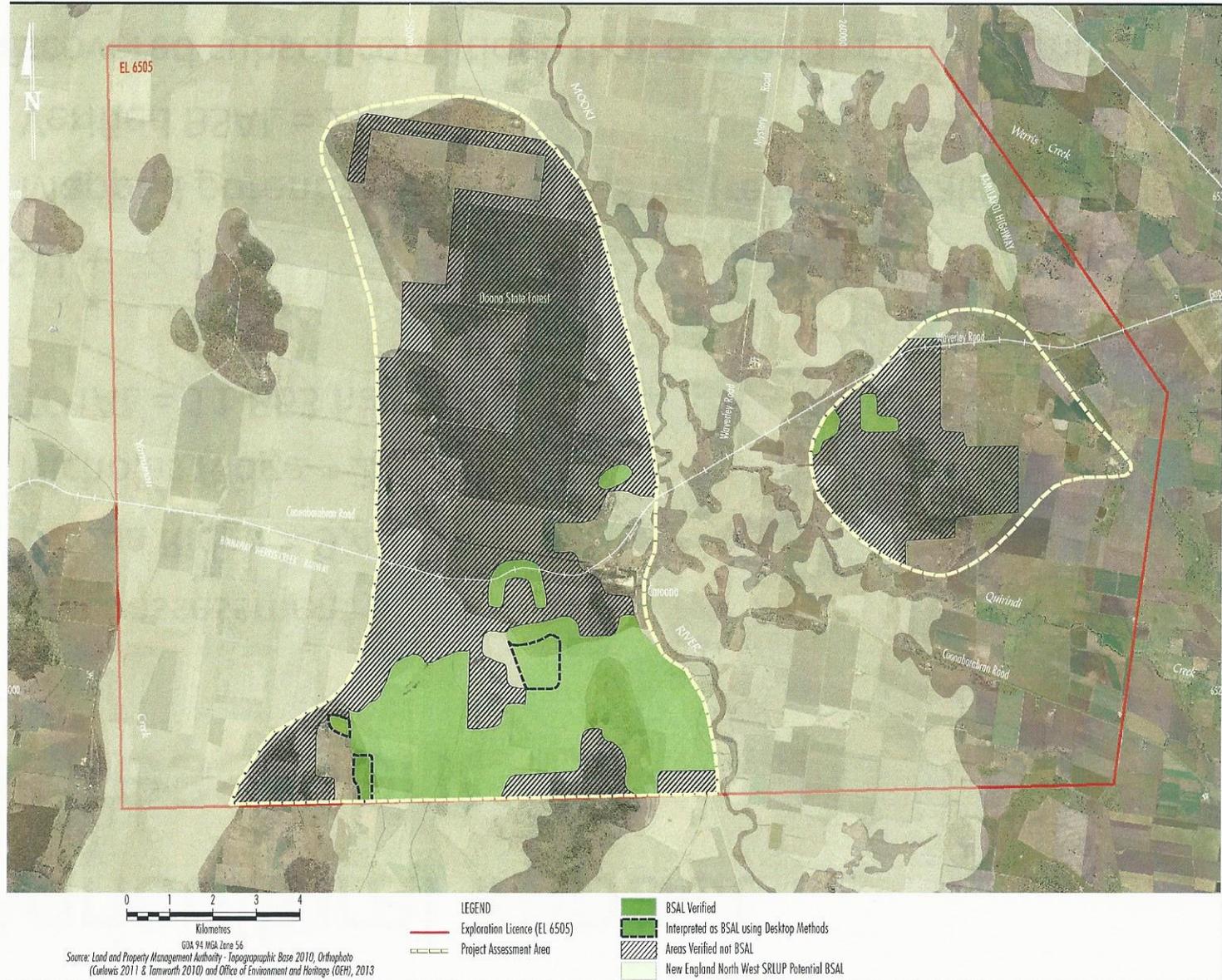
- Doona Ridge = 9,447 ha
- Nicholas Ridge = 2,416 ha
- TOTAL = 11,863 ha

BSAL –

- Mapped potential BSAL = 3,423 ha (regional scale mapping)
- Verified BSAL = 2,215 ha

Discovered subsoil conditions that exceed threshold limits.

BSAL verification



Criteria

Any impacts on the land through surface area disturbance and subsidence:

Outcome summary

The mine will cause about 2,000 ha of verified BSAL to be subsided.

Maximum vertical settling of 1.6 to 3.1 m but typically less than this maximum.

Typical surface crack width of 10 to 100 mm, with isolated cracking greater than 300 mm.

Impacts on farming operations should be temporary and short-term with proper management and remediation.

Criteria

Any impacts on soil fertility, effective rooting depth or soil drainage:

Outcome summary

The Project will not cause any long-term or permanent impacts on soil fertility, effective rooting depth or soil drainage with respect to verified BSAL.

PONDING CAN BE
REMOVED.

Criteria

Any impacts on the land through surface area disturbance and subsidence:

Outcome summary

The mine will cause about 2,000 ha of verified BSAL to be subsided.

Maximum vertical settling of 1.6 to 3.1 m but typically less than this maximum.

Typical surface crack width of 10 to 100 mm, with isolated cracking greater than 300 mm.

Impacts on farming operations should be temporary and short-term with proper management and remediation.

Criteria

Increases in land surface micro-relief, soil salinity, rock outcrop, slope and surface rockiness or significant changes to soil pH:

Summary outcome

The Project will cause the surface deformation of about 2,000 ha of verified BSAL.

The Project will not cause any affects on soil salinity, rock outcrop, slope or surface rockiness or soil pH.

Criteria

Any impacts on highly productive groundwater:
Dr Merrick has spoken to this today.

Any fragmentation of agricultural land use:

Summary outcome

With consideration of current land uses, the Project should not cause the long-term or permanent fragmentation of agricultural land uses.

Rather, fragmentation should be temporary and short-term, associated with suspension of agricultural production on verified BSAL only for the period of time needed to manage that land with regard to subsidence.

Criteria

Any impacts on highly productive groundwater:

Dr Merrick has spoken to this today.

Any fragmentation of agricultural land use:

Summary outcome

With consideration of current land uses, the Project should not cause the long-term or permanent fragmentation of agricultural land uses.

Rather, fragmentation should be temporary and short-term, associated with suspension of agricultural production on verified BSAL only for the period of time needed to manage that land with regard to subsidence.

Criteria

Any reduction in the area of BSAL:

Summary outcome

The Project will not cause any long-term or permanent reduction in the area of BSAL.

Next → the AIS

- Gateway Certificate conditions will inform the AIS
- The AIS is far broader than the Gateway supporting document as it considers
 - All agricultural resources, not just SAL
 - All agricultural enterprises
 - All water implications, not just highly productive groundwater
 - Extensive risk based assessment and detailed analysis of impacts and mitigation strategies
- There will be public consultation as the AIS is exhibited as a part of the EIS
- As for the Gateway supporting document, the NSW Government has stipulated content requirements for the AIS

Next → the AIS

Some important considerations for the AIS study phase should include:

- Subsidence impacts on non-BSAL cropping and grazing lands;
- Subsidence impacts on farm workability and farming efficiency;
- Subsidence impacts on forest health and tree longevity;
- Groundwater impacts other than highly productive aquifers;
- Compounding effects of mining impacts, particularly subsidence, on existing land management issues, e.g. dryland salinity;
- GW Certificate conditions!!

Impacts within the PAAs

THIS INCLUDES
LANDHOLDERS
THAT TAKEN
TEEN HAVE
SPENT TIME
WITH.

Land reference	Surname	BSAL (ha)	Subsidence		Groundwater	
		Verified	BSAL (ha)	Non-BSAL (ha)	Bore ID	Drawdown (m)
70		24.17	5.04	126.3		
71	Fuller	--	--	--	54961**	-22.22
75		0	0	364.2		
4	JBS	18.13	18.13	840.9		
38	Cudmore	N/A	--	--		
57	Evans	0	0	173.55		
5	Thompson	384.95	359	81.95		
166	NSW Forestry	0	0	1201.3		
2001		0	0	33.94		
48	Duddy	N/A		448.64		
49				0.94		
50				181.35		
135				124.79		
161	Willis	193.88	193.88	136.75	17099* (161)	-12.19
162		--	--	--	15671* (161)	-9.91
172		--	--	--	38273* (161)	-7.79
					20446* (161)	-4.56
					22576* (161)	-4.01
				17101* (161)	-3.73	

Land reference	Surname	BSAL (ha)	Subsidence		Groundwater	
		Verified	BSAL (ha)	Non-BSAL (ha)	Bore ID	Drawdown (m)
163	Wilson	0	0	233.2		
160	Dugan	207.26	198.76	148	44769**	-163.19
19, 20	Charters (Craig)	N/A	0	0		
59	Grant	--	--	--	04845** (158a)	-184.58
113		0	0	18.23	38808** (158a)	-165.79
158a		214.13	214.13	210.14		
158b		--	--	--		
23, 93, 111, 127, 128, 129, 130	Pursehouse	N/A	0	0		
131	Blomfield	394.32	394.32	122		
150		107.95	107.95	1.22		
104	Bradfield	0	0	0		
11	Clift	0	0	40.4		
27		0	0	0		
52	N/A ?	N/A	--	--	14626* (152)	-2.73
132		N/A	--	--	22213* (152)	-2.71
152		11.38	11.38	74.28		
2	Alcorn	N/A	0	121.01		
3		N/A	0	0		
33	Cohen (Gary)	0.66	0	0		
34		0	0	83.35		
35		0	0	0		
36		26.46	0	0		
37		0.79	0	0		
39		0.08	0	4.31		
170		0	0	293		

* Drawdown IS
 WIDESPREAD
 IMPACT ON
 OTHER BORE
 AGRICULTURAL
 PRODUCT
 WE NEED
 APPROPRIATE
 CANONICAL
 INVOLVEMENT
 PART

Land reference	Surname	BSAL (ha)	Subsidence		Groundwater	
		Verified	BSAL (ha)	Non-BSAL (ha)	Bore ID	Drawdown (m)
32	Cohen (George)	0	0	93.92		
74		0	0	100.6		
83	Kim	497.14	497.14	482.81	48250**	-185.58
126	Priestley	42.49	15.45	186.36		
101, 143	Hockey	N/A	0	0		
21	Charters (Ken)	2.39	2.39	44.49	48614*	-13.77
22		28.12	28.12	129.45	68004*	-8.24
						15673**
29	Clift	0	0	27.11		
31		0	0	81.68		
124	Pike	N/A	0	0		
125	Piper	N/A	0	0		

RANKEN ?