



Department of Primary Industries

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Dear Mr Mooney

Thank you for your correspondence of 7 November 2012 concerning the review of the Agricultural Impact Statement for the proposed Drayton South mine.

The Office of Agricultural Sustainability & Food Security (OAS&FS) has reviewed the Environmental Assessment (EA) in relation to the Agriculture Impact Assessment (AIS) and Equine Health Impact report provided by Scott Barnett & Associates (Nov 2012) and Dr Nicholas Kannegieter (July 2012) respectively. Specific comments and consent conditions are included in Attachment 1. In summary:

The Environmental Assessment has deficiencies including:

- The standard of the soil information to enable assessment;
- Uncertainty regarding the applicability of gateway criteria;
- Information about continuing agriculture on undisturbed mine and off-set land;
- Socioeconomic assessment; and
- Inconsistencies about air quality and acquisitions for nearby agricultural land.

If you wish to discuss the issue further please call Liz Rogers on telephone 02 63913642 or by email liz.rogers@dpi.nsw.gov.au.

Yours sincerely

Dr Regina Fogarty
Director Office of Agricultural Sustainability & Food Security

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Specific Agricultural Impact Assessment Issues

Issue	EA section	Comment	Recommended Response to this issue
Residual risks EA provides an Equine Health Impact Assessment which includes an assessment of noise, vibration and dust	App H	The EA report on equine health concludes - no increase in risk to foals or yearlings from either disease, noise or the physical impact of dust inhalation as a result of the Project	1. Possible consent conditions such as avoidance / mitigation / monitoring measures, further research while the project proceeds, 2. Further studies prior to project approval 3. Project refusal if justified • Consent conditions should reflect the recommendations of the Equine Health Impact Assessment on page 46.
Residual risks (post mitigation) to agricultural industries were reported as moderate or low in the EIS	7, App E	The impact of permanently removing some 5,800 ha of agricultural land has been considered in the AIS and concludes that - '... the reduced availability and productivity of this land will have a minimal impact to the industry'. The conclusions are primarily based on gross production of the land rather than in relation to impacts on local agricultural sectors, supporting service industries, the local economy and local communities	• Further supplementary assessment and documentation required: Land capability and land suitability maps, along with a soil type map should be provided for the biodiversity offset area.
Description of the existing environment; baseline soils information Adequacy of soil sampling and land capability information. Is EA adequate to allow assessment of the potential project impacts? Is EA sufficient to assess reasonably assess the capacity to rehabilitate the site and support the proposed (limited) post	2, 3, App C	It is necessary to build an accurate map verifying if there is Strategic Agricultural Land. The interim protocol for site verification and mapping of biophysical strategic agricultural land should be followed. Note that 1:5 000 maps showing base level information, soil types and BSAL are required and GIS output files with these data should be submitted. Particular attention should be drawn to the Dermosol and Vertosol complexes which are in the landscape. There is not enough data for assessing the quality of the topsoil for rehabilitation. Some of the data presented also suggests that this soil may not be suitable to retain as topsoil. For example, Test Pit 111 shows a strongly saline, strongly sodic B2 horizon while the A horizon has not	• On disturbed lands, a soil survey scale of 1:5 000 is necessary. This should apply to the 1902 ha disturbance footprint. • This soil survey is unusual in that no photos of soil profiles have been provided. Soil profile and landscape photographs of representative soil profiles in each identified soil group should be provided. • Analysis needs to be conducted down the whole profile of the test pits which are to be analysed. Enough analysis needs to be conducted to have confidence that the topsoil used is suitable for rehabilitation and will not

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mining agricultural land uses?		been assessed for risks. The following pit (TP 116) shows a moderately saline A horizon. Similarly, the Sodasol complex shows a range of saline and sodic layers Section 8 appendix Q states that “due to the sodic nature of many of the soils within the study area, where applicable in long term topsoil stockpiles, mulch is to be blended into the material for the purpose of enhancing the breakdown of vegetation material and minimising dust generation and soil erosion.” While mulch may help (although no quantities have been stated so this is unclear), gypsum should be blended with these sodic soils specifically to combat the sodicity. No land and soil capability assessment seems to have been conducted on the biodiversity offset area. The offset area should be mapped for land suitability and land capability and justification for taking high quality agricultural lands out of production should be made.	1. Possible consent conditions such as avoidance / mitigation / monitoring measures, further research while the project proceeds, 2. Further studies prior to project approval 3. Project refusal if justified result in saline or sodic patches. • Section 8 needs to contain much clearer information on storage and treatment of topsoils. • Specific sodic topsoils should be Identified on a map and clear treatment conditions (rate of gypsum, mulch etc to be blended with the topsoil) should be provided. • Land capability and land suitability maps, along with a soil type map should be provided for the biodiversity offset area.
Water resources		NOW to separately advise in relation to water resources for agriculture – It seems unlikely that there would be no impacts as predicted peak inflow rates are 4.6ML/day (yr 10)	
BSAL identification / and impact avoidance	8.16	The Soil and Land Capability Report indicates that the subject land is not BSAL because the Land and Soil Capability classes were found to be IV, V, VI & VII and reliable water criterion was not met however, the latter is a misinterpretation of the criterion as the rainfall component is met which is sufficient for reliable water.	• DP&I will need to make the decision on whether this proposal is to be tested against the gateway criteria for BSAL, depending on whether lodgement timing is relevant DPI/OAS&FS are not in a position to be able to make a statement about whether it is BSAL because sub-appendix D in Appendix Q (Land Capability Mapping Rationale) is extremely hard to read and no reasonable sense can be

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CIC identification / and impact avoidance	App I	The southern portion of Drayton South is included in the mapped equine CIC. However, the consultants in the AIS (p33) state that Drayton South is not well suited as a thoroughbred breeding property. The consultants state elsewhere in the AIS (page ii) that Drayton South is used for horse agistment ie "One licensee also operates opportune horse agistment during the thoroughbred breeding season when demand dictates". The AIS also provides advice (p33) on the assessment of Drayton South against the viticulture CIC criteria. Again there seems to be confusion about the criteria versus the mapped area as the report says "Validation of Drayton South, confirms that much of the mapped viticulture CIC within the Project Boundary (2,425 ha) fails to meet the criteria of the SRLUP". But when checking the maps it is clear that Drayton South disturbance boundary is partially within the mapped viticulture CIC. It is likely that there will be impacts particularly on Darley and Coolmore. For example, although DPI does not have a visual impact expertise, it is noted in the visual impact assessment (p63) that the consultant states that "The visual sensitivity is limited by lack of visibility. The exception to this	The draft CIC verification document (which has recently been exhibited) gives guidance about identification of CIC enterprises and the need to consider a 2km radius. Darley and Coolmore are within 2 km. So the gateway criteria would apply had the DA been submitted at a later date. Again, DP&I will need to make the decision on whether this proposal is to be tested against the gateway criteria (for CICs). Although the CIC gateway criteria has been included in the DGRs, the methodology for how this should be considered is not clear, given that the gateway process has not yet been established. The O AS&FS recommends that: • DP&I determines if gateway criteria is applicable • visual impact mitigation forms part of the consent conditions (Note Appendix I).

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		is Trig Hill, which would have views to the Project. However given that this site is not used for any commercial purpose ...". It is understood by DPI that the whole property is used for commercial purpose, and the visual amenity is part of the marketing of the brand.	
Current agricultural land uses		Important agricultural land uses have been identified.	
Post Mining Land forms and Land use	8.16, 8.17	Final land use for mining project area excludes agriculture. This significant change of land use across the entire project site should be explicitly justified. Documentation of final landuses for undisturbed areas within the mining lease and the biodiversity offset area should be clearer.	Additional documentation is required on: • Areas to remain in sustainable agricultural use and intended agricultural enterprises. • Timeline of when agricultural land will be taken out of production as the mine progresses. • Mine closure strategies in relation to the ongoing use of undisturbed areas, particularly any Biophysical SAL lands within the mining lease / mine ownership. • Consideration of alternatives to mitigate the impacts of the loss of agricultural lands (eg offsets)
Assessment of the potential impacts on agricultural resources after mitigatory actions are considered	8	Continued agricultural (grazing) use of mine owned lands are referred to but the areas available for this, their location and agricultural features are not described. Land capability across the entire lease area is tabulated but not mapped and the basis for determining what lands fit a particular category are not identified, this makes it difficult to assess the; - relative differences pre and post mining and - validity of the proposed classification and rehabilitation	• Additional information is required about the scale and location of lands proposed to remain in agricultural use within the project area.

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		works Assessment of agricultural productivity impacts (and social and economic impacts) requires due consideration of; - the areas to remain in agricultural production, the location of these in relation to agricultural domains, soil groups and land capability - the local (shire level and below) effects on the permanent removal of agricultural production some 5,800 ha (including 2,079 ha at the offset property near Murrurundi). The impact of mining development and the final land uses on the sustainability of continued agricultural use of residual areas does not appear to be considered. The EA lacks consideration of a comprehensive range of alternatives to reduce agricultural impacts and focuses on minimising impacts to adjoining equine activities.	• Alternatives or discussion is required regarding minimising the impact on agricultural domains A and B listed in Table 8 and Figure 65. • Offsets should be considered (eg investment in the productive management of other farmlands) to mitigate the impacts of permanently removing some 5,800 ha of agricultural lands (within the project site and biodiversity offset property).
Assessment of the potential impacts on equine industries considering proposed mitigatory actions	App. H	Potential equine and agricultural resource impacts are critically reduced via project design (reduced footprint) and by proposed Houston bund wall together with a range of other mitigatory measures. However, limited existing research restricts the capacity to accurately assess potential equine impacts particularly from noise and blasting. Proposals to retain existing road until the route is completed will minimise the risks of disruption to equine traffic and access to specialist veterinary support services. Of particular concern is that current conclusions about the capacity of horses to habituate to noise and blasting during the progression of mining operations Equine studs typically have a high turnover of short stay horses particularly during peak breeding periods. Foals are additionally at higher risk.	Additional information has been provided with the Equine Health Impact report which covers the issue of potential noise, blasting and dust impacts on horses. • A map should be provided clearly showing the boundaries of the equine CIC as identified in the SRLUP.

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Assessment of the potential impacts on viticultural industries considering proposed mitigatory actions	8.6, 4.7, 4.16.6	The EA incorrectly assumes that; - all types of horses are homogenous in their behaviour responses to noise and vibration - the same horse are on the property continually from the start of mining operations Visual impacts are considered from various high points within the nearby horse studs, but there does not appear to have been consideration of visual impacts from the river flat areas within those studs and from Golden Hwy (within Coolmore stud) at the closest proximity to the Houston bund and mine works. An attractive rural landscape is a critical marketing advantage for the thoroughbred industry. Impacts of dust and noise on Arrowfield (Hollydeen) and its associated residences may be under-considered due to the assumption that it was inoperative. Information has not been fully provided on the potential impacts of the mining proposal (particularly dust, visual and traffic impacts) on grape production and wine tourism. Visual impacts on the winery are discussed in Visual impact analysis (App I).	- Ensure mitigation for visual intrusion includes views from the lower areas and from the horse establishments. - There is no particular reason given why construction of Houston visual bund will not start until Year 3.
Assessment of potential impacts on other agricultural land uses (dairy farm, cattle grazing, olives)	8	Discussion mentions other nearby agriculture.	- Provide dust monitoring and reporting to include nearby wineries / olives / dairies / equine as proposed in Ag Impact Assessment (App Q). - Consent conditions are required to ensure that the indicative dust impacts on the residences within Arrowfield (Hollydeen) vineyard are minimised and remain below legislative thresholds.
Assessment of economic impacts	Appendix R – Agricultural Impact Statement	The Drayton South disturbance footprint to be removed from agriculture is “approximately 1,928 ha” and the proposed biodiversity offset area is 2079ha - so 4007ha would be removed from agriculture. (Appendix R) In total, foregone net	The regional impacts of the level of agricultural production foregone is only considered in terms of income foregone from the land area removed from agriculture and that this income foregone

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	Appendix U – Economic Impact Assessment	agricultural production from agricultural land resources required for the Project is estimated at \$5.6M present value (using a 7% discount rate) as stated in Appendix 6 of Appendix R. There is also reduction in cattle output from the Drayton South mine area (1140 head/year). There is no comment on whether the Upper Hunter Shire Council has been consulted on the impact of the loss of annual income on the viability of the Scone and Singleton saleyards. The water costs calculated in the BCA do not appear to reflect the assumptions of \$2000 per ML and water usage stated in the report. For instance, in the BCA costs associated with groundwater are shown to be zero, yet based on 73ML/yr and \$2,000/ML, this would equate to \$1.3m in present value terms. The EA includes detailed assessment of the costs and benefits of the project as a whole, and whether it would result in a net benefit for the NSW community in the separate Economic Impact Assessment by Gillespie Economics. This section of the EA states the project is “<i>very unlikely to have any adverse effects on equine health</i>”, but makes little other reference to the thoroughbred breeding industry Appendix U does not adequately quantify the impacts of foregone agricultural production, but considers the reduction in agricultural land values as a proxy for this cost. Land is only one cost component of the thoroughbred breeding industry for example, and considering land values may not be a true reflection of the total adverse impacts on the industry. For instance ‘clustered’ industries, like horticulture,	is “0.26% of the total annual agricultural production of the Hunter Region” (Note Appendix R). Section 8.8 of Appendix R states that the labour supply available for the operation of agricultural enterprises “is not expected to be impacted as a result of the Project”. The EA needs to: • consider regional \$ impacts resulting from reduced agricultural production; • include information from directly impacted value added operations e.g. loss of income for cattle saleyards; and • include complete water costing for the project. The report does not adequately consider the potential impacts on the horse breeding studs whilst the visual bund is being constructed (16 months) or in the longer term, there is no statement that the final design of the visual bund is acceptable to those affected. The EA should: • document support from landholders of proposed mitigation such as a statement that the final design of the visual bund is acceptable to those affected and what impacts the construction phase may have on their operations. • fully quantify possible impacts of foregone agricultural production including critical agricultural industries critical mass implications.

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		which rely on critical mass to attract both seasonal labour and specialist technical skills, and there would a marginal point where the loss of one more farm makes them all unviable. Section 8.3 of Appendix R– Agricultural Impact Statement claims that “predicted dust deposition rates will have nil to minimal impact on the productivity of vegetation south of the Golden Highway, including Arrowfield Estate”. However, on pages 14-15 of Appendix U-Economic Impact Assessment, there is a statement in direct contrast, namely “Arrowfield is also predicted to experience exceedance with regard to air quality and as such will likely fall within an acquisition zone for this reason. An allowance for acquisition of this property has been incorporated into the capital costs of the Project”. This is a somewhat glaring contrast, with one Appendix claiming the opposite of another. This issue requires further review to determine which claim is correct, since if the winery will indeed experience air quality problems will the nearby horse studs also be affected? Appendix R states that there is an olive processing plant “within the locality of Drayton South” along with 11 dairies, and four vineyards which include three active wineries.	- The EA needs to clarify the inconsistencies for air quality and acquisitions for nearby agricultural land. - The EA needs to comment on whether there would be any impacts or not on “processing and value adding industries”.
ui	Appendix T – Social Impact Assessment	The assessment of the potential social impacts relating to the thoroughbred breeding industry is poor. There is also no comment on the social impacts of the project on the other “current dominant land uses <i>within and adjacent to Drayton South</i> ”, including; 4 vineyards, 11 dairies, an olive grove and cattle grazing (p2 and 23 of Ag Impact	The social analysis in relation to agricultural impacts requires further work.

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		Statement). Nor is there any comment on the potential social impacts of the eventual mine closure or comment on why these two aspects were excluded. The population and demographics data is from the previous population census in 2006. Evidence based decision making requires due consideration of; - potential impacts on the local community of the eventual mine closure and - the social impacts relating to the thoroughbred breeding industry (such as but not limited to competition for labour, difficulty of workers in other industries affording local accommodation) - data from the 2011 Census where available. 2011 Census statistics for Muswellbrook were issued on the 21st June 2012 and are at http://www.censusdata.abs.gov.au It would also be preferable to note any social impacts / values specifically relating to the viticulture, dairying and cattle grazing industries. The report does not individually quantify the various social costs but merely states these costs are included as either part of "operating costs" or "capital costs". The report states that "noise costs, air quality costs, agricultural production costs and road traffic impacts will occur at a local level, but have already been incorporated into the estimation of net production benefits via acquisition costs for affected properties and mitigation costs". A similar issue prevails for costs associated with flora and fauna,	

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		and with visual impacts. There is an underlying assumption that these social costs will be completely mitigated by the proponent, and therefore there will be no loss in consumer surplus / amenity.	
Assessment of the potential <u>cumulative impacts on communities</u> considering proposed mitigatory actions	Appendix T – Social Impact Assessment		There is a need to focus specifically on any significant cumulative impacts from mining developments in the region on agricultural communities / organisations. Other agencies to advise on social impacts generally.
Assessment of the potential <u>cumulative impacts on agricultural resources and communities</u> considering proposed mitigatory actions	8. App J and R	The cumulative economic impacts of the permanent removal of other grazing lands due to adjoining mining offsets combined with the removal of some 5,800 ha of agricultural land is not considered in relation to impacts on the local economy or on agricultural industries and the support services on which they depend. No offsets are proposed.	• An assessment is required of the cumulative area of agricultural lands already approved as not being returned to agricultural use post mining in the Upper Hunter Region & Muswellbrook shire. This needs to include disturbed mining areas and biodiversity and cultural offsets • Evidence based decision making would be better supported by specific documentation of: why no agricultural offset is warranted or feasible.
Assessment of the potential <u>cumulative impacts for equine operations and possible contingency plans</u>	8. App J and R	Justification for this project relies heavily on there being no significant impacts on adjoining landholdings and landuses (ie thoroughbred studs, viticulture, dairies). Acceptable noise and blasting levels resulting from cumulative mining operations in the locality on the Darley and Coolmore stud are achieved by adopting a suite of best practice scenarios (eg double benching, equipment changes and dust mitigation strategies). It is not clear if there is scope	• Contingency plans to mitigate for visual intrusion, dust, noise and blasting impacts on agriculture / thoroughbreds need to consider cumulative impacts (particularly dust, visual and traffic impacts) on grape production and wine tourism. • Advice is required on effective

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		for further adaptation should predicted impacts prove worse than modelled. The sensitivity and economic significance of the Upper Hunter equine industry is exacerbated by; - limited scientific studies re equine behaviour and noise / vibration impacts - the higher risks for foals and visiting (short stay) horses, - the significance and scale of the controls documented as being necessary to mitigate dust, noise and visibility to acceptable levels and - possibly limited further options should modelling prove inadequate The DGRs for this project did not require contingency plans to be specifically required in relation to agriculture because the residual agricultural impacts were identified as Moderate or Low, this appears to depend on; - an invalid assumption that foals and visiting horses would habituate to blasting impacts (foals are at particular risk); - successful establishment of visual screens within 16mths; and - capacity for continued traffic flows on Edderton Rd. Its not clear if there is scope to further adapt mining industry practices should predicted air quality and noise impacts prove worse than modelled.	rehabilitation of the Houston Bund (eg including weeding and watering new plantings).
Rehabilitation		Not relevant unless the EA now proposes to return mined lands to agricultural uses	
Statement of commitments in relation to agricultural issues and	Appendix R	The comprehensive statement of commitments includes; adoption of sustainable farming practices on residual agricultural areas within Drayton Sth lands and support for a	• Consent conditions should include that the mine operators conduct ongoing consultation with stakeholders surrounding

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mitigatory proposals		working group with Coolmore and Darley. Significant issues they should address include: - mitigation of visual impacts, further consultation with landholders and provision of additional offsite screens if required; - implementing leading practice dust mitigation; - developing relevant Environmental Management plans for air quality, noise mgt, land mgt and water mgt; - identifying critical factors for the sustainable development of this proposal and securing a social license to operate; - Ensuring effective consultation with local landholders and key stakeholders such as the thoroughbred breeding industry and viticultural industries throughout the life of this project and beyond. - The development and the consistent implementation of appropriately detailed and relevant operational level Environmental Management Plans in consultation with key stakeholders and regulators. These should extend beyond merely meeting legal obligations. For instance weed management should include considerations to manage environmental and productive weeds such as galenia rather than being limited only to the control of declared noxious weeds. Ideally such activities would also be undertaken in cooperation with adjoining mines and agricultural landholders; and - Effective monitoring and reporting of project outcomes together with the capacity to adjust operational practices in a timely and effective manner.	1. Possible consent conditions such as avoidance / mitigation / monitoring measures, further research while the project proceeds, 2. Further studies prior to project approval 3. Project refusal if justified the site and adjoining neighbours of proposed off-set land over the life of the Project including the rehabilitation phases.