

OEH – Report on Site Verification Certificate

SVC Application No. 14_6526

Project Name : Addendum to Warkworth Continuation 2014

Proponents Name: Rio Tinto Coal Australia

Proponents Address: 123 Albert St, Brisbane, Queensland 4000

OEH Reference:

Date application received by OEH: 10/06/2014

Date report dispatched to DP&E: 12/6/2014

Summary of Project: Warkworth Mine is an open cut coal mine approximately 15 kilometres (km) south-west of Singleton in the Hunter Valley, NSW. Warkworth Mine has been in operation since 1981 and the originally approved development has been modified several times. Immediately to the south of Warkworth Mine is Mount Thorley Operations (MTO). Since 2004, the two mines have integrated at an operational level, with a single management team responsible for all the operations. Warkworth Mine currently operates three integrated open cut mining areas, namely North, West and South pits with West and North pits being the focus of production. Coal from Warkworth is transported via conveyor to either the Mount Thorley Coal Loader – where it is loaded onto trains for export from the Port of Newcastle – or to the Redbank Power Station.

In 2010 an extension of the Warkworth Mine to the west of the current pit wall (North and West pits) towards Wollombi Brook was sought. The proposal was referred to as Warkworth Extension Project (PA09_0202). Project approval from the Planning Assessment Commission (PAC), as delegate of the Minister, was received on 3 February 2012 for PA 09_0202. Approval under the EPBC Act was subsequently obtained from the Commonwealth Minister for the Environment for the extension (EPBC 2009/5081). The EPBC approval (EPBC 2002/629) was modified on 13 July 2012 as part of the 2010 extension. Subsequently, the project approval was appealed in the NSW Land and Environment Court (L&E Court).

Under the development consent granted in 2003, Warkworth Mine has approval to mine until 19 May 2021. The current proposal seeks a 21 year development consent period from the date of any approval. If approval is granted in late 2014, operations at Warkworth Mine are forecast to continue to 2035, a 14 year extension over the current approval.

The Warkworth Continuation 2014 (the proposal) seeks to extend mining beyond the current limits of approval to ensure it remains economically viable and coal is extracted in the most economic manner as required under clause 15 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

The footprint of the extension proposal (approximately 667.5ha) is located within a mining lease 20 m below ground level, but will require a mining lease from the surface to 20 m below surface level. This mining lease is yet to be approved.

Under the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) Amendment 2013* (the 2013 Mining SEPP amendment), an application for a State significant mining or petroleum development must be accompanied by (a) a Gateway certificate, or (b) a Site Verification Certificate (SVC) that certifies that the land on which the proposed development is to be carried out is not Biophysical Strategic Agricultural Land (BSAL).

The 2013 Mining SEPP amendment sets out the steps required to apply for an SVC. The process to be followed is at <http://majorprojects.planning.nsw.gov.au/application/SVC>. The application must be accompanied by supporting documentation which has been prepared in accordance with the *Interim Protocol for Site verification and Mapping of Biophysical Strategic Agricultural Land*. The final determination is made by the Secretary, DP&E.

OEH received the SVC application and supporting documentation (*BSAL Site Verification Certificate Report – Warkworth Continuation 2014*) on 12 May 2014, and assessed the application based on the information supplied in hard-copy within the applicant's report. In that report, OEH identified that the application did not meet the requirements of the *Interim Protocol* and provided insufficient information to assess the existence or extent of BSAL in the application area. OEH submitted its report to DP&E on 16th May 2014.

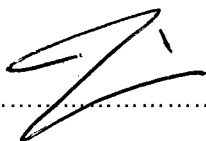
The proponent subsequently submitted an Addendum report (*Addendum to BSAL verification report – Warkworth Continuation 2014* dated 5th June 2014) and additional site and laboratory soil test data. OEH received the application and associated data on 10th June 2014. OEH has completed its review of this Addendum report and associated data and provides the following advice.

OEH Assessment against the Interim Protocol:

OEH provides the following assessment against the Interim Protocol on the Addendum to the SVC application provided by the proponent for Warkworth Continuation 2014.

Applicant's soil and land data appears consistent with the <i>Interim Protocol</i> for site verification and mapping of biophysical strategic agricultural land	Mostly. Some deficiencies identified but data are adequate to assess against the <i>Interim Protocol</i> .
Applicant's soil and land data appears consistent with OEH soil survey knowledge and existing soil and landscape data of the general area	Yes
Applicant's project area, or part thereof, is likely to contain BSAL according to the <i>Interim Protocol</i> for site verification and mapping of biophysical strategic agricultural land	No

Approved by:



Brian Jenkins, Senior Team Leader, Assessment, Ecosystem Management Science, Office of Environment and Heritage

OEH INTERIM ASSESSMENT OF BSAL SITE VERIFICATION CERTIFICATE APPLICATION

14_6526 WARKWORTH CONTINUATION ADDENDUM

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
PERSONNEL			
Evidence provided by the applicant that a qualified soil scientist oversaw the verification assessment and signed off on the quality and extent of the work	X		The Addendum report was prepared by Neil Cupples, Senior Soil Scientist at EMM, and oversighted by Dr Timothy Rohde, a Certified Practising Soil Scientist (CPSS, Stage 2) with the Australian Society of Soil Science Inc.
MAPS			
Geographically accurate base map (at 1:25,000) of assessment area supplied as per <i>Interim Protocol</i> . Spatial dataset (boundary of assessment area) supplied in GIS format as per <i>Interim Protocol</i> .	X		Maps and GIS data supplied 10 th June 2014.
Soil map (at 1:25,000) of project area supplied including all observation (Detailed, Check and Exclusion) sites as per <i>Interim Protocol</i> . Spatial datasets (soil map, observation sites and data reliability/data source diagram) supplied in GIS format as per <i>Interim Protocol</i> .	X		Maps and GIS data supplied 10 th June 2014. Check sites DSC1 through DSC4 have confirmed the polygon previously labelled 'Duplex sand' to be 'Arenic Rudosol' (Addendum report, p.9). However, this has not been reflected in either the hard-copy (Figure 4.1, Addendum report, p.11) or GIS versions of the soil map,

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
			both of which have the polygon in question still classified as 'Yellow Sodosol'. No data source/data reliability diagram, and no evidence that soil map includes >100 m buffer on soil map. Soil map does not include a ~70 m (max) wide strip of land at the N end of the application area.
Map of assessment area showing BSAL (at 1:25,000) and exclusion zones marked according to their BSAL limitation. Spatial dataset (boundary of BSAL areas) supplied in GIS format as per <i>Interim Protocol</i> .	X		BSAL map provided in hard-copy Addendum report, but not as GIS file.
Maps presented in correct datum with appropriate symbology, north points, unambiguous legends, meaningful colour ramps, scale bars, and sampling grid included as per the <i>Interim Protocol</i> .	X		
Metadata for spatial datasets have been provided as per the <i>Interim Protocol</i> .		X	No metadata supplied.
LODGEMENT OF SITE AND LABORATORY DATA			
All site observations lodged on BSAL Soil Data Cards and all required field attributes completed correctly for each observation type as per the <i>Interim Protocol</i> (i.e. check, exclusion and detailed).		X	Errors and omissions on Soil Data Cards (SDC) included errors in grid references and profile numbers (3 profiles given the same profile number of '3'). Some appeared to be transcription errors as the profiles were not originally

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			recorded on BSAL SDCs. Detailed sites 1, 2, 3, 7 and 20 (originally one of 3 sites given the number '3') have incomplete ASC classifications (only to Order or Suborder level), with no ASC Confidence recorded for any site. This does not materially affect the assessment of BSAL within the application area, as sufficient data has been provided to assess the BSAL status of each site.
All laboratory data supplied in the SALIS Lab Data Template, appropriate test procedures (e.g., National Test Code) identified and all relevant test results completed as per the <i>Interim Protocol</i> .		X	Lab data was provided in appropriate template but contains some errors that do not allow the dataset to be loaded into SALIS. Lab data does not include ECe, a key measure of soil salinity. Two lab test codes (moisture content and CEC) in the dataset are in error (cross-checked with source laboratory). CEC is actually ECEC (calculated) using a method that does not necessarily produce accurate results in acid soils. There are apparent transcription errors within the template which (on comparison with the original lab data in the Addendum report) appear to have introduced a number of errors to the dataset.

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	Yes	No	
			This does not materially affect the assessment of BSAL within the application area, as the original lab data was available in hard-copy.
MODEL OF SOILS DISTRIBUTION			
Where the proponent does not have access to the land, a model of soils distribution is provided detailing the methodology used to enable an assessment of the land in question to be made.	N/A	N/A	
SITE ASSESSMENT			
The project area or part thereof contains a contiguous area of at least 20 hectares which meets all BSAL conditions – possible/verified BSAL adjoining the assessment area may need to be considered		X	No soil mapping unit or site meets the criteria for BSAL.
Sampling density is as specified in the <i>Interim Protocol</i>	X		The sample density complies with the density requirements for high-intensity development with low levels of agricultural impact in the <i>Interim Protocol</i> . Sufficient sites have been described to support the assessment of BSAL.
Observation sites (check, detailed and exclusion sites) are relatively evenly distributed across the survey area	X		
Each soil type identified has at least three detailed sites	X		

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	Yes	No	
All relevant data has been collected and provided for detailed sites as per the <i>Interim Protocol</i>	X		Most data provided meets requirements. However, full ASC classifications not provided for all detailed sites, and no ASC Confidence provided for any sites. Some sites missing data such as field pH and field texture for subsoil layers.
Detailed sites are representative of the soil type being assessed	X		
Description of detailed sites is accompanied by a photograph of the site and of the soil profile being described	X		Most sites had photos as required; no images supplied for DSC1 (photos supplied are of DSC2) and no landscape image supplied for GP03 or BO1.
Appropriate information (as specified in the <i>Interim Protocol</i>) collected for all exclusion sites	N/A	N/A	No exclusion sites.
At least two exclusion sites per polygon in excluded areas (except for areas with no access, e.g., only remote modelling of attributes)	N/A	N/A	No exclusion sites.
Adequate numbers of check sites used to (i) allocate a site to a soil type and soil map unit and, (ii) confirm existing mapping	X		Check sites used to reclassify a soil polygon in the NE of the application area. Other polygons had sufficient detailed sites to define their extent without the need for further check sites.

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	Yes	No	
CROSS REFERENCE ASSESSMENT WITH OEH SOILS DATA			
Soil mapping and attributes appear consistent with OEH soil and landscape data and expected/anticipated soil types in the project area or locality	X		The data provided appears consistent with OEH knowledge and data of the area. No BSAL has been mapped in the locality and OEH considers there is a low probability of BSAL occurring within the application area. The Statewide BSAL mapping in this area is based on Singleton 1:250,000 mapping. The application area is almost completely mapped as Branxton (bxy), dominated by Yellow Podzolic Soils (Brown Chromosols) and Yellow Soloths (Sodosols) of low fertility and (in the Yellow Soloths) a high salinity hazard. Neither of these soils are likely to qualify as BSAL. Existing profiles from SALIS in the area are consistent with this assessment. The closest area of mapped BSAL are Chocolate Soils of the Saxonvale (sxx) soil landscape ~4.5 km S of the application area, and Alluvial Soils of the Hunter (hux) soil landscape ~5 km E.