

OEH – Report on Site Verification Certificate

DP&E Application No. 14_6636

Project Name: Rix's Creek Mine

Proponents Name: Rix's Creek Pty Ltd

Proponents Address: PO Box 4 East Maitland NSW 2323

OEH Reference:

Date application and data received by OEH: 5/8/2014

Date report dispatched to DP&E:

Summary of Project:

Rix's Creek Mine (the Mine) of Rix's Creek Pty Limited, is owned and operated by Bloomfield Collieries Pty Limited (Bloomfield). The Mine is an open cut coal mine approximately 5 km north-west of Singleton in the Hunter Valley Coalfields of NSW. The Mine currently produces approximately 1.5 million tonnes per annum (Mtpa) of product coal from its existing operations. Bloomfield is seeking approval for the Rix's Creek Continuation of Mining Project (the Project), which relates to the continued operation of the existing open cut coal mine. The Project would allow the Mine to continue to operate as an open cut mine, accessed via its existing infrastructure facilities. The Project seeks to extend the life of the existing open cut mining operation at Rix's Creek until approximately 2037. The continuation of mining operations will extend in a north-westerly direction and require a modification to Mine Lease 1432 for an out of pit dump. The continuation of operations will use the existing mine access, Coal Handling and Preparation Plant, coal stockpiling and rail facilities.

As part of the Director-General's Requirements (DGRs) issued for the Rix's Creek Continuation of Mining Project (SSD 13_6300) on 3 March 2014, a BSAL Verification was required over the 245.4 ha Assessment Area for the out of pit overburden emplacement area.

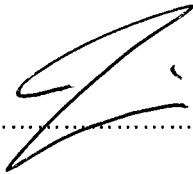
OEH received documents supporting the SVC application from DP&E on the 31st July, 2014 and accompanying site observation data (BSAL data cards) on the 5th August 2014, which enabled OEH to commence the SVC assessment.

This document undertakes a review of data supplied as part of the Rix's Creek Mine 14_6636 SVC application against the *Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land (BSAL)*. OEH provides the following advice in respect of the Rix's Creek 14_6636 SVC application.

OEH Advice to DP&E:

Applicant's soil and land data appears consistent with the protocol for site verification and mapping of biophysical strategic agricultural land	Yes
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 protocol for site verification and mapping of biophysical strategic agricultural land	No

Approved by:



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Brian Jenkins, Senior Team Leader, Assessment

OEH ASSESSMENT OF BSAL SITE VERIFICATION CERTIFICATE APPLICATION

RIX'S CREEK MINE 14_6636

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 applicants report states that the author Clayton Richards (CPSS 2) and John Lawrie (CPSS 3), from SLR Global Environmental Solutions, undertook the assessment.
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		
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		
Map of assessment area showing BSAL (at 1:25,000) and exclusion zones marked according to their BSAL limitation. Spatial dataset (boundary of BSAL	X		

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
areas) supplied in GIS format as per the <i>Interim Protocol</i> .			
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	The metadata provided for the spatial data is not compliant with the ISO 19115 standard, as required by the <i>Interim Protocol</i> . There is no information provided about the source, lineage or quality of the data involved.
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		Some minor errors on Soil Data Cards – e.g., incorrect grid references for profile 1 – but data generally met requirements and was loaded successfully.
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		Some minor data manipulation was required prior to loading, e.g., one profile's lab data incorrectly assigned, EC results needed to be reinstated – but data generally met requirements.

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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.	NA	NA	Proponent had full access to the project area.
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	Application area is either >10% slope or contains soils of insufficient fertility to be classified as BSAL.
Sampling density is as specified in the <i>Interim Protocol</i>	X		Sampling density is 1 site per 14 hectares (ha) based on total of 17 sites over a project area of 245 hectares (calculated by OEH using proponent's data). This falls within 1 site per 5 - 25 hectares (ha) as specified for high-risk activities in the <i>Interim Protocol</i> .
Site observations are recorded as specified in the <i>Interim Protocol</i>	X		
Observation sites (check, detailed and exclusion sites) are relatively evenly distributed across the survey area	X		

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
Each soil type identified has at least three Detailed sites	X		
All relevant data has been collected and provided for detailed sites as per the <i>Interim Protocol</i>	X		
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		
Appropriate information (as specified in the <i>Interim Protocol</i>) collected for all exclusion sites	NA	NA	Exclusion zone based on slopes >10% using LIDAR. No field exclusion sites required under the <i>Interim Protocol</i> .
At least two exclusion sites per polygon in excluded areas (except for areas with no access e.g. only remote modelling of attributes)	NA	NA	See above.
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		
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 proponent's survey is consistent with both OEH mapping and our expectations of soils and landscapes in the area of the application. OEH soil mapping in the

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	Yes	No	
			application area is the <i>Soil Landscapes of the Singleton 1:250,000 Sheet</i>, which is broad-scale regional mapping not suitable for site assessment. The entire application area is mapped as the Roxburgh (rx) soil landscape, comprising undulating low hills and hills dominated by Yellow Podzolic Soils with some Brown Podzolic Soils, Red Solodic Soils and Yellow Soloths. Soils are generally of low fertility and moderate to high erodibility. This is consistent with the landscapes and soils identified in the proponent's survey.