

OEH – Report on Site Verification Certificate

DP&E Application No. 14_6609, Second Supplementary Report

Project Name : Moolarben Coal Mine

Proponents Name: Moolarben Coal (part of the Yancoal Australia Group)

Proponents Address: 4250 Ulan Road, Ulan NSW 2850

OEH Reference:

Date application received by OEH: 6/3/2015

Date report dispatched to DP&E:

Summary of Project: The Moolarben Coal Mine open cut and underground coal mining operation is located approximately 40 kilometres north of Mudgee in the Mid-Western local government area and is part of the broader Western Coalfields of New South Wales (NSW). Moolarben Coal Operations Pty Ltd (MCO) is the operator of the Moolarben Coal Mine on behalf of the Moolarben Joint Venture (Moolarben Coal Mines Pty Ltd [MCM], Sojitz Moolarben Resources Pty Ltd and a consortium of Korean power companies. MCO and MCM are wholly owned subsidiaries of Yancoal Australia Limited. The Moolarben Coal Mine was approved by the Minister in 2007, and started operating in 2010. Along with the Ulan and Wilpinjong mines it forms part of a large coal mining complex in the region.

Moolarben Coal Mine is seeking a Site Verification Certificate for lands located wholly within Exploration Licence 6288 (the Study Area). The Study Area comprises an area of approximately 770 ha (OEH calculation) and is located immediately adjacent to MCM's existing Mining Leases 1606, 1628 and 1605.

OEH received the documents supporting the original SVC application from DP&E on the 17th July, 2014 and accompanying site observation data (BSAL data cards) on the 22nd July, 2014 which enabled OEH to carry out an SVC assessment. In response to this assessment, and further supporting advice from OEH, the proponent submitted a supplementary application on 3rd December 2014 with an additional report and supporting soil profile descriptions and laboratory soil data. Further supplementary information was supplied on 16th December 2014 and on the 6th March, 2015.

This document undertakes a review of the supplementary report and associated data to the Moolarben SVC 14_6609 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 supplementary Moolarben SVC application.

OEH Advice to DP&E:

Applicant's soil and land data appears consistent with the <i>Interim Protocol</i> for site verification and mapping of biophysical strategic agricultural land	Yes
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Applicant's soil and land data appears consistent with OEH soil survey knowledge and existing soil and landscape data of the general area	Data provided generally concurs with OEH data and knowledge of the area
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	Unlikely to contain BSAL

Approved by:



18 March 2015

Brian Jenkins, Senior Team Leader, Assessment

OEH ASSESSMENT OF BSAL SITE VERIFICATION CERTIFICATE APPLICATION

14_6609 MOOLARBEN COAL MINE

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		Soil survey stated to have been undertaken by Dr David McKenzie who is a Certified Professional Soil Scientist Stage 3 accreditation, a PhD in soil science and "Chartered Scientist" accreditation with British Society of Soil Science.		
			The 8 sites included with the original SVC application have not been used in OEHS assessment as they do not meet the requirements of a site observation (<i>check, detailed or exclusion</i>) under the <i>Interim Protocol</i> (e.g., additional data to meet requirements of observation site and confirmation of suitably qualified scientist who described them).		
The proponent has supplied a further 14 additional observation sites described by Dr David McKenzie.					
MAPS					

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
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 areas) supplied in GIS format as per the <i>Interim Protocol</i> .	X		BSAL map provided in supplementary information in pdf format. GIS data provided for new mapping of Dermosol soil map unit.
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		
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</i>	X		None of the 8 sites described in the original SVC application are valid for BSAL site assessment under the <i>Interim</i>

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
<i>Protocol</i> (i.e. check, exclusion and detailed).			<i>Protocol</i>, as none qualify as either <i>Detailed</i>, <i>Check</i> or <i>Exclusion</i> sites, and could not be loaded into SALIS. Several requests to the proponent have not so far resulted in receipt of any corrections or additional data that would bring these sites up to the standard required for BSAL assessment. These sites have therefore not been included in OEH's assessment of the SVC application. The proponent has supplied an additional 14 observation sites on BSAL Soil Data Cards and are adequately described for use in BSAL assessment.
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		
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	

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
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	
Sampling density is as specified in the <i>Interim Protocol</i>	X		Sampling density is 1 site per 55 hectares based on total of 14 sites over a project area of 771 hectares (calculated by OEH using proponent's data). This falls within 1 site per 25 – 400 hectares (ha) as specified for low risk activities in the <i>Interim protocol</i> .
Site observations are recorded as specified in the <i>Interim Protocol</i>	X		The additional 14 observations have been supplied as required and have been recorded as specified in the <i>Interim Protocol</i> . The original 8 observations are missing various key data such as surveyor identity, ASC classifications, landform, profile drainage, field textures and soil structure and have not been used in OEH's assessment.
Observation sites (check, detailed and exclusion sites) are relatively evenly	X		Soil profile sites are evenly spread across the part of the

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
distributed across the survey area			project area that is not heavily forested.
Each soil type identified has at least three Detailed sites	X		The proponent provided a soil map of the entire project area, however most of the area is covered by forest and thus can be described using a model of soil distribution rather than detailed site assessment (<i>Interim Protocol</i> , p.3). The "Midslope, Sodosol dominant" unit has 4 detailed and 1 checked site, whilst the "Midslope, Chromosol dominant" unit has 5 detailed sites.
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		Photos of landscape and profile pits area are generally excellent and well presented where provided; however, sites ML8B, ML9B and ML11B have only photos of the soil pits.
Appropriate information (as specified in the <i>Interim Protocol</i>) collected for all	X		Exclusion sites are not required for this area as LIDAR was

SUMMARY OF ASSESSED ITEMS		Appropriate as per the Protocol		Justification
		Yes	No	
exclusion sites				used to measure slope.
At least two exclusion sites per polygon in excluded areas (except for areas with no access e.g. only remote modelling of attributes)		X		Exclusion sites are not required for this area as LIDAR was used to measure slope.
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		Existing OEH data for the area suggests that no BSAL is expected to occur. Soil landscapes mapped in the area (from the <i>Soil Landscapes of the Dubbo 1:250,000 Sheet</i> – Murphy & Lawrie 1998) comprise Lee's Pinch (lp), Munghorn Plateau (mp) and Ulan (ul). Local soils are typically of low fertility, moderate to high erodibility, localised sodicity and localised salinity. None of these soils would qualify as BSAL and no BSAL has been identified in the area through the Statewide BSAL mapping.