

OEH – Report on Site Verification Certificate

DP&E Application No. 14_6676

Project Name: Ulan West Mine Expansion

Proponents Name: Ulan Coal Mines Limited (UCML)

Proponents Address: 4505 Ulan Rd, Ulan NSW 2850

OEH Reference:

**Date original application received by OEH:
17th September, 2014**

Date report dispatched to DP&E:

Summary of Project:

The Ulan Coal Mine Operations are situated within the Western Coalfields of NSW within the Mid-Western Regional Council Local Government Area. The Ulan Mine Complex lies approximately 45 kilometres north-north-east of Mudgee and 25 kilometres north-east of Gulgong, near the village of Ulan in the central-west of NSW.

Ulan Coal Mine is proposing to modify Project Approval 08_0184, approved in November, 2010, to allow for mine plan changes to Ulan West to ensure efficient and optimised extraction of the coal resource. The proposed modification includes extension of seven longwall mining panels in order to access additional resources, realignment of longwall panels to accommodate for previous modifications and changes to the associated surface infrastructure.

The proposed modification will produce approximately an additional 13 million tonnes of coal and extend the life of the UCML Complex by approximately 2 years. The currently approved Ulan West mining area covers approximately 3,060 ha. The proposed modification will extend this by approximately 275 ha.

OEH received the original documents supporting the SVC application from DP&E on the 17th September, 2014. A review of the data supplied by the proponents, with those specified in the *Interim Protocol*, identified a number of fundamental data short-comings. OEH advised DP&E of these omissions, via email on the 23rd September, 2014, requesting additional data be supplied before OEH can commence its assessment of the SVC application.

OEH received supplementary information, in relation to SVC 14_6676, directly from Glencore on the 5th of December, 2014 and reviewed the data supplied. DP&E were advised (via email on 8th December, 2014) that there were still some outstanding issues with data supplied. This included lack of supply of field data on BSAL soil data cards (or on OEH BSAL Spreadsheet Template) which are the formats stipulated in the *Interim Protocol* which allows BSAL site information to be uploaded and stored in the NSW Soil and Land Information System (SALIS). Once in SALIS this data is then publically accessible via the web on SALIS's spatial viewer eSPADE.

A supplementary report was received by OEH on 12th January, 2015 and BSAL soil data cards on the 15th January, 2015 which has allowed OEH to commence its assessment.

This document undertakes a review of data supplied as part of the 14_6676 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 14_6676 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:

D. Morand

15/1/2015

.....
David Morand, Acting Senior Team Leader, Assessment

OEHS ASSESSMENT OF BSAL SITE VERIFICATION CERTIFICATE APPLICATION

14_6676

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		Proponents report states that Clayton Richards (CPSS II) supervised the BSAL 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		Data supplied meets the requirements of the <i>Interim Protocol</i> .
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		No map indicating the presence or absence of BSAL was provided in pdf report or spatial GIS format. However there was sufficient data supplied (soil map, site observation

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
areas) supplied in GIS format as per the <i>Interim Protocol</i> .			map, and exclusion zone slope class map identifying areas >10% slope) for OEH to confirm that BSAL is not present in the project area.
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		Data supplied meets requirements of <i>Interim Protocol</i>
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 Protocol</i> (i.e. check. exclusion and detailed).	X		For the most-part BSAL data card attributes were completed as per <i>Interim Protocol</i> . One issue was a number of duplicate site profile numbers were provided on proponents BSAL site observation cards. Profiles 1 – 5 were provided for <i>detailed sites</i> and profiles 1 – 9 were provided for <i>check sites</i> , creating duplicates for profiles 1 – 5. As SALIS cannot contain duplicate soil profile numbers, OEH has renumbered the detailed sites to SALIS profiles 1 – 5 and <i>check sites</i> to SALIS profiles 6 – 14.

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
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		Data supplied meets requirements of <i>Interim Protocol</i> .
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	Applicant had access to land.
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		According to OEH calculations the project area of < 10% slope is 197 hectares. As there were 14 observation sites undertaken, the sampling density is 1 site per 14 hectares (ha). This falls within 1 site per 5 to 25 hectares (ha) as specified for high risk activities in the <i>Interim Protocol</i> .

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
Site observations are recorded as specified in the <i>Interim Protocol</i>		X	All 5 soil pits were detailed sites (with laboratory data) were supplied. There were 9 check sites. No exclusion sites were necessary as slope was calculated using LIDAR. For most check sites, soil depth was not identified for the bottom layer and as a result the ASC suborder, provided by the proponent, could not be verified as being correct. However, this omission did not affect the overall BSAL assessment of these site observations.
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		The proponent's soil map identified two different ASC soil types - Black Orthic Tenosol (with 3 detailed sites) and Grey Orthic Tenosols (with 2 detailed sites). Apart from colour differences, these two soil types have the same soil properties in regards to their assessment of BSAL, and hence should be considered one soil type and map unit, e.g., Orthic Tenosols. As a result, the Orthic Tenosol map unit contains 5 detailed sites and meets the requirements of

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
			the <i>Interim Protocol</i> . All 5 detailed sites have <i>Moderately Low fertility</i> status and thus do not meet the requirement of BSAL.
All relevant data has been collected and provided for detailed sites as per the <i>Interim Protocol</i>	X		All 5 soil pits were <i>detailed sites</i> with site and laboratory data supplied. No <i>ASC Confidence Levels</i> were provided on data cards for detailed sites. All detailed sites were designated as meeting <i>ASC Confidence Level 1</i> by OEH, and entered into SALLIS, as all analytical and morphological data is available.
Detailed sites are representative of the soil type being assessed	X		All <i>detailed sites</i> ASC were confirmed as Orthic Tenosols and typical of the soil type map unit.
Description of detailed sites is accompanied by a photograph of the site and of the soil profile being described	X		Photos of both site and soil profile were provided for each of the five (5) <i>detailed sites</i> .
Appropriate information (as specified in the <i>Interim Protocol</i>) collected for all exclusion sites	NA	NA	Slopes map (>10%) created use LIDAR methods and there is no requirement to collect field <i>exclusion sites</i> .
At least two exclusion sites per polygon in excluded areas (except for areas	NA	NA	Slopes map (>10%) created use LIDAR methods and there

SUMMARY OF ASSESSED ITEMS	Appropriate as per the Protocol		Justification
	Yes	No	
with no access e.g. only remote modelling of attributes)			is no requirement to collect field 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		Nine (9) check sites were undertaken to assist in soil mapping.
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 soil mapping over the project area is the <i>Soil Landscape Mapping of the Dubbo 1:250 000 Sheet (Murphy and Lawrie, 1998)</i> , which identifies three soil map units, Lees Pinch (lp), Rouse (rs) and Munghorn plateau (mp). All soil map units have very low or low fertility (P and N deficiencies) and moderate to high erosion hazards, which is generally consistent with the soil types identified in the SVC assessment and OEH's general knowledge of the area.