

OEH – Report on Site Verification Certificate

DP&E Application No. 18_9226

Project Name: Liddell Coal Mine Modification 7

Proponents Name: Liddell Coal Operations Pty Ltd

Proponents Address: PO Box 7, Singleton, NSW 2330

Date complete application and data received by OE: 4th April 2018

Date report dispatched to DP&E:

6/4/18

Summary of Project:

Liddell Coal Operations (LCO) operates the Liddell Coal Mine, an established open-cut mine located at Ravensworth, approximately 25 km north-west of Singleton in the Upper Hunter Valley of NSW.

Modification 7 seeks a minor adjustment to the north of DA 305-11-01 which includes an approximate 14.64 ha portion of the Mountain Block Offset to facilitate required remediation works for the final landform leading into the final years of mining operations at Liddell.

As the project is classified as a *State Significant Development* the *Environmental Planning and Assessment Regulation (2000)* it requires the development application to be accompanied by either, a Site Verification Certificate (SVC), which certifies that the land of the proposed development is to be carried out is not Biophysical Strategic Agricultural Land (BSAL), or a Gateway Certificate.

The proponents have forwarded an SVC application with site assessment data to DP&E, whom have requested OE: to undertake assessment against the standards of the *Interim Protocol*.

OE: received the original proponents report, from DP&E on the 28th of March 2018, but due to insufficient data supplied OE: was unable to commence its assessment. OE: received additional data for the proponents on 4th April 2018 which enabled OE: to commence the SVC assessment.

This document undertakes a review of data supplied as part of the Liddell Coal Mine Modification 7 project (18_9226) application against the [Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land \(BSAL\)](#). OE: provides the following advice in respect of the Liddell Coal Mine Modification 7 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:

 6/4/18
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Brian Jenkins, Senior Team Leader, Assessment

OEH ASSESSMENT OF BSAL SITE VERIFICATION CERTIFICATE APPLICATION

SVC 18_9226

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		Clayton Richards (SLR) is a registered Certified Practising Soil Scientist with Australian Soil Science Society 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		
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> .	N/A	N/A	There was no requirement of undertaking detailed site assessment (and thus provide a soil type map) over the project area due to only 2.8 ha having slopes <10% (calculated using LIDAR) which is far less than the requirement of 20 ha or more according to the <i>Interim Protocol</i> .

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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> .	Mostly		A BSAL map was supplied in the report but not provided in GIS format for review.
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 formal metadata was supplied as part of the project. Detailed information however was supplied in the report on the slope class map methodology.
LODGEMENT OF SITE AND LABORATORY DATA			
All Site observations lodged on BSAL Soil Data Cards or eDIRT 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		
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		

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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.	N/A	N/A	Proponents had access to the 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		Sampling density is 1 site per 14 hectares (ha) based on total of 3 sites over an assessment area of 42.1 ha.
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		
Each soil type identified has at least three detailed sites	N/A	N/A	There was no requirement of undertaking detailed site assessment (and thus detailed sites) over the project area due to only 2.8 ha having slopes <10% (calculated using

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			LIDAR) which is far less than the requirement of 20 ha or more according to the <i>Interim Protocol</i> . The consultants however provided three additional detailed sites for the excluded area.
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	N/A	N/A	No detailed sites were required. Proponents provided three detailed sites for the excluded area and all confirmed LIDAR measurements with slopes >10% (thus not BSAL)
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	X		No exclusion sites were required. LiDAR slope information was supplied to identify areas greater than 10% (39.3 Ha) as per the Interim Protocol. Additional small and fragmented areas (totalling 2.8 Ha) remained

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			within the application area. These areas fail to meet the minimum area requirements for land to be BSAL.
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	
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		New 1:100 000 scale soil and landscape mapping by OEH (Soil and Land Resources of the Hunter Region, now available on eSPADE) shows three of the sites occur on steep Carboniferous Sediments of Foy Pinnacle (fpv) consisting of Rudosols, Tenosols, Kurosols and Tenosols with shallow soils, steep slopes, rock outcrop, mass movement and soil erosion hazards. One site occurs on Granbalang (gvp) soil landscape consisting of rolling hills on Permian Wittingham Coal Measures with Sodosols, Kurosols and Chromosols with localised shallow soils and widespread erosion hazard. OEH mapping does not

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			indicate any BSAL is likely to be present in the area due to numerous physical constraints.