

**Site Verification Certificate**  
**Mount Owen Continued Operations Project (SVC 8624)**

Part 4AA, Division 3 of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*

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Pursuant to clause 17C(1) of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*, I determine the application made by Mt Owen Pty Ltd by issuing this certificate.

I certify that in my opinion, having regard to the criteria in the *Interim protocol for site verification and mapping of biophysical strategic agricultural land*, the Verification Application Area land specified in Schedule 1 is not Biophysical Strategic Agricultural Land.

The reasons for forming this opinion against relevant criteria, is contained in Schedule 2.



**Deputy Secretary**

**As delegate of the Secretary**

Date certificate issued: 28/08/2017

**This certificate will remain current for 5 years from the date of issue.**

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## **OEH – Report on Site Verification Certificate**

**DP&E Application No. 17\_8624**

**Project Name : Mount Owen Complex Modification 2**

**Proponents Name: Mount Owen Pty Ltd**

**Proponents Address: Hebdon Road, Singleton, NSW, 2330.**

**Date complete application and data received by OEH: 15<sup>th</sup> of August 2017**

**Date report dispatched to DP&E:**

### **Summary of Project:**

The Mount Owen Complex, located in the Upper Hunter Valley in NSW, lies approximately 20 km north-west of Singleton at Hebden.

Mount Owen Pty Ltd, a subsidiary of Glencore Coal Pty Ltd, is proposing to extend the life and extraction limit of the North Pit of the Mount Owen Mine by expanding the North Pit towards the south-east. This proposed extension covers an area of 38 hectares, and under the Mining SEPP, requires the detailed assessment of soil and land characteristics to ensure that Biophysical Strategic Agricultural Land (BSAL) is not impacted by proposed mining activities.

OEH received the proponents report, from DP&E on the 19<sup>th</sup> of July, 2017 but due to insufficient technical data, was unable to undertake an assessment. The proponent provided additional data on the 4<sup>th</sup> of August, 2017 and on the 15<sup>th</sup> of August, 2017 which enabled OEH to commence the SVC assessment.

This document undertakes a review of data supplied as part of the Mount Owen Complex Modification 2 (SVC 17\_8624) 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 17\_8624 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:**



15 August 2017

**Brian Jenkins**, Senior Team Leader, Assessment

# OEHS ASSESSMENT OF BSAL SITE VERIFICATION CERTIFICATE APPLICATION

SVC 17\_8624

| 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                               |    | CV provided confirming extensive experience in soil and land resource surveys. Past member holding a Certified Practising Scientist (CPSS 3) rating with Soil Science Australia (SSA). Additionally, a statement has been provided by the scientist certifying the accuracy and quality of 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                                                 | X                               |    |                                                                                                                                                                                                                                                                                                            |

| SUMMARY OF ASSESSED ITEMS                                                                                                                                                                                                      | Appropriate as per the Protocol |    | Justification                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                | Yes                             | No |                                                                                                                                                                                                                 |
| (soil map, observation sites and data reliability/data source diagram) supplied in GIS format as per <i>Interim Protocol</i> .                                                                                                 |                                 |    |                                                                                                                                                                                                                 |
| 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 status map not provided for assessment area. However, information partially supplied in figure 2.3 (steep slope [ $>10\%$ ] exclusion area map). Of note is that no BSAL was identified by the proponents. |
| 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                               |    |                                                                                                                                                                                                                 |
| <b>LODGEMENT OF SITE AND LABORATORY DATA</b>                                                                                                                                                                                   |                                 |    |                                                                                                                                                                                                                 |
| 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. <b>check. exclusion and detailed</b> ). | X                               |    |                                                                                                                                                                                                                 |

| 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                               |    |                                                                                                                                                                                                                                                                                                           |
| <b>MODEL OF SOILS DISTRIBUTION</b>                                                                                                                                                                         |                                 |    |                                                                                                                                                                                                                                                                                                           |
| 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 | Proponents had access to the land.                                                                                                                                                                                                                                                                        |
| <b>SITE ASSESSMENT</b>                                                                                                                                                                                     |                                 |    |                                                                                                                                                                                                                                                                                                           |
| 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 observation sites are likely to be BSAL due to physical or chemical constraints present as supported by the proponent's data. Additionally, OEH has <b>not</b> identified any soil types that would meet the requirements of BSAL based on OEH's regional scale soil mapping of the general area. |
| Sampling density is as specified in the <i>Interim Protocol</i>                                                                                                                                            | X                               |    | Sampling density is 1 site per 14.2 (ha) based on total of 3 sites covering a soil sampling assessment area of 42.8 hectares (includes 100m buffer and based on proponents                                                                                                                                |

| SUMMARY OF ASSESSED ITEMS                                                                                               | Appropriate as per the Protocol |    | Justification                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                         | Yes                             | No |                                                                                                                                                                                                                                                                                                                  |
|                                                                                                                         |                                 |    | GIS data). This falls within the range of 1 site per 5 - 25 hectares (ha), as specified for high risk activities, in the Interim Protocol.                                                                                                                                                                       |
| Site observations are recorded as specified in the <i>Interim Protocol</i>                                              | X                               |    |                                                                                                                                                                                                                                                                                                                  |
| <b>Observation sites (check, detailed and exclusion sites)</b> are relatively evenly distributed across the survey area | X                               |    |                                                                                                                                                                                                                                                                                                                  |
| Each soil type identified has at least three <b>Detailed sites</b>                                                      |                                 | X  | However, the assessment area is very small (42.8ha) and two of the three soil types are < 20 ha in size. None of the 3 detailed sites provided meet the requirements of BSAL (due to chemical or physical constraints present) and OEH is satisfied the site information provided by the proponents is adequate. |
| All relevant data has been collected and provided for <b>detailed sites</b> as per the <i>Interim Protocol</i>          | X                               |    |                                                                                                                                                                                                                                                                                                                  |
| <b>Detailed sites</b> are representative of the soil type being assessed                                                | X                               |    |                                                                                                                                                                                                                                                                                                                  |

| SUMMARY OF ASSESSED ITEMS                                                                                                                    | Appropriate as per the Protocol |    | Justification                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                              | Yes                             | No |                                                                                                                                                                                                                                                                                                                                                                   |
| Description of <b>detailed sites</b> 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 <b>exclusion sites</b>                              | N/A                             | NA | Due to the insignificant total size (3.8ha) of the exclusion area, which is composed of numerous small fragments of slopes >10%, OEH is satisfied this area does not require site assessment. Additionally, it appears the proponent used LIDAR to determine slopes > 10%, which according to the <i>Interim Protocol</i> , negates the need for site assessment. |
| At least two <b>exclusion sites</b> per polygon in excluded areas (except for areas with no access e.g. only remote modelling of attributes) | NA                              | NA | See comment above                                                                                                                                                                                                                                                                                                                                                 |
| Adequate numbers of <b>check sites</b> used to (i) allocate a site to a soil type and soil map unit and, (ii) confirm existing mapping       | NA                              | NA | All sites are <i>detailed sites</i> and the total number of sites, within the assessment area, meet the requirements specified in the <i>Interim Protocol</i> .                                                                                                                                                                                                   |
| CROSS REFERENCE ASSESSMENT WITH OEH SOILS DATA                                                                                               |                                 |    |                                                                                                                                                                                                                                                                                                                                                                   |

| SUMMARY OF ASSESSED ITEMS                                                                                                                          | Appropriate as per the Protocol |    | Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                    | Yes                             | No |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Soil mapping and attributes appear consistent with OEH soil and landscape data and expected/anticipated soil types in the project area or locality | X                               |    | Soil mapping and attributes appear consistent with OEH soil and landscape data and knowledge of the soils in the general area. The entire assessment area occurs within the <b>Bayswater (SC-bz)</b> map unit of the <i>Soil Landscapes of the Singleton 1:250 000 sheet</i> (Kovac and Lawrie 1991). This map unit contains soils of low fertility with a moderate to extreme erosion hazard. Topsoils are often hardsetting and subsoils can be sodic and sometimes saline. Additionally, no BSAL has been previously identified, nor is expected to occur, in the general area. |

# SCHEDULE 1



## Legend

- SVC 7174 Area
- Proposed Verification Application Area (YAA)
- Proposed Verification Application Area (YAA) 100m Buffer
- Exclusion Area

FIGURE 1.2

Verification Application Area

## SCHEDULE 2

| Relevant criteria                                 | Consideration                                                                                                                                                                                                           |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil fertility (type), drainage, pH and salinity. | The site comprises soil landscapes that fail to meet the criteria for biophysical strategic agricultural land, due to a combination of the following parameters: sodicity, fertility, drainage, soil type and salinity. |