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Resource Assessments - Planning Services Division
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Dear Philip

Re: Glendell Mine Modification 4 – Review of Statement of Environmental Effects
Dev Ref: DA 80/952 MOD4

I refer to your email dated 15 November 2018 inviting the Division of Resources & Geoscience (the Division) to provide comments on the Glendell Mine Modification 4 (the Project) Statement of Environmental Effects (SEE) submitted by Umwelt on behalf of the operator Mt Owen Pty Limited (the Proponent), a wholly owned subsidiary Glencore Coal Australia Pty Limited.

The Division has consulted its internal units where required in generating this advice. Further, the Department of Planning and Environment - Planning Services Division and the Proponent should be aware that matters pertaining to rehabilitation, final landform, environmental impacts of subsidence, subsidence management, mine operator and safety are not or not currently assessed by the Division and advice should be sought from the Resources Regulator.

The Division has reviewed the information supplied in relation to the Project. Given the constraints outlined in the Proponent's SEE, the Division considers the Project to be an efficient development and utilisation of coal resources which will provide an appropriate return to the state. A resource and economic assessment undertaken by the Division detailing the resource utilisation and economic benefits of the Project is appended as Attachment A.

As coal is a prescribed mineral under the *Mining Act 1992*, the proponent is required to hold appropriate mining titles from the Division in order to mine this mineral. Based on current title information the Division advises that the Proponent holds the appropriate titles as required and raises no issues of concern.

The Division has determined that identified risks or opportunities can be effectively regulated through the conditions of mining authorities issued under the *Mining Act 1992*.

For further enquiries regarding this matter please contact Mr Adam W. Banister, Senior Advisor, Assessment Coordination Unit on 02 4063 6534 or assessment.coordination@planning.nsw.gov.au.

Yours sincerely



Mr Param Dogra
A/Executive Director Resource Operations
Division of Resources & Geoscience
10 December 2018



**Planning &
Environment**
Resources & Geoscience

Glendell Mine

Modification 4

Division of Resources & Geoscience

Resource & Economic Assessment
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September 2017

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Introduction

State significant development is regulated under the Environmental Planning and Assessment Act 1979, which requires a proponent to apply to the Department of Planning and Environment for development consent, supported by a Statement of Environmental Effects (SEE).

This Resource & Economic Assessment conducted for the Glendell Mine Modification 4 (the Project or Modification) by the Division of Resources & Geoscience (the Division) is designed to review the resource/reserve estimates stated in the proponent's SEE and whether the Project will deliver significant social and economic benefits to New South Wales from the efficient development of the resource and that resource recovery is optimised and waste minimised. It is also to ensure an appropriate return to the State from developing the resource. As such the Division has conducted an independent calculation of the royalty to be generated over the life of the Project.

The objects of the *Mining Act 1992* are to encourage and facilitate the discovery and efficient development of coal resources in NSW. Of particular relevance to this Resource & Economic Assessment are:

Section 3A Objects:

- (a) to recognise and foster the significant social and economic benefits to New South Wales that result from the efficient development of coal resources, and
- (d) to ensure an appropriate return to the State from mineral resources.

The relevant section of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 is Part 3, Clause 15: Resource Recovery requires that resource recovery is efficient, optimised and minimises waste.

Project Overview

The Glendell Mine (Glendell) forms part of the Mount Owen Complex about 20 kilometres northwest of Singleton in the Hunter Valley of New South Wales. Glendell is a wholly owned subsidiary of Glencore Coal Pty Limited (Glencore). Glencore is the largest producer of coal in New South Wales.

The Mount Owen Complex encompasses three open cut pits; Mount Owen (North pit) and associated mine infrastructure, Ravensworth East (Bayswater north pit) and Glendell (Barrett pit). All three pits utilise the same mine infrastructure and are operated and owned by Glencore.

DA 80/952 currently provides for mining operations at Glendell until 2024. Based on the current mining schedule, mining operations will cease in 2022. Glencore through the Modification seek a minor extension to provide an additional eight months of mining and about 1.97 million tonnes (Mt) of additional Run-Of-Mine (ROM) coal recovery. The Modification will use the existing mine workforce, equipment and approved management systems. No change to mining methods, mining depth or production rate are proposed.

Mine plan changes to the Barrett pit in the Modification will allow efficient progression into the much larger proposed Glendell Continued Operations Project.

This Resource & Economic Assessment considered commercial-in-confidence resource and mine schedule data supplied by the proponent. Glencore estimates the Modification will provide an 8-month Life-Of-Mine (LOM) extension and increase ROM coal recovery by 1.97Mt. This is different to the SEE where the increase in ROM coal was 2.5Mt with the same extension of mine life. The Division has confirmed the 2.5Mt ROM coal included in the SEE was preliminary and did not incorporate the most recent mine design and scheduling information.

Size & Quality of the Resource

The Barrett pit is located on the Camberwell Anticline, a major north-south trending structural feature of the Hunter Coalfield. Strata at Glendell exhibit steep dips of >20 degrees on the eastern flank and dips up to 12 degrees on the western flank. Coal seams from the Foybrook Formation of the Wittingham Coal Measures are extracted at the operation.

The Division has verified that the Project will provide about 1.97Mt of additional ROM coal and about 1.09Mt of additional product coal. The proponent has completed coal resource and reserve estimation for the Project in accordance with the Australasian Code for Reporting Exploration results, Mineral Resources and Ore Reserves (the JORC Code). The JORC Code is an industry-standard professional code of practice that sets minimum standards for public reporting of minerals exploration results, mineral resources and ore reserves.

Glendell sells its coal to export thermal and metallurgical markets, in proportions of around 80 per cent thermal and 20 per cent metallurgical. The Mount Owen complex produces a semi-soft coking product and a range of thermal products which may be blended at the Port of Newcastle with other Glencore coal products. The number of products, their specifications and contribution to production at Glendell can be modified by Glencore depending on market requirements and pricing. The proponent plans to continue to sell coal from the Project into established markets.

Coal qualities in the Project area are comparable with coal currently produced at Glendell Barrett pit. Raw ash content levels necessitate washing ROM coal to meet export market specifications and maximise product value. All coal will be processed in accordance with current operational procedures at the Mount Owen Coal Handling and Preparation Plant (CHPP) then railed to Newcastle for export. A review of coal quality data suggests the proposed product quality, target export market split, and yield are achievable.

Resource Recovery

Glendell assessed several mine designs and determined that the design as selected in the Modification is the most appropriate. Many factors constrain mine planning, extraction method and resource recovery at the Project. These include geological features, environmental constraints (such as Swamp Creek alluvium) and commercial viability (predominantly defined by strip ratio).

Coal resources within the mine design will be extracted via open cut truck and excavator methods. Minor coal plies too thin to be viably recovered with open cut mining equipment have been excluded from the mine design.

Given the constraints outlined in the proponent's SEE, the Division considers the Modification an efficient development of coal resources that provides an appropriate return to the state.

Economic Benefits of the Resource

Over the life of the Modification, assuming production is sold on the export thermal coal market, the value of the additional coal produced would be around \$109 million in current dollars, with the net present value of this revenue stream of around \$81 million at a real discount rate of 7 per cent.

Export income is vital for the health of both the New South Wales and Australian economies. Export income also contributes to the Nation's balance of trade which provides benefits to both the New South Wales and Australian credit rating. This additional export income will contribute to the around \$19.7 billion (2017-18 total) of coal exports annually. Coal exports are by far the largest value export from New South Wales, representing around 45 per cent of the states merchandised goods exports.

The modification if approved would provide support for the continuation of the existing workforce at the Glendell operation.

Coal Royalty Calculation

The Project is a proposed extension to an existing open cut mine and as such a royalty rate of 8.2 per cent applies to all saleable production. This rate applies to the net disposal value. Net disposal value is the price received per tonne minus any allowable deductions. The main allowable deduction is for coal beneficiation which is either \$3.50 per tonne for coal subjected to a full washing cycle, or \$2.00 per tonne for coal subjected to a simple washing process, or \$0.50 per tonne for coal that is washed and screened.

As all ROM coal from the proposed extension operation is subject to a full washing cycle, a deduction of \$3.50 per tonne from the value of coal produced applies. A deduction for levies also applies which would amount to no more than \$1.00 per tonne. Hence allowable deductions for royalty for the Project would amount to \$4.50 per tonne.

One of the most important assumptions in the calculation of future royalty for a coal proposal is the estimate of a future coal price over the life of a project. The additional coal from the Modification is expected to be sold into the export thermal market. A review of coal quality information by the Division suggests this is achievable.

Coal price forecasting is inherently difficult and over the project life there could be variations in coal prices. The Division has used an average price of A\$100 per tonne for export thermal coal from the Modification.

Another important aspect of future royalty calculation for a proposed coal project is an estimation of future annual production. The Division has estimated that if the Modification is approved, around 1Mt of additional product coal would be able to be economically mined from the Modification.

Using the above parameters, the Division has calculated that the state will receive around \$8.5 million in current dollars, and around \$6.3 million in net present value terms (real discount rate of 7%) in additional royalty as a result of the Modification.

Assessment Approvals

Table 1 – Divisional Approvals

Position	Signature or CM9 approval	Date
Approving Officer: Dr Kevin Ruming Director Strategic Resource Assessment (02) 4063 6689	Approved in CM9	5/12/2018
Approving Officer: Tamsin Martin Director Resources Planning & Programs (02) 4063 6584	Approved in CM9	5/12/2018
Endorsing Officer: Param Dogra A/Executive Director Resource Operations (02) 8229 2914		8/12/2018