

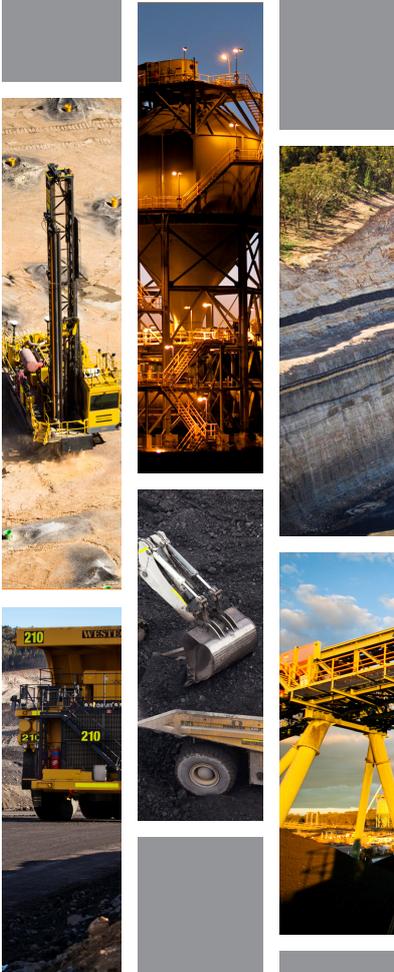


Moolarben Coal Complex UG4 Ancillary Works Modification

Modification Report

APPENDIX H

GROUNDWATER REVIEW



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28 September 2019

Moolarben – UG4 Modification – Review of Groundwater Effects

I have been requested to undertake a review of groundwater effects in relation to the current Modification being sought for UG4 surface infrastructure at the Moolarben Coal Complex.

Proposed Modification

Moolarben Coal Operations Pty Ltd (MCO) operates 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). Both MCO and MCM are wholly owned subsidiaries of Yancoal Australia Limited.

MCO is proposing to modify its approval to enable the development of additional and/or relocated ancillary infrastructure.

Key elements of the proposed Modification include:

- new UG4 remote services infrastructure area (RSIA);
- new internal road crossing of Bora Creek to provide access to the UG4 RSIA;
- new UG4 downcast ventilation shaft compound and associated infrastructure;
- new site access to the UG4 ventilation shaft compound via Ulan Road;
- additions and amendments to UG4 dewatering sites and associated infrastructure; and
- other minor ancillary infrastructure to support the safe operation of the UG4 mine.

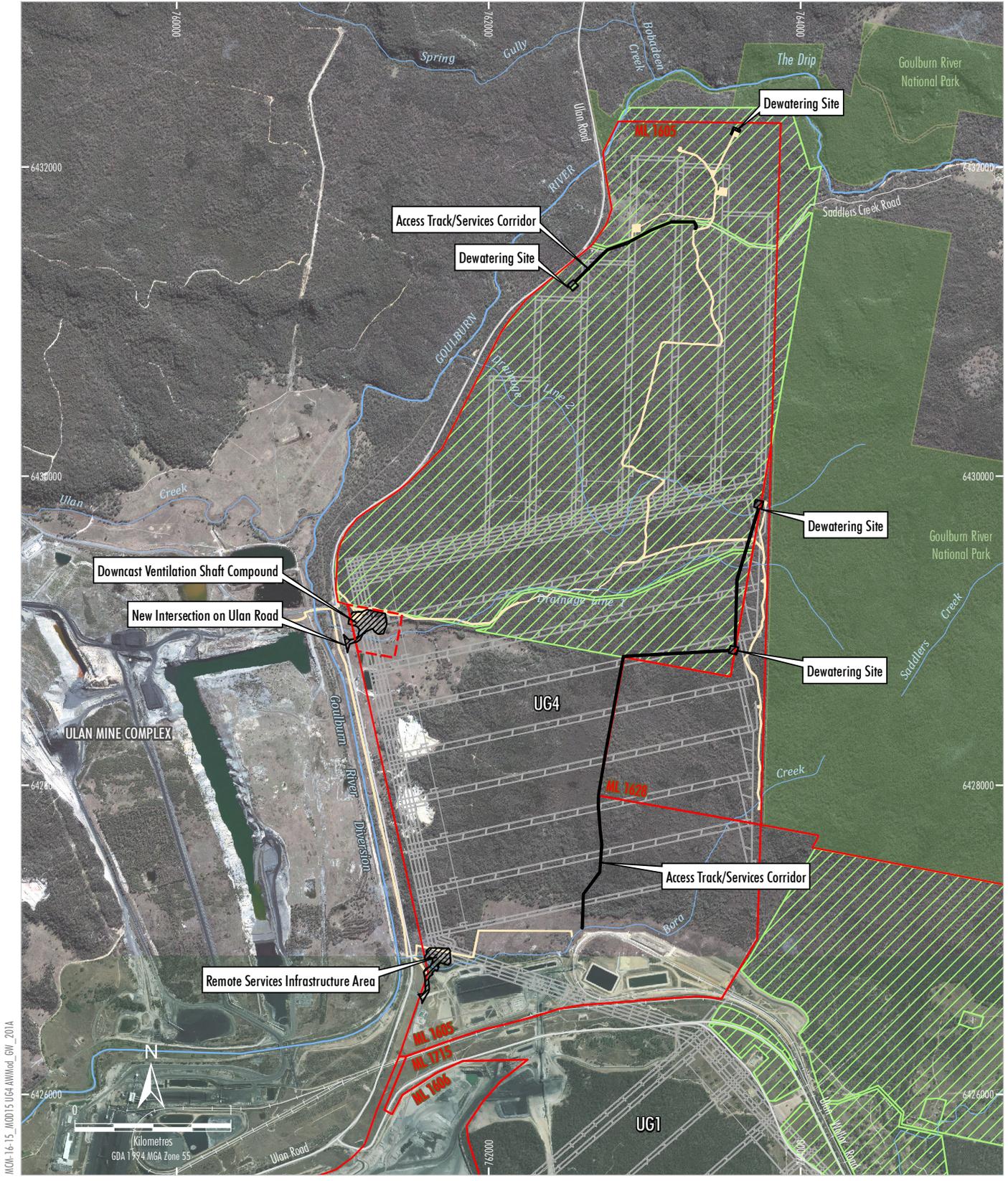
The extent of additional disturbance would be within the indicative surface infrastructure area shown on **Figure 1**.

The proposed Modification would not change the extent and rate of mining at UG4, or any other approved mining operations.

Existing Approvals in Place for UG4 and Associated Dewatering Infrastructure

The Moolarben Coal Project Stage 1 was approved under Part 3A of the EP&A Act by the NSW Minister for Planning on 6 September 2007 (Project Approval 05_0117). Fourteen Modifications to Project Approval 05_0117 have since been approved.

The approved Stage 1 of the Moolarben Coal Complex includes the operation of three open cut mines (OC1, OC2 and OC3), and an underground mine (UG4). Open cut mining has already commenced, and is progressing in OC1 and OC2. It is expected that mining operations (secondary extraction) in UG4 will commence in approximately 2022.



MCO-16-15_MDD15 UG4 AMMod_BW_201A

LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Existing Biodiversity Offset Area
- Existing/Approved Development
- Underground Longwall Layout
- Pipeline and Borefield Infrastructure
- UG4 Ancillary Works Modification
- Indicative Surface Infrastructure Area

Source: MCO (2019); NSW Department of Planning, Industry and Environment (2019)
 Orthophoto Mosaic: MCO (April 2016 - May 2012)


MOOLARBEN COAL
 MOOLARBEN COAL COMPLEX
 Indicative Surface Infrastructure Location

Figure 1

Concurrently, mining is also occurring in open cut OC4 and underground mine UG1, both approved as part of Stage 2 of the Moolarben Coal Complex. Stage 2 was approved on 30 January 2015 (Project Approval 08_0135).

A dewatering and water supply borefield located above UG4 was approved via Modification 7 to the Stage 1 Project Approval. This Modification was approved by the NSW Minister for Planning on 3 February 2011 (NSW Dept of Planning, 2011). Elements of the approved borefield have been constructed, along with other surface infrastructure associated with monitoring bores.

Water Resources Approvals

The Department of Planning's MOD 7 assessment report indicated that the impacts associated with extraction of water from the dewatering and water supply borefield had been assessed and approved as part of the Stage 1 Assessment (refer EA and accompanying documents, and the DG's Assessment Report - NSW Dept of Planning, 2007). Thus the MOD 7 modification related only to the detailed infrastructure involved in the development of the borefield, namely the bores, access tracks, water pipelines and power supply and power distribution.

The current proposed Modification would involve, inter alia, minor adjustments to the borefield and pipeline layouts, and as a consequence some additional surface disturbance for mine dewatering infrastructure. However, the Modification would not alter the overall operation of the dewatering and water supply borefield, and there would be negligible change to its groundwater impacts.

MCO would be required to ensure all groundwater take is appropriately licenced under the requirements of the *Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009* and the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016*.

Specific Changes with the Proposed Modification

The proposed changes with the Proposed Modification are shown in black on **Figure 1**. The changes include the following:

- New intersection on Ulan Road and downcast ventilation shaft compound;
- Modified access track, services corridor and dewatering bore location (NW corner of UG4);
- Small extension of the dewatering bore site (N of UG4);
- Relocation of 2 dewatering sites on E side of UG4, and new access track connecting these sites to the main Moolarben infrastructure area south of Bora Creek;
- Remote services infrastructure area near SW corner of UG4.

In summary, construction and use of the above proposed surface infrastructure would not change the previously assessed and approved impacts of the UG4 mine on groundwater resources.

References

NSW Department of Planning, 2007. Major Project Assessment, Moolarben Coal Project, Director-General's Environmental Assessment Report, Section 75I of the *Environmental Planning and Assessment Act 1979*. Dated September 2007.

NSW Department of Planning, 2007. Assessment Report, Moolarben Coal Mine, Northern Borefield Modification (MP 05_0117 MOD 7). Dated 3 February 2011.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'P. Dundon', written in a cursive style.

Peter Dundon

Director