

MINING, EXPLORATION & GEOSCIENCE ADVICE RESPONSE

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Dear Colin

Project: Mandalong Mine - Modification 9 Longwall Reorientation
Stage: Assessment of Modification Report
Development Application: SSD-5144-Mod-9

I refer to your correspondence dated 1 June 2020 inviting Regional NSW – Mining, Exploration & Geoscience (MEG) to provide comments on the Mandalong Mine - Modification 9 longwall reorientation (the Mandalong Project or the Modification). The Project is submitted by EMM on behalf of Centennial Mandalong Pty Limited (Centennial or the Proponent).

The relevant units internal to MEG have been consulted in generating this advice. The Department of Planning, Industry and Environment and the Proponent should be aware that matters concerning subsidence, subsidence management, mine operator, safety, rehabilitation and environmental impacts of final landform design are not assessed by MEG and separate advice should be sought from the Resources Regulator.

Advice Overview

MEG has determined that the Mandalong Project will:

- improve resource recovery and be an efficient use of resources.
- ensure an appropriate return to the NSW Government with an additional:
 - \$4 million royalties (current dollars), and
 - \$60 million total revenue (current dollars) on the currently approved operation.
- maximise the economic extraction of coal, delivering an additional 600,000 tonnes of Run-of-Mine (ROM) coal on the currently approved operation; and
- support continued employment for a workforce of 600 full-time equivalent (FTE) personnel.

Project Assessment

The Modification seeks to amend Mandalong Mine's approved mine plan, including reorientating some of the approved longwall panels and removing longwalls that will not be developed (See **Figure 1 and 2** below).

The changes are to account for the presence of a geological fault and intrusions from a sill to the west of the current longwalls (See **Figure 3** below). The eight previously approved longwalls (LW30–37) will be reduced to five panels and reorientated along a northeast to southwest alignment while the reorientated longwalls will maintain the approved panel width of 200 metres. The proposed longwalls will retreat from south to north, instead of west to east as currently approved.

Centennial anticipate that this reorientation will result in either maintaining or increasing current production capacity at the mine. The Modification does not require an increase to the current approved production rate. Centennial expects that the Life-of-Mine (LOM) would be increased by an additional one year as a result of the Modification.

Resource Recovery

There is little change in the resource recovery with the amended mine design proposed within the Mandalong Project. The ROM coal will increase by approximately 600,000 tonnes should the Project be approved (**Table 2**).

Table 1: Changes to recovery and product as a result of the Modification (Centennial Coal)

	Approved Plan	Modification 9	Difference
Total ROM coal (Million tonnes)	54.72	55.32	+ 0.60
Ash % (ROM)	18.2	17.8	
Specific Energy MJ/Kcal (ROM)	24.98	Not reported	
Relative Density (ROM)	1.43	1.43	

The Proponent has completed coal resource and reserve estimations for the Mandalong Project in accordance with the Australasian Code for Reporting of 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 mineral exploration results, mineral resources and ore reserves. Reserves are the economically mineable portion of a resource. A JORC compliant reserves report assists in independently assessing the commercial viability of a project and the proposed mining method.

Many factors constrain the mine plan and extraction methodology and therefore the resource recovery of the Mandalong Project. The options were assessed according to mine design, engineering feasibility, economic feasibility and the balance provided for appropriate environmental and social outcomes.

In view of the constraints outlined in the Proponent's modification report and based on the information currently available, MEG considers the Modification satisfies section 3A objects of the *Mining Act 1992* and the requirements of clause 15 of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007. The Mandalong Project represents an efficient development and utilisation of coal resources which will foster significant social and economic benefits.

MEG is satisfied that, should the operational outcomes be achievable, the proposed mine design and mining method submissions adequately recover coal resources and will provide an appropriate return to the state.

Economic benefits of the resource

The existing Mandalong Mine is by far the largest producing mine in the Newcastle Coalfield. It is a significant operation employing around 600 FTE. The Modification has been proposed as necessary by the Proponent to maintain the high production capacity that the operation has consistently achieved over the preceding decade.

MEG considers the Modification is necessary to ensure Mandalong Mine operates at maximum productivity for the remainder of its LOM. Mandalong is the major supplying mine for the Eraring power station which is one of the largest coal-fired generators in NSW providing reliable baseline electricity for at least the next decade for the citizens and industrial users in NSW. Eraring has an announced closure date of 2032.

The Modification will produce at least an additional \$60 million in revenue from the Mandalong Mine, with around \$20 million of this marked as export revenue.

Royalty calculation

MEG has calculated that the Modification will provide at least an additional \$4 million in royalty payments (undiscounted over the life of the mine) to the NSW Government through the increased output. Additional royalty could be more than \$4 million as the Modification would more than likely allow the operation to operate more productively over its remaining LOM.

The Modification will likely result in higher tonnages being produced from Mandalong over its LOM and therefore reduce costs per tonne making the mine less vulnerable to any possible future downturn in either domestic or export coal prices.

Application of section 380AA of the *Mining Act 1992* – restrictions on planning applications for coal mining and titles required to undertake mining

Coal is a prescribed mineral under the Act and the Proponent is required to hold appropriate mining titles from MEG to undertake mining.

Section 380AA states:

- (1) An application for development consent, or for the modification of a development consent, to mine for coal cannot be made or determined unless (at the time it is made or determined) the applicant is the holder of an authority that is in force in respect of coal and the land where mining for coal is proposed to be carried out, or the applicant has the written consent of the holder of such an authority to make the application.*
- (2) For that purpose, an authority in respect of coal need not be in force in respect of the whole of the land to which the application for development consent relates but must be in force for the land where mining for coal is proposed.*

Based on current title information MEG advises that Centennial holds the appropriate titles as required for planning applications for coal as relating to the Project and satisfies the requirements of section 380AA (**see Attachments A, B, C and D**).

The requirement for a mining authorisation

As coal is a prescribed mineral under the Act the Proponent is required to hold appropriate mining title(s) allowing for mineral extraction, such as a mining lease, from MEG to undertake mining. Based on current title information, MEG advises that the Proponent holds the appropriate titles as required for mineral extraction (coal) satisfying the requirements of sections 5 and 73 of the Act.

Biodiversity offset assessment

MEG requests that Centennial consider potential resource sterilisation concerning any future amendments or additions to biodiversity offset areas. MEG requests that both the Geological Survey of NSW – Land Use Assessment team and holders of existing mining and exploration authorities that could be potentially affected by planned biodiversity offsets be consulted. This will ensure there is no consequent reduction in access to prospective land for mineral exploration or potential for the sterilisation of mineral and extractive resources.

Summary of assessment

MEG considers the Mandalong Project to adequately recover coal resources and provide an appropriate return to the State. The proposed changes to the mine design are appropriate given the geological, operational and other constraints at Mandalong Mine.

MEG has determined that should the Modification be approved, efficient and optimised resource outcomes can be achieved, and any identified risks or opportunities can be effectively regulated through the conditions of mining authorities issued under the *Mining Act 1992*. MEG requests to review the draft conditions of approval before finalisation and any granting of development consent.

For further advice concerning this matter, please contact Adam W. Banister, Senior Advisor Resource Assessments on 02 4063 6534 or assessment.coordination@planning.nsw.gov.au.

Yours sincerely

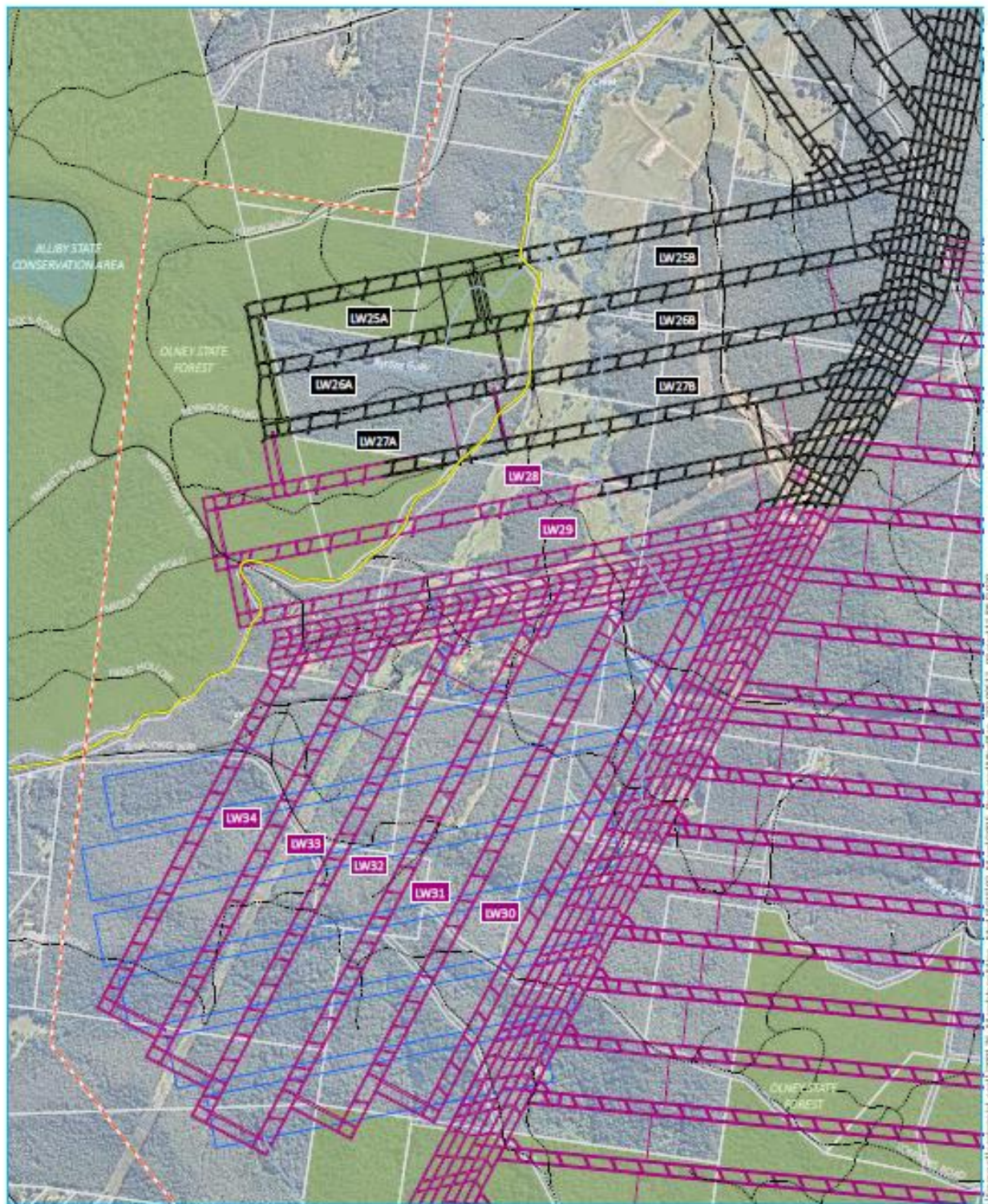


Scott Anson
Manager Assessment Coordination
Resource Operations
Department of Regional NSW – Mining, Exploration & Geoscience
3 July 2020

for
Stephen Wills
Executive Director Resource Operations
Department of Regional NSW – Mining, Exploration & Geoscience

Encl.

Attachment A – Mandalong Mine – Modification 9 (Longwall re-orientation) – diagram – overview (DOC20/537568)
Attachment B – Mandalong Mine – Modification 9 (Longwall re-orientation) – diagram – features (DOC20/537567)
Attachment C – Mandalong Mine – Modification 9 (Longwall re-orientation) – diagram – mining (DOC20/537566)
Attachment D – Mandalong Mine – Modification 9 (Longwall re-orientation) – diagram – exploration (DOC20/537565)



Source: EMM (2020); Centennial (2020); Nearmap (2020); DFS (2017)

KEY

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|---|---|
| Development consent boundary | Underground mine layout |
| Main road | Completed mine workings |
| Minor road | Proposed workings (including reorientated LW30-34) |
| Vehicular track | Previously approved workings (LW30-37) |
| Named watercourse | |
| Cadastral boundary | |
| NPWS reserve | |
| State forest | |

Proposed reorientation of longwall panels at Mandalong Mine

Mandalong Mine Modification 9
Modification report
Figure 4.1



Figure 1. Change of orientation of longwall panels (previous orientation in blue) (EMM Consulting)

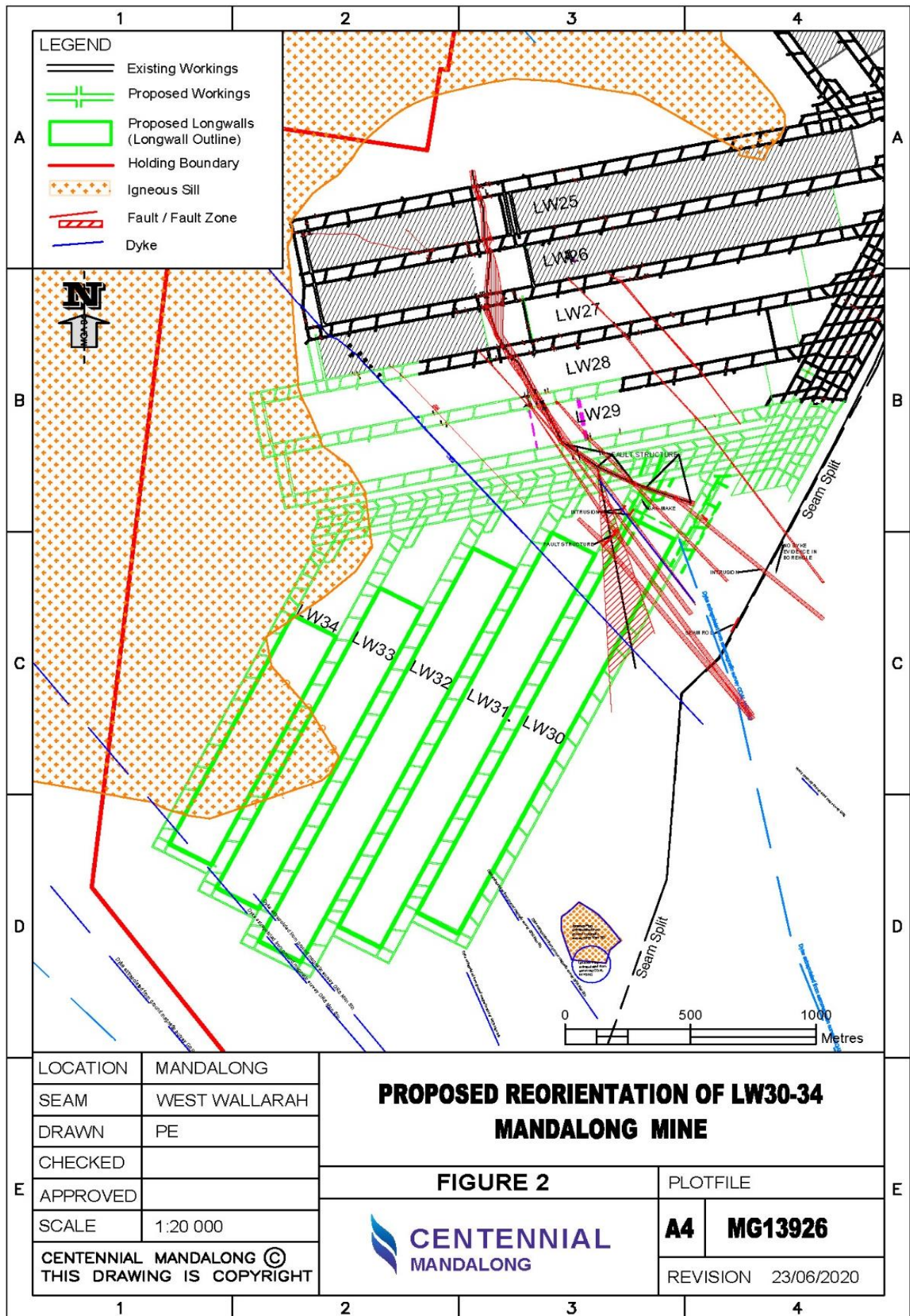


Figure 2. Location of proposed longwalls (re-oriented) and geological constraints (Centennial Coal)

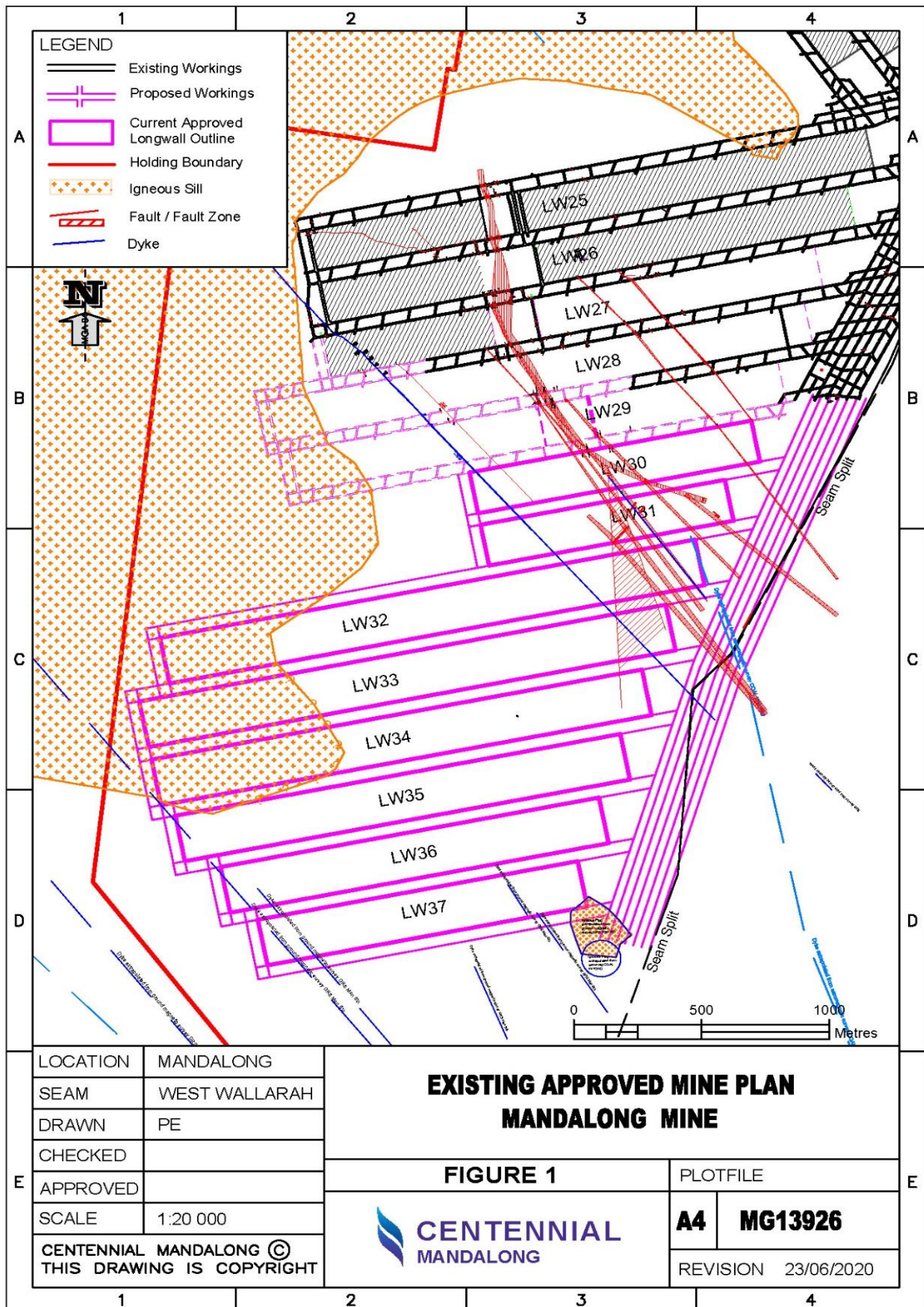


Figure 3. Location of currently approved longwalls and geological constraints (Centennial Coal)