

MINING, EXPLORATION & GEOSCIENCE ADVICE RESPONSE

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Dear Emily

Project: Tomingley Gold Operations MOD 5
Stage: Advice on Modification and provide a Resource and Economic Assessment
Development Application: PA09_0155-MOD-5

I refer to your correspondence dated 10 December 2020 inviting Regional NSW – Mining, Exploration & Geoscience (MEG) to provide comments on the Tomingley Gold Operations MOD 5 (the Project) submitted by Tomingley Gold Operations Pty Limited (the Proponent).

The relevant units internal to MEG have been consulted in generating this advice. The Department of Planning, Industry and Environment – Energy, Resources & Compliance Division 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 advice should be sought from the Resources Regulator.

Advice overview

Mining, Exploration and Geoscience (MEG) assessed the Tomingley Gold Operations MOD 5 PA 09_0155 Project (the Project or Proposal). MEG considers the Project will:

- extend the life of mine by three years from 2023 to the end of 2025
- provide an appropriate return to the NSW Government including;
 - Around \$10 million royalties (current dollars)
 - Around \$313 million total revenue (current dollars)
- support employment for up to 133 operational jobs until the end of 2025
- be an efficient use of resources

In a typical year at full production, the NSW Government would expect to receive about \$3m in royalties from the project.

Project capital investment is about \$9.2m.

This Project provides a production “bridge” to the Tomingley Extension Project currently under assessment by the Department of Planning, Industry and Environment (DPIE).

Resource and Economic Assessment

The Tomingley Mine is located to the south of Tomingley village, about 50 kilometres southwest of Dubbo in the Narromine Local Government Area (LGA).

Tomingley is an operating open cut and underground gold mine that will continue to utilise current mining methods to extract resources.

The Tomingley Gold Operations MOD 5 project seeks to:

- Construct and use Stages 1 and 2 of Residue Storage Facility (RSF) 2
- Extend of Mine Life from 31 December 2022 to 31 December 2025
- Extend the Mine Site boundary to incorporate RSF2; and
- Use of Caloma 2 for backfilling operations.

In view of the constraints outlined in the Proponent's Modification Report and based on the information currently available, MEG considers that the Tomingley Gold Operations Project is consistent with the objects of the *Mining Act 1992*. In addition, in relation to clause 15 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*, the Proposal represents an efficient development and utilisation of minerals resources which will foster significant social and economic benefits.

The proposed mine design and site layout should achieve satisfactory resource extraction. The proposed mine site infrastructure is not expected to significantly sterilise any resources. MEG is satisfied that, should the operational outcomes be achieved, the proposed mine design and mining method adequately recover resources and will provide an appropriate return to the state.

The resource utilisation, recovery and economic benefits assessment undertaken by MEG is addressed in Attachment A.

The requirement for a mining authorisation and royalty liability

Antimony, Arsenic, Bismuth, Copper, Gold, Lead, Silver and Zinc are prescribed minerals under the *Mining Act 1992*. The Proponent is required to hold appropriate mining title(s) allowing for mineral extraction, such as a mining lease, from MEG to undertake mining. The grant of a mining lease gives the holder the rights to prospect and mine for specified minerals, carryout primary treatment operations and carry out any ancillary mining activities.

MEG notes that the Proposal, as it currently stands, is located within the existing operations area of Mining Lease 1684 (Act 1992). Based on current information, the proponent will need to make application under the *Mining Act 1992* for an Ancillary Mining Activity required for the extended TGO Mine Site.

MEG notes that the proposed extended TGO Mine Site extends approximately 25m into Exploration Licence EL8173, held by Sandfire Resources Limited. MEG also notes that the Proponent will consult with that Company in relation to the Proposed Modification and any Mining Lease Application will not include land within EL8173.

The holder of a mining lease for minerals is also liable to pay royalty for both publicly and privately-owned minerals (refer to section 282-285 of the Act).

Biodiversity offset assessment

MEG requests that the Proponent consider potential resource sterilisation should any future biodiversity offset areas be considered. The Proponent must consult with MEG and any holders of

existing mining or exploration authorities that could be potentially affected by the proposed creation of any such biodiversity offsets, prior to creation occurring. This will ensure that access to prospective land for mineral exploration or potential for the sterilisation of mineral and extractive resources is appropriately considered.

Summary of review

MEG considers that, should the project be approved, efficient and optimised resource outcomes can be achieved.

MEG requests that it be provided an opportunity to review the draft conditions of approval before any granting of development consent.

For further enquiries and advice concerning this matter, please contact Scott Anson, Manager Assessment Coordination Unit, Resource Assessments on 02 4063 6972 or scott.anson@planning.nsw.gov.au.

Yours sincerely



Param Dogra
A/Executive Director Resource Operations
Regional NSW – Mining, Exploration & Geoscience
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Resource & Economic Assessment

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More information

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Executive summary

Mining, Exploration and Geoscience (MEG) assessed the Tomingley Gold Operations MOD 5 PA 09_0155 Project (the Project or Proposal). MEG considers the Project will:

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- provide an appropriate return to the NSW Government including:
 - Around \$10 million in royalties (current dollars)
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In a typical year at full production, the NSW Government would expect to receive about \$3m in royalties from the project.

Project capital investment is about \$9.2m.

This Project provides a production “bridge” to the Tomingley Extension Project that is currently under assessment by the Department of Planning, Industry and Environment (DPIE).

The Project

The Tomingley Mine is located to the south of Tomingley village, about 50 kilometres southwest of Dubbo in the Narromine Local Government Area (LGA).

Tomingley is an operating open cut and underground gold mine that will continue to utilise current mining methods to extract resources.

The Proponent, Tomingley Gold Operations Pty Ltd (TGO)), is a wholly owned subsidiary of Alkane Resources Limited. Alkane is an Australia Securities Exchange (ASX) listed exploration and mining company.

The Proponent is seeking consent to:

- Construct and use Stages 1 and 2 of Residue Storage Facility (RSF) 2
- Extend Mine Life from 31 December 2022 to 31 December 2025
- Extend the Mine Site boundary to incorporate RSF2; and
- Use Caloma 2 for backfilling operations.

MEG notes that in addition to the approved operations at Tomingley Gold Operations, the Proponent has identified several exploration prospects located to the south of the TGO Mine Site. The Proponent has been actively exploring the identified prospects, including in particular the San Antonio and Roswell (SAR) deposits. This Project provides a production “bridge” to the Tomingley Extension Project currently under assessment by the DPIE.

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, Industry and Environment for development consent, supported by an Environmental Impact Assessment/Modification Report (EIS/MRT).

This Resource & Economic Assessment (REA) conducted for the Tomingley Gold Operations MOD 5 PA 09_0155 Project by MEG assessed:

- the social and economic benefits to NSW, including royalties, capital investment, revenues and jobs
- the resource/reserve estimates stated in the proponent's EIS/MRT
- if the Proposal is an efficient development of the resource, that resource recovery is optimised and waste minimised
- if the Proposal will provide an appropriate return to NSW.

The objects of the *Mining Act 1992* are to encourage and facilitate the discovery and efficient development of mineral resources in NSW.

Of particular relevance to this REA are Section 3A Objects:

- to recognise and foster the significant social and economic benefits to NSW that result from the efficient development of mineral resources
- 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 Proponent is seeking consent to:

- Construct and use Stages 1 and 2 of Residue Storage Facility (RSF) 2
- Extend Mine Life from 31 December 2022 to 31 December 2025
- Extend the Mine Site boundary to incorporate RSF2; and
- Use Caloma 2 for backfilling operations.

Construction of the Mine commenced in February 2013 with open cut mining commencing in November 2013. The initial phase of open cut mining was completed in January 2019. During 2019, the Proponent processed previously stockpiled low-grade ore, with the processing plant placed into care and maintenance from December 2019 to February 2020.

Underground development from a portal in the Wyoming 1 Open Cut commenced in January 2019, with ore production from stopes under the Wyoming 1 Open Cut commencing in December 2019.

The Proponent continues to mine underground at Wyoming 1 and is currently developing an underground drive to Caloma 2, with the first underground ore from that deposit expected in the first half of 2021.

Open cut mining recommenced within the Caloma 1 Open Cut in October 2020 and is expected to continue until February 2023.

Processing operations recommenced in February 2020, initially on a reduced roster before full production was resumed in May 2020.

The Proponent commenced construction of Stage 7 of RSF1 in July 2020, with initial residue placement expected in November 2020.

Size and quality of the resource

The total Mineral Resource at TGO (Wyoming One, Wyoming Three, Caloma and Caloma Two) is currently 9.45 Mt at an average grade of 1.9g/t Au (610,000oz). This includes the current open pit and underground reserves. There is also good potential to increase resources from three of the deposits that are open at depth.

Total Ore Reserves are 2.97 Mt grading 1.8g/t Au (176,000 oz). Ore Reserves have been defined from Measured and Indicated Resources.

There is no change to in-ground resources and reserves as indicated in the most recent statement (ASX release 18th August 2020).

Resource recovery

Current mining activities comprise underground mining of Wyoming One and access development to the Caloma and Caloma Two orebodies.

Underground mining methods are designed to maximise resource recovery and include:

- Top down long hole open stoping using rib pillars with no fill
- Bottom up long hole open stoping using cemented rockfill
- Modified AVOCA stoping

Ore will be processed at the on-site mill that operates at design capacity with no changes expected due to this modification. No metallurgical issues have arisen during current operations at TGO, with recoveries ranging between 88-92%.

The development, as modified, would remain substantially the same development as the approved development on 31 August 2018.

Backfilling of the Caloma Two open cut has been proposed in MOD5. Caloma Two has open pit resources identified, however the proponent has determined these do not have open cut

extraction potential and that the remaining resources in the vicinity of the open cut are amenable to underground mining methods. No open pit reserves are identified at Caloma Two.

Economic benefits of the resource

Over the life of the Project, MEG has estimated that the value of the gold produced would be around \$313 million in current dollars, with the net present value of this revenue stream of around \$230 million at a real discount rate of seven per cent.

On the basis of current operations at the mine, gold produced from the Project would be processed on site at the already installed processing plant into doré bars (a semi pure alloy of gold and silver), which would then be further processed off site into higher quality gold. Some of this gold would be exported and some would remain in Australia. If approved, the additional export income from the Project would contribute to the around \$6 billion (2019-20 total) of metallic and processed metal exports annually from NSW.

The Project, if approved, would provide up to 133 full time operational jobs from the beginning of 2023 to the end of 2025. These jobs are not new operational positions, they are continuation of existing jobs for a further three years from the existing mine. The Project also provides as a “bridge” to the Tomingley Extension Project, for which a separate application has been lodged with DPIE. It is possible that the Tomingley Extension Project would extend the existing Tomingley mine for another decade.

Capital investment for the Project would be of the order of \$9.2 million.

Royalty calculation

As the Project is an extension to an existing gold mine, a royalty rate of four per cent applies to the value of all gold (refined metal) produced. For gold operations, deductions are allowable on the price received and include onsite treatment expenses, realisation expenses, onsite administration and depreciation. The net value after these deductions is called the ex-mine value; the four percent royalty deduction is applied to the ex-mine value amount.

One of the most important assumptions in the calculation of future royalty is the estimate of the future gold price over the life of a project. The Proponent has estimated that a future gold price of around A\$2,400 per ounce would likely be received from any gold produced over the Project life. Given that the current gold price (mid Jan 2021) is of the order of US\$1,850 per ounce, MEG is of the opinion that this is a reasonable estimate based on likely A\$/US\$ exchange rate positions over the life of the Project. Although MEG are assuming that the 2020 surge in the US\$ price of gold has peaked, it believes that gold prices will remain buoyant due to global economic conditions being somewhat unstable going forward.

Another important aspect of future royalty calculation for a proposed gold project is estimation of future annual production. MEG has estimated that if the Project is approved, around 0.13 million ounces of refined gold would be able to be economically mined from the Project. MEG believes this is a reasonable total based on a rigorous analysis of the geological information available.

Using the above parameters, MEG has calculated that the State will receive around \$10 million in current dollars, and around \$7.4 million in NPV terms (real discount rate of 7 percent) in royalty from the Project. In a typical year at full production the NSW Government would receive around \$3 million in royalties from the Project.

Departmental Assessment

Assessed by	Unit	Branch
Assessing Officer: Karen Montgomery Geoscientist Minerals	Mineral Geoscience Assessment & Advice (GAA)	Geological Survey of NSW
Assessing Officer: Bryan Whitlock Senior Resource Economist	Resource Economics	Resources Policy, Planning & Programs
Assessing Officer: Scott Anson Manager Assessment Coordination	Assessment Coordination Unit – Resource Assessments	Resource Operations

Approvals

Approved by	Signature	Date
Approving Officer: Dr Phillip Blevin A/Director Geoscience Assessment & Advice	Approved in CM9	19/1/21
Approving Officer: Dr Alex King Executive Director Resources Policy Planning & Programs	Approved in CM9	19/1/21
Endorsing Officer: Param Dogra A/Executive Director Resource Operations		19/1/21