



20 July 2016

Mr Brett Corven
Eurobodalla Shire Council
PO Box 99
MORUYA NSW 2537

Our ref: 31/290400/0
253312
Your ref:

Dear Brett

Proposed Dargues Reef Mine – Modification 3 Comments on Proposed Conditions and Recommendations

1 Introduction

Eurobodalla Shire Council (ESC) and Palerang Council (PC) briefed Dr Peter Beck of GHD Pty Ltd (GHD) to provide comment on the amended conditions and recommendations set out in the NSW Government Planning & Environment, Environmental Assessment Report on the Dargues Reef Gold Mine Modification 3 (10_0054 MOD 3) prepared in accordance with Section 75W of the Environmental Planning & Assessment Act 1979, dated 22 June 2016.

ESC and PC remain concerned in regard to the long-term stability of the Tailings Storage Facility (TSF) once mining has stopped, the site is rehabilitated and the lease is handed back to the NSW Government. The modified TSF proposed is a valley fill (ie natural drainage line), downstream dam type, with a downstream slope of 1:3. This slope angle allows for development of erosive velocities that could degrade the integrity of the TSF capping. Consequently, it would only be a matter of time before the cap and / or dam wall erodes through to the tailings, which could then erode and escape in the down-stream catchment. The tailings are predominantly fine grained and would be remobilised as a plume of cloudy water every time there is a rain event and could affect the catchment water quality, maybe for decades.

2 Objective

The key objectives of the comments sought by ESC and PC from Dr Beck are as follows:

1. Provide an opinion on the proposed conditions and recommendations in regard to the longer term management of the rehabilitated TSF; and
2. Provide general commentary on the long term management of the rehabilitated TSF.

3 Scope of Work

To meet these key objectives the following scope of works was completed:

- Review the information provided in the NSW Government Planning & Environment, Environmental Assessment Report;
- Comment on the proposed conditions and recommendations with respect to the long term management of the TSF provided in the NSW Government Planning & Environment, Environmental Assessment Report;

- Provide advice on the long term, multi decade management requirements for the rehabilitated TSF once the site is returned to non-mining uses.
- Document the review in this letter report.

4 Discussion

Section 5.4 of the NSW Government Planning & Environment, Environmental Assessment Report notes that Unity Mining has modified the final landform to be consistent with the original approval. In the proposed Modification 3 the proponent proposed a change in the dam wall of the TSF and to increase the TSF size. The original dam proposed by the proponent was of the upstream design type, while Modification 3 proposed the design of a downstream type dam. Modification 3 also proposed an increase in the volume of tailings stored in the TSF.

The report states “*The Department also notes that the conditions require Unity Mining to prepare a Rehabilitation Management Plan for the mine, in consultation with DRE, EPA and DPI Water.*” Given the significant interest that ESC and PC have in the mine rehabilitation, particularly since the rehabilitated TSF will be within the ESC drinking water supply catchment, both ESC and PC should be included in the consultation on the Rehabilitation Management Plan (RMP).

Section 7 of the NSW Government Planning & Environment, Environmental Assessment Report requires a number of modifications to existing and some new conditions to enhance environmental protection measures. These conditions on enhanced environmental protection and management are focused on the operational phase of the mine. In general, a mine’s operational phase includes the active mine operations stage and the care and maintenance stage. The conditions appear to apply to both stages but clarification on this aspect would be beneficial. Mines can be in care and maintenance of extended periods and as such it would be beneficial for ESC and PC to seek confirmation that all conditions will be applicable throughout the mine life.

The conditions for the project require development of an RMP that documents the details of the rehabilitation measures and sets out the ongoing monitoring and management requirements, as well as contingency measures to be implemented in the event that issues with the rehabilitation measure performance are identified.

After rehabilitation is completed the TSF would represent an engineered structure that will require ongoing monitoring and management to ensure that the stored tailings remain contained. Given the site setting and probable use of the land for grazing purposes there is potential for deterioration of the TSF cap and dam through erosion. Erosion potential would be enhanced in the event the borrowing animals such as wombats and rabbits dig into to cap or dam, or following bushfires. Therefore, there will be a need for monitoring and maintenance of the TSF cap and dam in the long term (multi decade to centuries). The RMP will therefore need to include these long term monitoring and management requirements and identify the party responsible for their implementation in the long term. The responsible party must be clearly identified and their commitment to implementing the RMP requirements obtained. There also must be some mechanism for communicating the RMP existence and requirements into the future. In general, a notation on the title of the land and registration of the RMP with local responsible authorities is a one way to assure that future owners and planning authorities are aware of the long term monitoring and management requirements.

Overall the conditions and recommendations contained in the NSW Government Planning & Environment, Environmental Assessment Report appear appropriate and should provide adequate measures to monitor, manage and mitigate potential hazards to the environment. However, the RMP has not yet been developed and the roles and responsibilities for the long term monitoring and management of the rehabilitated TSF remains uncertain. These aspects should be clarified and ESC and PC included in the stakeholder group that participates in the development and approval of the RMP.

GHD would like to thank ESC for the opportunity to continue to work on review of the Dargues Reef Mining Project. We trust that the information provided in this letter report will be sufficient to assist ESC and PC in decision making with regard to the conditions and recommendations outlined in the NSW Government Planning & Environment, Environmental Assessment Report.

Should you have any questions or require any further information please do not hesitate to contact us.

Yours sincerely



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