
MINUTE 40 OF THE EXPERT PANEL
Geotechnical Inquiries and Spring Annual Report
Bendigo-Ophir Gold Project
[FTAA-2507-1089]
[8 July 2026]

[1] This Minute addresses input recently received from Expert Panel Member, Commissioner Johnson, and comments on receipt of the 2025 Spring Annuals Survey.

Geotechnical Issues Raised by Commissioner Johnson

[2] At the commencement of the geotechnical concurrent hearing, I indicated as Panel Chair that, regrettably, our attempts to link Commissioner Johnson into the hearing from his northern hemisphere location had been unsuccessful, that he would be reviewing video footage of the hearing after his return to New Zealand and that it was likely he would have questions which would be submitted at a later time.

[3] Commissioner Johnson has now had an opportunity to review the hearing footage and has raised several issues.

[4] Ordinarily, the Panel would deal with this by way of a RFI issued by the EPA under s67 of the FTAA. However, with processing currently on hold until (provisionally) 17 August, the formal architecture of the Act is not available to the Panel.

[5] Consideration has been given to issuing a new RFI on or about 17 August,

but the Panel considers it preferable to notify the Applicant now of the issues Commissioner Johnson raises. This is because many of these issues and his comments are likely to inform proposed conditions (which are, or which imminently will be, the subject of intensive workshopping). In addition, the Panel notes (1) the Applicant's confirmation (at the time the request for suspension was made) that the Panel was authorised to continue with its assessment and (2) the inefficiency of delaying its request for further information when the approximately 6 weeks between now and proposed resumption date could be usefully used in addressing Commissioner Johnson's inquiries.

[6] The Panel has therefore annexed Commissioner Johnson's schedule of questions to this Minute. It does so in the expectation the schedule will be referenced in the proposed geotechnical conditions workshop and, to the extent it does not inform that process, will be the subject of voluntary response at the same time the Applicant responds to the last formal RFI issued on 25 June 2026. The Panel assumes that this will be prior or close to the point of recommencement.

[7] To the extent that the information requests have not been voluntarily addressed, they can then be the subject of a formal RFI issued after recommencement (noting the Panel's preference however that fully workshopped conditions and all outstanding information requests, formal and informal, be available by recommencement date if at all possible).

2025 Spring Annuals Survey

[8] The Panel notes receipt of the 2025 Spring Annuals Survey.

[9] If experts for any of the parties or invitees wish to comment on the survey, they may seek leave from the Panel to do so. Again, the Panel expresses its preference that any invited comments be submitted earlier than or by recommencement date.

[10] For its part, the Panel notes that the survey tends to show that the population

and distribution of the four spring annual species which were surveyed is likely to be greater than that suggested by the initial survey undertaken by RMA Ecology, but that total numbers within the direct disturbance footprint (DDF) are likely to be higher also.

[11] The Panel considers one of the most important recommendations from the 2025 survey is the proposal that it be expanded, in Spring 2026, into formerly unsurveyed northeast and northwest facing slopes, beyond the project footprint, so as to determine the extent of spring annual species in these areas. The Panel inquires whether authority has been given by the Applicant for this extended survey to occur, noting that, with the suspension of processing, results obtained from surveys in the latter part of September and early October (if communicated to the Panel promptly) could usefully inform its decision making.

A handwritten signature in blue ink, appearing to read 'M. A. Muir', with a stylized, cursive script.

Hon Matthew Muir KC

Bendigo-Ophir Gold Project Expert Panel Chair

Annexure 1

Closure conditions - commentary

The closure stability objectives and measurement requirements were discussed as part of JWS conference of 13 May 2026 (paras 23 – 26). It was agreed “...that for closure, a slope is considered stable when it demonstrates long-term geotechnical, erosional and hydrogeological performance, with no credible failure mechanisms that would result in unacceptable risk to the environment or public safety.”

Reference to the draft proposed closure conditions were not specifically addressed in the JWS nor at the hearing, although there were many references to closure and post closure stability across the many topics addressed during the hearing.

Mr. Johnson’s interpretation of these collective discussions is set out below:

The aim of closure is for all engineered slopes (both cut and fill) to be:

- *Safe for access:*
 - *If people or stock access these slopes post closure they will not be exposed to any risk of harm greater than they would be exposed to today accessing the existing landforms and surrounding hill slopes.*
 - *If safe access cannot be provided, then the slope must be isolated such that access can only be gained by the deliberate bypass of isolation barriers.*
- *Enduring slope performance:*
 - *Following rainfall, ground disturbance, and seismic shaking, the slope surface will not be subject to greater levels of slope movement, degradation, erosion and scour than exiting slopes (of an equivalent profile) within the site and surround hillslopes.*
 - *If a slope could be subject to greater levels of slope movement, degradation, erosion and scour than the current natural landform then:*
 - *The crest of the slope does not regress into adjacent land (affect a larger area), and,*
 - *Any debris arising is retained on or at the base of the slope (and does not disrupt adjacent land use).*
- *New and remaining water courses that originate and or pass through the site can*

be maintained with a low risk of disruption to flow or blockage.

- *Works will not change the capacity of land beyond a defined site boundary to be used for continued existing land use activity.*

Closure conditions – Questions

Questions arising from the above:

1. Has Mr. Johnson collectively interpreted the position being put forward to define closure by the Applicant and their experts, and, if he has not, can you please reframe this for his understanding.
2. Given the above, can the Applicant's experts provide:
 - a. Information on how they would demonstrate slope performance for closure by observation and data collection, including use of control sites and calibration against key stability elements (e.g. measured groundwater levels).
 - b. Commentary on the period of monitoring required to confirm closure conditions have been met. Noting the one year, as was suggested in the JWS, represents only a limited period for exposure to a range of climatic conditions.

Design Slope Stability Criteria - commentary

Design criteria were discussed by the experts in the JWS of 12 June (paras 9 – 33). Design criteria were also discussed in relation to several of the topics discussed at the hearing of 16 June.

Mr. Johnson's interpretations of the above discussions are:

- There are many different modes of slope instability that need to be designed for a project of this nature.
- Within any one slope, many different modes and failure surfaces will potentially exist.
- There are many ways to approach slope analysis for design, both in terms of the software used, 2D or 3D modelling, approach to parameter selection, and groundwater modelling.
- The robustness of the modelling based on whether it has been (or can be) calibrated needs to be considered. For mining sites, the pit wall cuts and ELF slopes

(and cut and fills in general), due to the evolution of the works over many iterations, are often much better calibrated than general civil works.

- And importantly, the adoption of design criteria needs to blend both model uncertainties, physical safety, and what is at risk in the event of failure. Noting that while safety is a key outcome of design, the modelled Factor of Safety (FOS) expressed as a number in isolation is not a statement on how safe or reliable a slope design may be.

Across the site and within the various design reports, a range of slope stability design elements and design cases are presented, with different criteria proposed to reflect the differences between:

- Mining slopes,
- ELF slopes,
- General civil design works,
- High risk design elements (such as TSF),
- Other structures that require Building Act consents, and
- Existing natural slope stability and landside management.

There is the potential for confusion to exist between the different slope stability guidance criteria being adopted for different design elements and the level of conservatism or otherwise being adopted by a given FOS. Noting that some of these guidance elements are carried forward to proposed draft geotechnical conditions, while others remain embedded within separate design reports and management plans.

Design Slope Stability Criteria – questions

Questions arising from the above:

3. Can the Applicant and their experts:
 - a. Extract the relevant information from the various design reports and provide a comprehensive summary table setting out the slope stability design guidance for the project as a whole, across a range of design cases¹, including but not limited to:

- i. Pit wall stability
 - ii. Elf stability
 - iii. Road cut and fill
 - iv. Building foundations and associated slopes
 - v. Tailing Storage Facility
 - vi. Silt Dam
 - vii. Shepard Creek and Rise and Shine Creek Stream
diversion works (including bench stability for the RAS creek
through the RAS Pit)
 - viii. Disturbance of existing slope features.
- b. Provide the basis for selecting these guidance design criteria
referencing appropriate standards and best practice were applicable².
 - c. Provide comment on how these design parameters may give confidence
that when adopted there is a high probability these designs will achieve
closure criteria.
 - d. Set out how the above will be addressed through the
proposed draft conditions.

Geotechnical Consent Conditions – commentary

There was no substantive discussion about potential geotechnical conditions of consent during the hearing. In addition to the above questions on closure slope stability and guidance for slope design, Mr Johnson raises the following issues.

Quarry and open cut mines are different to general civil work in that the miner will expose and then re-cut the same slope many times – first as a smaller cut and then as larger cuts as the hole gets deeper - and each time they advance the cut they will learn a lot more about the rock slope and its stability attributes. Further, the miner will be based on site, with appropriate expertise and equipment to manage any slope inability for considerable duration of time. By the time the project gets ready to design and form the final closure slopes (after 10 or more years in this case) it is expected they will have mastered the cut design to quite tight tolerances and have had time adjust mine configurations as required.

It is noted that many of the proposed draft geotechnical conditions require peer review

and design reporting sign off before works commence (common practice for civil works projects). As outlined above it is expected that knowledge of slope performance and slope design reliability will evolve as the mining project advances and many design elements may be repeated and or changed as the project advances in responses to changing conditions. Mr Johnson questions whether the current draft proposed geotechnical conditions best reflect the iterative nature of this project. He questions also whether they reflect the requirements of the NZGDS for example re ongoing monitoring and reporting of the TSF. Mr. Johnson is aware of projects where conditions are outcomes focused (rather than input focused) supporting closure outcomes. He questions if such conditions would be better suited to support a project of this nature.

It is acknowledged that there is some commentary in respect of the above in the management plans. However, as with guidance on slope stability criteria, there is some variation in how this is intended to be addressed for the site as whole. Likewise, what should be elevated to the status of conditions. There is the potential for challenges in the management and governance of the conditions as well as for creating silos where the interdependencies between different design element may be overlooked.

Geotechnical Consent Conditions – questions

Questions arising from the above:

4. Does the Applicant or their experts have experience from other sites on how the iterative nature of works is managed to better support operational compliance and closure?
5. Can the Applicant and their experts review the proposed draft geotechnical consent conditions and propose amended or new draft conditions that would:
 - a. Better reflect the iterative nature of the project
 - b. Provide for the staging of different design elements across the project
 - c. Ensure all conditions are outcome focused
 - d. Support the closure documentation
 - e. Provide continuity of knowledge and expertise both within the project and

consenting organisations over the multi-year duration of the project (for both operations and closure).

END