Hon Matthew Muir KC
Bendigo-Ophir Gold Project Expert Panel Chair
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Sent by email: substantive@fasttrack.govt.nz

10 April 2026

Dear Hon Matthew Muir KC,

RE: Invitation to Comment Bendigo-Ophir Gold Project [FTAA-2507-1089]

I am writing to offer my comments on the Bendigo-Ophir Gold Project currently under this expert panel's consideration.

The recent upsurge in interest in mining in New Zealand has prompted me to take a close look at the environmental risks associated with the sector. Understanding and managing these risks will be crucial if long-term environmental damage from New Zealand's emerging mining sector is to be avoided.

As part of my enquiries, I commissioned research to help me understand how some key mining risks – those relating to acid mine drainage and tailings failures in particular – are managed in other jurisdictions. This work will be published in due course. For the time being, let me offer some high-level insights:

- Regulators abroad have learned from experience. In a number of cases, the regulatory systems in place today reflect past failures. A failure to remove and properly dispose of highly toxic processing residues at the Giant Mine in the Northwest Territories and a tailings dam failure at the Mt Polley copper-gold mine in British Colombia are two examples.[1]
- Overseas jurisdictions generally have strong links to technical standards and best-practice guidelines embedded in their mining regulations and approvals.
- Regulators abroad are better equipped to assess and manage the environmental risks associated with mining than New Zealand's councils. It is notable, for example, that most of the overseas regulators my staff spoke to possess the technical expertise to process approvals and set conditions entirely in-house.

[1] https://www.gov.nt.ca/ecc/en/services/giant-mine-remediation-project; https://www2.gov.bc.ca/gov/content/environment/air-land-water/spills-environmental-emergencies/spill-incidents/past-spill-incidents/mt-polley

New Zealand does not enjoy the benefit of this experience or expertise. It is a relatively immature mining destination. The number of new hard rock metal mines permitted in the last decade can be counted on one hand.

It is with this in mind that I offer the following comments on the proposed Bendigo-Ophir Gold Project. It is a project that comes with considerable environmental risk. What is being proposed involves the storage – in perpetuity – of large quantities of potentially hazardous mining residues in the headwaters of one of New Zealand's largest river systems – an area that is also susceptible to very large earthquakes.

Assuming everything goes to plan and key risks do not eventuate, it seems reasonable to think that the economic benefits of the Bendigo-Ophir gold mine will exceed the environmental costs. It is what happens if things do not go to plan that is my concern.

The terms on which the project proceeds or not will ultimately be determined by the Bendigo-Ophir Gold Project Expert Panel (the Panel). This is a heavy responsibility. If the Panel does grant the approvals sought, it will need to craft conditions that will only become relevant decades into the future (those relating to mine closure for example). It will also need to consider conditions that may never be required at all (e.g. security against catastrophic failures). Importantly, the Panel has one opportunity to get this right. Adaptive management and review conditions notwithstanding, trying to change the rules after an investment decision has been made is never straightforward.

While mining at Bendigo-Ophir will generate a range of potential environmental issues, my comments relate solely to water quality and the risks posed to it by contaminants derived from waste rock stacks, tailings storage, and mining disturbance more generally. These impacts are the most (potentially) harmful and the most difficult to reverse. They also pose the greatest challenges to the drafting of any conditions.

I expect that other submitters will address other environmental issues, such as:

- dust
- water supply and any associated effect on aquifer levels
- biota (including lizards)
- the proposal to lift an existing conservation covenant.

These are important environmental issues that I am not in a position to comment on in the time available. If the panel does not receive submissions on these issues, I recommend that it seeks independent advice on them.

My comments are organised into two sections: those relating to the operational life of the mine generally and those relating specifically to mine closure.

General comments

The panel needs to be clear about the level of environmental risk that is acceptable

Mining will always involve some level of risk to the environment. This risk can be reduced in a wide variety of ways through mine design, processing technology and cover systems for example. Mitigations such as these obviously carry increased costs for mining firms. As such, it is

critical that approval authorities clearly establish their expectations about (i) the level of risk they consider to be acceptable, and (ii) how that risk is apportioned.

Internationally, authorities responsible for granting mining approvals often adopt risk objectives such as ALARP (as low as reasonably possible) or ALARA (as low as reasonably achievable). In practice, the choice of objective typically depends on context – for example, how hazardous mining residues are and how sensitive the receiving environment is. While the inclusion of "reasonably" makes objectives such as these imprecise, they do provide a clear sense of a regulator's expectation when decisions about risk reduction are taking place.

The Panel should not be proceeding to consider any conditions without having first reached a clear view about the level of acceptable risk. I note that the Fast-track Approvals Act requires that "the panel must not set a condition that is more onerous than necessary to address the reason for which it is set".[2] In my view, determining what is no "more onerous than necessary" requires the Panel to be clear about why a condition is being set in the first place – in this case, to reduce risk to whatever level the Panel deems to be acceptable. Where conditions are insufficient to address the reasons for them being set, and adverse impacts will prevail, the Panel should decline the approvals sought.

Consider, for example, the tailings storage facility being proposed as part of this project. According to technical reports commissioned by the Applicant, there are eleven possible failure modes for this facility. These include failures initiated by extreme rainfall and by seismic events, as well as those that occur during normal operations (e.g. internal erosion of the tailings embankment due to concentrated seepage).[3]

Tailings dams can also fail less dramatically – for example, through seepage into the underlying ground water system. This process has been documented at OceanaGold's Macraes Mine, where a sulphate plume developed downstream of one of the tailings storage facilities.[4]

In the Bendigo-Ophir case, the Applicant is proposing to deposit tailings directly onto schist bedrock and capture seepage using a network of sub-surface drains. According to a technical report commissioned by the Applicant, "it is expected that the installation of the drains *will capture most* of the tailings seepage…".[5] Another technical report states that, "given the limitations of the model, we suggest that the only confident conclusion is that we cannot reject the hypothesis that Shepherds Creek water will not experience significant mixing in the Ard. Aquifer".[6]

These technical report comments – combined with past experience at the Macraes Mine – suggests there is a risk of tailings seepage into groundwater systems downstream of the proposed Bendigo-Ophir Gold Project. How significant that risk is depends on the efficacy of the leachate collection system (how much leachate is not being collected?) as well as the toxicity of the leachate itself (what impact will uncollected leachate have?). I encourage the Panel to explore these issues in detail.

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[2] Fast-track Approvals Act 2024, s 83.

[3] http://www.fasttrack.govt.nz/__data/assets/pdf_file/0021/15582/B.21-Engineering-Geology-Limited-Shepherds-Tailings-Storage-Facility-Technical-Report-EGL-2025b_Redacted.pdf

[4] https://www.tandfonline.com/doi/full/10.1080/00288306.2017.1307231

[5] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0021/15582/B.21-Engineering-Geology-Limited-Shepherds-Tailings-Storage-Facility-Technical-Report-EGL-2025b_Redacted.pdf

[6] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0021/22197/10567e7de8ee43e30a527c0b19b5f7b4a587f648.pdf

More generally, the Panel should consider whether more needs to be done to reduce tailings-related risks to whatever level it deems to be acceptable. The Applicant is already proposing a number of mitigations. The question is whether more could be done. The Panel should inform itself, for example, if the use of a tailings liner might reduce seepage through the bedrock into groundwater? Or if, for example, a dam wall constructed of concrete and steel might help to reduce the risk of concentrated seepage?

It is also important to note that polluting and potentially toxic leachate from tailings facilities can continue for decades and even centuries after mine closure. There is a risk of ongoing chemical reactions in the waste rock or reactions reigniting if later exposed to air or water. It is critical therefore that long-term risks are assessed and a plan implemented to manage them, including after the mine's closure. I address this point in more detail below.

The Panel needs to ensure that high-quality monitoring is embedded in any approvals

Ultimately, the effectiveness of the approaches used to mitigate the environmental risks associated with mining will only become apparent with time. This highlights the critical importance of monitoring. Regulators – and the applicant itself – can only respond to issues that are known about.

It is vital that monitoring begins prior to construction in order to provide a credible baseline against which to compare any subsequent changes. I note that the idea that Central Otago's soils and water contain naturally high levels of elements like arsenic has received a lot of attention in the media. Establishing a credible pre-mining environmental baseline offers a straightforward way to resolve this debate.

Given the sensitivity surrounding this project, I also think there is merit in considering whether ongoing monitoring should be undertaken by independent third parties rather than the Applicant (as is currently proposed).[7] This would immediately dispel any perceptions of a conflict of interest and foster public trust in the integrity of the monitoring programme. Regardless of who carries out the monitoring, I think it is important that the results are made available publicly in a way that is both timely and accessible.

The Panel needs to decide who shoulders the liability if something goes wrong

If, despite the best efforts of all involved, something goes seriously wrong at the Bendigo-Ophir gold mine, the clean-up costs are likely to be large. The probability of such an event occurring may be low. Nevertheless, the panel should be absolutely clear about who would bear the cost if something were to fail.

In my view, it is the Applicant – not the public – that should be held financially responsible for any clean-up. While that may sound obvious, there is no shortage of historic cases where this has not been the case. In the New Zealand context, the Stockton and Tui mines are the best-known

[7] For example, see https://www.fasttrack.govt.nz/__data/assets/pdf_file/0016/15451/D.04-Schedule-Two-General-Conditions-for-Otago-Regional-Council-Resource-Consents-.pdf for water monitoring.

examples. Recently published New Zealand Treasury analysis indicated that the Crown's clean-up liability at Stockton is likely to fall in the $200–600 million range.[8]

Assuming the panel agrees with this view, the challenge will be how to ensure that the Applicant actually fulfils its responsibilities in the event of major environmental damage. In its current form, it is unclear if the rehabilitation bond being proposed extends to low probability, high consequence events like tailings dam failure. For example, a proposed condition of consent is that "the amount of the rehabilitation bond must be fixed annually … taking into account … the methodology set out in the Lane Associates Limited report …".[9] However, that report is unclear about the inclusion of risk events – "a bond may include a contingent liability component (a risk cost) to cover the occurrence of risk events that could compromise the rehabilitated site if they were to occur", but, "at this time, the risk assessment from which such a sum would be derived has yet to be undertaken …".[10]

Relying on tort law to establish legal liability is also problematic, particularly if there is a possibility that the magnitude of any damages could render the Applicant insolvent.[11]

I note that approvals recently granted for OceanaGold's Waihi North Project include conditions relating to insurance. For example, Condition 94 states that "in addition to the insurance cover required for the Rehabilitation Bond in Condition C70(e), the Consent Holder must throughout the term of this consent be able to demonstrate to the satisfaction of the Councils that it holds sufficient funds, insurances or other financial instruments ("cover") to enable any adverse effect on the environment resulting from the Consent Holder's activities and not authorised by a resource consent to be promptly avoided, remedied or mitigated".[12]

In my view, organising a discussion with the individuals involved in crafting these conditions would be well worth the Panel's time if it decides to grant the approvals sought. That the Panel should need to do this reflects, as I have mentioned, the relative immaturity of New Zealand's regulatory environment in respect of mining. Other jurisdictions can rely much more on pre-existing standards, guidelines, and codes of practice to ensure that catastrophic failures do not happen in the first place.

Comments relating to mine closure and rehabilitation

The Panel's expectations regarding closure need to be clear from the outset

The Applicant is proposing to mine at Bendigo-Ophir for around 15 years. That means mine closure will occur sometime in the late 2030s or early 2040s. That does not mean conditions relating to closure should be taken lightly.

Failing to be absolutely clear at the outset about the conditions on which the Applicant can relinquish its approvals, and have its bond monies returned, on the completion of mining will only

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8 https://www.treasury.govt.nz/sites/default/files/2025-12/cabinet%20paper-eco-25-sub-0149.pdf

9 https://www.fasttrack.govt.nz/__data/assets/pdf_file/0015/15450/D.03-Schedule-One-Central-Otago-District-Council-and-Otago-Regional-Council-Common-Conditions-_Redacted.pdf

10 https://www.fasttrack.govt.nz/__data/assets/pdf_file/0018/15516/B.44-Lane-Associates-Limited-Bond-Introduction.pdf

11 https://www.jstor.org/stable/2006714

12 https://www.fasttrack.govt.nz/__data/assets/pdf_file/0015/20265/Appendix-B1-Combined-HDC-and-WRC-Conditions-5-February-2026-Tracked.pdf

increase the likelihood of legal dispute in the future. As the mine closure plan commissioned by the Applicant points out, closure objectives need to be SMART – specific, measurable, achievable, relevant and time-bound.[13]

In their current form, many of the closure objectives and associated criteria set out in the mine closure plan and proposed draft conditions do not meet that standard.

Consider the objective that "contamination caused by the operation is appropriately remediated or managed" for example.[14] What appropriately means in this context is anyone's guess. I would be very surprised if councils tasked with enforcing this had the same interpretation as the Applicant. Furthermore, this formulation leaves open the possibility that some areas are **not** remediated. For example, one of the five completion criteria relating to contamination in the mine closure plan is that "areas that are not remediated are suitably registered as contaminated sites".

In addition, consider the objective that "pit lakes have developed in line with modelled parameters, as demonstrated through model calibration". One of the (two) completion criteria is that "pit lake water quality is predicted to remain within modelled parameters". This suggests that the relevant closure objective is related to the efficacy of modelling tools rather than any particular geochemical attributes.

The completion criteria relating to water quality are more precise.[15] However, there are serious questions regarding their ambition. I note, for example, commentary from Otago Regional Council that "the proposed numerical surface water compliance limits allow for contaminant concentrations far beyond what the proposed activity as described in the application is expected to generate. Full implementation of these limits would result in the degradation of water quality such that more than minor or significant adverse effects on aquatic life could occur".[16]

The Panel will need to decide if the currently proposed limits are appropriate. At one end of the spectrum, the Panel could adopt the Applicant's proposed limits and effectively authorise a level of harm above and beyond the pre-mining baseline. At the other end of the spectrum, the Panel could decide that any degradation of surface or ground water quality is unacceptable, and that post-mining water quality should reflect the pre-mining baseline. While that may sound overly stringent, it is consistent with existing practice in at least some other jurisdictions, which require that the mine site and all its associated structures (such as tailings dams) are stable and non-polluting.[17] I will be following the Panel's thinking on this matter with interest and anticipate returning to it as part of any comments on draft conditions.[18]

Let me also comment briefly on the apparent need for closure objectives to be flexible. I note, for example, the statement in the closure plan that "completion criteria, like closure outcomes, should continue to be refined during the planning and operational phases of mining, based on

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[13] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0014/15512/B.40-Mine-Closure-Management-Mine-Closure-Plan-MCM-2025.pdf

[14] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0014/15512/B.40-Mine-Closure-Management-MineClosure-Plan-MCM-2025.pdf

[15] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0014/15512/B.40-Mine-Closure-Management-Mine-Closure-Plan-MCM-2025.pdf - see table 8.

[16] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0017/19115/Memorandum-for-Otago-Regional-Council-BOGP-Convener-Conference-FTAA-2507-1089_signed-16-Jan-2026.pdf

[17] In Queensland for example, where the regulator's expectations are that there should be no contaminant releases following mine closure.

[18] Fast-track Approvals Act 2024, s 70.

new information, changes to stakeholder expectations, evolving industry standards and changes in risk profile".

To be clear, I have no issue with providing flexibility in terms of *how* closure outcomes are achieved. There will be a variety of options for any particular outcome, and the Applicant will generally be best placed to decide which to pursue. But it is another matter to propose that the closure outcomes themselves should be subject to negotiation after approvals are granted.

The Panel needs to ensure the rehabilitation bond is well designed

The rehabilitation bond is the key means by which the Panel can ensure mine rehabilitation and closure is undertaken if – for whatever reason – the Applicant is unable to do so. It is therefore critical that the bond's design is well thought through. I draw the Panel's attention to two specific matters in this respect.

The first concerns the size of the bond. A key insight from the international research I commissioned is that rehabilitation bonds have been routinely underestimated historically.[19] In a number of cases, resulting state exposure to mine rehabilitation and closure liability led to the development of specialised bond calculators with transparent input costs and associated guidelines. The idea that "closure cost estimates are commercially sensitive information" – as claimed in the Mine Closure Plan – is one that deserves close scrutiny.[20]

While New Zealand does not have this sort of system in place, there are a number of lessons that are applicable. One is that bonds need to be updated regularly in order to reflect changes to input costs, site disturbance and rehabilitation progress for example. With this in mind, it is good to see that the proposed draft conditions require the rehabilitation bond to be updated annually.[21] Another lesson concerns the need for clarity in terms of bond scope. Rehabilitation bonds can only be calculated relative to a set of clearly defined future closure outcomes. If (as discussed above) those outcomes are unclear, it will be difficult – or even impossible – to determine the appropriate bond size.

The second matter concerns the terms on which the rehabilitation bond is returned. At present, the relevant draft condition is as follows: "the Councils must release the remaining rehabilitation bond on the completion and/or achievement of the objectives and outcomes set out in the Mine Closure Plan".[22] Again, much depends on how those objectives and outcomes are defined.

It is worth noting here that some international jurisdictions have adopted the concept of performance assessment periods.[23] That is, bonds are not necessarily returned in their entirety when a certain piece of work is completed, but rather when that work is shown to be performing as intended. Examples include revegetated areas that are weed-free and thriving (not simply

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[19] https://www.qmrc.qld.gov.au/__data/assets/pdf_file/0035/291977/brief-history-of-the-rehab-reforms.pdf https://www.oag.bc.ca/app/uploads/sites/963/2024/08/OAGBC-2016-05-01-OAGBC-Mining-Report-FINAL.pdf

[20] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0014/15512/B.40-Mine-Closure-Management-Mine-Closure-Plan-MCM-2025.pdf

[21] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0015/15450/D.03-Schedule-One-Central-Otago-District-Council-and-Otago-Regional-Council-Common-Conditions-_Redacted.pdf

[22] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0015/15450/D.03-Schedule-One-Central-Otago-District-Council-and-Otago-Regional-Council-Common-Conditions-_Redacted.pdf

[23] For example, see https://resources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/rehabilitation-bonds

planted), engineered landforms that are redirecting surface water flows as intended (not simply built) and tailing facilities that are stable and non-polluting.

The Panel should ensure funds are available for post-closure monitoring and the management of any residual risk

Once the gold resource at Bendigo-Ophir is exhausted, mining will stop and rehabilitation and closure activities will commence. Assuming the Applicant fulfils its responsibilities, the rehabilitation bond will be returned. What then?

Ongoing monitoring will be required to ensure the site continues to perform as anticipated. There may also be some level of residual risk that requires management. I note, for example, that the application suggests there may be a need for ongoing active water treatment following closure – perhaps for as long as 50 years.[24] More generally, what happens if a particular aspect of the closure plan proves not to be performing in the longer term?

Ultimately, there is a question as to who assumes stewardship of the site following mine closure. I note that the Mine Closure Plan envisages that pastoral farming will be the primary post-mining land use. That seems to imply ongoing private ownership of the site. Whether those private owners would be willing (and able) to assume ongoing responsibility for monitoring and the management of any residual risk remains an open question.

In my view, the arrangements relating to post-closure stewardship are not something that should be left to sort out later. Rather, conditions specifying who is responsible for post-closure monitoring and management of residual risk should be included in any approvals.

For example, if ongoing water management will be needed to ensure the site remains within the approved water quality limits, the Applicant needs to provide a clear plan for who will undertake it and how it will be funded. This is particularly important if the company proposes to leave a facility that is likely to continue polluting after closure, as is often the case for tailings facilities that do not capture all of the leachate and therefore need ongoing monitoring and management to ensure that the pollution remains within acceptable limits.

Again, it is worth drawing the Panel's attention to arrangements at the Waihi Gold Mine where an entity – the Martha Trust – has been established and tasked with stewardship of the mine site in perpetuity. The trust's activities are funded by way of a "capitalisation bond" paid by the mining company. This bond is intended to cover long-term monitoring and site maintenance as well as the estimated costs of "dealing with any adverse effect on the environment which may become apparent after the surrender or expiry of this consent".[25]

Independent expert advice to assess risk and draft conditions

As noted above, one of the key insights from the international research I have commissioned is that assessing the environmental risks of mining and managing them is a highly technical and

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[24] The Mine Impacted Water Overview Report states that "model results suggest that active water treatment within the Shepherds Creek catchment will be needed for 50 years, when concentrations of SO4, Mo and Sb after passive treatment are below the surface water and groundwater limits, for the base case model scenario". https://www.fasttrack.govt.nz/__data/assets/pdf_file/0021/15555/B.06-Mine-Waste-Management-Limited-Mine-Impacted-Water-Overview-Report-MWM-2025.pdf

[25] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0015/20265/Appendix-B1-Combined-HDC-and-WRC-Conditions-5-February-2026-Tracked.pdf

specialised business. Overseas jurisdictions have well developed regulatory systems that incorporate standards and industry best practices into permits and conditions. Overseas regulators also have access to, mostly in-house, technical expertise to independently assess risk and set conditions.

The risks of acid mine drainage and tailings failures are present in New Zealand and, given our seismic risk, are arguably greater than elsewhere. Without access to appropriately experienced and qualified regulatory officials within the New Zealand Government, I recommend that the Panel commission its own experts to independently assess the risks of the proposal and to design appropriate conditions, including those pertaining to financial security. There will be a number of overseas-based mining consultancies that could be of assistance, although it would be preferable for the assessment to be undertaken (or at least peer reviewed) by an overseas regulator, perhaps from Australia or Canada.

As a final word, I would like to stress that the risks of toxic pollution from hard rock mining can last decades to centuries after the mine has closed. There are both ongoing risks of gradual pollution as well as the risks of catastrophic failure if tailings facilities fail. This is something that is particularly relevant in a wet and seismically active place such as New Zealand. Most recent projections for New Zealand show widespread increases in the intensity and frequency of extreme rainfall through the twenty-first century, including in Central Otago.[26]

While Central Otago is not a wet place on average, it not necessarily averages that matter most when it comes to tailings risk. Short duration high intensity rainfall events also represent a threat to tailings dams and these are only becoming more frequent over time.[27] I would encourage the Panel to explore this issue further so as to ensure that, if it decides to grant the approvals sought it can be confident that any Shepherds Creek tailings facility will be resilient to future weather events.

In my view the Panel needs to assure itself, with the assistance of independent verification, that what is proposed can mitigate the risks as far as reasonably practical for at least a century after closure. If the Panel cannot receive that assurance within the timeframes of the Fast-track approvals process, the Bendigo-Ophir Gold Project application should be declined.

Yours sincerely

Simon Upton
Parliamentary Commissioner for the Environment
Te Kaitiaki Taiao a Te Whare Pāremata

[26] Sigid et al. (2026) https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2025EF007427
[27] Carey-Smith et al. (2018) https://niwa.co.nz/sites/default/files/2018022CH_HIRDSv4_Final.pdf