Form 13: Submission on application concerning resource consent

Resource Management Act 1991

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24 June 2025

To: Environment Southland

Name of submitter: Director-General of Conservation (the **Director-General**)

This is a submission on an application from Waikaka Gold Mines Ltd (the **Applicant**) for a resource consent.

Description of activity: To mine gold-bearing wash from depths of 20m to 50m, using a dry, open-cut method, with a total mining area of approximately 85ha over 7-8 years. The operation will involve dewatering, on-site processing, discharge of treated water to the Waikaka Stream, overburden stockpiling, temporarily diverting sections of local streams, and undertaking site rehabilitation. The site is located near 972 Waikaka Road, Chatton North, Southland.

Trade competition: I am not a trade competitor for the purposes of section 308B of the Resource Management Act 1991.

My submission relates to: The whole application.

My submission is: I oppose the application in its current form. I seek to ensure that, prior to any hearing, the following information is provided by the Applicant in order to inform the assessment of effects and approaches to avoid, minimise, remedy, offset or compensate for adverse effects: the proposed erosion and sedimentation control plan; the proposed acid mine drainage management plan; the proposed temporary diversion management plan; an assessment of the risk of untreated water discharges during high flow or flood events and proposals to mitigate that risk; additional information on the potential presence of threatened or at-risk indigenous species in waterways connecting the

disused mining ponds with the Waikaka Stream; additional information on proposed stream crossings and their potential impacts on fish passage; and a fish management plan including methods to reduce disturbance of spawning periods of affected fish species. If consent is granted, I seek to ensure that appropriate and enforceable conditions are applied to manage effects on water quality, freshwater species and habitat, and fish passage.

The Director-General's interest in the Application

1. The Director-General of Conservation (the **Director-General**) has all the powers reasonably necessary to enable the Department of Conservation (**DOC**) to perform its functions.[1] The Conservation Act 1987 (the **CA**) sets out DOC's functions which include (amongst other things) management of land and natural and historic resources for conservation purposes, preservation so far as is practicable of all indigenous freshwater fisheries, protection of recreational freshwater fisheries and freshwater fish habitats and advocacy for the conservation of natural resources and historic heritage.[2] Section 2 of the CA defines 'conservation' to mean *'the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generation*'.

Reasons for the Director-General's submission

2. The Applicant has provided insufficient information, and I am concerned that the proposal does not adequately identify and address the following potential adverse effects on the environment, or how the proposal will avoid, remedy or mitigate potential adverse effects of this kind:

    a. Effects on surface water and groundwater quality
    b. Effects on freshwater species and habitat
    c. Effects on fish passage.

3. My concerns have been identified following a review of the information that has been provided to date. My submission relates to the whole Application. Additional and/or more specific concerns with respect to the Application may be identified once more adequate

[1] Refer section 53 Conservation Act 1987
[2] Conservation Act 1987, section 6.

information has been made available. Without being limited to such matters, I note the following with respect to the Application:

Effects on surface water and groundwater quality

4. I am concerned about the potential impacts on surface and ground water quality, from discharge of stormwater/run off, surplus water, and water contaminated with flocculants and other chemicals used for gold extraction. Of particular concern is the impact of sediment mobilised during these extensive works, and the presence of potentially acid forming materials known to be present at site.

5. Excess sediment can infill and alter habitats (including spawning, feeding and refuge habitats), enable the establishment of nuisance weeds, create anoxic conditions, and smother the feeding and gill structures of invertebrates and fish. This could result in reduced freshwater biodiversity and ecosystem health.

6. The Applicant proposes to provide an erosion and sediment control plan after consent is granted. I consider it important that the details of this plan are provided prior to any hearing, to inform the Council's consideration of the Application, given that the magnitude of effects on freshwater quality will depend on appropriate management actions, which should be detailed in this plan. In particular, given the extensive tile drainage reported at this site, I am concerned about how the Applicant will ensure that all discharges are appropriately treated before being released to the wider environment.

7. Acid mine drainage can impact fish through acute and chronic toxicity, resulting in mortality, avoidance behaviour, and impairments to feeding, migration, predator avoidance and reproduction.[3] I understand that Potentially Acid Forming materials have been found at the site; therefore, it is important to ensure that this risk has been mitigated against adequately. I recommend that an acid mine drainage management plan is provided by the Applicant prior to any hearing, for assessment by the Council.

8. I also note that the activity is proposed within a "Southland significant floodplain" as shown in Environment Southland maps.[4] This significantly raises the risk to conservation and freshwater values in high flow/flood events; during these events, water could flow into the mine and out

[3] D P Grey et al "Remediation of a major acid mine drainage point source discharge restores headwater connectivity for a diadromous native fish", New Zealand Journal of Marine and Freshwater Research, Volume 50, 2016 – Issue 4 https://www.tandfonline.com/doi/full/10.1080/00288330.2016.1184170

[4] Southland Significant Floodplains | Environment Southland open GIS data

into the wider environment (untreated), resulting in contamination. I request that an assessment of this risk is provided, and appropriate mitigation measures are proposed by the Applicant.

Effects on freshwater species and habitat

9. Indigenous freshwater species that are potentially affected by the proposed activity are Gollum galaxias *Galaxias gollomoides* (Threatened – nationally vulnerable; not at risk – declining as stated in the Application), longfin eel *Anguilla dieffenbachii* (At risk – declining), shortfin eel (*Anguilla australis*), kōura/freshwater crayfish *Paranephrops zealandicus* (At risk – declining), and upland and common bullies (*Gobiomorphus sp.*) all of which are present at site.

10. As discussed above, impacts on water quality can negatively affect freshwater species including through deposited and suspended sediment, the potential for acid mine drainage, and potentially other contaminants such as chemicals used in the gold extraction process, and flocculants.

11. In addition, adverse effects may be caused by habitat loss and disturbance of spawning.

12. The Application proposes the temporary loss of habitat by way of the five river diversions (diversions of four sections of the Waikaka Stream and one section of Shepherd's Creek), with each diversion in place for 1 or 2 years. Habitat values may continue to be compromised if rehabilitation of the reaches proves unsuccessful or insufficient. I note that habitat restoration of this kind is complex; yet very little detail has been given on how this restoration to the streams' previous alignment will occur. The proposed conditions state that a temporary diversion management plan will be provided to the consent authority prior to works being undertaken. This will detail restoration methods once the streams are returned to their original alignment. However, without seeing this plan it is difficult to assess the adequacy of this proposal. Therefore, I consider it important that the temporary diversion management plan is provided prior to any hearing, to inform the Council's consideration of the Application.

13. The Applicant proposes that the diverted and rehabilitated sections of the Waikaka Stream and Shepherd's Creek "shall be reconstructed to achieve at least the same habitat quality and ecological values as pre-mining"[5]. However, I request that, if the Council is minded to grant consent, consideration is given to applying conditions that require improvements in habitat values, as a part of the effects management hierarchy required under the National Policy

[5] Condition 23, p6, "Attachment I – Proposed Conditions of Consent", appended to the AEE.

Statement for Freshwater Management (NPSFM) for management of effects on river values, and under the National Policy Statement for Indigenous Biodiversity (NPSIB) for management of effects on indigenous biodiversity outside significant natural areas.

14. The Applicant has also stated that there would be no habitat enhancement in the temporary diversion channels. However, as this diversion will be in place for up to two years, I recommend that, if the Council is minded to grant consent, habitat improvement should take place so that temporary habitat is provided to mitigate the loss of habitat values during the time that the diversion will be in place. Shading and depth will be particularly important to reduce nuisance plant and algal growth and to maintain acceptable temperatures.

15. In addition to the temporary loss of habitat caused by the river diversions, the proposal would involve permanent habitat loss in ponds and drainage ditches around the site. The large pond to the south of the Application area, referred to as the L&M pond in the Application ("*the terminal void resulting from the previous L&M mining activities on the site"*, p25), was found by the ecological consultant to contain kōura and significant numbers of shortfin eels. The pond is proposed to be either infilled or partially infilled (there is conflicting information in the Application), as are various other ponds, which have not been identified in the Application, but which are assumed to be those described in the ecological report.

16. While these ponds have been created through mining activities in the past, they now represent freshwater habitat. Surveys undertaken to support the Application find that six of these eight ponds contained indigenous fish species including longfin eel, shortfin eel and koura/freshwater crayfish. In particular, the consultant notes that these ponds support "*a significant short fin eel population with a range of fish sizes indicating stable habitat over several decades*".[6] No mitigation, offsetting or compensation has been proposed for this loss. While not found in the ponds during the surveys, the ecological consultant was unable to rule out the presence of Gollum's galaxias in waterways connecting the ponds to the Waikaka Stream. I request that more extensive investigations are undertaken to determine this.

17. Gollum galaxiid larvae were also noted to be abundant in the "drainage ditches" at the site which the ecological consultant notes *"provide a considerable amount of galaxiid habitat"*. The application proposes that some of these will be infilled. This will represent further permanent loss of the habitat of threatened species.

[6] Waikaka Goldmines Ltd. Aquatic Ecology Survey, Ross Dungey Consulting Ltd, February 2021, p36.

18. If the Council is minded to grant consent, I request that conditions require the Applicant to avoid, minimise, remedy, offset or compensate for permanent loss of habitat in pools and draining ditches, in accordance with the effects management hierarchy set out in the NPSFM and NPSIB.

19. Finally, there are potential adverse effects on fish spawning. The ecological report identifies that bully (*Gobiomorphus*) species are spawning within the site and, given the presence of juveniles, Gollum galaxias are also likely to be spawning at the site. The ecological consultant also suggests that trout may be spawning at this site. Despite this, no conditions are proposed to exclude works over the spawning periods of these species. The proposed diversion of the stream may result in eggs becoming stranded or crushed and may reduce or degrade spawning habitat. Sediment released in the discharge or through instream works may smother spawning habitat and eggs and impact negatively on larval and juvenile fish. Any infilling of habitat would permanently remove this potential spawning habitat.

20. If the Council is minded to grant consent, I request that conditions require the provision of a fish management plan, with particular emphasis on (but not limited to) Gollum galaxias, and including methods to reduce disturbance of the spawning periods of fish species known to occur at site. Given the potentially significant effects of this activity, and the presence of a threatened species, I request that this is supplied prior to any hearing, in order to inform the Council's assessment of the Application.

21. The fish management plan should also include proposals to remedy, offset or compensate for any permanently lost habitat of the ponds and the delay in habitat restoration in the realigned sections of the stream.

<u>Fish passage and/or impacts caused by fords and stream crossings</u>

22. The Application states that one or two stream crossings will be created within Waikaka Stream and/or Shepherd's Creek, as part of this work. Insufficient information is provided on this. I request that the Applicant clarifies whether these will be basic stream crossings, or concreted fords. Fish passage and fish exclusion may need to be considered here, as well as the impact of repeated stream crossings in heavy vehicles. A better alternative may be a temporary forestry bridge or similar.

23. Any damming or diversion of water should be done outside of peak upstream and downstream migratory periods for shortfin and longfin eels to avoid hindering their

migrations. This damming or diversion may trigger Freshwater Fisheries Regulations 1983 requirements for damming and diversion structures (section 43).

24. In addition, I note that the National Environmental Standards for Freshwater contain information requirements in relation to fords (regulation 67), and requirements for the imposition of monitoring and maintenance conditions on resource consents for activities that involve fords (regulation 69).

Requested 20-year term

25. The application does not explain why a 20-year term is proposed, given that the anticipated duration of the mining activity is 7-8 years. I request that the term is reduced to align with the duration of the activity.

Need for DOC permission

26. I note that the Application site includes public conservation land – a marginal strip associated with Waikaka Stream. Permission from DOC will be required for access to this land. An application for access has been received by DOC.

Conclusion

27. Overall, as currently configured, I consider that the application is contrary to the provisions of the Southland Regional Water Plan 2010, the Proposed Southland Water and Land Plan (partially operative 2024), and relevant higher order documents, including National Policy Statement for Freshwater Management 2020, the National Policy Statement for Indigenous Biodiversity 2023 and the Southland Regional Policy Statement 2017. It is also contrary to the provisions of the RMA, particularly sections 5 and 6(c).

Decision sought

28. I seek the following decision from the Council:

    a) Prior to any hearing, the following must be provided by the Applicant in order to inform the assessment of effects and approaches to avoid, minimise, remedy, offset or compensate for adverse effects:

        i. the proposed erosion and sedimentation control plan;

        ii. the proposed acid mine drainage management plan;

iii. the proposed temporary diversion management plan (including proposed restoration methods when the streams are returned to their original alignments);

iv. an assessment of the risk of untreated water discharges during high flow or flood events and proposals to mitigate that risk;

v. additional information on the potential presence of threatened or at-risk indigenous species in waterways connecting the disused mining ponds with the Waikaka Stream; and

vi. a fish management plan including methods to reduce disturbance of spawning periods of affected fish species, and

b) If the consent authority is minded to grant the application, that it imposes appropriate and enforceable conditions to manage effects on water quality, freshwater species and habitat, and fish passage, including but not necessarily limited to:

i. a requirement for habitat enhancement in the temporary diversion channels;

ii. requirements for improvements to habitat and ecological values in the diverted and rehabilitated sections of the Waikaka Stream and Shepherd's Creek;

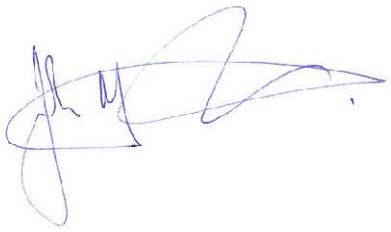
iii. requirements to avoid, minimise, remedy, offset or compensate for permanent loss of habitat in pools and draining ditches; and

iv. a consent term of 7-8 years rather than the 20 years proposed.

c) I also seek such alternative and/or additional relief as may be necessary and appropriate to address my concerns.

I **do wish to be heard** in support of my submission.

If others make a similar submission, I will consider presenting a joint case with them at a hearing.



John McCarroll

Operations Manager, Murihiku/Invercargill

Southern South Island Region

Acting pursuant to delegated authority on behalf of the Director-General of Conservation.

Date: 23 June 2025

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