

**Before the Expert Panel appointed
under the Fast-track Approvals Act 2024**

Under

the Fast-track Approvals Act
2024 (**Act**)

And

In the Matter of

an application for approvals by
Matakanui Gold Limited to
establish, operate, rehabilitate
and ultimately close an open pit
and underground gold mining
operation known as the Bendigo-
Ophir Gold Project

**Statement of Evidence of
Robyn Catherine Simcock on behalf of
Matakanui Gold Limited in response to
Terrestrial Ecology**

Dated: 17 April 2026

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INTRODUCTION

1. My name is Robyn Catherine Simcock.

Qualifications and Experience

2. I have nearly 30 years' experience in restoration ecology and land rehabilitation across public and private land in Aotearoa New Zealand, holding B.Hort.Sc (Hons)(1986) and PhD (1993) from Massey University. I work for the Bioeconomy Science Institute Maiangi Taio, formerly Manaaki Whenua Landcare Research, starting in 1996 in Palmerston North and moving to the Auckland campus where I am currently a senior scientist.
3. My research, consulting and teaching experience includes rehabilitation of a wide range of terrestrial ecosystems through understanding of root zones, hydrology and indigenous ecology. I have worked in research programmes that developed guidance for whole-of life mining of coal, meso-thermal gold and epithermal gold deposits¹. I have developed guidance for alluvial gold mine rehabilitation for West Coast Regional Council² and for establishment of nursery-grown seedlings in drought-prone sites for MPI³. I have written book chapters on Mine rehabilitation practices in New Zealand^{4 5}, and publications on use of biowastes for rehabilitation of native ecosystems⁶ and the novel root zones to support both engineering requirements and plant growth^{7 8}.
4. Re-establishing ecosystems at mine sites has similarities to establishment of large-scale linear and urban infrastructure as all involve large-scale earthworks to bedrock. In 2023 I led a review of road edge effects on ecosystems for Waka Kotahi New Zealand Transport Agency, I am currently involved in research on enhancing ecosystems in urban industrial areas and have led research in nature based stormwater solutions that include native plants.

¹ E.g., Cavanagh J, Pope J, Simcock R et al. 2018. Mine Environment Life-Cycle guide: potential acid and non-acid forming coal mines. Centre for Minerals Environmental Research. Landcare Research NZ Ltd and CRL Energy Ltd

² Simcock R, Ross C 2014. Guidelines for mine rehabilitation in Westland. Prepared for West Coast Regional Council Enviro-link Advice Grant 937-WCRC83

³ Simcock R, Fergus A, Cavanagh J 2021. *Improving resilience of native New Zealand woody seedlings to drought*. Manaaki Whenua - Landcare Research Contract Report LC4083 for Ministry for Primary Industries.

⁴ Simcock R, Ross C 2017. *Mine rehabilitation in New Zealand: overview and case studies*. In: Bolan NS, Kirkham MB, Ok YS eds. *Spoil to soil: mine site rehabilitation and revegetation*. CRC Press. Pp. 334–357

⁵ Cavanagh J, Simcock R 2024. *Abandoned mines in New Zealand*. In: *Derelict mines*. Naidu R ed. CRC Press

⁶ Simcock R, Cavanagh J, Robinson B, Gutierrez-Gines. 2019. Using Biowaste to establish native plants and ecosystems in New Zealand. *Frontiers in Sustainable Food Systems*.3. Article 85

⁷ Cavanagh J, Simcock R, Thompson-Morrison H. 2023. *Beneficial use of sediments from stormwater ponds across Auckland*. Manaaki Whenua - Landcare Research contract report LC4384 for Auckland Council. And Cavanagh J, Simcock R, Thompson-Morrison H, Harnsworth G. 2023. *Guidance on the mangement of 'surplus' soil and subsoil: consultation draft*. MWLR Contract report LC4326. Prepared for Contaminated Land and Waste Special Interest Group, Land Monitoring Forum.

⁸ Lewis M, Simcock R, Davidson G, Bull L 2010. *Landscape and ecology values within stormwater management*. Boffa Miskell Technical Report for Auckland Regional Council (TR2009/083).

5. Since 2022 I have been the peer reviewer for rehabilitation of Martha Mine (Waihi) for Waikato Regional Council and Hauraki District Council, which involves a formal annual assessment of performance against resource consent conditions. In the past, I have been contracted by mining companies to review performance of rehabilitation at Waikato coal mines (for Solid Energy) and at Macrae's Mine (for OceanaGold NZ) and review outcomes of rehabilitation monitoring at Stockton Mine (for Bathurst). Over the last 30 years I have appeared as an expert witness before council resource consent and Environment Court hearings on the Mount William, Cypress and Te Kuha coal mines.
6. The specific experience I bring to the application by Matakau Gold Limited (**MGL**) is site assessment and development of terrestrial rehabilitation options and practices across ecosystems and land uses (from pastoral to forestry to native ecosystems). Through research and consultancy work, I have a solid understanding of practical mine rehabilitation, implications of decisions made during mine development and consenting on potential outcomes, monitoring rehabilitation outcomes and developing site-specific rehabilitation methods.

Evidence Structure

7. This statement is given as part of MGLs response to comments received for the FTA Panel dated 17 April 2026.
8. I developed the following technical reports with landscape architects from Boffa Miskell and Keith Barber from Habitat NZ. The Land and Ecological Rehabilitation Management Plan (**LERMP**) and LERMP Appendices were developed with additional input from the wider ecology team. I co-authored the Applied Research Plan (**ARP**) that includes the Spring Annuals research plan and the unpublished 2025 spring annual survey report.
 - (a) B.16 Manaaki Whenua Landcare Research – Applied Research Plan for Conservation Management, Rehabilitation and Expansion of Cushionfield
 - (b) G.07A Landscape and Ecological Rehabilitation Management (*Ecological Rehabilitation aspects only*)
 - (c) G.07B Landscape and Ecological Rehabilitation Management Plan Appendices

9. The following technical reports have informed my technical report
- (a) B.09 Habitat NZ Mammalian Pest Survey
 - (b) B.10 Habitat NZ Native Bat Survey
 - (c) B.11A Habitat NZ Terrestrial Invertebrate Survey
 - (d) B.13A RMA Ecology Vegetation Values Assessment
 - (e) B.14A RMA Ecology Avifauna Values Assessment
 - (f) B.15A RMA Lizard Values Assessment
 - (g) G.06 Terrestrial Invertebrate Management Plan
 - (h) G.10 Mammalian Pest Management Plan
 - (i) G.11 Biosecurity and Plant Pest Management Plan
 - (j) G.12 Biodiversity Outcome Monitoring Plan
10. I have reviewed evidence related to terrestrial ecology provided by the following submissions:
- (a) Rebecca Teale, E3S representing Otago Regional Council (**ORC**), Technical Review, *Terrestrial Ecology*, 18 March 2026
 - (b) Mike Harding, independent consultant representing Central Otago District Council (**CODC**), Statement of Evidence, *Terrestrial Ecology*, 10 April 2026 (noting this may not have included review of LERMP G.07B)
 - (c) Max Crowe, independent consultant representing Department of Conservation (**DOC**), Statement of Evidence, *Vegetation and Flora*, 10 March 2026
 - (d) Simon Upton, Parliamentary Commissioner for the Environment
 - (e) DOC Section 51 Report
 - (f) Geoffrey Rogers, independent consultant representing Sustainable Tarras, Statement of Evidence, *Terrestrial Ecology*, 2 April 2026
 - (g) Royal Forest and Bird Protection Society of New Zealand (**Forest and Bird**)

- (h) Kāi Tahu, all submissions including Cultural Impact Assessment
 - (i) Otago Conservation Board
11. All submissions from local landowners, including the expert submission from Peter Rough on landscape.
 12. Although this is not an Environment Court proceeding, my confirmation of compliance with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 is included in Substantive Application Document A0.2B. Unless I state otherwise, this advice is within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.
 13. This evidence is presented in two parts. The first discusses four of the five main themes of many of the submissions that relate to rehabilitation of the BOGP Project Site, which is comprised of the Direct Disturbance Footprint (**DDF**) and the adjacent Mine Regeneration Zones (**MRZ**). The second part of the evidence covers specific, key points made by several submissions including that on behalf of Sustainable Tarras by Geoffery Rogers who is an expert in dryland ecology. My evidence concludes by responding to a key question asked by the Parliamentary Commissioner for the Environment: '*What happens when things don't go to plan?*'.
 14. I have prepared this statement in the limited time available for MGL to respond to the RFI under the Fast Track Approvals Act 2024 (**FTAA**). I respond to comments made by technical experts on behalf of government agencies, environmental groups, and Kāi Tahu that relate to matters on which I have advised MGL on the Bendigo-Ophir Gold Project (**BOGP**). Due to time constraints, I have focused my response on the issues I consider most material and that fall primarily within my area of expertise. The absence of comment on other matters should not be taken as agreement or acceptance. If the Panel requires elaboration on any of the matters raised in this statement, I am available to provide further information on request.

Main Themes Raised by Submissions

15. Submissions related to rehabilitation cluster around five key themes:
 - (a) the technical challenges and that rehabilitation is based on experimental approaches which lack dryland precedents;
 - (b) insufficient specification of rehabilitation outcomes;
 - (c) management of fire risk;
 - (d) insufficient response to taonga species and lack of involvement from mana whenua in the LERMP development; and
 - (e) lack of surety that rehabilitation outcomes will be sustained and funded beyond the life of the consent or 'in perpetuity'.
16. I address key themes (a) to (d) in the following four sections. Theme (e) is addressed in the evidence of Dr Matt Baber and Emeritus Professor David Norton as it is also relevant to the MRZs, Ardgour Restoration Area (**ARA**) and the Bendigo and Ardgour Sanctuaries. I support the establishment of a non-wasting endowment fund or similar mechanism that provides certainty for the long-term ecological management of areas included in the LERMP.
17. The LERMP (Document G.07) identifies specific management that is needed in perpetuity, including continued removal of trees from tailings and embankment structures, exclusion of cattle, and maintenance of low-biomass fire buffers (Sections 10.2.3 and 10.2.12).
18. The following issues that relate to rehabilitation and wider terrestrial mitigation are addressed by other experts in their evidence. These include:
 - (a) The baseline condition and expected trajectories of current vegetation associations present in the absence of proposed ecological interventions. This includes assessment of native species richness (noting palatable species), vegetation structure of woody associations (including vines), woody plant cover, and weed species impacts and is discussed in evidence of Mr Zac Milner and Emeritus Professor David Norton, with further detail in LERMP Appendix E1 pages 81 to 96.
 - (b) Incomplete data on spring annual herbs, with substantial parts of Ardgour Station including the DDF not being able to be accessed for survey in spring 2025 due to lambing (evidence of Mr Zac Milner).

- (d) Plant salvage and habitat creation for invertebrates, pest plant management, and biosecurity management. The difference between the proposed weed control and pest control representing standard land management practices 'including within Bendigo Conservation Covenant' and that proposed for MRZ, DDF and ARA (evidence of Mr Keith Barber).
 - (e) The expected efficacy and use of rock stacks, rubble pits and rock cover proposed to be established in rehabilitated areas to specifications detailed in LERMP Appendix C pages 48 to 72 (evidence of Dr Graham Ussher).
19. Expert evidence related to stream rehabilitation, dust and erosion management plans are also relevant to rehabilitation but have not been cross-referenced here.

Technical Challenges and Lack of Dryland Precedents

20. I agree with submitters that rehabilitation of dryland native ecosystems is technically challenging, and there is a lack of precedents in similar dryland semi-arid environments. The methods can therefore be considered experimental to a lesser or greater degree depending on plant species and vegetation associations. For example, the ARP states 'There is little existing research, knowledge or experience of management actions which have attempted to understand cushionfield communities.' The technical challenges are summarised in the LERMP (sections 4 and 10.1, with more detail in LERMP Appendix B pages 36 to 45).
21. The LERMP has been intentionally developed to meet the challenges for most species and vegetation types through specified planning and resourcing (e.g., ensuring salvage of specific types and volumes of rehabilitation materials), doing applied research early in mine life (as has been shown to be successful at other large infrastructure sites), and using adaptive management to identify and react to success and failures over the life of the Project (see also the evidence of Emeritus Professor David Norton). A specific risk management framework for each Land Management Unit has been developed (LERMP Section 11.4).
22. In the absence of rehabilitation precedents in similar dryland semi-arid environments, a suite of site-specific rehabilitation approaches have been developed that are to be refined through adaptive management and research. The LERMP, LERMP Appendices and ARP describe the intent and practice of rehabilitation. LERMP Appendix F uses a series of photographs to illustrate rehabilitation methods and anticipated outcomes by vegetation association. The LERMP states where (by Landscape Management Unit) and when actions are planned across the DDF and MRZ.

23. The LERMP Appendix B details root zone profiles, and target outcomes for individual threatened plant species and for the mapped vegetation types. The LERMP Section 11.2 and 11.3 summarise where (by Landscape Management Unit) and when actions are planned across the DDF and MRZ with further detail provided in LERMP Appendix A. Key components of rehabilitation (numbers of rock habitat structures, overall planting densities and areas of specific vegetation are summarised by Land Management Unit in the LERMP (section 11.3), I acknowledge greater clarity could be delivered by also summarising establishment densities by species from the LERMP and Appendices. These rehabilitation actions and outcomes are proposed to be annually monitored. This monitoring facilitates the adaptive management process needed to refine and deliver the target outcomes.
24. Success of rehabilitation is enhanced by the presence of the MRZ. The current depauperate state of woody vegetation and tussock with high cover of pasture grasses means there are significant potential benefits from enrichment planting into the MRZs for both MRZ and DDF when combined with long term weed and browser controls to release native regeneration. Success for rehabilitation outcomes is specified and driven by conditioned criteria for individual threatened species and some taonga plant species, mapped vegetation associations and specific habitat features (e.g. rock stacks and rubble pits). I agree that this rehabilitation approach is resource heavy in terms of resources, money and time (ORC Appendix 41e3 scientific terrestrial ecology review). However, MGL has agreed to this rehabilitation approach and the costs it involves.

Specification of rehabilitation outcomes

25. I disagree that the LERMP lacks clear and measurable performance standards as these are presented in the LERMP and its Appendices in a variety of formats. Many are summarised in 'Rehabilitation Principles' (LERMP Section 10.2), broken down by Land Management Units (LERMP Section 11.2 in summary and 11.3 in more detail, with extended detail in LERMP Appendix A) and provided in detailed design specifications (e.g. LERMP Appendix C, D and E). However, I agree it would be useful to provide overall summary tables for the vegetation associations, bringing in the proposed cushionfields criteria from the ARP, discuss during technical conferencing and re-issue the report if needed following technical conferencing.

Fire

26. DOC notes there are no conditions to manage fire (pg34). Mr Crowe (Appendix G para 72) also raises the risk of fire. The LERMP and Ardour Restoration Area Management Plan (refer to evidence of Emeritus Professor David Norton) specify actions to reduce fire risk that include establishment of low biomass fire buffers. For example, Figure 10 in the ARP for Cushionfields (document B.16) shows fire buffers across the MRZs and DDF, some of which require grazing in perpetuity and others that are created to maintain low biomass (e.g. pit walls, cushionfields and long-term access tracks).
27. The LERMP requires location of vulnerable trees (e.g. podocarps and some kowhai) in fire refugia (for example within favourable areas of mine pit haul roads that are buffered by rock and edges of cushionfields) and not deliberately planting kanuka (as a highly flammable species with high biomass). Commitment to contingency provisions in the case of wildfires would be useful to discuss in the upcoming ecological conferencing or workshops.

Response to taonga species

28. Evidence by Kā Rūnaka highlight that ‘permanent alteration of historic landform and waterways represents a severance of lived connection that cannot be restored through rehabilitation, planting, or design intent alone’ (Alayna Pakanui Ra). Ms Jade Watkin notes there is no discussion of the cultural value of plant species (beyond taramea and kōwhai), no provision for cultural dimensions, little recognition of Kāi Tahu connection, values, and mātauraka in the technical reports provided by the applicant. Ms Pakanui Ra requests the management plans be revised to incorporate these and explicitly incorporate taoka species. The Cultural Impact Assessment notes that Kā Rūnaka require involvement and oversight of collecting, reporting and co-design role into rehabilitation, Appendix 1 of Ms Watkin’s evidence lists four other non-threatened plant species listed in the Ngai Tahu claims settlement Act 1998: wī (*Poa cita*), toetoe, korokio and kanuka. The Cultural Impact Assessment attached to Edward Ellison’s evidence also identifies bracken, wiwi (*Juncus distegus*, *J. edgariae*) and *Styphelia nesophilia* (formerly *Leucopogon fraseri* dwarf mingimingi) as taoka plant species (Appendix 7). An analysis of the 52 taoka plant species by Mr Milner identifies species that are in the DDF or ESA and species that have not been recorded in these surveys but could be re-established. Some of these are included in LERMP Appendix E planting lists.

29. I concur with the recommendations for incorporation of these species and confirm that there is potential to enhance existing populations and re-establish some taoka species such as wī, toetoe and korokio that are likely to respond well to removal of stock (toetoe particularly vulnerable to cattle browsing). Such actions could contribute to reversing the decline in the abundance of taoka species that is noted as inhibiting the ability to engage in mahika kai practices and to express and pass on cultural practices to future generations (refer to statement of evidence of Edward Ellison, p47).

Site restoration advantages

30. The site also has advantages that are largely unrecognised by most submitters, and which reduce the risk of rehabilitation failure. These include:
- (a) Avoidance of disturbance in a proportion of the 'buffer' / 'contingency zones' which comprise approximately 21% of the 610 ha DDF or 25% if the Come in Time (CIT) Pit is avoided (discussed further in Dr Babers evidence). The outcomes that must be achieved prior to disturbing the majority of the CIT Pit are set out in Condition 111 of the D.01 – CODC Land Use Consent Conditions. Minimisation of disturbance within the buffer or contingency zone could be incentivised by annual reporting of the area of cleared contingency zone. A generally narrow site with the surrounding 889 ha MRZs to be managed to enhance the diversity and abundance of native propagules into new landforms and reduce pressure of competitive non-native plants. The MRZs contain large favourable areas to establish native seedlings that are currently in pasture grasses.
 - (b) Commitment to mine rehabilitation that places deep, heterogenous root zones and creates many protected microsites (using scalloping, variable ripping, mounding and placement of rock as stacks, rubble pits and at least 5% rock cover). Deep root zones allow deep rooting. In combination with protected micro-sites (which provide shelter from drying winds and concentrate water) plants have higher resilience to drought.
 - (c) Commitment to natural slopes and NE to NW aspects suitable for cushionfields established on the north-west face of the 18 ha Western ELF (constructed in the first 2 years) and CIT Pit (a minimum 4.5 ha of the 13.8 ha if mined).

- (d) A low diversity and cover of weeds is currently present. This includes weeds known to be highly competitive with cushionfield (thyme, stonecrop), or with grey shrubland (particularly bird dispersed woody weeds, the woody nitrogen fixers broom and gorse, and wilding conifers).
 - (e) Inclusion of features that increase resilience to fire across the DDF and wider landscape (discussed in paragraphs 26-27).
 - (f) Ability to maintain sheep grazing in areas of the MRZs (MRZ B1 and B2).
31. In addition, the 2025 spring annual herb survey (completed across two weeks in late September to early November and covering 470 and 427 ha, respectively, with some overlap of areas) enabled observations of thousands of all three herbs (unpublished report). These surveys increase confidence that the spring annual component of the ARP is feasible by:
- (a) Confirming locations of large numbers of plants of all threatened spring annual species.
 - (b) Refining where to look for these plants, increasing survey efficiency.
 - (c) Confirming presence of *Ceratacephala pungens* in areas that limit growth of taller plants in early spring, including fresh disturbance (e.g. rabbit scraping or stock disturbance), i.e. at this site it's presence is not linked to soils with extreme geochemistry (e.g. salt pans – which have not been observed in DDF to date) and contrary to evidence of Mr Crowe para 25-28.
 - (d) Indicating collection of *C. pungens* seedheads is straightforward and unlikely to have negative impacts on populations that comprise of hundreds of plants.
 - (e) It is likely thousands of *C. pungens* seeds can be collected (each seed head contains ~10-40 seeds), allowing a variety of treatments to be attempted using relatively large numbers of seed.
 - (f) Indicating turnover of *C. pungens* occurs within some growing seasons (i.e. in some years there may be potential for germination from August to November).

- (g) Identifying dense populations inside the DDF and outside the CIT Pit that can be targeted for soil salvage, and likelihood that further populations are present in adjacent unsurveyed areas of Ardgour Station (concurring with Mr Rogers, Sustainable Tarras) which are confirmed as accessible in spring 2026.

Specific Responses

32. Dr Jenny Webster Brown's evidence (Sustainable Tarras) suggests that pit lake water quality could be unsuitable for contact recreation, irrigation or stock water, and could adversely impact aquatic ecosystem and food chain. The LERMP proposes physical structures that restrict vehicle, human and stock access to enhance long term safety while allowing for monitoring. However, the LERMP also includes specific rehabilitation treatments to establish littoral and riparian vegetation that would also encourage use by invertebrates and birds (LERMP Section 10.2.3). These treatments can be altered to discourage establishment of aquatic and littoral vegetation (i.e. not placing root zones, creating a water-shedding interface that discourages buildup of sediment).
33. Dr Webster-Brown's evidence observes the Project Site is located within 'an arsenic-rich landscape with the existing state posing a risk to human and ecological health' (56) and negates a potential environmental benefit of mining this site through improving surface soil quality by removing the contaminated soils to Engineered Landforms (**ELF**) or pit lake backfill (61). Technical reviews provided alongside the Cultural Impact Assessment (Appendix 8 of the CIA) also identified the opportunity to deliver a net gain through alternative management of these arsenic rich soils. The LERMP has not explored the potential to remediate the SRX ELF. Management of arsenic rich soils is set out in the evidence of Julie Palich. There is potential to improve surface soil quality using selective stripping and use of lower-arsenic soils to construct the rehabilitated root zone given the current materials balance indicates a soil surplus.
34. Dr Jenny Webster Brown's evidence also raises the potential for acidic rock to be present on pit walls. Testing undertaken by Mine Waste Management on the Textural Zone 4 (**TZ4**) and Rise and Shine Shear Zone (**RSSZ**) materials to be processed into tailings confirms that all samples are classified as Non-Acid Forming (**NAF**). This is confirmed in a further information response memorandum to ORC provided in February 2026.⁹).

⁹ p8 Fast Track - Appendix 30 - Mitchell Daysh Memorandum - Further Information Response Part 1 (planning) – Bendigo-Ophir Gold Project Fast-track Application, dated 5 February 2026.pdf - All Documents

35. Ms Rebecca Teale (ORC evidence) considers the number of plants to be planted for some species are low (10 to 500 individuals only) (3.1.1 p18) and should be directly equated with current population size or aerial extent of the species to be rehabilitated at the site. I concur with Dr Baber's suggestion for numbers of plants of each notable species established across the MRZ and DDF. I suggest this is confirmed through expert conferencing, particularly since many of the plant species do not influence the compensation or offset calculations due to the experimental nature of the planting of those species.
36. Ms Teale also considers 'if unsuccessful there is no clearly stated corrective actions for interventions such as rock stacks, storage and survival of translocated vegetation. I agree clear corrective actions for these features should be developed to match those for nursery plant establishment. Specific actions for translocated wetlands and tussock can be identified with selection informed by the proposed monitoring. I suggest these are added to the LERMP following expert conferencing.
37. Ms Teale suggests rehabilitation sites should have >80% cover (3.2.1). and 90% for cushionfields (3.2.13). The minimum cover of tussock is based on pre-mining coverage (20%). A higher cover could reduce resilience to drought by increasing competition for soil moisture and preventing the resilience that is delivered (and naturally present on the site) associated with mosaics of species, and water shedding and harvesting areas.
38. It would also be infeasible due to the number of nursery plants required (as identified by Geoffrey Rogers on behalf of Sustainable Tarras). With respect to cushionfield, requiring a cover of 90% is also inconsistent with current coverage (which has high percentage of non-native vascular plants, and locally high rock, bare-ground and bryophyte components), and could impact provision of habitat for spring annuals which the spring 2025 survey shows are concentrated in areas with seasonally bare ground.
39. To clarify, I suggest updating the LERMP with a table that collates minimum covers for DDF and minimum planting densities/nodes. This would help avoid the confusion (per Ms McDonald 3.2.4) that 250 plants/ha are considered for DDF. This, lowest rate is proposed for enrichment planting into native dominated shrubland in MRZ (as detailed in LERMP Appendix E3), and is low due to existing native shrub cover. I propose this update following the expert conferencing scheduled throughout May.

40. The Parliamentary Commissioner for the Environment and Mr Crowe identified the value of requiring the Mine Closure Plan to be created using international guidance (Mr Crowe suggests the ICMM guidelines – the International Council on Mining and Metals) and implemented soon after the consent has been granted and reviewed regularly (Mr Crowe suggested triennially), rather than deferred to 12 months prior to mine closure. I agree with this suggestion and understand the revised set of proposed consent conditions appended to the statement of planning evidence of Mr Chrisp reflects this. In particular, refer to Condition C115 which confirms that an updated Mine Closure Plan must be submitted to CODC and ORC six months before the commencement of consents must be re-submitted for recertification every three years.
41. Mr Peter Rough, in his expert landscape submission as a nearby landowner, highlights that the ELF's are to be 'naturalised and based on geomorphic design principles, not restored to pre-existing landform patterns'. He requests a clear justification for not backfilling the three large pits (i.e. Rise and Shine Pit, Come-in-Time Pit and Srex Pit), and for retaining the process-plant platform on an engineered terrace. While the pit backfills require large volumes of backfill that I understand is not practicable, I think there may be potential to further explore options that further naturalise the engineered terrace with assistance of landscape architects and MGL.
42. Dr Geoffrey Rogers evidence (on behalf of Sustainable Tarras) offers a detailed critique of the LERMP and ARP for cushionfield and spring annual, including 'appropriateness and feasibility of the applicant's ecological restoration proposals'. Some of his assessment is based on misinterpretations which may be due to lack of clarity in LERMP and information split between LERMP and its Appendices. Some misinterpretations are likely due to information on spring annuals at this site not being available when the ARP was written in early 2025. Points of clarification to these misinterpretations are identified below.
43. Misinterpretation: salvage is targeting many species, including woody species and taramea. This suggests mortality will be high as many species aren't suited to salvage (39, 40, 41)¹⁰. The LERMP states rationale for selective salvage (REF) that focuses almost exclusively on tussocks, which have higher likelihood of success due to shallow, fibrous root systems and conservative water use; and wetlands which also have shallow dense root systems and are placed into areas of low water stress.

¹⁰ In contrast, DOC observes a heavy reliance on propagation and minimum plant salvage (73-76 Appendix G)

44. The salvage and placement 'Direct Transfer' technique is well developed at non-dryland sites with both tussocks and wetland species and has shown some success at Macrae's Mine with transfer to overburden slopes (viewed personally). While a range of other species will be salvaged experimentally (Table E7.1), rehabilitation success does not rest on these. Likewise, salvage of taramea is not being done primarily to deliver live plants (due to taproot) but as an attempt to retain invertebrates from areas that are required to be stripped as part of mining. Instead planting taramea as nursery seedlings is proposed into DDF, with natural expansion encouraged in and adjacent to the MRZ by reducing observed impacts of pigs on adult plants, and rabbits and hares on seedlings (LERMP 10.2.5, Appendix A).
45. Misinterpretation: rehabilitation proposes 'placing excavated and nursery-raised plants within bare pavement' (59) with landforms like those at Macrae's Mine. It follows that rehabilitating mosaics of vegetation are not technically feasible.
46. However, the Macrae's overburden landforms are uniformly smooth, with extremely limited topographic, microtopographic, topsoil and root depth variation. There is almost no shelter on these landforms as they are designed to grow pasture for stock to graze¹¹, not to support a mosaic of different vegetations. At Macrae's many areas could be considered 'exposed mountain', although there are some successful riparian and lakeside plantings. In contrast, the rehabilitation approach for the BOGP Project Site is based on establishing topographic, root zone and microtopographic variation. Design details and cross-sections are provided in the LERMP Appendix X Rock stacks and X Root zones. These root zones are significantly deeper than at Macrae's. The Western ELF and the backfilled CIT landforms (if the full CIT Pit is mined) are specifically required to have 'near-natural' slopes (REF). A vegetation mosaic is harder to establish on the TSF – here variation in water flows and root zones depth and planting patterns are used to enhance variation on what otherwise would be a largely homogenous surface.
47. Misinterpretation: millions of nursery plants are required, and this is not feasible (65). I disagree that delivering 220 ha with 20% tussock cover would require in the order of 2,200,000 plants as the planted tussocks have time to grow (and establish seedlings) under conditions where their leaves are not being browsed by stock (and under little other mammalian pressure) before closure criteria are assessed. While very large numbers of plants are required (~1,000,000), this is a logistical issue and feasible given planting in MRZs is scheduled to start in year 1 and continue for several decades, rising to a peak after 10 years.

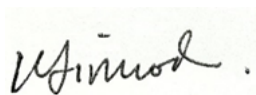
¹¹ Pasture grasses are preferred at Macrae's mines due to the initial consent being granted before RMA (1991) under regime that prioritised restoration of Land Use Capability of productive agricultural land (and reinforcing this with requiring monitoring of soil fertility, PH and pasture composition. This was confirmed in my review of rehabilitation pasture outcomes at Macrae's and in interviews of Macrae's leaseholders in 202X. I therefore disagree with statement in para 55

48. This continuity allows time to scale up and allows long-term contracts for propagators and growers. A large hardening-off facility is proposed on the Ardgour Terrace Site to support this effort.
49. Misinterpretation: 'contrived disturbance' is needed for ever to maintain the rehabilitated and MRZ cushionfield ecosystem (p25, 26, 27). The un-impacted cushionfield will be almost totally contained in MRZ-B1, with small areas potentially in MRZ-B2, both of which are proposed to be browsed with (sheep and rabbits) by providing reticulated water for stock and fencing to contain grazing to MRZ-B1. (LERMP 7.3, Appendix A).
50. Misinterpretation: The ARP will only last for 7 years and that is not enough to deliver results. The ARP is designed to be 'at least' 7 years, with no defined end date, however it could be useful to specify that the duration will be dependent on when the outcomes can be achieved and potentially will be longer. Note also that the cushionfields in the Ardgour Restoration Area will be managed for a minimum of 35 years based on implementing the ARP results.
51. Dr Geoffery Rogers and other evidence (e.g., DOC Mr Crowe para 23) identify that the survey information for spring annuals is incomplete and there is a critical information gap. This is addressed in statement of evidence of Mr Zac Milner. Further surveys over additional areas are proposed, in particular Ardgour Station, where access was restricted for the Spring 2025 surveys due to lambing.
52. The Parliamentary Commissioner for the Environment asks '*What happens if things don't go to plan?*'. In the context of rehabilitation at this site, first there are early warnings using results of operational rehabilitation that is undertaken at scale within the first two years on the Western ELF. The performance of this operational rehabilitation is required to be measured (enabling detection), reported and audited. At other mine sites this auditing includes an independent Technical Advisory Panel who report directly to Councils. For the BOGP I understand the consent conditions C44-45 in *D.03 – Schedule One – Common Conditions for CODC and ORC Consents* require the preparation of an annual BOGP Landscape and Ecological Rehabilitation Monitoring Report that is to be submitted to both CODC and ORC that will report on rehabilitation. The LERMP attempts to provide quantitative, straightforward measures of rehabilitation performance, e.g. numbers of rock stacks and rubble pits, minimum % cover of rock and plant cover, numbers of salvaged tussocks, numbers of successfully established nursery-raised seedlings per ha, and areas of specific rehabilitated vegetation types.

53. There are some exceptions, e.g. the performance standard for Cushionfield and spring annual herbs are unconfirmed and rely on baseline surveys that are not complete. The interventions that are likely to result in delivering outcomes 'back on track'. They should be triggered by non-compliance could also be clearer. These could be developed in technical workshops (and with Kāi Tahu) based on a hierarchy of interventions extracted from the LERMP and ARP, for example, for salvaged tussock and planted seedlings this would include increasingly intensive interventions as combinations of mulches, rock, shelters, soil amendments, and irrigation. Unlike water quality, most rehabilitation outcomes have a suite of opportunities to recover or enhance while mining is active and access is available if there is an adequate volume of favourable root zones and rock and backfill. The 2018 Mine Environment Life Cycle guide developed by the Centre for Minerals Environmental Research for mesothermal gold illustrates how options narrow as stripping is completed and final landforms are delivered.

Conclusion

54. In conclusion, submitters have raised concerns about the unproven rehabilitation methods in this dryland environment and at the scale proposed for the BOGP. I consider the rehabilitation approaches proposed in the LMERMP provide the greatest potential to deliver the outcomes specified, with the greatest level of uncertainty of outcome remaining for cushionfields and spring annual herbs. The site has a range of advantages that are largely unrecognised by submitters. This includes commitments to enhancing a wrap-round MRZ, large-scale planting and provision for stripping and placing large areas of deep root zones.
55. I support strengthening some proposed consent conditions for vegetation associations, formalising consent conditions for cushionfield, and specifying interventions likely to bring rehabilitation planting back on track in the event of poor performance. This would retain flexibility in delivering outcomes through adaptive management while improving confidence in delivering agreed rehabilitation outcomes. I consider this can be achieved by refining the LERMP and proposed conditions in expert conferencing, and with input of Kāi Tahu. I support consent condition C.131 that allows Councils to engage technical experts to review documents - including monitoring reports – as this could perform the same function as a technical review group. I support establishment of a non-wasting endowment fund or similar mechanism that provides certainty for the long-term ecological management that maintains increases in ecological values of areas included in the LERMP that will be started through rehabilitation actions during the life of the project.

A handwritten signature in black ink on a light green rectangular background. The signature is written in a cursive style and reads "Robyn Simcock".

Robyn Simcock

17 April 2026