

In the matter of an application for approvals under the Fast Track Approvals Act 2024

By **Tāiko Critical Minerals Limited**

Applicant

Statement of evidence of Dr Gary Neil Bramley in relation to terrestrial ecology

23 March 2026

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Introduction

- 1 My name is Gary Neil Bramley.
- 2 My role in relation to the application by Tāiko Critical Minerals Limited (**the application**) for approvals relating to the Barrytown Mineral Sands – Southern Block Project (**the Project**) has been to provide expert advice in relation to terrestrial ecology. I have also had input into the Wildlife Act Authority application which forms part of the Project.

Qualifications and experience

- 3 I hold the degrees of Bachelor of Science (1992) and Master of Science (First Class Honours in Ecology, 1995) both from Massey University, and a Doctorate of Philosophy in Biology from the University of Waikato (1999).
- 4 I am a member of the Ornithological Society of New Zealand, Ecological Society of New Zealand, New Zealand Native Plant Conservation Network and Environmental Institute of Australia and New Zealand.
- 5 I am currently the Terrestrial Ecology Team Leader and a Director and owner of Ecological Solutions Limited, which is a multi-disciplinary ecology company with offices in Kāeo, Auckland, Tauranga and Nelson. In that role I support our managing director and provide technical and administrative leadership to a team of 8 – 10 terrestrial ecologists at varying stages of their career from new graduates to experienced practitioners. I also typically manage up to 30 projects at any one time at a range of scales from single lot subdivisions to large scale infrastructure projects.
- 6 I have worked as a consultant ecologist since 2000, initially for NZ Environmental Limited and then Mitchell Partnerships Limited (now Mitchell Daysh). Between January 2016 and March 2022, I operated my own business (The Ecology Company) which merged with Freshwater Solutions Limited to become Ecological Solutions in April 2022.
- 7 I have published or contributed to twelve peer reviewed papers and more than 300 unpublished reports prepared for a variety of clients. I have been responsible for the preparation of specialist ecological reports, Ecological Impact Assessments, Assessment of Environmental Effects documentation, management plans and Department of Conservation concession and wildlife permit applications. In July 2017, I completed the “Making Good Decisions” programme and am a certified resource consent hearings commissioner.

- 8 As a consultant ecologist I undertake, lead and contribute to a large number of ecological investigations, significance assessments and assessments of the ecological effects of developments in a wide range of environments throughout New Zealand. I have been involved in a variety of development projects including plan changes, large-scale subdivisions and retirement villages, infrastructure projects (roading, electricity generation, a monorail, a cycle trail, wastewater treatment), irrigation projects and mining projects. I have been involved with several mining projects on the West Coast, including Bathurst Resources Limited at Stockton, Birchfield Mining Limited at Giles Creek and Strongman, Francis Mining near Reefton, Tāiko's application at the Central Block (north of the current application site), Westland Mineral Sands at Nine Mile and Mananui and several other smaller mining projects.

Expert witness Code of Conduct

- 9 While this application is not being considered by the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing this evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of evidence

- 10 The purpose of this evidence is to provide:
- (a) an overview of terrestrial and wetland ecological values within and adjoining the Southern Block;
 - (b) a summary of the potential and actual effects on ecological values during the construction and operation of the proposed mine and the application of the effects management hierarchy in developing the proposal; and
 - (c) comment on the proposed conditions.

Existing Environment

- 11 The application is for mining at the 'Southern Block' (SB), located approximately 0.5 km south of the already consented area (Central Block), between Canoe Creek and Fagan Creek near Barrytown. The SB is approximately 408 ha, and mining activity would occur on 280 ha within the SB, which is known as the 'mining disturbance area'. A further 72 ha would

be subject to earthworks as borrow areas to supply material during the staged rehabilitation of the mining void.

- 12 Parts of the site are within the Coastal Environment and would be subject to the New Zealand Coastal Policy Statement (2010, amended 2025, the NZCPS). The National Policy Statement for Freshwater Management (2020, amended 2025 the NPS-FM) and the National Policy Statement for Indigenous Biodiversity (2023, the NPS-IB) are also relevant and have informed my assessments and recommendations for this project.
- 13 The first ecological surveys in the CB I was involved with were undertaken in early 2022. Quarterly (seasonal) bird monitoring surveys have been undertaken at that site since Autumn 2022. The location of the quarterly bird monitoring surveys was expanded in Spring 2023 and has included both a site at Burke Road (north of the CB) on two occasions and the SB since winter 2024. Myself and members of our team have visited the site multiple times over this period.
- 14 The SB is located in the Punakaiki Ecological District (ED) and North Westland Ecological Region, in an area known as the Barrytown Flats. The Barrytown Flats would have been entirely covered in lowland (coastal) forest and wetland prior to historical clearance. Vegetation modification within the ED has been concentrated on the Barrytown Flats, where nearly all of the vegetation has been removed or modified by historical forest clearance and drainage for timber harvesting, flax milling and mining, although some wetlands and fragments of lowland forest remain, including the high value Maher Swamp.
- 15 Vegetation in the SB is predominantly pasture, the only tall vegetation present being a small cluster of over mature pine (*Pinus radiata*) on the banks of Little Granite Creek, scattered isolated rātā (*Metrosideros* sp.) and a row of over-mature pine trees along a farm laneway. Other vegetated habitats include small fragments of indigenous coastal shrubland and flaxland and rough exotic pasture.
- 16 Land within the SB is currently used for dairy farming and mostly comprises highly modified 'humped and hollowed' ground vegetated with pasture. The SB is bordered by Canoe Creek Scenic Reserve at its northern boundary and Fagan Creek at its southern boundary. Granite Creek and Little Granite Creek, along with several smaller tributaries, flow through the proposed mining area to the coast. A number of small springs and farm drains are located throughout the site which currently provide water supply for livestock.

Terrestrial ecological value and significance

Vegetation

- 17 Vegetation in the SB is predominantly grazed exotic pasture and rough exotic pasture of 'negligible' value. The tall vegetation comprises mostly exotic species and is considered to be of 'negligible' value. Small areas of indigenous coastal shrubland (0.9 ha) and flaxland (0.3 ha) are of 'moderate' value with their value being limited by their small size and isolation from other natural vegetation and habitats.

Fauna

- 18 Avifauna observed within the SB during surveys were generally exotic or common native species and the avifauna community generally reflects the highly modified state of the habitats present. Habitat for birds within the SB is of 'negligible' value.
- 19 A greater diversity of bird species occurs nearby, associated with adjacent higher value habitats (e.g. forests to the east across State Highway 6), including 'Threatened' and 'At Risk' birds. Fourteen 'Threatened' and 'At Risk' species occur in the vicinity and may use the SB. Many of these are coastal seabirds or forest birds and so are likely to represent transient visitors, rather than residents, due to the lack of suitable habitat within the site. Pohowera/banded dotterel (*Anarhynchus bicinctus*) ('At Risk – Declining') and both tōrea tai/variable oystercatcher (*Haematopus unicolor*) ('At Risk – Recovering') and tōrea/South Island pied oystercatcher (*Haematopus finschi*) ('At Risk – Declining'), may use the site for foraging and breeding. Kororā/little blue penguin (*Eudyptula minor*) ('At Risk – Declining'), are known to use the adjoining habitats and may cross the site to reach nests inland. No potential penguin burrows were detected during field surveys and the vegetation across the majority of the site is unsuitable for penguin nesting, although they are known to nest under buildings at some locations. Given the lack of forested habitat within the site, including limited foraging habitat and potential daytime roosts, it is unlikely that rōroa/great spotted kiwi use the SB. The site is located c. 4.5 km from the only known breeding colony of tāiko/wetland petrel (*Procellaria westlandica*) ('At Risk – Naturally Uncommon'). The avian community is considered to be of 'high' value due to the potential presence of these 'At-Risk' species.
- 20 The vegetation present in the SB provides habitat of 'negligible' value for lizards. Rough exotic pasture may provide intermittent, low-quality refuges

for skinks whilst ungrazed. There are areas of higher quality potential lizard habitat adjoining, but outside, the proposed mining area, including rock piles, rank pasture and cobble along the western (coastal) boundary.

- 21 Data from Department of Conservation databases indicates four lizard species may occur within or near the SB. There are records of two species of native gecko, forest gecko (*Mokopirirakau granulatus*) and West Coast green gecko (*Naultinus tuberculatus*) within 10 km of the SB, but these species are unlikely to use the site due a lack of habitat. Canterbury grass skink (*Oligosoma* aff. *polychroma* Clade 4) and Newman's speckled skink (*Oligosoma* aff. *newmani* 'Westland') are also found within the ecological district. Due to the 'At-Risk' conservation status of these species, the lizard fauna is of 'high' value if present.
- 22 Records in the national bat database indicate surveys have detected lesser short-tailed bat (*Mystacina tuberculata*, 'Threatened - Nationally Increasing') within 25 km of the site. A bat survey undertaken by Ecological Solutions Limited in 2023 for an unrelated client detected long-tailed bats (*Chalinolobus tuberculatus*, 'Threatened - Nationally Critical') at one location approximately 10 km south of the SB. Neither species is likely to use the site. With respect to potential bat roost sites, two isolated stands/shelterbelts of over-mature exotic pine trees are present within the proposed mining area; however, these would be retained. Outside the mining area, but within the SB, the dead indigenous snags near the southern boundary could also be suitable for bat roosting. In addition, relatively small indigenous forest fragments adjoin the boundary outside the SB to the north, east and south, which may provide long-tailed bat foraging or commuting habitat. Bat habitat is considered to be of 'low' ecological value within the SB, however the two bat species found within 10 km of the site are of 'very high' value.

Wetlands

- 23 Natural inland wetlands are present within both the SB and the mining disturbance area. Many wetlands within the SB are associated with deliberately constructed drains (e.g., hump and hollows, historical dredge pits from previous mining) and therefore do not meet the Resource Management Act or Regional Land and Water Plan definitions of a wetland, or the definition of a 'natural inland wetland' outlined in the NPS-FM.
- 24 The mining disturbance area includes c. 6.7 ha of 'natural inland wetland' within the current working farm which would be subject to the National Environmental Standards for Freshwater (NES-F) and the NPS-FM.

- 25 Floodplain wetlands associated with some creeks and drains are variable in size and species composition. Floodplain wetlands are of 'moderate' ecological value. Palustrine wetlands are of 'low' ecological value as they are dominated by exotic vegetation and provide little connectivity to other wetlands or indigenous vegetation.
- 26 A small coastal lagoon is present at the north-western extent of the SB, outside the proposed mining disturbance area but within 100 m of its boundary. The lagoon is fed by various sources including Canoe Creek and two drains that form part of the hump and hollow drainage system directly east of the lagoon. The coastal lagoon is of 'moderate' ecological value as it provides connectivity between wetlands.

Terrestrial ecological value and effects

- 27 Mining will remove up to 16 ha of predominantly pasture vegetation at any one time. Staged rehabilitation means that there would be only a short time lag between loss of any vegetation or habitat and replacement via planting. Vegetation within the site is predominantly of 'negligible' ecological value and therefore clearance results in a 'very low' level of effect. Removal of habitats of 'moderate' value including the small areas of indigenous coastal shrubland and flaxland would result in a 'moderate' effect. The staged rehabilitation will establish riparian planting along the reinstated creeks and at the mouth of Granite Creek as well as c. 53.7 ha of new wetland vegetation. This includes coastal shrubland of similar or higher ecological value than that being removed. This will result in a 'net gain' in terms of extent and ecological value as a result of the Project over the long term.
- 28 Vegetation clearance would have a 'low' effect on common native birds due to the 'negligible' value of bird habitat within the site. Post-mining rehabilitation of the SB will provide equivalent or larger areas of shrubland, wetland and forest habitat and therefore the effect of clearance on birds is expected to be 'low'. A small number of 'At-Risk' bird species are likely to use the site for foraging, roosting or breeding and may be at risk of injury or mortality due to mining activities. These species are of 'high' ecological value. The Avian Management Plan (AMP) has been developed to manage effects on these species and includes the following measures:
- (a) Pre-mining and ongoing surveys to establish species at risk of mining activities and allow for appropriate interventions. These surveys include general seasonal surveys for all avifauna (using both 5MBCs and acoustic recorders), weekly breeding surveys, intensive nest surveys (twice-weekly), conservation dog surveys for kororā and the use of wildlife cameras to detect both kororā and tāiko.

- (b) Setbacks of 50 m from the MHWS and 20 m from Granite Creek.
 - (c) Use of visual and acoustic deterrents to reduce the risk of 'At-Risk' species attempting to nest within the mining disturbance area, and the use of fences to avoid kororā attempting to transit the site.
 - (d) Lighting management to minimise the effects of lighting during dawn and dusk on navigation of tāiko and kororā.
 - (e) Accidental Discovery Protocols regarding handling of protected wildlife in the case of injury, mortality or grounding.
 - (f) Annual and event-based reporting to ensure the AMP is regularly updated based on the most recent information about the site.
- 29 A Lizard Management Plan (LMP) will ensure vegetation clearance avoids and/or minimises lizard injury and mortality via search and salvage carried out by experienced herpetologists. Adherence to the LMP and the rehabilitation planned in accordance with the Rehabilitation Management Plan will result in a 'very low' level of effect for lizards.
- 30 Effects on bats (if present) are considered to be 'low' in the short term and 'net gain' in the long term due to the increased amount of potential habitat at the rehabilitated site.
- 31 The wetlands within the proposed mining area will be removed and reconstructed as mining progresses, as guided by the conditions and set out in the Rehabilitation Management Plan. Wetland construction will occur in Years 1 and 2 in the north of the SB, and in years 10 and 11 in the centre of the SB. The final area of wetland to be constructed is approximately 53.7 ha which substantially exceeds the extent of natural inland wetlands to be removed. The overall level of effect is expected to be 'very low' in the short term and a 'net gain' in the long-term.
- 32 I confirm that I took part in some of the field work to inform the EclA and have undertaken several site visits to the CB and surrounding areas, as well as having been involved in managing and reporting the regular survey results there (for birds and aquatic fauna). In my view I have a good understanding of the ecological characteristics of site and I also have considerable experience on the West Coast including at nearby Strongman Mine, and at other mineral sand mines. The proposed wetland construction has been designed to address the historical loss of wetland habitats on the Barrytown Flats and would be established within the life of the consents. Given the site's fertility and regular rainfall, I expect growth rates to be good – very good and I do not expect the plantings will need to be maintained

beyond the consent period. By the time mining is completed I would expect the vegetation to be well established and essentially self-sustaining.

Proposed conditions

33 I have contributed to and reviewed the proposed conditions which accompany the application as they relate to my area of expertise. I consider that:

- (i) Condition 5.1 requires an Annual Work Plan which details any management required for birds and lizards in the upcoming year. This will assist in ensuring management is timely and located and coordinated as required to manage effects.
- (ii) Condition 6.0 requires an Avian Management Plan and a Lizard Management Plan. I have contributed to the preparation of these documents, and reviewed them. In my view they are sufficient to avoid and/or minimise adverse effects on protected wildlife.
- i) Conditions 13.1 and 13.10 require regular and ongoing monitoring of avifauna necessary to provide quality data to inform ongoing management of effects on avifauna and the use of deterrents. The information collected will allow appropriate identification of affected wildlife and enable informed amendment of management plans where required. In my view the deterrents proposed are the most appropriate way to minimise the risks of avifauna attempting to nest within the boundaries of the mining disturbance area.
- (iii) Conditions 13.3 and 13.4 are precautionary and require use of wildlife cameras for monitoring of kororā and/or tāiko to ensure appropriate mitigation and management measures are taken to avoid effects on these species in the unlikely event that they are affected.
- (iv) Condition 13.5 requires annual kororā surveys using a certified conservation dog where available (or otherwise manual searches). This will ensure that detailed and reliable information regarding site use by kororā is gathered so that appropriate management can be enacted if penguins are found within the site.
- (v) Condition 13.6 outlines the requirements for protective fencing to prevent kororā from entering the active mining disturbance

area. This will avoid injury or mortality of kororā by excluding them from at-risk areas.

- (vi) Conditions 13.7 and 13.8 require the consent holder to adhere to the Avian Management Plan and provides details of what the AMP must contain. The AMP developed satisfies these conditions and should be applied to the entire site.
- (vii) Condition 13.9 requires annual review of the AMP. This will ensure any new information with respect to birds adequately incorporated into both the AMP and the Annual Work Plan and the consequent bird management.
- (viii) Condition 13.11 identifies the components of annual reporting which are required to be provided to the consent authority, mana whenua, the Department of Conservation, and relevant government and community parties of interest.
- (ix) Condition 14.1 requires adherence to the Lizard Management Plan. In my opinion the LMP sets out appropriately the risks to protected wildlife and the management actions necessary to avoid and/or minimise adverse effects on any lizards found within the very limited lizard habitat at the site.
- (x) Condition 17 requires adherence to the Australian Government's National Light Pollution Guidelines for Wildlife May 2023 or subsequent amendments. Given mining would only occur during daylight hours, and any night time lighting would be minimal, I consider this is precautionary with respect to effects on tāiko and kororā.

Overall Significance of Effects

- 34 The Fast Track Approvals Act requires an overall assessment of the significance of effects. With respect to the effects on terrestrial ecology and wetlands, having taken into account the context, the species and habitats present, the specific location, nature and duration of the proposed activities and the actions proposed to avoid, remedy and minimise/mitigate any effects, it is my view that the short-term effects of the current project would be negligible. That is a barely distinguishable change which would have negligible effect on the known population or range of the species and habitats present.
- 35 In the medium – long term, the effects of the current project would be positive, in that there will be a substantial increase in the extent and value

of wetland, shrubland and forest habitats within the site, and the riparian vegetation will better connect the habitats than the pre-mining condition.

Gary Neil Bramley
23 March 2026