

Before the Hearing Commissioners
Appointed by the Grey District Council
and West Coast Regional Council

Under the Resource Management Act 1991

In the matter of Resource consent applications by TiGa Minerals and Metals
Ltd to establish and operate a mineral sands mine on State
Highway 6, Barrytown (RC-2023-0046; LUN3154/23)

Summary Statement and Rebuttal Evidence of Katherine McKenzie

2 February 2024

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**anderson
lloyd.**

Summary of evidence

- 1 My name is Katherine McKenzie.
- 2 I prepared a statement of planning evidence dated 19 January 2024. My qualifications and experience are set out in that statement of evidence.
- 3 I repeat the confirmation given in that statement that I have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court.
- 4 My role in relation to TiGa Minerals and Metals Limited's (TiGa) application (**the Application**) has been to provide planning advice to the project since 2021.

Summary

- 5 I have been involved in the Barrytown Mineral Sands Project since early February 2021, shortly after the lodgement of an earlier resource consent application for a similar proposal. The Project Description in Appendix 1 of my evidence outlines the current proposal which I have evaluated. The changes in spatial extent and additional management and mitigation measures represents the culmination of a substantial amount of expert advice and recommendations over the past 3 years to ensure that the effects of the proposed mining operation are largely avoided.
- 6 In terms of the planning framework that applies to the proposal, I am largely in agreement with Mr Geddes and Mr Durand, with key differences as follows:
 - a) I have outlined in paragraph 22(d) that I do not consider that SASM-R7 has immediate legal effect under section 86B(3)(d) of the RMA because the rule does not relate to historic heritage.
 - b) I have explained in paragraphs 25-30 that I do not consider an air discharge permit is required for ionizing radiation or for greenhouse gas emissions, because these discharges are permitted under the West Coast Regional Air Quality plan.
 - c) In paragraphs 47-54 I have provided my opinion about the applicability of the National Environmental Standards for Freshwater Management. I consider that the proposal has met the tests under Regulation 45D to enable the consent to be considered a discretionary activity in terms of mining activities within 100m of natural inland wetlands.
- 7 The proposal includes notable positive effects, including significant regional economic benefits, and enduring restoration of natural character and ecosystems through extensive riparian and coastal planting.
- 8 The visual effects of the proposal, on landscape, natural character and visual amenity have been evaluated by Ms Crawford and found to be minor. I note the

small number of matters which Mr Girvan disagrees with, and considering the existing environment and permitted baseline as it relates to earthworks and rural buildings I agree with Ms Crawford's opinion on the degree of visual effects.

- 9 I have considered the evidence of Mr Farren, in relation to on-site noise generation and noise generated by vehicle movements on the State Highway, and consider the noise effects of the proposal to be less than minor.
- 10 Mr Fuller considers the transport effects of the proposal, including concerns raised by submitters in relation to cycle and pedestrian safety. I agree with his assessment that the effects are minor.
- 11 The evidence of Mr Rekker outlines the key potential hydrological effects of the proposal and explains the measures proposed to avoid these effects from occurring. The focus of the water management regime is to ensure that water quantity and quality is measured at or within the property boundary, such that the effects on surrounding waterbodies are avoided. I have recommended a number of changes to consent conditions such as including a requirement to monitor and confirm that water management and mitigation methods can successfully be employed prior to mining within 100m of any surface water body (Conditions 24.5 and 24.6).
- 12 I consider the effects on air quality to be less than minor, and have recommended changes to consent conditions to improve the Dust Management Plan for the site.
- 13 I have considered the effects of greenhouse gas emissions from the site and conclude that they are essentially nil in a global context (noting my view that these emissions are permitted by the Regional Air Quality Plan). I also consider that the applicant has avoided emissions to the extent practicable by electrifying the processing plant.
- 14 The potential ecological effects of the proposal relate primarily to wetland vegetation, avifauna and aquatic biota. Dr Bramley and Mr Roper have evaluated these effects, and consider them to be largely avoided. In response to concerns raised in submitter expert evidence around the Taiko and Korora, Dr Bramley has recommended changes to consent conditions and his Avian Management Plan. I have incorporated these changes.
- 15 Mr Ryan has considered this evidence of Mr Lundt and Mr Bradley and provided recommended changes to consent conditions which I have adopted. My opinion remains that the potential effects associated with naturally occurring radionuclides are negligible.
- 16 My assessment of the relevant RMA matters and plan provisions is set out in my evidence from paragraphs 133 to 181. After reviewing the evidence provided by

submitter experts, and the responses of the experts engaged by the applicant, I confirm that my position remains unchanged – the proposal is consistent with and achieves the intent of the relevant plans and national policy statements. In particular, the proposal seeks to avoid adverse effects on natural inland wetlands (as per the NPSFM), avoid significant adverse effects on coastal wetlands (NZCPS policy 11(b)(iii)) and maintain indigenous biodiversity (as per the NPSIB, NZCPS and WCRPS in particular).

- 17 The proposal is consistent with Part 2 of the RMA, in particular the requirements to:
- a) preserve the natural character of surrounding wetland, waterbodies and the coastal environment (section 6(a));
 - b) protect significant habitats of indigenous fauna (section 6(c))
 - c) take into account the principles of the Treaty of Waitangi.

Response to Landscape Joint Witness Statement

- 18 I have reviewed the Joint Witness Statement (JWS) prepared by Mr Girvan and Ms Crawford. The JWS recommends changes to the consent conditions. I have accepted the change to Condition 19.3 which I agree provides clarity to which areas will be planted at the completion of mining.
- 19 The JWS proposes to change the wording of Condition 19.7 to “in perpetuity”. This is not possible, because the application proposes a consent duration of 12 years. The purpose of the consent condition as currently worded is to ensure that the planting is maintained during the consent term, and beyond this term the planting would be sufficiently established that further intervention would not be required to sustain the planting. My understanding is that the recommended change arises from a concern that the landscape planting may be removed after the consent expires.
- 20 I have addressed this matter in my Evidence in Chief, paragraph 78. I am confident that the planting required which will contribute to the long term enhancement of natural character on the site is protected by a number of different plan provisions, both in operative and proposed plans, including:
- a) The West Coast Land and Water Regional Plan – Rule 1 (Humping, hollowing, flipping or v-blading outside riparian margins); Rule 2 (Earthworks in riparian margins); Rule 8 (Vegetation Clearance in riparian margins). These rules significantly restrict earthworks and vegetation clearance within riparian margins, as well as earthworks within 20m of the Coastal Marine Area.

Consent would be required for any significant earthworks or vegetation clearance within the planted areas.

- b) The Grey District Plan – Rule 19.7.5 (indigenous vegetation clearance) requires consent for any vegetation clearance within 25m of a wetland greater than 0.5ha and within 10m of a river.
 - c) The proposed Te Tai o Poutini Plan – ECO- R2 (Indigenous Vegetation Clearance in the Coastal Environment); NC-R1 (Indigenous Vegetation Clearance and Earthworks within the Riparian Margin of a River, Lake or Wetland). Both of these rules have immediate legal effect and significantly restrict vegetation clearance within riparian margins, and within the coastal environment.
 - d) Resource Management (Stock Exclusion) Regulations 2020 – Regulation 8 and Regulation 11 requires stock (specifically dairy support stock) to be excluded from within 3m of lakes and rivers and this must be applied from 1 July 2025.
 - e) Resource Management (National Environmental Standards for Freshwater) Regulations 2020 - Regulation 54 restricts vegetation clearance within 10m of a natural inland wetland.
- 21 The plan provisions and regulations outlined above will require resource consent essentially for any vegetation clearance beyond providing for a small crossing point, which is unlikely to be required because there is an existing crossing point for access to the Nikau Deer Farm owned land on the south side of Collins Creek, and different land ownership on either side of the property negates the need for any further stock crossing points. This would appropriately trigger a consideration of effects, which would include natural character and ecological effects.
- 22 I have considered whether this matter is something that would require a covenant to be established under Section 108(2)(d) to ensure ongoing compliance, and do not consider it necessary due to the extensive protection afforded in the plans and regulations outlined above. In my opinion, it would be unusual to require a covenant to protect riparian vegetation to protect natural character, unless it is part of a larger indigenous vegetation block.

Evidence of Mr McGlynn

- 23 Mr McGlynn notes in paragraph 54 of his evidence, that “Deverys Creek Lagoon” and “Collins Creek Wetland Lagoon” (the applicant’s site plan refers to this area as Canoe Creek Lagoon) are inland wetlands, which differs to Dr Bramley’s evidence at paragraph 151 where he considers these to be coastal lagoons. While I cannot comment on their physical composition, I would note that from a NPSFM

perspective, these lagoons are within the Coastal Marine Area (CMA) and are therefore excluded from the definition of Natural Inland Wetland.

- 24 The proposed and operative Regional Coastal Plans both mark the CMA boundary across Collins and Deverys Creek. The operative Regional Coastal Plan states:

“The boundaries in this Schedule show the landward extent of the coastal marine area, where the line of mean high water springs crosses a river. These boundaries were agreed and set between the Minister of Conservation, the regional council, and the appropriate territorial authority, in accordance with the RMA 1991.

For all rivers not shown, and that enter the coastal marine area, the landward extent of the coastal marine area boundary is five times the width of the river at the point where the river crosses the line of mean high water springs.”

- 25 The proposed Regional Coastal Plan has better maps than the operative plan (albeit the CMA boundaries have not changed from the operative version), and these maps are shown below.



DEVERYS CREEK

Description: Entrance to lagoon

Map Reference: BT19 611 274

Start: 1461053 5327439

End: 1461128 5327436

Image Scale: 1:20,000



COLLINS CREEK

Description: Entrance to lagoon

Map Reference: BT19 611 266

Start: 1461106 5326605

End: 1461078 5326601

Image Scale: 1:20,000

Figure 1: proposed Regional Coastal Plan CMA boundary maps

- 26 Regardless of the composition of the water (fresh, brackish, saline), CMA boundary has been defined for these streams, and any water downstream of these two CMA boundaries must logically be part of the CMA.
- 27 The planning implication of this is that the 100m setback and NPSFM policies would not apply to the Canoe Creek Lagoon because it is within the CMA. Regardless, the NZCPS specifically recognises coastal wetlands as part of the coastal environment and contains similar requirements to avoid adverse effects on indigenous species and preserve natural character. In this respect, the application proposes to do both.

Evidence of Patrick Volk

- 28 Mr Volk has noted concerns about dust in relation to his café which is adjacent to State Highway 6. In this respect I would note that the Dust Management Plan (contained in the evidence of Mr Berry) requires all trucks leaving the site to be covered, tail doors and hatches locked, and excess sand removed from the exterior of the truck. I am therefore comfortable that dust nuisance effects on the highway, and in relation to his café, will not arise.

Evidence of Brian Lundt

- 29 My evidence in chief sets out my opinion that a resource consent is not required for the discharge of radiation to air, as it is permitted by the Regional Air Quality Plan. Mr Lundt indicates that if the radiation levels comply with the Radiation Safety Act 2016, then radiation could be managed under a consent issued under the RMA. I do not consider this approach to be appropriate. The Radiation Safety Act is the primary method for managing the health effects of radiation in New Zealand. The applicant has taken a precautionary approach by considering the potential environmental effects of radiation in line with this Act and other relevant international regulations, and has proposed a monitoring regime to confirm compliance with these. In my view this is sufficient to manage the potential effects of the proposal.

Revised Conditions of Consent

- 30 I have provided a set of revised consent conditions, which include a number of recommendations made by Dr Bramley in response to Ms Simister and Ms Waugh's evidence and discussions among these experts. These reinforce measures designed to avoid effects on avifauna, in particular the Taiko and Korora.
- 31 Mr Ryan has provided me with changes to the radiation related conditions of consent to provide further assurance to submitters' concerns that the radiation levels will be appropriately monitored and will remain below legislative limits.

- 32 On 1 February, I met with Mr Durand and Mr Geddes to discuss proposed conditions of consent, with the aim of reaching consensus as far as possible, despite differing views on aspects of the application among us. As a result of this informal caucusing I have suggested a number of additional amendments to the conditions. These do not necessarily reflect agreement with Mr Durand and Mr Geddes, however they are my recommended changes in response to the matters discussed.
- 33 I have provided a revised set of consent conditions with changes marked. This will also be made available in word format to the panel, although I acknowledge that further adjustments will likely be made as the hearing progresses and submitters are heard. A further set of conditions will therefore follow in reply.

Conclusion

- 34 I have considered the additional expert evidence prepared by submitters and rebuttal evidence, and I remain of the view that resource consents are able to be granted for the proposal, subject to the imposition of the attached conditions.
- 35 The proposal has no more than minor effects on the environment, effects on wetlands and indigenous biodiversity have been appropriately avoided or minimised, and is consistent with relevant plan provisions and national policy direction. The proposal ultimately meets the sustainable management purpose of the Resource Management Act.

Katherine McKenzie

Dated this 2nd day of February 2024

Appendix 1: Revised conditions with changes marked

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Legend:

Applicant’s offered conditions (including those responding to RFI and consultation with iwi)

Amendments proposed by GDC s42a report

Amendments proposed by GDC and not agreed to by the applicant

Amendments proposed by WCRC s42a report

Amendments proposed by the applicant following s42a reports

Amendments proposed by the applicant following submitter evidence

Amendments discussed during planning caucusing and offered by the applicant 01/02/2024

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General Conditions for GDC and WCRC	
1.0 General	
1.1	<p>The Consent Holder must carry out the mineral sand mining activities in general accordance with the application and associated documents dated April 2023, further information provided 26 July 2023, 5 September 2023 and the Site Plan enclosed as Schedule 1 prepared by Tai Poutini Resources, including the following draft management plans:</p> <ul style="list-style-type: none"> • Noise Management Plan dated January 2024 • Avian Management Plan prepared by Ecological Solutions Ltd dated January 2024 • Wetland Construction and Riparian Planting Plan prepared by Ecological Solutions dated January 2024 • Dust Management Plan prepared by TiGa Minerals and Metals Ltd dated January 2024 • Rehabilitation Management Plan prepared by Tiga Minerals and Metals Ltd dated January 2024 • Water Management Plan and Monitoring and Mitigation Plan prepared by Komanawa Solutions Ltd dated January 2024 • Erosion & Sediment Control Plan prepared by Ridley Sunphy Environmental Ltd dated January 2024 • Landscape Mitigation Planting Plans prepared by Glasson Huxtable Landscape Architects dated January 2024 • Transport Management Plan prepared by Novogroup dated January 2024 <p>and the Site Plan enclosed as Schedule 1. and further information as amended by the following consent conditions.</p>
1.2	<p>The Consent Holder must ensure all key staff and contractors are made aware of, and have access to, the resource consent conditions prior to the commencement of mining. A copy of these documents must also be readily available on-site.</p>

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1.3	All actual and reasonable costs incurred by the Consent Authorities and independent environment auditor in monitoring, enforcement and administration of this resource consent must be met by the Consent Holder.
1.4	<p>Expert Advisory Panel (EAP)</p> <p>The West Coast Regional Council and Grey District Council shall appoint an EAP that will:</p> <ul style="list-style-type: none"> • Inspect and advice on the compliance of the activity with the conditions of this consent; and • Make recommendations to both Councils regarding any amendments proposed by the applicant to management plans required by this consent; and • Comment on the suitability of any monitoring undertaken by the consent holder, its staff or contractors in relation to the conditions of this consent. <p>The EAP will consists of suitably qualified and experience experts in each aspect of the environment addressed by the consent conditions. The EAP must not have a conflict of interest with the consent holder.</p> <p>The EAP will produce a joint report assessing the activity’s compliance with consent conditions and the suitability of monitoring practices. The report will be circulated to the applicant, local authorities, Department of Conservation, the Community Liaison Group, owners of the adjoining properties and shall be made publicly available. The report will also contain recommendations regarding compliance, monitoring and any necessary enforcement action that should be undertaken by the local authorities to ensure compliance with the consent conditions.</p> <p>The EAP will be produce their report 6 months after the activity is first commenced and thereafter annually unless there are any non-compliance with consent conditions in which case it will occur every 6 months until full compliance is achieved, after which reporting will occur annually.</p> <p>The EAP must periodically observe the monitoring required by this consent and ensure it is following best practice methodologies.</p> <p>The consent holder must pay the actual and reasonably costs of the EAP.</p>
1.5	<p>Accountable Person (Environmental Superintendent)</p> <p>a. Within 2 months of implementation of these consents, the Consent Holder must appoint an Accountable Person to be responsible for compliance of all conditions of consents. The Accountable Person must be based on-site for a minimum of 4 hours per day, for three days per week. The Accountable Person must:</p> <ol style="list-style-type: none"> I. Review, submit and ensure compliance with all management plans listed in the conditions of these consents; II. Ensure there is another person who can provide cover in the event they are sick or unavailable, and to provide for succession (‘Nominated Cover Person’); III. Be the point of contact between the Consent Holder, the Consent Authorities, the Community Liaison Group and the community generally, and pro-actively engage with these parties as required under these consents;

Commented [KM1]: It is unclear where this proposed amendment comes from and what it relates to.

Commented [KM2]: I do not consider the establishment of an EAP necessary, for the reasons outlined in my evidence

Commented [KM3]: Agree with condition with exception of labelling Environmental Superintendent - this may not be the appropriate accountable person.

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	<p>IV. Deliver on reporting requirements required by the conditions of these consents.</p> <p>b. The Consent Authorities must be advised of the name and contact details of the Accountable Person and the Nominated Cover Person. In the event that the Accountable Person or Nominated Cover Person change, the Consent Authorities must be notified.</p> <p>c. A sign must be erected at the property boundary adjacent to the access road, which provides the name and contact details of the Accountable Person and Nominated Cover Person required to be appointed under sub-clause a.</p>
2.0 Notification	
2.1	<p>For monitoring purposes, the Consent Holder must notify the Consent Authorities of the following:</p> <p>(a) the intended commencement date of activities at least 515 working days prior to commencement of works on-site; and</p> <p>(b) the intended completion of final mine closure rehabilitation activities at least 15 working days prior to works ceasing on-site.</p>
3.0 Review of Conditions	
3.1	<p>Pursuant to Section 128(1) of the Act, the Consent Authorities may review any of the conditions of these consents by serving notice on the Consent Holder within a period of 60 working days, commencing on each anniversary of the date of commencement of these consents for any of the following purposes:</p> <p>a) To deal with any unanticipated adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, including any material elevation of noise levels associated with the mining or processing operation, including for extended periods of time, which was not anticipated by noise modelling informing the resource consent conditions.</p> <p>b) To assess the appropriateness of imposed monitoring parameters, monitoring regimes and monitoring frequencies and to alter these accordingly.</p> <p>c) To ensure that any management plan required by these conditions gives effect to conditions of these consents.</p> <p>d) if the information made available to the consent authority by the applicant for the consent for the purposes of the application contained inaccuracies which materially influenced the decision made on the application and the effects of the exercise of the consent are such that it is necessary to apply more appropriate conditions.</p>
4.0 Bond Conditions	
4.1	<p>The Consent Holder must provide and maintain in favour of the Consent Authority (the West Coast Regional Council and the Grey District Council [jointly for their respective interests]) a bond or bonds to secure compliance by the Consent Holder with all the conditions of these consents, including the completion of all final mine closure activities required by these consents and any activities in the opinion of the consent authority to avoid, remedy or mitigate any adverse effects on the environment arising as a result of the exercise of these consents.</p>

Commented [KM4]: Rehabilitation and Water Management Plan conditions have been provided which will remove the need for these words which are subjective

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	<i>Advice Note: The Consent Holder remains liable under the Resource Management Act 1991 (or its successor) for any breach of these consents which occurs before expiry of these consents and which become apparent during or after the expiry of the relevant consent</i>
4.2	The payment of the bond quantum by the Consent Holder, as required by Condition 4.4 must either be: <ul style="list-style-type: none"> a) A bond in favour of the Consent Authority for the guarantee sum in a form and executed by a surety acceptable to the Consent Authority; or b) A cash bond deposited with and held in a bank account by the Consent Authority
4.3	Where a bond is guaranteed in accordance with Condition 4.2 a), the guarantor must bind itself to pay up to the bond quantum for the carrying out and completion of all obligations of the Consent Holder under the bond.
4.4	The bond (as set at any time under Condition 4.1) must be held or remain in full force and effect throughout the term of these consents and until all conditions under these consents have been performed unless otherwise agreed by the Consent Authority.
4.5	<p>The amount of the bond must be \$160,000.00 (one hundred and sixty thousand dollars). The bond quantum shall be:</p> <ul style="list-style-type: none"> - \$160,000.00 for reinstatement of the mining void; and - A sum to be determined by the average of two quotes provided to the Consent Authorities by the Consent Holder for the removal of the processing plant building and ancillary buildings and structures within the processing plant area shown in Schedule 2 and reinstatement of this area to pasture. <p>Prior to commencement of these consents, the Consent Holder shall provide the Consent Authorities with a report which recommends the amount of the first bond quantum in accordance with Condition 4.1. This report shall be reviewed by a suitably qualified specialist acceptable to the Consent Authorities, who shall determine the quantum of the bond having regard to the Annual Work Plan, the purpose for which the bond is taken (under Condition 4.1) and probabilistic calculations using the Monte Carlo simulation technique. Thereafter, the same specialist, or an alternate specialist acceptable to the Consent Authorities, shall review and prepare a report for the parties on the bond quantum at yearly intervals or such other intervals as agreed with the Consent Authorities based on the same methodology, but using the Annual Work Plan for the coming twelve months. If the reviewed bond quantum is higher than the current bond quantum, then the bond quantum shall be adjusted accordingly within 30 days of the parties receiving the report. Notification of the quantum of the bond under this condition shall be in writing by the Consent Authorities to the Consent Holder.</p>
4.6	Should the Consent Holder not agree with the bond quantum determined in accordance with Condition 4.5, then the matter shall be referred to arbitration in accordance with the provisions of the Arbitration Act 1996. Arbitration shall be commenced by written notice ("notice of arbitration") by the Consent Holder to the Consent Authorities advising that the amount of the bond is disputed, such notice to be given within 14 days of the Consent Holder receiving the report referred to in Condition 4.5. If the parties cannot agree upon an arbitrator within 7 days of the notice of arbitration, then an arbitrator shall be appointed by the President of the Institution of Professional Engineers of New Zealand. Such arbitrator shall give an award in writing to the parties within 30 days after his or her

Commented [KM5]: I do not agree with the proposed method for calculating the bond

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	<p>appointment (the “date of arbitration decision”); unless the parties agree that the date of arbitration decision shall be extended. The Consent Holder shall bear the full and reasonable costs of the parties in connection with this arbitration. In all other respects, the provisions of the Arbitration Act 1996 shall apply. Pending the outcome of that arbitration, the current bond shall continue in force. The bond quantum shall be adjusted in accordance with the arbitration decision.</p>
4.6	<p>The provisions of Section 109 of the Resource Management Act 1991 shall apply to any bond, or bonds, required pursuant to the above and shall not be limited by the details of the bond instrument.</p>
4.7	<p>The amount of the bond may be inflation adjusted annually, if requested by the Consent Authority, by the movement of the CPI relative to the CPI at the date when the bond is first provided.</p>
4.8	<p>The Consent Holder will not exercise or must cease exercising these consents:</p> <ul style="list-style-type: none"> a) Until the bond required by Condition 4.1 has been fully executed by the Consent Holder and guarantor, or has been deposited with the Consent Authority, or b) In respect of any inflation adjusted bond referred to in Condition 4.6, after 30 working days have expired from the date the Consent Holder was notified of the terms of the inflation adjusted bond by the Consent Authority unless the inflation adjusted bond has been executed with the Consent Authority by the Consent Holder and guarantor, or has been deposited with the Consent Authority; or c) In respect of any bond sum changed or reviewed pursuant to Sections 127 or 128 of the Act, after thirty 30 working days have expired from the date the Consent Holder was notified of the decision of the changed or reviewed bond by the Consent Authority unless the changed or reviewed bond has been executed with the Consent Authority by the Consent Holder and guarantor, or has been deposited with the Consent Authority, or d) If, during the term of these consents, the whole or any part of the bond is required to be used for the carrying out and completion of all obligations of the Consent Holder under the bond, unless the full bond has been executed with the Consent Authority by the Consent Holder and guarantor, or has been deposited with the Consent Authority.
4.9	<p>The Consent Holder must complete such work requested in respect of which any bond or deposit is held, within the time period nominated by the Consent Authority’s written request.</p>
4.10	<p>If the consents are transferred in part or whole to another party or person, the bond must continue until any outstanding work at the date of transfer is completed to ensure compliance with the conditions of these consents, unless the Consent Authority are</p>

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	satisfied adequate provisions have been made to transfer the liability to the new Consent Holder.
4.11	In the event of any such transfer of the consents, the Consent Holder must ensure that the transfer provides a replacement bond to the Consent Authority on the terms required by the Bond Conditions.
4.13	The bond shall provide that the Consent Holder remains liable under the Resource Management Act 1991 (or its successor) for any breach of these consents which occurs before expiry of these consents and which become apparent during or after the expiry of the relevant consent
4.14	The Consent Holder shall meet the costs of providing any bond, or bonds, including the costs of the bond and any substitute bond.
4.15	The Consent Authority shall release the bond upon the closure of the mine and if all conditions of consent have been complied with to the satisfaction of the Consent Authority.

Commented [KM6]: Condition is unnecessary and wording conflicts with condition 4.15 below.

5.0 Annual Work Programme

5.1	<p>At least 20 working days prior to mining activities commencing and thereafter on or before the anniversary date of the commencement of these consents, the Consent Holder must submit a programme of work (“Annual Work Programme”) for certification by the Consent Authorities detailing:</p> <ul style="list-style-type: none"> o The proposed works to be carried out over the next 12 months including: <ul style="list-style-type: none"> ▪ Equipment to be used; ▪ Areas of topsoil and overburden stripping and stockpile locations; ▪ New areas of land disturbance that will be mined; ▪ Access tracks; ▪ Drill/prospecting sites and other tracks to be constructed; and ▪ Any other site works within the consent area. o The approximate open volume of the working pit at the start of the year including depth of excavations and the area of the working pit. o The progressive rehabilitation works to be carried out over the next 12 months including: <ul style="list-style-type: none"> ▪ Areas of unrestored land (i.e. all land not finally topsoiled and revegetated) at the beginning of the new year; ▪ The area that will be fully rehabilitated during the forthcoming year; ▪ Maximum slope angles, bench heights and widths of recontoured ground, if applicable; and ▪ Rehabilitation method and technique including replacement of topsoil and vegetation cover. o Description of measures to prevent adverse effects on natural waterbodies, including drainage works within the consent area, and the collection and treatment of site run-off before discharge to land.
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	<ul style="list-style-type: none"> ○ Measures that must be adopted to ensure soil conservation and slope stability are controlled; ○ A description and analysis of any unexpected adverse effects that have arisen as a result of activities within the last 12 months, and the steps taken to address the adverse effect.
5.2	<p>The following plans, reports and results of monitoring must also be submitted as part of the Annual Work Programme or provided to the EAP upon request:</p> <ul style="list-style-type: none"> ○ A detailed plan or aerial photograph showing: <ul style="list-style-type: none"> ▪ The open working area at the start of the year; ▪ Proposed mine path for the forthcoming year including haul and access roads; ▪ Rehabilitated ground behind the open pit area; ▪ Location of existing and intended topsoil or overburden dumps and their dimensions; ▪ Location of natural waterbodies; ▪ Location of present and intended drainage works and settling ponds; and ▪ Any other site works within the consent area. ○ A Site Specific Erosion and Sediment Control Plan in accordance with condition 23.0. ○ Results of any previous surface water quality, flow and water level monitoring from the previous 12 months from the previous 12 months in the form of an Annual Hydrological and Water Quality Report required by condition 26.7. ○ Any proposed updates to Management Plans submitted in accordance with the respective conditions of consent. ○ Results of any previous dust monitoring from the previous 12 months required by Condition 28.5 for the previous 12 months. ○ A geotechnical report which addresses the potential geotechnical hazards for the following 12 months, and provides recommended mitigations where necessary to address natural hazards such as seismic activity, ground instability and inundation. The geotechnical report should include monitoring of pit wall performance address how monitoring of pit wall stability in panels 1-5 to confirm the geometry, setback and results of

Commented [KM7]: Disagree with EAP

Commented [KM8]: Proposed changes not accepted, because this requirement relates specifically to an action in the Water Management Plan.

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	<p>stability analysis. Monitoring may include in-ground inclinometers to measure slope deformation and piezometers to measure groundwater response. The ground investigations must has informed any recommended changes to pit geometry to address identified risks for panels 6-10. The geotechnical report shall include any recommendations for environmental remediation and staff training, in the unlikely event of pit wall failure.</p>
5.3	<p>The Consent Holder must provide the Consent Authorities with any further information, which the Consent Authorities may reasonably request after considering any Annual Work Programme. This information must be provided in a timely manner as required by the Consent Authorities.</p>
<p>6.0 Management Plans</p>	
6.1	<p>At least 20 working days prior to undertaking any activities authorised by these consents, the Consent Holder shall submit the following management plans to the Consent Authorities for certification:</p> <ul style="list-style-type: none"> • Noise Management Plan • Avian Management Plan • Wetland Construction and Riparian Planting Plan • Dust Management Plan • Rehabilitation Management Plan • Water Management Plan and Monitoring and Mitigation Plan • Erosion & Sediment Control Plan • Landscape Mitigation Planting Plans • Transport Management Plan <p>(collectively Management Plans)</p>
6.2	<p>All Management Plans must be consistent with the conditions of this resource consent, and include (where relevant):</p> <ol style="list-style-type: none"> a) The purpose/objective of the plan; b) Reference to the relevant conditions; c) How each of the relevant conditions have been given effect to; d) Identification of procedures for implementing the relevant plan; e) Audit check lists; f) Monitoring programmes and/or protocols; g) Feedback mechanisms for adaptive management, including circumstances in which a material change to the management plan would be required; h) An organisational chart showing staff and contractor positions and responsibilities for plan implementation; i) Relevant training and induction procedures and schedules; j) Reporting procedures and format for providing the results of any monitoring or surveying required by the Management Plans. <p>Where plans require the input of an appropriately qualified professional, the Consent Authority may engage an appropriately qualified person to peer review the plans as part of the certification process.</p>
6.3	<p>Site activities must not commence until the management plans required in condition 6.1 have been certified by the Consent Authorities.</p>

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6.4	If the Consent Holder has not received a response from the Consent Authorities within one month of the date of submission of the management plans under Condition 6.1, the management plans must be deemed certified. If the response from the Consent Authorities is that they are not able to certify the management plans, the Consent Holder must consider any reasons and recommendations provided by the Consent Authorities, amend the management plans accordingly, and resubmit the management plans to the Consent Authorities.
6.3	<p>The Consent Holder shall operate the site in accordance with the following certified management plans:</p> <ul style="list-style-type: none"> • Noise Management Plan • Avian Management Plan • Wetland Construction and Riparian Planting Plan • Dust Management Plan • Rehabilitation Management Plan • Water Management Plan and Monitoring and Mitigation Plan • Erosion & Sediment Control Plan • Natural hazard management plan • Landscape Mitigation Planting Plans • Transport Management Plan <p>(collectively Management Plans)</p>
6.5	<p>With the prior agreement of the relevant consent authority, The The Consent Holder may amend the management plans at any time to take into account:</p> <ol style="list-style-type: none"> a) Any positive measure/s to ensure the stated objectives of the management plans are achieved; and b) Any changes required to further reduce the potential for adverse effects as a result of actions identified in the Annual Work Programme; and c) Any required actions identified as a result of monitoring to address a) and b) under these consents. <p>Where management plans require the input of an appropriately qualified person, any amendments to those management plans must also be undertaken by the appropriately qualified person, and the Consent Authority may engage an appropriately qualified person to peer review the amendments.</p> <p><i>Advice Note: Some management plans have ongoing annual review requirements which are required in order to avoid, remedy or mitigate effects. These specific review requirements are stipulated in the relevant conditions of this consent.</i></p>
6.6	<p>Any amended Plans must be provided to the Consent Authorities within 20 working days of their review, for certification in accordance with Condition 6.1.</p> <p>Any amended Plans must be provided to the Consent Authorities within 20 working days of their review, for certification in accordance with Condition 6.1.</p>
6.7	The Plans must not be amended in a way that contravenes the matters set out in the conditions for the respective Plans.

Commented [KM9]: Wording proposed contains secondary approval. The wording proposed by the applicant has been successfully implemented in other consents, and appropriately requires Council certification of plans, rather than requiring approval.

It is noted that this condition does not allow amendment of the conditions relating to the management plans

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	The Plans may only be amended in a way that is consistent with, and does not contravene, the conditions of this resource consent.
6.8	<p>If the Consent Holder has not received a response from the Consent Authorities within one month of the date of submission of any reviewed management plan, the management plan must be deemed certified. If the response from the Consent Authorities is that they are not able to certify the management plan, the Consent Holder must consider any reasons and recommendations provided by the Consent Authorities, amend the management plan accordingly, and resubmit the management plan to the Consent Authorities.</p> <p>If the Consent Holder has not received a response from the Consent Authorities within one month of the date of submission of any reviewed management plan, the management plan must be deemed certified. If the response from the Consent Authorities is that they are not able to certify the management plan, the Consent Holder must consider any reasons and recommendations provided by the Consent Authorities, amend the management plan accordingly, and resubmit the management plan to the Consent Authorities.</p>
6.9	A copy of the latest version of the Plans must be kept on site at all times and all key personnel must be made aware of the contents of each Plan and their responsibilities under each Plan.
6.10	Subject to any other conditions of these consents, all activities must be undertaken in accordance with the latest version of the Plans.
7.0 Method of Operations	
7.1	The mine boundaries must be clearly marked on the ground before any earthworks take place, with a 20m setback from the northern property boundary and Collins Creek and Collins Creek, and a 100m setback from the coastal lagoon and any wetland and any wetland. and Collins Creek.
7.2	<p>The maximum site disturbance must not exceed 8.0 hectares at any one time.</p> <p><i>Advice note: The disturbed area includes the mine pit, water management infrastructure, processing plant area, active rehabilitation areas and the access road.</i></p>
7.3	The Consent Holder must strip soil material ahead of operations and stockpile it for progressive and final mine closure rehabilitation purposes. Stockpiled soil must be protected from erosion caused by water and wind as far as practicable.
7.4	The Consent Holder must not bury any topsoil or soil material suitable as a growing medium or remove it from the site.
8.0 Hazardous Substances	
8.1	Refuelling, lubrication and mechanical repairs of equipment and storage of hazardous substances and dangerous goods must be undertaken in such a manner so as to ensure that spillages of hazardous substances or dangerous goods onto the land surface or into a waterbody do not occur, including that refuelling must not occur within 20 metres of a water body. Any accidental discharge of greater than 20 litres must be reported immediately to the Consent Authority along with details of the steps taken to remedy and/or mitigate the adverse effects of the discharge.

Commented [KM10]: The proposed changes relate to the officer's recommendation to setback 100m from all wetlands at all times which is not supported.

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8.2	All contractors and/or operators transporting or storing more than 20 litres of fuel must carry spill kits to enable immediate action to remedy and/or mitigate the effects of hazardous substances discharges on-site.
8.3	A list of all hazardous substances and dangerous goods must be maintained on site at all times showing location of storage and use, in case of an emergency.
8.4	Diesel storage shall be limited to 40,000 litres, and shall be contained in a certified tank with full secondary containment. <i>Advice note: hazardous substance storage is managed by the Hazardous Substances and New Organisms Act 2006, and must be certified under this legislation.</i>
8.5	For the duration of mining, the Consent Holder must undertake quarterly systematic testing of the heavy minerals concentrate from within the active mining area to confirm that the concentrate remains below the acceptable level of radioactivity concentration limits as specified in Schedule 2 of the Radiation Safety Act 2016. Copies of the independent test results must be submitted to the Consent Authority within 10 working days of receipt of the results. <i>Advice Note: If material meets the criteria in Schedule 2 of the Radiation Safety Act 2016, the extraction, processing and transport of heavy minerals concentrate will require a Source Licence under this Act, and may possibly require a radiation safety plan as per section 18 of the Act.</i>
8.6	In the absence of any extant and current New Zealand Code of Practice for handling such naturally occurring radioactive materials, the Consent Holder must carry out all activities on site in accordance with the Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing Code of Practice and Safety Guide published by the Australian Radiation Protection and Nuclear Safety Agency.
8.7	For the duration of mining, the Consent Holder must maintain radiation monitoring devices in the locations specified in the Dust Management Plan. Radiation monitoring devices must collect data continuously over three-month intervals prior to collection and delivery to an independent laboratory for testing. Copies of the independent test results must be submitted to the Consent Authority with 10 working days of receipt of the results. If the radiation monitoring devices record radiation levels exceeding the equivalent of 1 mSv (millisievert) above background levels over 12 months (i.e., the sum of results from the past four device readings at each location minus background levels established prior to the activity commencing) as a result of the activity, then the Radiation Safety Act 2016 applies to the activity, and the Consent Holder must: <ul style="list-style-type: none"> (a) inform and consult the Office of Radiation Safety, New Zealand Ministry of Health; and (b) carry out all activities on site in accordance with the Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing Code of Practice and Safety Guide published by the Australian Radiation Protection and Nuclear Safety Agency.

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8.8	<p>For the duration of mining, the Consent Holder must undertake daily analysis of heavy minerals concentrate samples from the processed stockpile area using a hand-held X-Ray Fluorescence device. Where samples which result in a calculated activity concentration of >1.0 Bq/g based on U+Th assay*, the Consent Holder must have these samples analysed by an independent laboratory for head-of-chain radioactivity concentration measurement. Daily monitoring records must be made available to the Consent Authority on request, and copies of any independent test results must be submitted to the Consent Authority within 10 working days of receipt of the results.</p> <p>* Activity Concentration (Bq/g) = U(ppm)× 0.01244 + Th(ppm)× 0.0042</p>
8.9	<p>The Consent Holder shall install an apparatus to measure Rn-222 activity concentration within the HMC stockpile building, to confirm the levels of airborne radon do not exceed the IAEA Safety Standard No. GSR Part 3 reference level of 300 Bq/m³. If no readings of >300 Bq/m³ are detected within the first year of production, this device may be decommissioned. Data from the apparatus must be supplied to the Consent Authority at least once every 3 months for the first 12 months of operation, and within 10 days of a reading of >300Bq/g being registered.</p>
<p>9.0 Rehabilitation</p>	
9.1	<p>The Consent Holder must carry out progressive rehabilitation, to achieve the following requirements:</p> <ol style="list-style-type: none"> Reinstatement of the productive pasture landform productive pasture; Reinstatement of existing drainage patterns to reflect pre-mining catchment areas which discharge to the major drains; Ensure short and long term stability of the reinstated landform Ensure rehabilitated land is stabilised as quickly as possible; and Protect Canoe Creek, Canoe Creek Lagoon, Northern Drain, Collins Creek and surrounding wetlands from the effects of erosion and sediment generation. Protect Collins Creek, the northern boundary drain, surrounding wetlands and the coastal lagoon from the effects of erosion and sediment generation. <p><i>Advice Note: Stabilised means an area inherently resistant to erosion such as rock, or rendered resistant by the application of aggregate, geotextile, vegetation, mulch or an approved alternative. Where vegetation is to be used on a surface that is not otherwise resistant to erosion, the surface is considered stabilised once an 80% vegetation cover has been established.</i></p>
9.2	<p>At the completion of mining (final mine closure), the mine area must be fully rehabilitated, by reinstating the productive pasture in general accordance with the a Rehabilitation Plan prepared by TiGa Minerals and Metals Ltd dated April 2023. The objectives of the Rehabilitation Plan are:</p> <ol style="list-style-type: none"> To create a final landform with a similar contour and profile at final mine closure as that which existed prior to mining; To establish vegetation cover on all areas disturbed by mining activity as per agreed final landform; and To protect freshwater values associated with Collins Creek, Canoe Creek, Canoe Creek Lagoon, Northern Drain and surrounding wetlands.

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	<p>d) To reinstate the primary pre-mining catchment areas for the Northern Boundary Drain and Collins Creek/Canoe Creek Lagoon so the contouring and surface drainage installed during mine rehabilitation does not increase the rate of groundwater drainage at the site.</p> <p><i>Advice Note: Final mine closure is the completion of all mining and progressive rehabilitation works and removal of buildings.</i> <i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i></p>
9.3	<p>The Rehabilitation Plan shall include the following:</p> <ul style="list-style-type: none"> • A programme of progressive rehabilitation of the pre-mining landform, adhering to maximum disturbed area limits. • The original and final mine closure topography. • Contour and stability of all post-mining landforms. • Establishment of pasture cover over all disturbed land. • Restoration of drainage discharge channels. • Protection of water and soils from the effects of erosion. • The achievement of water quality standards for water interacting with previously distributed sites/areas in the long term to protect aquatic values. • Removal of buildings, equipment, and structures; and • Post-mining weed and pest control requirements.
9.4	<p>If for any reason active mining ceases for more than 3 months, operational stockpiles must be removed and material returned to the mining area, and all disturbed areas must be rehabilitated as required by the conditions of these consents within 6 months from the date of the last mining activity.</p>
10.0 Complaints and Non-Compliance	
10.1	<p>Upon receipt of any complaint, the Consent Holder must promptly investigate the complaint, take action to remedy or mitigate the cause of the complaint and inform the Consent Authorities within 48 hours of the report, of the details of the complaint and the action taken.</p>
10.2	<p>The Consent Holder must maintain a complaints register for all aspects of operations in relation to these consents. The register must be available to the Consent Authorities at all times and must:</p> <ol style="list-style-type: none"> a) detail the date, time and type of complaint; b) cause of the complaint; and c) the action taken in response to the complaint.
10.3	<p>Complaints which may infer non-compliance with the conditions of these consents, must be referred to the Consent Authorities within 48 hours of the report.</p>
10.4	<p>In the event of any breach of compliance of the conditions of these consents, within 5 working days of becoming aware of any breach the Consent Holder must provide written notification to the relevant Consent Authorities which explains the cause of the breach, and if the cause was within the control of the Consent Holder, steps which were taken to</p>

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	remedy the breach and steps which must be taken to prevent any further occurrence of the breach. <i>Advice Note: This consent condition does not replace the compliance and enforcement responsibilities of the Consent Authorities.</i>
11.0 Community Liaison Group	
11.1	<p>Within 90 working days of commencement of these consents, the Consent Holder must establish a Community Liaison Group (CLG). An invitation must be extended to all landowners of neighbouring and adjacent properties, 4 5 representatives of the Barrytown community which must includes owners of Lots 2 and 3 DP 3375, RS 4884, and Lot 2 DP 3403 and a member of the Coast Road Resilience Group, landowners of adjacent properties, and the Department of Conservation, and and the West Coast Penguin Trust, the West Coast Regional Council and the Grey District Council. The Consent Holder must ensure that members of the CLG are provided with the opportunity and facilities to meet at least once every three months for the first 12 months of mining operations, and thereafter as agreed with the CLG. Minutes of meetings held shall be submitted to the Consent Authorities within 10 working days of each meeting.</p> <p><i>Advice Note: The CLG is not a decision making body, but an important forum for the dissemination of information from the Consent Holder to interested parties. It also provides the opportunity for meaningful engagement between the parties, and for the CLG to comment on consent compliance and provide recommended changes to operations, monitoring and adaptive management. Comments and recommendations from the CLG are to be given due consideration. In the event that it is not possible to establish or maintain a CLG through lack of interest or participation from the local community, then such failure to do so shall not be deemed a breach of these conditions.</i></p>
11.2	<p>The purpose of the CLG is to provide an ongoing means of communication between the Consent Holder and the local community, both through regular meetings and informal communication between the members and the Consent Holder. Matters to be discussed may include, but are not limited to:</p> <ul style="list-style-type: none"> a) Any complaints recorded and actions taken in response to the complaints as required by Condition 10.2; b) Any proposed amendments to Management Plans; c) The results of any surveys or monitoring undertaken in accordance with conditions of this consent.

Commented [KM11]: The proposed changes are not supported. The group proposed is already large, and in my experience, larger groups become ineffective. The intention is that the Barrytown community representatives include neighbours.

Grey District Council Conditions	
12.0 Hours of Operation	
12.1	<p>The mining and any related activities including processing and transport activities shall not operate during the hours of darkness between the months of November and January (inclusive). For the purpose of this condition, hours of darkness are considered to be between 30 minutes after sunset to 30 minutes before sunrise. Outside these hours, the applicant must comply with the following hours of operation:</p> <p>Mining Activities from 01 February to 31 October November – 0700-2200 Mining Activities from 01 December to 31 January – 0630-0930 Processing Plant Activities – 24 hours a day / 7 days a week</p>

Commented [KM12]: The applicant has offered no mining or trucking at night. Hours of operation conditions have been simplified as a result.

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	<p>Heavy Mineral Concentrate Trucking Activities – 0500-2200, except between the hours of darkness for the period between July and December (inclusive).</p> <p><i>Advice Note: In addition to condition 12.1, further restrictions on transport operations are contained in Condition 15.0 Transport, and further noise restrictions are contained in Condition 16.0 Noise.</i></p>
12.2	<p>Overburden and topsoil stripping activities and bund development shall not occur within the hours of darkness. For the purpose of this condition, hours of darkness are considered to be between 30 minutes after sunset to 30 minutes before sunrise.</p>
12.1	<p>Trucking, mining, overburden and topsoil stripping, bund development and any related activities shall not operate during the hours of darkness. For the purpose of this condition, hours of darkness are considered to be between 30 minutes after sunset to 30 minutes before sunrise.</p> <p><i>Advice Note: sunrise and sunset times can be found here https://www.sunrise-and-sunset.com/en/sun/new-zealand/westport/2023/june</i></p> <p><i>Advice Note: In addition to condition 12.1, further restrictions on transport operations are contained in Condition 15.0 Transport, and further noise restrictions are contained in Condition 16.0 Noise.</i></p>
12.2	<p>Processing plant and maintenance activities within the processing plant area may operate 24 hours a day/7 days a week.</p>
13.0 Buildings	
13.1	<p>Buildings associated with the mining activity must be constructed and located generally in accordance with the site plan titled “TiGa Consent Application” stamped as approved by Grey District Council and dated [insert date of stamp here] 22 March 2023 and prepared by Tai Poutini Professional Services Ltd (Schedule 1) Schedule 1 and the building plans included as Schedule 2.</p>
13.2	<p>The colours to be used for all buildings and structures must be recessive and non-reflective and have a light reflectance value (LRV) of less than 20%, including but not limited to Colorcote colours Mudstone (LRV 16%), Rivergum (18%), Permanent Green (LRV 10%) or Ironsand (9.5%).</p>
13.3	<p>The Consent Holder must remove all buildings with the exception of the Heavy Mineral Concentrate Storage Shed and reinstate the processing plant area to pasture before the completion of the term of consent.</p>
14.0 Site Access	
14.1	<p>At least 10 working days prior to the trucking of Heavy Mineral Concentrate from the site, the vehicle crossing for access to the site from State Highway 6 shall be formed in accordance with the vehicle crossing layout plans submitted by the consent holder and labelled as “T1001: Barrytown Mine, TiGa Minerals and Metals Ltd, Indicative Access Arrangement” stamped as approved by Grey District Council and dated [insert date of stamp here] dated 09/03/2023 and attached as Schedule 3.</p>
14.2	<p>Prior to vehicle crossing formation works occurring, the consent holder shall submit to the Grey District Council a copy of the Waka Kotahi NZ Transport Agency’s approval to undertake works on the State Highway (as detailed in advice notes a - c).</p>

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	<p>Advice Notes:</p> <p>a) It is a requirement of the Government Roading Powers Act 1989 that any person wanting to carry out works on a state highway first gain the approval of Waka Kotahi NZ Transport Agency for the works and that a Corridor Access Request (CAR) is applied for and subsequently a Work Access Permit issued before any works commence. A CAR will be required for the vehicle crossing from the subject site to State Highway 6.</p> <p>b) Detailed design approval will be provided through the CAR process.</p> <p>c) A CAR is made online via www.beforeudig.co.nz and/or www.submitica.co.nz. The CAR needs to be submitted at least 15 working days before the planned start of works. A copy should also be sent to the Waka Kotahi NZ Transport Agency environmental planning team at environmentalplanning@nzta.govt.nz.</p> <p>The Corridor Access Request will need to include:</p> <ol style="list-style-type: none"> i. The detailed design for the vehicle crossing. In developing the detailed design, the consent holder will need to consult <i>with</i> the Waka Kotahi NZ Transport Agency, including the Regional Safety Engineer and Network Manager appointed state highway maintenance contractor for the West Coast (Fulton Hogan) and a Waka Kotahi Safety Engineer (Jodie Enright). ii. A Construction Traffic Management Plan that has attained approval from the Waka Kotahi NZ Transport Agency Network Manager, appointed state highway maintenance contractor for the West Coast (Fulton Hogan) iii. A design safety audit which has been prepared, processed and approved in accordance with Waka Kotahi guidelines for Road Safety Audit Procedures for Projects (https://www.nzta.govt.nz/assets/resources/road-safety-audit-procedures/docs/road-safetyaudit-procedures-tfm9.pdf)
<p>15.0 Transport</p>	
<p>15.1</p>	<p>Truck movements associated with removal of heavy mineral concentrate to and from the South (towards Greymouth) of the site must be limited to 50 per day and 5 per hour (both averaged over a one week period) between the hours of 0500-2200 and must only occur during the hours of daylight.</p> <p>Advice Note: For the purposes of the Transport conditions, a movement is defined as being a movement either to or from the site. A truck and trailer unit entering and leaving the site is therefore 2 movements.</p> <p>For the purpose of this condition, hours of darkness are considered to be between 30 minutes after sunset to 30 minutes before sunrise.</p> <p>For the purpose of this condition, hours of daylight are considered to be between 30 minutes before sunrise and 30 minutes after sunset.</p>
<p>15.2</p>	<p>Truck movements associated with removal of heavy mineral concentrate to and from the North (towards Westport) of the site must be limited to 50 per day and 5 per hour (both averaged over a one week period) between the period starting 30 minutes before sunrise and ending 30 minutes after sunset each day.</p> <p>Advice Note: For the purposes of the Transport conditions, a movement is defined as being a movement either to or from the site. A truck and trailer unit entering and leaving the site is therefore 2 movements.</p> <p>Advice Note: Sunrise and Sunset times will differ throughout the year, and are determined by sunrise and sunset times at Westport, which can be found at the following website: https://www.sunrise-and-sunset.com/en/sun/new-zealand/westport/2023/june</p>

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15.3	Truck movements associated with the activity removal of heavy mineral concentrate shall be limited to no more than 3 per hour between 0500 and 0700 each day so long as those hours are during the hours of daylight.
15.4	Light vehicle movements must be limited to 140 light vehicles per day and shall only occur during the hours of daylight
15.5	A record of light and heavy vehicle movements shall be kept by the Consent Holder and supplied to the Consent Authority on request.
15.6	Any signage adjacent to or directed towards State Highway 6 must comply with the Waka Kotahi NZ Transport Agency policy manual for Third Party Advertising Signs (2022) and the Grey District Plan rules. Advice note: Signage will not be permitted within the state highway corridor, unless approved by Waka Kotahi.
15.7	Truck movements associated with the removal of heavy mineral concentrate shall not leave the site between the hours of 08:30-0900 and 15:00-15:30 each school day that Barrytown Primary School is operating. Advice note: School term dates can be found on the Ministry of Education's website, however exact dates each school operate will vary and should be confirmed with the Barrytown School directly.
15.8	The consent holder must conduct transport activities in general accordance a Transport Management Plan. The objectives of the Transport Management Plan are:-is <ul style="list-style-type: none"> - to ensure the safe and efficient operation of the road transport network between the Site and either the Port of Greymouth or the Port of Westport (as appropriate) - to avoid adverse effects on wildlife along the trucking route; - to avoid adverse effects on pedestrian and cycle safety along the trucking route.
15.9	The Transport Management Plan shall include: <ul style="list-style-type: none"> • A method of reporting incidents (including encounters with taiko and other wildlife) and road defects; • Hours of operation of various vehicle types to avoid adverse noise and traffic safety effects; • A description of "locations of care" where drivers will need to take additional care, i.e. areas of tight road geometry, areas of greater pedestrian and cyclist concentration, areas near schools.
16.0 Lighting	
16.1	There shall be no exterior lighting. Lighting must not exceed 2.0 lux spill (horizontal and vertical) of light onto any adjoining property, measured at any point more than 2m inside the boundary of the adjoining property or the closest window on the adjoining property whichever is the closest. Lighting must not exceed 2.0 lux spill (horizontal and vertical) of light onto any adjoining property, measured at any point more than 2m inside the boundary of the adjoining property or the closest window on the adjoining property whichever is the closest.

Commented [KM13]: The limit proposed on light vehicles is not practical with a 24/7 processing plant operation occurring on site.

Commented [KM14]: TiGa do not agree to no exterior lighting, original conditions to apply, and I do not support the changes on an effects basis.

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16.2	<p>Lighting must be designed in a manner which adheres to the Australian Government's National Light Pollution Guidelines for Wildlife January 2020 (or subsequent revision); including but not limited to:</p> <ul style="list-style-type: none"> • All fixed lighting must be directed downward, shielded to avoid light spill outside of permitted activity limits, operate primarily in the yellow-orange spectrum, and be filtered to reduce blue and violet wavelengths; • Lights must only illuminate the object or area intended; • Fixed lights must be mounted as close to the ground as practicable while still achieving site lighting requirements; • External lighting must be minimised on the seaward side of buildings to minimise light spill toward the coast; • external lighting must use the lowest intensity lighting possible, while ensuring compliance with workplace health and safety requirements. <p>Lighting must be designed in a manner which adheres to the Australian Government's National Light Pollution Guidelines for Wildlife January 2020 (or subsequent revision); including but not limited to:</p> <ul style="list-style-type: none"> • All fixed lighting must be directed downward, shielded to avoid light spill outside of permitted activity limits, operate primarily in the yellow-orange spectrum, and be filtered to reduce blue and violet wavelengths; • Lights must only illuminate the object or area intended; • Fixed lights must be mounted as close to the ground as practicable while still achieving site lighting requirements; • External lighting must be minimised on the seaward side of buildings to minimise light spill toward the coast; • external lighting must use the lowest intensity lighting possible, while ensuring compliance with workplace health and safety requirements.
16.3	<p>The Consent Holder must provide a detailed lighting plan to Grey District Council at least 20 working days prior to the commissioning of the processing plant, with an accompanying design statement, prepared by a suitably qualified lighting professional, confirming compliance with conditions 16.1 and 16.2.</p> <p>The Consent Holder must provide a detailed lighting plan to Grey District Council at least 20 working days prior to the commissioning of the processing plant, with an accompanying design statement, prepared by a suitably qualified lighting professional, confirming compliance with conditions 16.1 and 16.2.</p>
16.4	<p>Within 20 working days of the processing plant being commissioned, the Consent Holder must engage a suitably qualified lighting professional to carry out a lighting audit, to confirm that the lighting has been installed as per the detailed lighting plan required by Condition 16.3. The results and confirmation of compliance with conditions 16.1 and 16.2 must be submitted to the Consent Authority within 10 working days of receipt of the audit.</p> <p>Within 20 working days of the processing plant being commissioned, the Consent Holder must engage a suitably qualified lighting professional to carry out a lighting audit, to confirm that the lighting has been installed as per the detailed lighting plan required by</p>

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	Condition 16.3. The results and confirmation of compliance with conditions 16.1 and 16.2 must be submitted to the Consent Authority within 10 working days of receipt of the audit.
16.5	<p>If the lighting audit establishes compliance with conditions 16.1 and 16.2 is not achieved, the Consent Holder must investigate and implement additional mitigation required to achieve compliance. The Consent Holder must submit a report to Consent Authority within 10 working days of the audit detailing the mitigation measures that will be implemented and must undertake a further compliance monitoring report within 10 working days of any mitigation measure being implemented to demonstrate the effectiveness of that mitigation.</p> <p>If the lighting audit establishes compliance with conditions 16.1 and 16.2 is not achieved, the Consent Holder must investigate and implement additional mitigation required to achieve compliance. The Consent Holder must submit a report to Consent Authority within 10 working days of the audit detailing the mitigation measures that will be implemented and must undertake a further compliance monitoring report within 10 working days of any mitigation measure being implemented to demonstrate the effectiveness of that mitigation.</p>
17.0 Noise	
17.1	<p>The consent holder shall ensure that all operational mining and processing activities on the site do not exceed the following noise limits at or within the notional boundary of any dwelling existing at the date consent is granted on any other site except 3261 Coast Road:</p> <ul style="list-style-type: none"> o Daytime (0700-2200): 55 dB L_{Aeq}(15 min) o Night-time (2200-0700): 45 dB L_{Aeq}(15 min) and 75 dB L_{AFmax} <p>when measured and assessed in accordance with the latest New Zealand noise standards: NZS 6801:2008 “Acoustics – Measurement of environmental sound” and NZS 6802:2008 “Acoustics -Environmental Noise”.</p> <p>‘Notional boundary’ is defined as a line 20 metres from any side of a dwelling or the legal boundary where this is closer to the dwelling.</p>
17.2	<p>Construction activities shall be conducted in accordance with NZS 6803: 1999 “Acoustics - Construction Noise” and shall comply with the “typical duration” noise limits contained within Table 2 of that Standard.</p> <p><i>Advice Note: Construction activities include the formation of access roads, bunds, dams and final land contouring and planting, and the construction of the processing plant and load out area. For the avoidance of doubt, overburden stripping and topsoil removal associated with mining operations shall not be considered construction activities.</i></p>
17.3	<p>The consent holder shall prepare a Noise Management Plan (NMP) to control day-to-day noise emissions from the site. This NMP must be submitted to Council for approval 10 working days prior to commencement of the proposed activity at the site.</p> <p>The Consent Holder must operate the site in general accordance with the Noise Management Plan (NMP) prepared by Marshall Day Acoustics dated April 2023.</p> <p>As a minimum, the NMP shall include:</p> <ul style="list-style-type: none"> a) The person responsible for implementing the NMP b) Applicable noise conditions relating to noise c) Training of staff relating to how to minimise noise and vibration <u>d)</u> Maintenance schedule for site access road surfaces to avoid excessive noise and vibration

Commented [KM15]: Agree with change except “for approval” which is a secondary approval

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	<p>d) Reporting of defects in the carriageway of State Highway 6 that generate abnormal noise and vibration</p> <p>e) Activity risk analysis for noise generation</p> <p>g) Method for handling complaints.</p> <p>h) Noise monitoring methodology.</p> <p><i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i></p>
17.4	<p>The consent holder shall engage a suitability qualified and experienced independent person to undertake compliance noise monitoring within 30 days of mining and processing operations occurring and thereafter at 36-monthly intervals for the first 12 months of the mining operation. Thereafter, compliance noise monitoring shall be undertaken on an annual basis. unless agreed otherwise by the Environmental Planning Team Leader, Grey District Council.</p> <p>Noise monitoring shall also be undertaken prior to the period 01 December to 31 January to confirm that the Mining Field Unit is able to comply with the night time noise limits if mining operations are proposed to occur between 0630 and 0700.</p> <p>All noise monitoring shall be made available submitted to Grey District Council within two weeks of completion of each monitoring visit.</p> <p>If compliance is not achieved, the Consent Holder must investigate and implement additional mitigation required to achieve the noise limits as soon as practicable. The consent holder must submit a report to Council within 60 working days of the relevant monitoring report detailing the mitigation measures that will be implemented and must undertake a further compliance monitoring report within 10 working days of any mitigation measure being implemented to demonstrate the effectiveness of that mitigation.</p> <p>If compliance with the night time noise limits is not achieved, mining operation shall not commence before 0700 until suitable mitigation measures are implemented to achieve the night time noise limit.</p>
17.5	<p>Prior to mining activity occurring during the night time period each year, the consent holder shall provide an assessment that the schedule of mining equipment, its operating locations and any mitigation required to comply with the applicable noise limits. The results of each assessment must be provided to Council at least 10 working days prior to 1 December each year and must be appended to the NMP.</p> <p>NOTE: This condition does not apply if the activity is not consented to operate at night.</p>
17.5	<p>Mining operations must utilise the best practicable option to minimise noise at all times. This includes replacement of worn parts, maintenance of mufflers, lubrication of moving machinery to avoid squeaks and squeals, and appropriate operation of all equipment.</p>
17.6	<p>Vehicles or equipment must not be fitted with tonal reversing alarms. Where reversing alarms are required, strobe light or broadband reversing alarms must be used.</p>

Commented [KM16]: This will be covered in the Transport Management Plan

Commented [KM17]: The applicant will no longer be mining prior to 7am as previously proposed.

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18.0 Avian Management	
18.1	<p>The consent holder shall conduct activities on site in general accordance with an Avian Management Plan (AMP) prepared by a suitably qualified ecologist/ornithologist. The objectives of the AMP are:</p> <ul style="list-style-type: none"> • To ensure adverse effects on the threatened and at risk birds present in the vicinity of the site and any other threatened and at risk species detected by subsequent monitoring are avoided. • To ensure adverse effects on the rushland, flaxland and other important bird habitats adjoining the mining site including Canoe Creek Lagoon, Rusty Pond and the coastal margin are avoided during the breeding season and minimised at other times of the year during mining. • To ensure ongoing use of the site and its environs by the birds which currently occur in the area. <p><i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i></p> <p><i>Advice Note: Threatened or at-risk bird species refers to the Conservation Status according to the Department of Conservation's Threatened Classification System</i></p>
18.2	<p>The AMP shall detail:</p> <ul style="list-style-type: none"> ○ A description of the site and surrounding avian habitats ○ A description of the threatened and at risk birds likely to be present in these habitats and which species require specific management within the AMP ○ A description of the management and mitigation measures that are required to be implemented to avoid effects on these species; ○ A procedure for managing and responding to Taiko being found on the mine site; ○ A description of the monitoring requirements to assess the effectiveness of the AMP
18.3	<p>The AMP must be reviewed annually and may be amended at any time by the Consent Holder with the agreement of the Grey District Council. Any amendments to the AMP must be submitted to Council and must:</p> <ul style="list-style-type: none"> ○ achieve the AMP's purpose of avoiding effects on any threatened or at-risk indigenous bird species (including specifically the Tāiko); ○ comply with the conditions of this resource consent; and ○ have been reviewed by an appropriately qualified and experienced ecologist/ornithologist; ○ have been provided in advance to Te Runanga o Ngāti Waewae and the Buller/Kawatiri office of the Department of Conservation for comment (and feedback received collated and submitted with the amendments to be provided to Council). ○ follow the certification process set out in Condition 6.0. <p><i>Advice note: any disturbance or relocation of avifauna may require a permit from the Department of Conservation under the Wildlife Act (1953).</i></p>

Commented [KM18]: Secondary approval is not supported

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18.4	The Consent Holder must engage a suitably qualified expert to undertake continuous all monitoring of avian species from the commencement of consent until at least one year following the cessation of mining activities on this site. The monitoring must be carried out in accordance with the monitoring requirements in the AMP.
18.5	Mining, topsoil and overburden stripping and rehabilitation activities shall not take place within 100m of the Canoe Creek Lagoon or Rusty Pond wetland between the months of September and December each year to maintain separation from the lagoon during the bird breeding season.
18.6	<p>The Consent Holder shall engage a suitably qualified expert to carry out annual penguin surveys of Pakiroa beach using a certified conservation dog within 500m of the mining area to detect the presence of Korora. If penguins or burrows are detected the location will be mapped and the following management actions are to apply:</p> <ol style="list-style-type: none"> i) If penguins are detected using the mining area to access other habitats, any existing access ways are to be maintained and/or works affecting that accessway are to be completed in the period March – June (outside the breeding and moult period). ii) Any potential penguin burrows identified will be investigated, including use of a burrowscope, to determine whether Korora are using them. iii) Where any penguin burrows are compromised by mining (i.e., direct effects), replacement artificial burrows/nest boxes are to be installed at a rate of 2:1. Any additional nest boxes provided are to be located within the vegetated coastal foreshore habitat associated with any identified accessways. iv) Where coastal erosion occurs and compromises breeding penguins, a specific mitigation plan is to be developed by a suitably qualified and experienced ecologist on behalf of the applicant in conjunction with the West Coast Penguin Trust.
18.7	The Consent Holder must establish a ring of traps and/or bait stations targeting rats and mustelids placed around the perimeter of the property and the coastal lagoon in accordance with the AMP. The network of traps is to be installed prior to mining commencing and serviced as required.
18.8	<p>An annual bird management report shall be provided to Environmental Planning Team Leader Grey District Council, Te Runanga o Ngāti Waewae and the Buller/Kawatiri office of the Department of Conservation in Westport, the West Coast Penguin Trust, Paparoa Wildlife Trust, the Community Liaison Group and Waka Kotahi NZ Transport Agency Environment and Sustainability Team (via: environment@nzta.govt.nz), no later than June each year which includes: site inspection summaries, record of presence of any at risk and threatened bird species, and the avoidance and mitigation measures undertaken on the Site. The report shall include the following matters:</p> <ul style="list-style-type: none"> o The timing and duration of any mining within 100m of the coastal lagoon vegetation and the SNA; o Results of seasonal bird surveys at the site; o Timing of nest detection surveys and observations relating to nesting or other behaviours observed within the area to be mined; o Efforts to deter any attempts at nesting within the area to be mined and the outcome of those efforts; o Species attempting to nest within the area to be mined (including threatened and at risk species); o Date of first nesting attempts (if any) for threatened and at risk species within the area to be mined;

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	<ul style="list-style-type: none"> ○ Number and location of nesting attempts by threatened and at risk species within the area to be mined; ○ Species attempting to nest within the area to be mined (including threatened and at risk species); ○ Date any predator control commenced, the location of traps and bait stations, the number of captures, the amount of bait consumed and any relevant observations; ○ Outcome of individual nesting attempts by threatened and at risk species within the area to be mined; ○ Results of annual kororā surveys on Pakiroa Beach, the implications for mine operations and any management actions undertaken; ○ Number and location of any grounded tāiko and any birdstāiko found dead on site; ○ Management undertaken and the outcome for any grounded tāiko collected; ○ Autopsy outcomes for any dead tāiko collected; ○ The number, dates and location of any near misses with vehicles for any native species; ○ The findings of any lighting audits undertaken during the year and steps taken to resolve any issues identified. ○ A summary of any revisions made to this management plan and the reasons for the changes; ○ The date and duration of any operational shut-downs; <p>The results of the quarterly walk-through surveys of birds using the lagoon area.</p>
18.9	Staff, contractors and visitors associated with the mining activity shall not be permitted to bring dogs to the site at any time, except for conservation purposes.
18.10	The consent holder must deploy wildlife cameras around the coastal perimeter of the mine disturbance area to monitor for Korora, and around the processing plant area and the access road to monitor for Taiko. The cameras must be equipped with motion sensors, and be installed by a suitably qualified ecologist. 10 cameras to detect Korora shall be placed along the coastline and set to record for at least 10 nights every month, with the location to be determined by the ecologist. 10 Cameras to detect Taiko shall be installed around the processing plant and the length of the access road, operating during the hours of darkness each night, with the location to be determined by the ecologist. Imagery must be reviewed for wildlife interactions at least weekly, retained for a minimum of 6 months, and be made available to the Consent Authority or the Department of Conservation on request.
18.11	If a Taiko interaction is detected, the consent holder must follow the procedure set out in the AMP, which must include a review of the AMP by a suitably qualified ecologist to determine what additional measures can be taken to avoid any further interactions with Taiko.
18.12	If two Taiko interactions are detected within a four week period, all mining and processing activities shall cease until a further review of the AMP by a suitably qualified ecologist has been carried out, in consultation with the Department of Conservation, to determine the possible causes and mitigation measures that can be employed to avoid further interactions with Taiko. Mining and processing activities may only recommence following the completion of investigations and the implementation of further mitigation measures recommended by the ecologist.

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	<i>Advice note: Any amendment to the AMP will be required to comply with the certification process under Condition 6.0.</i>
18.13	Any interactions with wildlife recorded as a result of the monitoring requirements in the AMP including the wildlife cameras required by Condition 18.10, shall be reported to the Consent Authority and the Department of Conservation on a weekly basis from 01 November to 31 January each year, and on a monthly basis from 01 February to 31 October.
19.0 Planting	
19.1	<p>As soon as practicable following the commencement date of this consent, and prior to the commencement of mining, the consent holder shall construct bunds and complete planting of in accordance with the attached “Landscape Mitigation Planting Plans” prepared by Glasson Huxtable Landscape Architects dated January 2024April 2023 (Schedule 4); including:</p> <ul style="list-style-type: none"> (a) a 1.8m high, 13.0m wide permanent bund with planting along the bund’s crest and eastern side, parallel to the State Highway for visual screening; (b) a 6.0m wide planting strip adjacent to the coastal lagoon edge; (c) a 10.0m wide band of planting along the open coastline in the south-west corner; (d) planting of the western and northern edges of the Clean Water Facility, between the coastal lagoon and ponds, so far as is operationally feasible to enable the Clean Water Facility to operate and be maintained throughout the course of the mining activity; (e) a 3.0m wide strip of planting with fencing along the edge of Collins Creek ; (f) a 3.0m wide strip of planting with fencing along the southern bank of the northern drain; (g) a planted strip along the north-eastern boundary of the site and adjacent to neighbouring properties at 3323 Coast Road.
19.2	<p>As soon as practicable following the construction of the temporary stockpile near the processing plant, the consent holder shall complete planting of the stockpile area as shown in the attached “Landscape Mitigation Planting Plans” prepared by Glasson Huxtable Landscape Architects dated January 2024April 2023 (Schedule 4).</p> <p><i>Advice Note: Planting may not be able to be undertaken during dry periods of the year, and as soon as practicable may be the start of the planting season following the stockpile construction. Disturbed area and erosion and sediment control practices will require this area to be stabilised if not planted immediately.</i></p>

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19.2	Within 12 months of (but not prior to) the completion of mining, the processing plant and buildings shall be removed with the exception of the Heavy Mineral Concentrate Storage Shed, and the bund areas rehabilitated into pasture.
19.3	No later than 12 months after the completion of mining, the remaining areas of the proposed wetland area (Clean Water Facility and Future Wetland Extension) shown in the attached “Landscape Mitigation Planting Plans ” prepared by Glasson Huxtable Landscape Architects dated January 2024 April 2023 shall be constructed and planted.
19.4	The consent holder shall source plants required for the planting and wetland area required from within the Punakaiki Ecological District or North Westland Ecological Region in order of preference. Where this is unable to be achieved, the consent holder shall notify the Council and work with the Council and a suitably qualified practitioner to determine an appropriate alternative plant source.
19.5	<p>The wetland construction, coastal lagoon edge and Collins Creek and Northern Boundary Drain riparian planting shall be undertaken and managed in accordance with a Wetland Construction and Riparian Planting Plan (WRPP) prepared by a suitably qualified ecologist.</p> <p>The objectives of this plan are:</p> <ul style="list-style-type: none"> • To revegetate the constructed wetland and both edges of the part of Collins Creek and the Northern Drain and the area of coastal planting with ecologically appropriate species and restore indigenous vegetation to at least 50% cover at 1 m height as demonstrated in plots across both wetland sites. • Manage exotic pest plants (particularly woody weeds identified in this plan) over the restoration sites to a level of less than 5% cover as demonstrated in wetland monitoring plots across both wetland sites. • Improve terrestrial and wetland habitat quality and create corridors for wildlife movement. • Encourage natural ecosystem processes including the regeneration and dispersal of indigenous fauna and flora. • Improve water quality and aquatic habitats in Collins Creek and the Northern Drain. <p><i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i></p>
19.6	<p>The WRRP shall include:</p> <ul style="list-style-type: none"> - A description of the site - A wetland design that achieves an area of 1.9ha with the following habitats <ul style="list-style-type: none"> a) An island of 2,000m² b) At least 5,000m² open water up to 2m deep c) At least 5,000m² of shallow water (0.5m deep) d) At least 5,000m² of water 0.5 m – 2 m deep planted primarily in raupō e) At least 1,000m² of wet edge planting comprised primarily of rushes and sedges (Juncus spp., Carex spp.,) and shrubs such as mikimiki (Coprosma propinqua). f) A plant density of no less than 5,000 stems per hectare. - Wetland construction methodology - Site preparation requirements for the wetland and riparian planting

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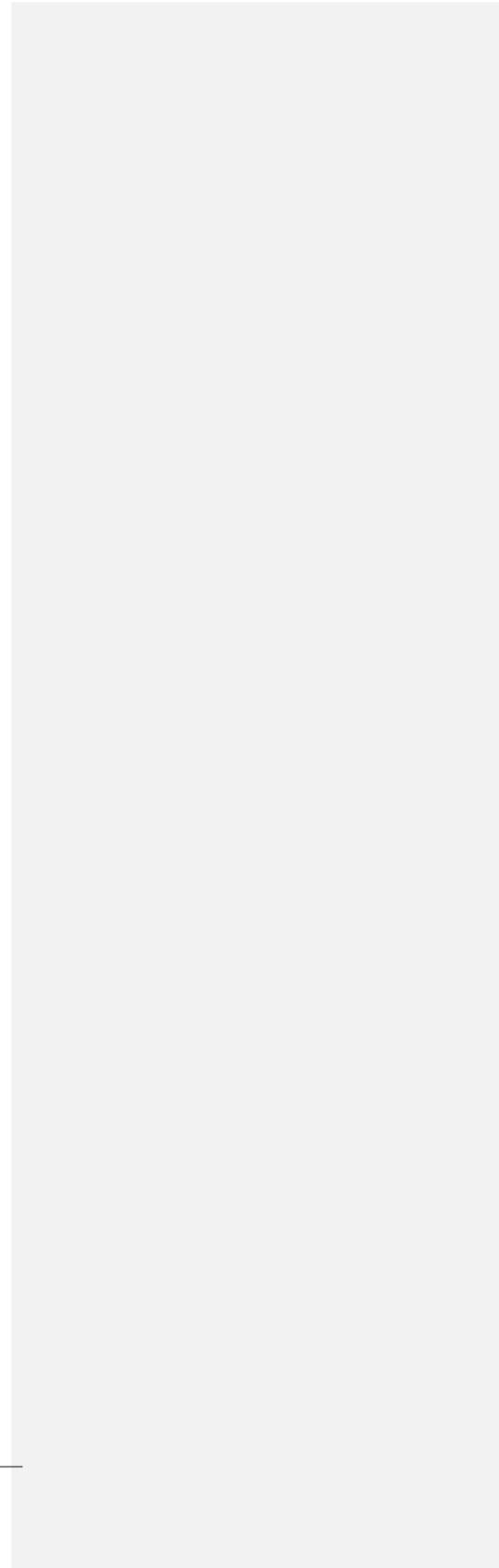
	<ul style="list-style-type: none"> - Planting methodology for planting wetland, riparian and coastal areas - Monitoring and maintenance requirements to ensure the survival and ecological functioning of the constructed wetland, including pest and weed control - A timeline for the planting which aligns with conditions 19.1 – 19.3
19.7	All planting shall be maintained for the duration of the consent. Any plants that are dead, diseased, fail to thrive or are damaged shall be replaced with a same or similar plant species within the following planting season.
19.8	Notwithstanding Conditions 19.1-19.7 above, the plant species <i>Metrosideros umbellata</i> (southern rata), and <i>Laurelia novae-zelandiae</i> (pukatea) are not to be used on site.
19.9	The existing mature flax located adjacent to the stock stand off pad which is located in the northeastern part of the Mine Disturbance area shall be retained for the duration of mining activity for visual screening purposes.
20.0	Hazards
20.1	<p>The Consent Holder must always have a Site Emergency Management Plan (SEMP) that as a minimum shall:</p> <ul style="list-style-type: none"> a) Be prepared in consultation with Fire and Emergency NZ. b) Submitted to Grey District Council for approval. c) Identify the people responsible for implementing the SEMP. d) Identify natural hazard and other major safety risks the site is potential subject to. e) Identify the methods the consent holder will implement to minimise the risks under sub-clause d). f) Identify methods that will be implemented by the consent holder to remediate the site and surrounding area in the event of a risk identified in sub-clause d) affecting the site so that any residual adverse effects on the environment are minimised. g) Describe the training of staff regarding implementing of the SEMP. h) List the communication procedures with Grey District Council, West Coast Regional Council and FENZ in the event of a risk identified in sub-clause d) occurring. <p><i>Notes:</i></p> <ul style="list-style-type: none"> • All Management Plans are required to adhere to the requirements of Condition 6.0. • At a minimum the risks identified under sub-clause d) shall include the risks of coastal inundation, coastal erosion, seismic risks, river flooding, other extreme weather events, fire and mine explosion. General health and safety risks do not have to be addressed. • The consent holder need only remediate the area outside the site in the instance the material from the mine is transported by a natural hazard event to another area. The consent holder will require the permission of the relevant landowner before proceeding with any remediation on land outside the site.
21.0	Water supply
	Sufficient water supply shall be provided on the site in accordance with the NZ Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509:2008.
22.0	Setback from wetlands
	No part of the activity shall be located within 100m of a wetland or coastal lagoon.

Commented [KM19]: Condition included to reflect recent feedback provided by Sharon Langridge on plant species which is not reflected in the landscape and riparian planting plans referred to in conditions above.

Commented [KM20]: The inclusion of a Natural Hazard Management Plan is not supported by experts due to duplication of regulations. A geotechnical report is proposed instead to address natural hazards.

Commented [KM21]: Do not agree to a permanent 100m setback

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General Conditions to Apply to all WCRC Consents	
21.0 Method of Mining	
21.1	The consent holder shall only carry out mining activities within the mining area shown on the attached map titled “TiGa Consent Application” prepared by Tai Poutini Professional Services Ltd dated 18 January 2024 attached as Schedule 122 March 2023.
21.2	The maximum combined surface area of un-rehabilitated disturbed land in the application area shall not exceed 8.0 hectares at any one time.
21.3	The mining and associated activities under this consent must not cause or induce erosion or slope instability outside the application area.
21.4	Mining activities must not occur within 100m of the lagoon within the first 12 months of mining operations commencing.
22.0 Accidental Discovery Protocol	
22.1	In the event of any disturbance of Koivi Tangata (human bones) or Taonga (artefacts, including pounamu) the Consent Holder shall; <ul style="list-style-type: none"> ○ Cease any further excavation within 50m of the disturbance for a period of at least 24 hours; and ○ Immediately advise Consent Authority of the disturbance; and ○ Immediately advise the Te Rūnanga O Ngāti Waewae, or their authorised representatives of the disturbance; and ○ Immediately advise Heritage New Zealand Pouhere Taonga and the New Zealand Police.
22.2	If the Consent Holder identifies any archaeological discoveries or potential areas or sites of historic value, the Consent Holder shall immediately notify the Consent Authority and a representative of Heritage New Zealand Pouhere Taonga.
23.0 Erosion and Sediment Control Plan	
23.1	The Consent Holder must operate in general accordance with the Erosion and Sediment Control Plan labelled ‘Barrytown Mineral Sand Operation Erosion and Sediment Control Plan and Water Management’ (ESCP) prepared by Ridley Dunphy Environmental Ltd, dated January 2024 April 2023. The objectives of the ESCP are: <ul style="list-style-type: none"> ● To use established guidelines and practices to minimise sedimentation of waterbodies adjacent to the mining area; ● To assist with compliance with the water quality parameters in Condition 25.0.
23.2	A Site Specific Erosion and Sediment Control Plan (SSESCP) must be prepared and reviewed annually and submitted to the Consent Authorities with the Annual Work Programme, reflecting the water management and mitigation measures proposed for construction and mining for the following 12 months, and adhering to principles of the Erosion and Sediment Control Plan in Condition 23.1 above. The SSESCP shall include: <ul style="list-style-type: none"> ● Location of the work; ● Contour information; ● ESCs;

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	<ul style="list-style-type: none"> • Chemical treatment requirements, design and details; • Catchment boundaries; • Details of construction methods; • Contingency measures; • Design details; • A programme for managing non-stabilised areas; • The identification staff who will manage ESCs; • The identification of staff who monitor compliance with conditions; • A chain of responsibility for managing environmental issues; and • Methods and procedures for decommissioning measures (if applicable)
24.0 Water Management Plan	
24.1	<p>The Consent Holder must establish all water management infrastructure, and operate the mine in general accordance with a Water Management Plan (WMP) and Monitoring and Mitigation Plan (MMP) prepared by a suitably qualified hydrologist. The objectives of the Water Management Plan are:</p> <ol style="list-style-type: none"> I. The pre-mining median rate of discharge from the springs used for domestic and stock water supply on the Langridge property to the south are not reduced. II. The pre-mining median water level in the wetlands on the Langridge property to the north are not reduced. III. The pre-mining median water levels in the former dredge pond “Rusty Lagoon” to the north are not reduced. IV. The rate of surface water inflow to Canoe Creek Lagoon from Collins Creek is not reduced by more than 10% of the Collins Creek Mean Annual Low Flow (MALF). V. The flow in Collins Creek is not reduced by more than 10% of the MALF as the creek approaches low flow condition. VI. Flow consistent with the drain’s intermittent hydrological function and with dry weather flows is maintained in Northern Boundary Drain downstream of piezometer PZ-10 during periods when Collins Creek approaches within 120% of its MALF, i.e., dry spells. VII. The quality of water discharged to receiving waters will not cause adverse impacts on stream ecology and visual clarity. VIII. The rate of take of water from Canoe Creek is not greater than 10% of the MALF. IX. Potential adverse ecological impacts associated with discharge of naturally present toxic metals and phosphorus in downgradient surface waters are avoided. X. The pre-mining surface drainage patterns are restored such that the catchments areas for the Northern Boundary Drain and Canoe Creek Lagoon are not changed significantly. XI. The soil profile restoration, land contouring and surface drainage installed during mine rehabilitation does not increase the rate of groundwater drainage at the site. <p>The objectives of the Monitoring and Mitigation Plan are to:</p>

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	<p>XII. Ensure that adverse effects on ground and surface water levels in adjacent water bodies are avoided, by employing monitoring and mitigation methods at or within the boundary of the disturbance area.</p> <p>XIII. Ensure that potential water quality impacts associated with mining activities are identified as quickly and clearly as possible via monitoring.</p> <p>XIV. Identify actions that will be undertaken to avoid, remedy or mitigate water quality effects through implementation of appropriate actions in a timely manner where required.</p> <p><i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i></p>
24.2	<p>The WMP must include a description of the water management methods for the site, including:</p> <ul style="list-style-type: none"> • A description of the baseline monitoring and the receiving environment • The proposed mine area. • A description of all site activities with the potential to cause hydrological impacts • The water management actions that will be implemented to avoid hydrological effects, including: <ul style="list-style-type: none"> • The Canoe Creek water intake • The mine pit dewatering system • The water treatment train, including settling infrastructure, and other mitigation measures to achieve the required water quality outcomes in Condition 26.0 • The mine infiltration system to return treated mine water to groundwater and maintain groundwater levels, including infiltration trenches and/or injection wells as required • The discharge from the water treatment ponds to surface waters • The design, construction and operation of the Canoe Creek infiltration basin • Operational water level and water quality monitoring requirements for the duration of the activity • Groundwater level thresholds and actions to be taken should these thresholds be exceeded • Surface water body flow threshold for Collins creek and actions to be taken should these thresholds be exceeded • Actions to be taken if water quality thresholds are exceeded • Final Rehabilitation requirements to avoid adverse hydrological impacts on waterbodies post-mining • Audit checklists. • An organisational chart showing staff and contractor positions and responsibilities for plan implementation. • Relevant training and induction procedures and schedules.
24.2	<p>The WMP must be updated on an annual basis and must be submitted to the Consent Authority for certification in accordance with condition 6.0. The annual update is required to:</p> <ul style="list-style-type: none"> • reflect the proposed mining operations for the following 12 months; and • provide any additional or amended monitoring and mitigation requirements in order to reduce the potential for adverse hydrological and/or water quality effects.

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24.3	<p>Mine water must be managed to ensure the outcomes in condition 24.1 are met by ensuring:</p> <ul style="list-style-type: none"> (a) pre-mining median water levels in piezometers PZ-19, PZ-02, PZ-03, PZ-04 and PZ-05 are maintained when mining is occurring within 100m of the southern boundary (b) pre-mining median water levels in piezometers PZ-08, PZ-09, PZ-17, PZ-10, PZ-11 and PZ-12 are maintained when mining is occurring within 100m of the northern boundary (c) Pre-mining median water levels in Canoe Creek lagoon are maintained by ensuring pre-mining median water levels in PZ-06, PZ-07, and PZ-08 are maintained when mining is occurring within 100m of the western boundary (d) The flow in Collins Creek is not reduced by more than 10% of the MALF as the creek approaches low flow condition. <p><i>Advice note: Pre-mining median water levels are determined by calculating the median water level over the previous 12 months.</i></p> <p><i>Advice note: Collins Creek MALF may be determined as follows:</i></p> <ul style="list-style-type: none"> • Estimated MALF as obtained from the New Zealand Rivers Maps, or • Hydrologically calculated MALF from the Collins Creek Downstream measurement site following the acquisition of 5 complete hydrological years of verified data.
24.4	<p>If water monitoring required by Condition 26.0 detects a reduction in ground water levels or surface water flows below the thresholds in Condition 24.3, the Consent Holder shall investigate the cause of the change to determine whether it is a result of mining, and immediately follow the actions set out in the MMP to rectify the change.</p>
24.5	<p>Mining must not commence until 12 months of groundwater monitoring data has been obtained in order to determine the pre-mining median water flows and levels required to be achieved under condition 24.3</p>
24.6	<p>Mining must not occur within 100m of any surface water body or wetland until the Consent Holder has demonstrated through the provision of an Annual Hydrological and Water Quality Report, as required by Condition 26.6, that they can successfully employ management and mitigation methods outlined in the WMP and MMP to avoid adverse effects on surrounding water bodies and groundwater levels.</p>

Conditions to Apply to WCRC Discharge Permit

25.0 Method of Discharge during mining activity

25.1	<p>During mining, All contaminated stormwater and other contaminated site water within the site must be directed into the mine water facility, and either recirculated for use in the processing plant, or discharged to the 'Central Drain' for further treatment in the Clean Water Facility at the northwestern corner of the application site.</p>
25.2	<p>During mining, treated mine water is only permitted to be discharged directly to the drain beyond Pond 4, or to Collins Creek or the Northern Drain or to the Canoe Creek infiltration basin if:</p>

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- metal and metalloid water quality parameters in Table A below are complied with at the respective downstream monitoring sites located at or about the sites shown in Schedule 6: Canoe Creek Lagoon, Collins Creek Downstream, N Boundary Drain and Canoe Creek Downstream; and
- the non-metal water quality parameters in Table B below are complied with at the locations defined in Table B; and
- in the circumstances of Condition 25.5 below

Table A - metals and metalloids

Parameter	Threshold mg/L	Dependency
Aluminium	0.62 ^B	Hardness, pH, Dissolved Organic Carbon
Arsenic	0.013	As arsenic (V)
Boron	0.94	NA
Cadmium	0.0002 ^D	Hardness
Chromium	0.0033 ^D	Hardness, as chromium (III)
Copper	0.0039 ^E	Hardness, pH, Dissolved Organic Carbon
Iron	1.0	As total fraction
Lead	0.0034 ^D	Hardness
Manganese	1.9	NA
Nickel	0.011 ^D	Hardness
Zinc	0.008 ^D	Hardness

^A dissolved fraction, unless stated

^B at hardness = 25 g/m³, pH = 7.0, Dissolved Organic Carbon = 1.0 g/m³

^C 95%-ile trigger value

^D at hardness = 30 g/m³

^E at hardness = 25 g/m³, pH = 7.0, Dissolved Organic Carbon = 2.0 g/m³

Table B – Non-metals

Parameter	Threshold	Notes/Monitoring Location
Total Suspended Solids	20 mg/L	Applies to discharges to Collins Creek, Northern Boundary Drain or to the overland flow path to Canoe Creek Lagoon. Does not apply to the discharge from Canoe Creek infiltration basin. Monitoring locations are Canoe Creek Lagoon, Collins Creek Downstream, Northern Boundary Drain, shown in Schedule 6.
Turbidity	20 NTU	Applies to discharges to Collins Creek, Northern Boundary Drain or to the overland flow path to Canoe Creek Lagoon. Does not apply to the discharge from Canoe Creek infiltration basin. Monitoring locations are Canoe Creek Lagoon, Collins Creek

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		Downstream, Northern Boundary Drain, shown in Schedule 6.
Visual clarity	Conspicuous visual change	In the receiving water bodies above based on visual inspection at the upstream and downstream monitoring sites (see advice note 3 below) Monitoring locations are Canoe Creek Lagoon Upstream, Canoe Creek Lagoon, Collins Creek Upstream, Collins Creek Downstream, Northern Boundary Drain Upstream, Northern Boundary Drain Downstream shown in Schedule 6.
	Relevant NPS-FM (2020) attribute state for visual clarity	No change in the attribute states of the receiving surface water bodies, as an annual median and a 95%-ile, versus the baseline states. See advice note 2 below. Monitoring locations are Canoe Creek Lagoon, Collins Creek Downstream, Northern Boundary Drain, Canoe Creek Downstream shown in Schedule 6.
Dissolved Reactive Phosphorus (DRP)	Relevant NPS-FM (2020) attribute state	No change in the attribute states of the receiving surface water bodies, as an annual median and a 95%-ile, versus the baseline states. See advice note 2 below. Monitoring locations are Canoe Creek Lagoon, Collins Creek Downstream, Northern Boundary Drain, Canoe Creek downstream shown in Schedule 6.
<p><i>Advice note:</i></p> <p>1. Water quality monitoring conditions to establish the ability to discharge under this condition are contained in Condition 26.0 below.</p> <p>2. The attribute state for visual clarity and DRP shall be either a) defined via at least 12 months of baseline monitoring in Collins Creek, Northern Boundary Drain, Canoe Creek and Canoe Creek Lagoon; or b) assumed to be of pristine water quality (A Band). In the case of a), the monitoring data and attribute state assessment shall be submitted to WCRC for approval at least 4 weeks prior to the start of mining operations.</p>		
25.3	<p>The Mine Influenced Water discharges shall not contain any contaminants other than suspended sediments, naturally occurring elements and metals, and water treatment chemicals in accordance with Conditions below:</p> <ul style="list-style-type: none"> a) The use of any water treatment chemical(s) is/are permitted as long as they are used in accordance with its Material Safety Data Sheet(s) (MSDS). b) The Consent Holder must notify the Consent Authority in writing and provide the respective MSDS of any water treatment chemical(s) used in accordance with the above condition before it is used. 	
25.4	The Consent Holder shall take all practicable measures to prevent uncontaminated stormwater entering the mine workings and disturbed areas to reduce the volume of water	

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	passing through the mining pond/settling pond system, and to improve the efficiency of the water reticulating system.																		
25.5	<p>Treated mine water is only permitted to be discharged overland from the Canoe Creek infiltration basin to Canoe Creek if the following rainfall events take place, as taken from the West Coast Regional Council rainfall gauge at the Westport Aerodrome or a weather station erected on site:</p> <p>a) The rainfall exceeds 50 mm in any 24 hour period immediately prior to the discharge (https://cliflo.niwa.co.nz/pls/niwp/wstn.stn_details?cAgent=7342);</p> <p>b) The rainfall exceeds 100 mmm in any contiguous 7 day period immediately prior to the discharge (https://cliflo.niwa.co.nz/pls/niwp/wstn.stn_details?cAgent=7342)</p>																		
26.0 Water Monitoring																			
26.1	The consent holder must visually inspect the Mine Water Facility, Clean Water Facility and Central Drain at least once daily. Visual inspections should identify any significant sediment build up in the Mine Water Facility or Clean Water Facility, and any noticeable change in the water clarity in the Central Drain or Clean Water Facility which would indicate further erosion and sediment control mitigation measures are required to improve discharge water quality. A record of daily inspections must be kept on site and made available to the Consent Authority if requested.																		
26.2	<p>The consent holder must carry out water monitoring at the locations shown in the ESCP Overview Concept Plan (Schedule 5) and the Proposed Monitoring Network (Schedule 6), and as listed in the table below:</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Parameter(s)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Pond 2 discharge</td> <td>Turbidity</td> <td>Continuous Automated</td> </tr> <tr> <td>Pond 4 discharge</td> <td>Turbidity</td> <td>Continuous Automated</td> </tr> <tr> <td>Pond 4 discharges to: 1. Canoe Creek Lagoon 2. infiltration system 3. Infiltration basin 4. Collins Creek augmentation 5. Northern Boundary Drain augmentation</td> <td>Flow</td> <td>Daily</td> </tr> <tr> <td>Central Drain – upstream of mining activity</td> <td>Turbidity</td> <td>Weekly</td> </tr> <tr> <td>Central Drain – upstream of Pond 3</td> <td>Turbidity</td> <td>Weekly</td> </tr> </tbody> </table>	Location	Parameter(s)	Frequency	Pond 2 discharge	Turbidity	Continuous Automated	Pond 4 discharge	Turbidity	Continuous Automated	Pond 4 discharges to: 1. Canoe Creek Lagoon 2. infiltration system 3. Infiltration basin 4. Collins Creek augmentation 5. Northern Boundary Drain augmentation	Flow	Daily	Central Drain – upstream of mining activity	Turbidity	Weekly	Central Drain – upstream of Pond 3	Turbidity	Weekly
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Pond 2/4 discharge****	Monitoring Suite A*	Quarterly (metals) Monthly (Others)
Canoe Creek Lagoon Upstream**	Monitoring Suite A* Visual clarity	Quarterly (metals) Monthly (Others)
Canoe Creek Lagoon	Monitoring Suite A* Visual clarity	Quarterly (metals) Monthly (Others)
Collins Creek Upstream	Monitoring Suite A* Visual clarity	Quarterly (metals) Monthly (Others)
Collins Creek Downstream	Monitoring Suite A* Visual clarity	Quarterly (metals) Monthly (Others)
Northern Boundary Drain Upstream**	Monitoring Suite A* Visual clarity	Quarterly (metals) Monthly (Others)
Northern boundary Drain Downstream	Monitoring Suite A* Visual clarity	Quarterly (metals) Monthly (Others)
Canoe Creek Upstream	Monitoring Suite A*	Quarterly (metals) Monthly (Others) (only if discharging to Canoe Creek Infiltration Basin)
Canoe Creek Downstream	Monitoring Suite A*	Quarterly (metals) Monthly (Others) (only if discharging to Canoe Creek Infiltration Basin)
Collins Creek Upstream	Flow	DailyHourly
Collins Creek Downstream	Flow	DailyHourly
PZ01, 02, 03, 04, 05, 06, 07, 09, 10, 11, 12, 13, 18 and 19	Water level	Daily6 hourly
Canoe Creek Intake	Flow	15 minutes
Canoe Creek Infiltration Basin	High Water Level	Hourly

*Monitoring Suite A includes the following water quality indicators:

Dissolved metals: — ***Others:***
 Aluminium — EC —
 Arsenic — pH
 Cadmium — Sulphate
 Chromium — TSS
 Lead — Turbidity

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	<p>Nickel ————— Hardness Zinc ————— Dissolved Reactive Phosphorus Iron ————— Nitrogen (nitrate & ammoniacal nitrogen) Manganese —————</p> <table border="1"> <thead> <tr> <th><i>Dissolved metals</i></th> <th><i>Others</i></th> </tr> </thead> <tbody> <tr> <td>Aluminium (Q)</td> <td>EC (M)</td> </tr> <tr> <td>Arsenic (Q)</td> <td>pH (M)</td> </tr> <tr> <td>Boron (Q)</td> <td>Turbidity (M)</td> </tr> <tr> <td>Cadmium (Q)</td> <td>TSS (M)</td> </tr> <tr> <td>Chromium (Q)</td> <td>Hardness (Q)</td> </tr> <tr> <td>Copper (Q)</td> <td>Sulphate (Q)</td> </tr> <tr> <td>Iron (Q)</td> <td>Amm-N (M)</td> </tr> <tr> <td>Nickel (Q)</td> <td>NO₃-N (M)</td> </tr> <tr> <td>Lead (Q)</td> <td>Dissolved Reactive Phosphorus (M)</td> </tr> <tr> <td>Manganese (Q)</td> <td></td> </tr> <tr> <td>Zinc (Q)</td> <td></td> </tr> </tbody> </table> <p>** The Canoe Creek Lagoon upstream observation location shall be upstream of the Collins Creek inflow and the inflow from the Pond 4 discharge, but may change over time, given the dynamic nature of the lagoon.</p> <p>*** The Northern Drain upstream site shall be the lowest point in the stream which is a) upstream of any discharge and b) at which visible flow is occurring on the day of the observation. If there is no visible flow in the drain, no upstream discharge sample can be taken.</p> <p>*** With additional water treatment infrastructure installed, water may be discharged directly from Pond 2 instead of Pond 4, if water quality parameters are met.</p>	<i>Dissolved metals</i>	<i>Others</i>	Aluminium (Q)	EC (M)	Arsenic (Q)	pH (M)	Boron (Q)	Turbidity (M)	Cadmium (Q)	TSS (M)	Chromium (Q)	Hardness (Q)	Copper (Q)	Sulphate (Q)	Iron (Q)	Amm-N (M)	Nickel (Q)	NO ₃ -N (M)	Lead (Q)	Dissolved Reactive Phosphorus (M)	Manganese (Q)		Zinc (Q)	
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26.3	<p>Notwithstanding Condition 26.2, all discharges associated with the mining operations authorised under these consents must not cause any of the following effects within any receiving waterbody measured at the downstream water quality monitoring sites in Condition 26.2 or beyond 100 metres from any discharge:</p> <ol style="list-style-type: none"> Any conspicuous oil or grease films, scums or foams, or floatable or suspended materials, Any conspicuous change in the colour or visual clarity, Any emission of an objectionable odour, Any significant adverse effects on aquatic life, or The rendering of fresh water unsuitable for consumption by farm animals. 																								
26.4	<p>Sampling required under this condition must be undertaken and analysed by suitably qualified personnel and the results supplied to the Consent Authority annually as part of the annual works programme.</p>																								
26.5	<p>The Consent Holder must inform a Compliance Officer of the Consent Authority immediately if a breach of Consent Condition(s) takes place, or when they believe that a breach may take place.</p>																								

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26.6	<p>An Annual Hydrological and Water Quality Report shall be submitted to WCRC with the Annual Work Programme in accordance with Condition 5.2 for review and evaluation of compliance. The report should be prepared by a suitably qualified and experienced person and include the following information:</p> <ol style="list-style-type: none"> 1. A summary of the monitoring undertaken over the preceding 12 months. The summary shall: <ol style="list-style-type: none"> a. Reference the specific consent conditions under which the monitoring has been undertaken to show how the conditions have been complied with. b. Provide tables of the water quality data collected in accordance with Condition 26.2 2. Discussion and evaluation of the monitoring data in relation to the relevant conditions including a summary of compliance with conditions; 3. A summary of the actions that have been undertaken in response to any exceedance(s) of water quality limits; 4. Records of the visual inspections that have been undertaken in accordance with Condition 26.1 and condition 26.3.
26.7	<p>The Consent Holder must engage a suitably qualified aquatic ecologist to carry out annual macroinvertebrate and fish surveys in Collins Creek, the Northern Boundary Drain and Canoe Creek. The proposed survey methodology, including the locations where macroinvertebrate (taxa number and composition) and fish sampling will be undertaken, the timing of the sampling, the methods that will be used to undertake the sampling, the name of the authorised person who will undertake the monitoring and reporting methods must be submitted to the Consent Authority 20 working days prior to the survey being undertaken, for the Consent Authority to certify the survey methodology. If the Consent Authority refuses to certify the survey methodology, it must give reasons in writing, and the Consent Holder must resubmit the survey methodology for certification addressing any concerns of the Consent Authority. Surveys must not be undertaken until certification is achieved. The results of the survey must be submitted to the Consent Authority within 10 working days of the results being received.</p>
26.8	<p>Macroinvertebrate monitoring required by Condition 26.7 must be conducted using Protocol P2 and C1 from the Ministry for the Environment Macroinvertebrate Guidelines and the samples must be analysed by an aquatic ecologist experienced in macroinvertebrate sampling and identification. Monitoring must be undertaken on a day on which there has been no major flood event in the preceding week. Whenever practicable, sites that have been sampled in the past must be used.</p>

Conditions to Apply to WCRC Air Discharge Permit

27.0 Dust Management Plan

27.1	<p>The Consent Holder must operate the site in general accordance with a Dust Management Plan prepared by TiGa minerals and Metals, dated January 2024. The objective of the Dust Management Plan is to detail the best practicable option to avoid dust nuisance being caused by construction and mining works and to mitigate any such effects should they occur.</p> <p>April 2023., except as amended to include:</p>
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	<p>a. A map of sensitive receptors.</p> <p>b. A reporting process to the Council regarding the implementation of the contingency process.</p> <p>c. A requirement to keep the daily log of dust monitoring inspections and make them available for Council inspections.</p> <p>d. A record of complaints that is available to both local authorities upon request. The record of complaints should include the location, date and time of complaint, a description of weather conditions (notably wind speed and direction), any identified cause of the complaint, and the corrective action taken.</p> <p>e. Monthly dust monitoring that ensures all potential dust generating activities are being monitored.</p> <p>f. Dust monitoring in response to complaints about dust emissions.</p> <p>g. Dust monitoring results should be provided to both local authorities and the community liaison group.</p>
	<p>The Dust Management Plan shall include:</p> <ul style="list-style-type: none"> a. Potential sources of dust that may be created during the mining project. b. Sensitive receptors in the vicinity of identified potential sources of dust for targeted dust management. c. Dust management and mitigation methods. d. Monitoring methods. e. Training of staff in relation to dust management; and f. Methods for managing complaints regarding discharges into air and keeping compliance records.
27.2	Vehicles shall not exceed 15 km/hr on site at all times to avoid dust generation.
28.0 Air Quality Management and Monitoring	
28.1	<p>There shall be no offensive or objectionable discharge of dust into air from the minerals extraction, processing and loading operations that results in an adverse effect beyond the legal boundary of the site.</p> <p>Advice note: For the purpose of Condition 28.1 the Consent Authority will consider an effect that is offensive or objectionable to have occurred if an Enforcement Officer of the Consent Authority deems it so having regard to</p> <ul style="list-style-type: none"> i) The frequency, intensity, duration, amount, effect and location of the suspended or particulate matter; and/or ii) Receipt of complaints from neighbours or the public; or iii) Relevant written advice or a report from an Environmental Health Officer of a territorial authority or health authority.
28.2	Prior to the commencement of site preparation activities, a meteorological station must be installed at the site with instruments capable of continuously monitoring, logging in real time and reporting agreed representative meteorological data for the site.

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28.3	<p>The consent holder shall install, operate and maintain two Dust Deposition Gauges in the locations shown in the Dust Management Plan. Dust recorded in the gauges shall not exceed a value 4g/m²/30 days above background levels.</p> <p><i>Advice note: Background levels are to be determined by data collected prior to the commencement date of this consent.</i></p>
28.4	<p>If a breach of Condition 28.3 is detected, the consent holder shall notify the consent authority within two working days of the breach being detected. The consent holder shall investigate possible reasons for the breach and take all necessary steps to achieve compliance in the following 30 day period.</p>

Conditions to Apply to WCRC Water Take Permit

29.0 Groundwater and surface water abstraction outcomes

29.1	<p>Dewatering and associated mitigation measures shall achieve the following outcomes:</p> <ol style="list-style-type: none"> I. The pre-mining median rate of discharge from the springs used for domestic and stock water supply on the Langridge property to the south is not reduced. II. The pre-mining median water level in the wetlands on the Langridge property to the north are not reduced. III. The pre-mining median water levels in Canoe Creek Lagoon and the former dredge pond “Rusty Lagoon” to the north are not reduced. IV. The pre-mining median and lower flows in the Northern Drain are not reduced. V. The median and lower flows in Collins Creek are not reduced by more than 2 L/s. VI. The rate of take of water from Canoe Creek is not greater than 10% of the Mean Annual Low Flow. VII. The pre-mining surface drainage patterns are restored such that the catchments areas for the Northern Boundary Drain and Canoe Creek Lagoon are not changed significantly. <p><i>Advice note:</i> <i>Compliance with conditions I to IV shall be deemed to have occurred under the following circumstances:</i></p> <ol style="list-style-type: none"> 1. At least 12 months of groundwater level monitoring has been undertaken at representative locations around the site boundary and a pre-mining median groundwater level has been defined for monitoring wells PZ01, 02, 03, 04, 05, 06, 07, 09, 10, 11, 12, 13, 18 and 19 2. The above wells are monitored on a minimum daily frequency for the duration of any mining activity below the water table 3. The monitoring results for each well show that the average monthly water level is greater than or equal to the pre-mining median for that well. <p><i>Compliance with condition V shall be deemed to have occurred under the following circumstances:</i></p>
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	<p>1. The average natural difference between the upstream and downstream flow in Collins Creek has been defined through at least one year of monitoring of flows upstream and downstream of the mineral sand excavation area.</p> <p>2. Upstream and downstream flow monitoring occurs at the locations shown in Schedule 6 for the duration of any mining activity below the water table.</p> <p>3. The average monthly flow in the downstream site is no more than 2 L/s less than the upstream site +/- the average natural difference between the upstream and downstream sites, taking into account the normal accuracy limitations of flow monitoring equipment.</p> <p>Compliance with condition VI shall be deemed to have occurred if the maximum rate of take from the creek (or an adjacent infiltration gallery) is no more than 63 L/s</p> <p>Compliance with condition VII shall be deemed to have occurred if the excavation area is contoured to re-establish the existing distribution of drainage such that the catchment area draining to the Northern Boundary Drain does not change by more than 15% (i.e. 1 ha).</p>
30.0 Canoe Creek water take	
30.1	The instantaneous surface water take from Canoe Creek shall not exceed a water take limit of 63 litres per second.
30.2	The Consent Holder shall undertake monitoring of the water take at 15 minute intervals and supply this information electronically to the Consent Authority every day, or at the interval instructed in writing by the Consent Authority. <i>Advice note: the Resource Management (Measurement and Reporting of Water Takes) Amendment Regulations 2020 applies to this water take.</i>
30.3	The Consent Holder shall maintain auditable records and provide data in the format of date, time and rate that is suitable for electronic storage.
30.4	The Consent Holder shall maintain the measurement device(s) in good working order so as to maintain a measurement accuracy of within $\pm 5\%$ for a fully pressurised pipe or $\pm 10\%$ for a partially pressurised pipe. The Consent Holder shall provide the Consent Authority with initial written verification of accuracy from a suitably qualified person that the measurement device measures the volume of water taken to within $\pm 5\%$ for a fully pressurised pipe or $\pm 10\%$ for a partially pressurised pipe, and thereafter every five years for the term of the consent.
30.5	The Consent Holder shall provide the following information to the Consent Authority no later than ten working days prior to the water being taken under this consent: <ul style="list-style-type: none"> a. The type of measurement device(s) used to undertake the continuous monitoring together with the manufacturer's statement for that device; and b. The location of the measurement device(s) in relation to the water take point(s).
30.6	Upon notice to the Consent Holder the Consent Authority may require the Consent Holder to cease water abstraction for a period not exceeding 48 hours, in order to undertake monitoring of natural water flows.
30.7	A fish screen on any direct surface water take shall be maintained to ensure, as far as practicable, that eels, fish and fry are prevented from passing through the intake or being trapped against the screen.
30.8	The water take from Canoe Creek shall only be used for operational water supply purposes, and shall not be used to augment surface water flows in Collins Creek or the Northern Boundary Drain.