

**SUBMISSION  
ON AN APPLICATION FOR RESOURCE CONSENT  
UNDER SECTION 96  
OF THE RESOURCE MANAGEMENT ACT 1991**

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**PART A: DESCRIPTION OF APPLICATION**

CONSENT NUMBER:

APPLICANT:

WCRC RC-2023-0046 & GDC: LUN3254/23

TIGA Minerals & Metals Limited

DESCRIPTION OF PROPOSED ACTIVITY:

The establishment and operation of a mineral sands mine in an area of approximately 63ha over a 12-year period, including construction of associated infrastructure, such as a processing plant and associated facilities over an area of approximately 2.0ha up to 15m in height, and for a minimum average of 50 truck movements per day between the site and Greymouth or Westport.

LOCATION:

Barrytown Flats, State Highway 6 (Coast Road), approximately 9km south of the Punakaiki township and 36km north of Greymouth.

**PART B: SUBMITTER DETAILS**

Full name/s	Te Rūnanga o Ngāti Waewae		
Postal address	[REDACTED]		
I am the owner/occupier (delete one) of the following property:	Papatipu Rūnanga		
Primary contact person/s	Francois Tumahai, Chairperson of Te Rūnanga o Ngāti Waewae		
Email address	[REDACTED]		
Phone number/s	Home:	[REDACTED]	Business:
	Mobile:	[REDACTED]	Fax:

Signature:		Date:	13/10/2023
Name (BLOCK CAPITALS):	FRANCOIS TUMAHAI		

*If this is a joint submission by 2 or more individuals, each individual's signature is required  
A signature is not required if you make your submission by electronic means.*

I/we **support** the application numbers indicated by a tick on the back of this form

I/we **oppose** the application

I/we **neither support nor oppose** the application

(tick one)

(tick one)

I/we **wish to be heard** in support of my/our submission.



I/we **DO NOT wish to be heard** and hereby make my/our submission in writing only.



If you wish to be heard, and others make a similar submission would you consider making a joint case with them at any hearing

Yes

No

If you indicated you wish to be heard, you will be sent a copy of the S.42A Officer's Report and a copy of the Decision once it is released. Please indicate below which format you would like to receive these documents in:

Electronic (CD) copy

Hard (paper) copy

I/we **have** served a copy of my/our submission on the Applicant as per Section 96(6)(b) of the RMA

Yes

My/our submission is that: (state in summary the nature of your submission. Clearly indicate whether you support or oppose the specific proposal, or wish to have amendments made, giving reasons)

We have reviewed the application documents and have met with the Applicant and their consultants. We were given the opportunity to provide feedback to the Applicant on their proposal. The Applicant consequently amended their application to address our concerns and this is reflected in a revised set of proposed consent conditions (attached) which was supplied to us by the Applicant's planner on 4 September 2023. The support of Te Rūnanga o Ngāti Waewae is based on the mitigation measures proposed in the application and the additional more recent measures proposed on 4 September 2023. We note that the Applicant will look to avoid the mixing of waters and is no longer proposing to use water from Canoe Creek to augment flows in Collins Creek and the Northern Drain. We are supportive of the requirement for sampling and monitoring of the discharge and the receiving waters and the placement of triggers and limits within consent conditions to demonstrate that adverse impacts on local wai are not occurring throughout the term of the consent.

I/we seek the following decision from the Local Authority:(give precise details)

For the consents to be granted subject to the mitigation measures we have requested and the Applicant has subsequently amended their application to include. These measures are covered within the proposed consent conditions they drafted and supplied to us on 4 September 2023 (attached to this submission).

We would appreciate the opportunity to comment on recommended consent conditions proposed by the Council Reporting Officers, once these have been drafted, so that we are able to advise the Hearing Panel whether their recommended conditions accurately reflect the mitigations measures that were discussed between ourselves and the Applicant.

### Important information – please read carefully

#### Public information

The information you provide is public information. It is used to help process a resource consent application and assess the impact of an activity on the environment and other people.

Your information is held and administered by the West Coast Regional Council in accordance with the Local Government Official Information and Meetings Act 1987 and the Privacy Act 1993. This means that your information may be disclosed to other people who request it in accordance with the terms of these Acts. It is therefore important you let us know if your form includes any information you consider should not be disclosed.



**THE WEST COAST**  
REGIONAL COUNCIL

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# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

<b>General Conditions for GDC and WCRC</b> .....	2
1.0 General.....	2
2.0 Notification .....	2
3.0 Review of Conditions .....	2
4.0 Bond Conditions.....	2
5.0 Annual Work Programme .....	4
6.0 Management Plans .....	6
7.0 Method of Operations .....	7
8.0 Hazardous Substances .....	7
9.0 Rehabilitation.....	8
10.0 Complaints and Non-Compliance .....	9
11.0 Community Liaison Group.....	9
<b>Grey District Council Conditions</b> .....	10
12.0 Hours of Operation .....	10
13.0 Buildings.....	10
14.0 Site Access.....	10
15.0 Transport.....	11
16.0 Lighting.....	12
17.0 Noise .....	12
18.0 Avian Management.....	13
19.0 Visual screening and planting .....	14
<b>General Conditions to Apply to all WCRC Consents</b> .....	16
21.0 Method of Mining .....	16
22.0 Accidental Discovery Protocol .....	16
23.0 Erosion and Sediment Control Plan .....	16
24.0 Water Management Plan.....	16
<b>Conditions to Apply to WCRC Discharge Permit</b> .....	17
25.0 Method of Discharge.....	17
26.0 Water Monitoring .....	19
<b>Conditions to Apply to WCRC Air Discharge Permit</b> .....	22
27.0 Dust Management Plan.....	22
28.0 Air Quality Management and Monitoring.....	23
<b>Conditions to Apply to WCRC Water Take Permit</b> .....	23

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# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

29.0 Groundwater and surface water abstraction outcomes .....	23
30.0 Canoe Creek water take.....	24

<b>General Conditions for GDC and WCRC</b>	
<b>1.0 General</b>	
1.1	The Consent Holder must carry out the mineral sand mining activities in general accordance with the application dated April 2023 and the Site Plan enclosed as Schedule 1.
1.2	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.
1.3	All actual and reasonable costs incurred by the Consent Authorities in monitoring, enforcement and administration of this resource consent must be met by the Consent Holder.
<b>2.0 Notification</b>	
2.1	For monitoring purposes, the Consent Holder must notify the Consent Authorities of the following: <ul style="list-style-type: none"> <li>(a) the intended commencement date of activities at least 5 working days prior to commencement of works on-site; and</li> <li>(b) the intended completion of final mine closure rehabilitation activities at least 5 working days prior to works ceasing on-site.</li> </ul>
<b>3.0 Review of Conditions</b>	
3.1	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: <ul style="list-style-type: none"> <li>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.</li> <li>b) To assess the appropriateness of imposed monitoring parameters, monitoring regimes and monitoring frequencies and to alter these accordingly.</li> <li>c) To ensure that any management plan required by these conditions gives effect to conditions of these consents.</li> </ul>
<b>4.0 Bond Conditions</b>	
4.1	The Consent Holder must provide and maintain in favour of the Consent Authority a bond 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 to avoid, remedy or mitigate any adverse effects on the environment arising as a result of the exercise of these consents.

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

4.2	<p>The payment of the bond quantum by the Consent Holder, as required by Condition 4.4 must either be:</p> <ul style="list-style-type: none"> <li>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</li> <li>b) A cash bond deposited with and held in a bank account by the Consent Authority</li> </ul>
4.3	<p>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.</p>
4.4	<p>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.</p>
4.5	<p>The amount of the bond must be \$160,000.00 (one hundred and sixty thousand dollars).</p>
4.6	<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>
4.7	<p>The Consent Holder will not exercise or must cease exercising these consents:</p> <ul style="list-style-type: none"> <li>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</li> <li>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</li> <li>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</li> <li>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</li> </ul>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	with the Consent Authority by the Consent Holder and guarantor, or has been deposited with the Consent Authority.
4.8	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.
4.9	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 satisfied adequate provisions have been made to transfer the liability to the new Consent Holder.
4.10	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.
<b>5.0 Annual Work Programme</b>	
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"> <li>○ The proposed works to be carried out over the next 12 months including: <ul style="list-style-type: none"> <li>▪ Equipment to be used;</li> <li>▪ Areas of topsoil and overburden stripping and stockpile locations;</li> <li>▪ New areas of land disturbance that will be mined;</li> <li>▪ Access tracks;</li> <li>▪ Drill/prospecting sites and other tracks to be constructed; and</li> <li>▪ Any other site works within the consent area.</li> </ul> </li> <li>○ 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.</li> <li>○ The progressive rehabilitation works to be carried out over the next 12 months including: <ul style="list-style-type: none"> <li>▪ Areas of unrestored land (i.e. all land not finally topsoiled and revegetated) at the beginning of the new year;</li> <li>▪ The area that will be fully rehabilitated during the forthcoming year;</li> <li>▪ Maximum slope angles, bench heights and widths of recontoured ground, if applicable; and</li> <li>▪ Rehabilitation method and technique including replacement of topsoil and vegetation cover.</li> </ul> </li> </ul>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	<ul style="list-style-type: none"> <li>○ 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.</li> <li>○ Measures that must be adopted to ensure soil conservation and slope stability are controlled;</li> <li>○ 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.</li> </ul>
5.2	<p>The following plans, reports and results of monitoring must also be submitted as part of the Annual Work Programme:</p> <ul style="list-style-type: none"> <li>○ A detailed plan or aerial photograph showing: <ul style="list-style-type: none"> <li>▪ The open working area at the start of the year;</li> <li>▪ Proposed mine path for the forthcoming year including haul and access roads;</li> <li>▪ Rehabilitated ground behind the open pit area;</li> <li>▪ Location of existing and intended topsoil or overburden dumps and their dimensions;</li> <li>▪ Location of natural waterbodies;</li> <li>▪ Location of present and intended drainage works and settling ponds; and</li> <li>▪ Any other site works within the consent area.</li> </ul> </li> <li>○ A Site Specific Erosion and Sediment Control Plan in accordance with condition 23.0.</li> <li>○ Results of surface water quality, flow and water level monitoring from the previous 12 months in the form of an Annual Hydrological and Water Quality Report required by condition 26.7.</li> <li>○ Any proposed updates to Management Plans submitted in accordance with the respective conditions of consent.</li> <li>○ Results of dust monitoring from the previous 12 months required by Condition 28.5 for the previous 12 months.</li> </ul>
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>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

6.0 Management Plans	
6.1	<p>The Consent Holder shall operate the site in accordance with the following management plans:</p> <ul style="list-style-type: none"> <li>• Noise Management Plan</li> <li>• Avian Management Plan</li> <li>• Wetland Construction and Riparian Planting Plan</li> <li>• Dust Management Plan</li> <li>• Rehabilitation Plan</li> <li>• Water Management, Monitoring and Mitigation Plan</li> <li>• Erosion &amp; Sediment Control Plan</li> </ul> <p>(collectively Management Plans)</p>
6.2	<p>The Consent Holder may amend the management plans at any time to take into account:</p> <ol style="list-style-type: none"> <li>a) Any positive measure/s to ensure the stated objectives of the management plans are achieved;</li> <li>b) Any required actions identified as a result of monitoring under these consents; and</li> <li>c) Any changes required to further reduce the potential for adverse effects as a result of actions identified in the Annual Work Programme.</li> </ol> <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.</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>
6.3	<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>
6.4	<p>The Plans must not be amended in a way that contravenes the matters set out in the conditions for the respective Plans.</p>
6.5	<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>
6.6	<p>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.</p>
6.7	<p>Subject to any other conditions of these consents, all activities must be undertaken in accordance with the latest version of the Plans.</p>



# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

<b>7.0 Method of Operations</b>	
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, the coastal lagoon and Collins Creek.
7.2	The maximum site disturbance must not exceed 8.0 hectares at any one time.  <i>Advice note: The disturbed area includes the mine pit, water management infrastructure, processing plant area, active rehabilitation areas and the access road.</i>
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.
<b>8.0 Hazardous Substances</b>	
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.
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>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

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.
8.6	<p>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:</p> <ul style="list-style-type: none"> <li>(a) inform and consult the Office of Radiation Safety, New Zealand Ministry of Health; and</li> <li>(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.</li> </ul>
<b>9.0 Rehabilitation</b>	
9.1	<p>The Consent Holder must carry out progressive rehabilitation, to achieve the following requirements:</p> <ul style="list-style-type: none"> <li>a) Reinstatement of the productive pasture;</li> <li>b) Reinstatement of existing drainage patterns to reflect pre-mining catchment areas;</li> <li>c) Ensure rehabilitated land is stabilised as quickly as possible; and</li> <li>d) Protect Collins Creek, the northern boundary drain, surrounding wetlands and the coastal lagoon from the effects of erosion and sediment generation.</li> </ul> <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 Rehabilitation Plan prepared by TiGa Minerals and Metals Ltd dated April 2023.</p> <p><i>Advice Note: Final mine closure is the completion of all mining and progressive rehabilitation works and removal of buildings.</i></p> <p><i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i></p>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

9.3	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.
<b>10.0 Complaints and Non-Compliance</b>	
10.1	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.
10.2	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: <ul style="list-style-type: none"> <li>a) detail the date, time and type of complaint;</li> <li>b) cause of the complaint; and</li> <li>c) the action taken in response to the complaint.</li> </ul>
10.3	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.
10.4	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 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>
<b>11.0 Community Liaison Group</b>	
11.1	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 4 representatives of the Barrytown community and the Department of Conservation and the West Coast Penguin Trust. 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.  <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>
11.2	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

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	<p>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"> <li>a) Any complaints recorded and actions taken in response to the complaints as required by Condition 10.2;</li> <li>b) Any proposed amendments to Management Plans;</li> <li>c) The results of any surveys or monitoring undertaken in accordance with conditions of this consent.</li> </ul>
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<b>Grey District Council Conditions</b>	
<b>12.0 Hours of Operation</b>	
12.1	<p>The mining and processing activities must comply with the following hours of operation:</p> <ul style="list-style-type: none"> <li>○ Mining Activities from 01 February to 30 November – 0700-2200</li> <li>○ Mining Activities from 01 December to 31 January – 0630-0930</li> <li>○ Processing Plant Activities - 24 hours a day / 7 days a week</li> <li>○ Heavy Mineral Concentrate Trucking Activities - 0500-2200</li> </ul> <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>
<b>13.0 Buildings</b>	
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” dated 22 March 2023 and prepared by Tai Poutini Professional Services Ltd (Schedule 1).</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 Midstone (LRV16%), Rivergum (18%), Permanent Green (LRV10%) 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>
<b>14.0 Site Access</b>	
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” dated 09/03/2023 and attached as Schedule 3.</p>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

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> <p><i>Advice Notes:</i></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 <a href="http://www.beforeudig.co.nz">www.beforeudig.co.nz</a> and/or <a href="http://www.submitica.co.nz">www.submitica.co.nz</a>. 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 <a href="mailto:environmentalplanning@nzta.govt.nz">environmentalplanning@nzta.govt.nz</a>.</p> <p>The Corridor Access Request will need to include:</p> <ul style="list-style-type: none"> <li>i. The detailed design for the vehicle crossing. In developing the detailed design, the consent holder will need to consult with the Waka Kotahi appointed state highway maintenance contractor for the West Coast (Fulton Hogan) and a Waka Kotahi Safety Engineer (Jodie Enright).</li> <li>ii. A Construction Traffic Management Plan that has attained approval from the Waka Kotahi appointed state highway maintenance contractor for the West Coast (Fulton Hogan)</li> <li>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 (<a href="https://www.nzta.govt.nz/assets/resources/road-safety-audit-procedures/docs/road-safety-audit-procedures-tfm9.pdf">https://www.nzta.govt.nz/assets/resources/road-safety-audit-procedures/docs/road-safety-audit-procedures-tfm9.pdf</a>)</li> </ul>
<b>15.0 Transport</b>	
15.1	<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.</p> <p><i>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.</i></p>
15.2	<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><i>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.</i></p> <p><i>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:</i></p> <p><a href="https://www.sunrise-and-sunset.com/en/sun/new-zealand/westport/2023/june">https://www.sunrise-and-sunset.com/en/sun/new-zealand/westport/2023/june</a></p>
15.3	<p>Truck movements associated with the removal of heavy mineral concentrate shall be limited to no more than 3 per hour between 0500 and 0700 each day.</p>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

15.4	Light vehicle movements must be limited to 140 light vehicles per day.
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.
<b>16.0 Lighting</b>	
16.1	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.
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"> <li>• 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;</li> <li>• Lights must only illuminate the object or area intended;</li> <li>• Fixed lights must be mounted as close to the ground as practicable while still achieving site lighting requirements;</li> <li>• External lighting must be minimised on the seaward side of buildings to minimise light spill toward the coast;</li> <li>• external lighting must use the lowest intensity lighting possible, while ensuring compliance with workplace health and safety requirements.</li> </ul>
<b>17.0 Noise</b>	
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"> <li>○ Daytime (0700-2200): 55 dB L<sub>Aeq</sub>(15 min)</li> <li>○ Night-time (2200-0700): 45 dB L<sub>Aeq</sub>(15 min) and 75 dB L<sub>Afmax</sub></li> </ul> <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 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>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	<ul style="list-style-type: none"> <li>a) The person responsible for implementing the NMP</li> <li>b) Applicable noise conditions relating to noise</li> <li>c) Training of staff relating to how to minimise noise and vibration</li> <li>d) Maintenance schedule for site access road surfaces to avoid excessive noise and vibration</li> <li>e) Activity risk analysis for noise generation</li> <li>f) Method for handling complaints.</li> </ul> <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 undertake compliance noise monitoring within 30 days of mining and processing operations occurring and thereafter at 6 monthly intervals 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 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>
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>
<p><b>18.0 Avian Management</b></p>	
18.1	<p>The consent holder shall conduct activities on site in general accordance with the Avian Management Plan (AMP) prepared by Ecological Solutions Ltd dated April 2023.</p> <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 must be reviewed annually and may be amended at any time by the Consent Holder. Any amendments to the AMP must be submitted to Council and must:</p> <ul style="list-style-type: none"> <li>○ achieve the AMP purpose of avoiding effects on any threatened or at-risk indigenous bird species (including specifically the Tāiko);</li> <li>○ comply with the conditions of this resource consent; and</li> </ul>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	<ul style="list-style-type: none"> <li>○ have been reviewed by an appropriately qualified and experienced ecologist/ornithologist;</li> <li>○ follow the certification process set out in Condition 6.0.</li> </ul> <p><i>Advice note: any disturbance or relocation of a vifauna may require a permit from the Department of Conservation under the Wildlife Act (1953).</i></p>
18.3	<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, 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.</p>
<b>19.0 Visual screening and planting</b>	
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 Plan” prepared by Glasson Huxtable Landscape Architects dated April 2023 (Schedule 4); including:</p> <ul style="list-style-type: none"> <li>(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;</li> <li>(b) a 6.0m wide planting strip adjacent to the coastal lagoon edge;</li> <li>(c) a 10.0m wide band of planting along the open coastline in the south-west corner;</li> <li>(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;</li> <li>(e) a 3.0m wide strip of planting with fencing along the edge of Collins Creek ;</li> <li>(f) a 3.0m wide strip of planting with fencing along the southern bank of the northern drain;</li> <li>(g) a planted strip along the north-eastern boundary of the site and adjacent to neighbouring properties at 3323 Coast Road.</li> </ul>
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 Plan” prepared by Glasson Huxtable Landscape Architects dated April 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</i></p>



# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	<i>construction. Disturbed area and erosion and sediment control practices will require this area to be stabilised if not planted immediately.</i>
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 shown in the attached “Landscape Mitigation Plan” prepared by Glasson Huxtable Landscape Architects dated 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	The wetland construction and Collins Creek and Northern Boundary Drain riparian planting shall be undertaken in accordance with the Wetland Construction and Riparian Planting Plan (WRPP) prepared by Ecological Solutions Ltd and dated April 2023. <i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

<b>General Conditions to Apply to all WCRC Consents</b>	
<b>21.0 Method of Mining</b>	
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 22 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.
<b>22.0 Accidental Discovery Protocol</b>	
22.1	In the event of any disturbance of Koiwi Tangata (human bones) or Taonga (artefacts, including pounamu) the Consent Holder shall; <ul style="list-style-type: none"> <li>○ Cease any further excavation within 50m of the disturbance for a period of at least 24 hours; and</li> <li>○ Immediately advise Consent Authority of the disturbance; and</li> <li>○ Immediately advise the Te Rūnanga O Ngāti Waewae, or their authorised representatives of the disturbance; and</li> <li>○ Immediately advise Heritage New Zealand Pouhere Taonga and the New Zealand Police.</li> </ul>
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.
<b>23.0 Erosion and Sediment Control Plan</b>	
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’ prepared by Ridley Dunphy Environmental Ltd, dated April 2023.
23.2	A Site Specific ESCP must be prepared and reviewed annually and submitted to the Consent Authorities with the Annual Work Programme, reflecting the management and mitigation measures proposed for mining for the following 12 months, and adhering to the Erosion and Sediment Control Plan in Condition 23.1 above.
<b>24.0 Water Management Plan</b>	
24.1	The Consent Holder must establish all water management infrastructure, and operate the mine in accordance with the Water Management Plan (WMP) prepared by Kōmanawa Solutions Ltd dated April 2023.  <i>Advice Note: All Management Plans are required to adhere to the requirements of Condition 6.0.</i>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

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"> <li>• reflect the proposed mining operations for the following 12 months; and</li> <li>• provide any additional or amended monitoring and mitigation requirements in order to reduce the potential for adverse hydrological and/or water quality effects.</li> </ul>
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## Conditions to Apply to WCRC Discharge Permit

### 25.0 Method of Discharge

25.1	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.
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25.2	<p>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> <ul style="list-style-type: none"> <li>- 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</li> <li>- the non-metal water quality parameters in Table B below are complied with at the locations defined in Table B; and</li> <li>- in the circumstances of Condition 25.5 below</li> </ul>
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**Table A- metals and metalloids**

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

<sup>A</sup> dissolved fraction, unless stated

<sup>B</sup> at hardness = 25 g/m<sup>3</sup>, pH= 7.0, Dissolved Organic Carbon = 1.0 g/m<sup>3</sup>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

<sup>C</sup> 95%-ile trigger value  
<sup>D</sup> at hardness = 30 g/m<sup>3</sup>  
<sup>E</sup> at hardness = 25 g/m<sup>3</sup>, pH=7.0, Dissolved Organic Carbon = 2.0 g/m<sup>3</sup>

**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 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,

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

		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"> <li>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).</li> <li>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.</li> </ul>	
25.4	<p>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 passing through the mining pond/settling pond system, and to improve the efficiency of the water reticulating system.</p>	
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> <ul style="list-style-type: none"> <li>a) The rainfall exceeds 50 mm in any 24 hour period immediately prior to the discharge (<a href="https://cliflo.niwa.co.nz/pls/niwp/wstn.stn_details?cAgent=7342">https://cliflo.niwa.co.nz/pls/niwp/wstn.stn_details?cAgent=7342</a>);</li> <li>b) The rainfall exceeds 100 mmm in any contiguous 7 day period immediately prior to the discharge (<a href="https://cliflo.niwa.co.nz/pls/niwp/wstn.stn_details?cAgent=7342">https://cliflo.niwa.co.nz/pls/niwp/wstn.stn_details?cAgent=7342</a>)</li> </ul>	
<b>26.0 Water Monitoring</b>		
26.1	<p>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</p>	

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	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>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> <tr> <td>Pond 4 discharge</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others)</td> </tr> <tr> <td>Canoe Creek Lagoon Upstream**</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others)</td> </tr> <tr> <td>Canoe Creek Lagoon</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others)</td> </tr> <tr> <td>Collins Creek Upstream</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others)</td> </tr> <tr> <td>Collins Creek Downstream</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others)</td> </tr> <tr> <td>Northern Boundary Drain Upstream**</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others)</td> </tr> <tr> <td>Northern boundary Drain Downstream</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others)</td> </tr> <tr> <td>Canoe Creek Upstream</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others) (only if discharging to Canoe Creek Infiltration Basin)</td> </tr> <tr> <td>Canoe Creek Downstream</td> <td>Monitoring Suite A*</td> <td>Quarterly (metals) Monthly (Others) (only if discharging to Canoe Creek Infiltration Basin)</td> </tr> <tr> <td>Collins Creek Upstream</td> <td>Flow</td> <td>Daily</td> </tr> </tbody> </table>	Location	Parameter(s)	Frequency	Pond 2 discharge	Turbidity	Continuous Automated	Pond 4 discharge	Turbidity	Continuous Automated	Central Drain – upstream of mining activity	Turbidity	Weekly	Central Drain – upstream of Pond 3	Turbidity	Weekly	Pond 4 discharge	Monitoring Suite A*	Quarterly (metals) Monthly (Others)	Canoe Creek Lagoon Upstream**	Monitoring Suite A*	Quarterly (metals) Monthly (Others)	Canoe Creek Lagoon	Monitoring Suite A*	Quarterly (metals) Monthly (Others)	Collins Creek Upstream	Monitoring Suite A*	Quarterly (metals) Monthly (Others)	Collins Creek Downstream	Monitoring Suite A*	Quarterly (metals) Monthly (Others)	Northern Boundary Drain Upstream**	Monitoring Suite A*	Quarterly (metals) Monthly (Others)	Northern boundary Drain Downstream	Monitoring Suite A*	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	Daily
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# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	Collins Creek Downstream	Flow	Daily																				
	PZ01, 02, 03, 04, 05, 06, 07, 09, 10, 11, 12, 13, 18 and 19	Water level	Daily																				
	Canoe Creek Intake	Flow	15 minutes																				
	<p>*Monitoring Suite A includes the following water quality indicators:</p> <table border="0"> <tr> <td><i><b>Dissolved metals:</b></i></td> <td><i><b>Others:</b></i></td> </tr> <tr> <td>Aluminium</td> <td>EC</td> </tr> <tr> <td>Arsenic</td> <td>pH</td> </tr> <tr> <td>Cadmium</td> <td>Sulphate</td> </tr> <tr> <td>Chromium</td> <td>TSS</td> </tr> <tr> <td>Lead</td> <td>Turbidity</td> </tr> <tr> <td>Nickel</td> <td>Hardness</td> </tr> <tr> <td>Zinc</td> <td>Dissolved Reactive Phosphorus</td> </tr> <tr> <td>Iron</td> <td>Nitrogen (nitrate &amp; ammoniacal nitrogen)</td> </tr> <tr> <td>Manganese</td> <td></td> </tr> </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>			<i><b>Dissolved metals:</b></i>	<i><b>Others:</b></i>	Aluminium	EC	Arsenic	pH	Cadmium	Sulphate	Chromium	TSS	Lead	Turbidity	Nickel	Hardness	Zinc	Dissolved Reactive Phosphorus	Iron	Nitrogen (nitrate & ammoniacal nitrogen)	Manganese	
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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 or beyond 100 metres from any discharge:</p> <ol style="list-style-type: none"> <li>Any conspicuous oil or grease films, scums or foams, or floatable or suspended materials,</li> <li>Any conspicuous change in the colour or visual clarity,</li> <li>Any emission of an objectionable odour,</li> <li>Any significant adverse effects on aquatic life, or</li> <li>The rendering of fresh water unsuitable for consumption by farm animals.</li> </ol>																						
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>																						

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

26.5	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.
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"> <li>1. A summary of the monitoring undertaken over the preceding 12 months. The summary shall: <ol style="list-style-type: none"> <li>a. Reference the specific consent conditions under which the monitoring has been undertaken to show how the conditions have been complied with.</li> <li>b. Provide tables of the water quality data collected in accordance with Condition 26.2</li> </ol> </li> <li>2. Discussion and evaluation of the monitoring data in relation to the relevant conditions including a summary of compliance with conditions;</li> <li>3. A summary of the actions that have been undertaken in response to any exceedance(s) of water quality limits;</li> <li>4. Records of the visual inspections that have been undertaken in accordance with Condition 26.1 and condition 26.3.</li> </ol>
26.7	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.
26.8	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.

## Conditions to Apply to WCRC Air Discharge Permit

### 27.0 Dust Management Plan

27.1	The Consent Holder must operate the site in general accordance with the Dust Management Plan prepared by TiGa minerals and Metals, dated April 2023.
27.2	Vehicles shall not exceed 15 km/hr on site at all times to avoid dust generation.



# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

<b>28.0 Air Quality Management and Monitoring</b>	
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><i>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</i></p> <ul style="list-style-type: none"> <li><i>i) The frequency, intensity, duration, amount, effect and location of the suspended or particulate matter; and/or</i></li> <li><i>ii) Receipt of complaints from neighbours or the public; or</i></li> <li><i>iii) Relevant written advice or a report from an Environmental Health Officer of a territorial authority or health authority.</i></li> </ul>
28.2	<p>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.</p>
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/m<sup>2</sup>/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>

<b>Conditions to Apply to WCRC Water Take Permit</b>	
<b>29.0 Groundwater and surface water abstraction outcomes</b>	
29.1	<p>Dewatering and associated mitigation measures shall achieve the following outcomes:</p> <ul style="list-style-type: none"> <li>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.</li> <li>II. The pre-mining median water level in the wetlands on the Langridge property to the north are not reduced.</li> <li>III. The pre-mining median water levels in Canoe Creek Lagoon and the former dredge pond “Rusty Lagoon” to the north are not reduced.</li> <li>IV. The pre-mining median and lower flows in the Northern Drain are not reduced.</li> <li>V. The median and lower flows in Collins Creek are not reduced by more than 2 L/s.</li> </ul>

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	<p>VI. The rate of take of water from Canoe Creek is not greater than 10% of the Mean Annual Low Flow.</p> <p>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> <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"> <li><i>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</i></li> <li><i>2. The above wells are monitored on a minimum daily frequency for the duration of any mining activity below the water table</i></li> <li><i>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.</i></li> </ol> <p><i>Compliance with condition V shall be deemed to have occurred under the following circumstances:</i></p> <ol style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>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.</i></li> </ol> <p><i>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</i></p> <p><i>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).</i></p>
<b>30.0 Canoe Creek water take</b>	
30.1	The instantaneous surface water take from Canoe Creek shall not exceed a water take limit of 63 litres per second.
30.2	<p>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.</p> <p><i>Advice note: the Resource Management (Measurement and Reporting of Water Takes) Amendment Regulations 2020 applies to this water take.</i></p>
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.

# TiGa Minerals and Metals Ltd – Proposed Conditions of Consent

	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"><li>a. The type of measurement device(s) used to undertake the continuous monitoring together with the manufacturer's statement for that device; and</li><li>b. The location of the measurement device(s) in relation to the water take point(s).</li></ul>
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.

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