SUBMISSION ON AN APPLICATION FOR RESOURCE CONSENT UNDER SECTION 96 OF THE RESOURCE MANAGEMENT ACT 1991	Office Use Only	THE WEST COAST REGIONAL COUNCIL

PART A: DESCRIPTION OF APPLICATION

CONSENT NUMBER:	APPLICANT:
WCRC: RC-2023-0046 GDC:LUN3154:23	TIGA Minerals and Metals Ltd

DESCRIPTION OF PROPOSED ACTIVITY:

Establish and operate a mineral sands mine, including construction of associate infrastructure

LOCATION:

Barrytown Flats west of State Highway 6 (Coast Road) 9 km south of Punakaiki township and 36km north of Greymouth

PART B: SUBMITTER DETAILS

Full name/s	Dr Susan Waugh			
Postal address	[redacted]			
I am the owner/occupier (delete one) of the following property:	N/A			
Primary contact person/s	Dr Susan Waugh			
Email address	[redacted]			
Phone number/s	Home:		Business:	
	Mobile:	[redacted]	Fax:	

Signature:	**Date:**
	9 Oct 2023
Name (BLOCK CAPITALS):	
Susan Waugh	

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.

(tick one)

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)

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)

The specific parts of the application that my submission relates to are:
M - Ecological Effects Assessment
M2 Avian Management Plan
See attached submission

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

Should the application be approved, we ask that the recommendations presented in our attached submission be used as consent conditions, combined with or adapted by similar recommendations and comments from appropriate authorities such as the Department of Conservation, to ensure that adverse effects on seabireds are avoided.

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

388 Main South Road, Paroa, Greymouth 7805
PO Box 66, Greymouth 7840
Telephone (03) 768 0466
Toll Free 0508 800 118
Facsimile (03) 768 7133
Email info@wcrc.govt.nz
Website www.wcrc.govt.nz

Susan Waugh
[redacted]

Dear Sir/Madam,

SUBMISSION ON MINING ACTIVITY PROPOSED FOR BARRYTOWN FLATS, WESTLAND

I have worked for several years on the conservation biology of Westland petrel and published recent demographic research papers[1],[2], and analysis of threats to the species[3]. These papers contributed to the current understanding of the population status, its trends, distribution of the nesting areas and the most influential factors affecting the population trajectory. In particular, they led to the listing of the species as Endangered by the IUCN at the last revision of its threat status.

I was formerly the head of the science programme at Te Papa (2011-2018) and conducted a detailed research programme on the Westland petrels (starting in 2010 and continuing till 2019), in collaboration with other key researchers in the field (eg the late Kerry Jayne Wilson from the West Coast Penguin Trust) and researchers from DoC. We elucidated the key questions relating to the conservation biology of the species at the time. After completing a PhD in seabird population ecology in 1998, I worked for many years to assess the 1importance of anthropogenic threats to species of marine fauna, including petrels, penguins and albatrosses in the New Zealand and wider Pacific region. Currently I work for an international NGO, with responsibility for their Marine Policy programme.

I am concerned to hear that mining activity is proposed for the area used by the Westland petrel as a flyway between their breeding area and the sea, that they cross on a daily basis during their period of attendance at the colonies from around March each year to January the following year. At least some birds attend the colony throughout the year or are absent for only a few weeks over the summer period.

The species is listed as Endangered by the IUCN, indicating after several detailed analyses and assessments that they are a population under important levels of risk of extinction. The species is endemic to New Zealand and breeds only in the Paparoa ranges between the Fox River to the north and the Grey River to the south, with the largest and best-studied colonies behind the Barrytown flats.

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[1] Susan M. Waugh, James W. Griffiths, Timothee A. Poupart, Dominique P. Filippi, Karyne Rogers, John Y. P. Arnould, Environmental factors and fisheries influence the foraging patterns of a subtropical seabird, the Westland Petrel (*Procellaria westlandica*), in the Tasman Sea, *The Condor*, Volume 120, Issue 2, 1 May 2018, Pages 371–387, https://doi.org/10.1650/CONDOR-17-179.1

[2] Susan M. Waugh, Christophe Barbraud, Lynn Adams, Amanda N. D. Freeman, Kerry-Jayne Wilson, Graham Wood, Todd J. Landers, G. Barry Baker, Modeling the demography and population dynamics of a subtropical seabird, and the influence of environmental factors, *The Condor*, Volume 117, Issue 2, 1 May 2015, Pages 147–164, https://doi.org/10.1650/CONDOR-14-141.1

[3] WAUGH, S.M. & WILSON, K-J. 2017. Threats and threat status of the Westland Petrel Procellaria westlandica. Marine Ornithology 45: 195 – 203.

The threats to Westland petrels identified in 2017 in our analysis cited above (Waugh and Wilson 2017) were detailed along with the probability of the influence of each on the species conservation status. These included:

- fisheries bycatch in New Zealand and overseas fisheries;
- predation at the breeding area from introduced vertebrates (including feral pigs which have been found in areas in direct proximity to the petrel colonies but as yet are considered a potential threat);
- Risk of land development which could entrain further mortalities of adult or fledgling birds due to increased vehicle traffic, increased presence of vertebrate animals such as cats and dogs around work sites, lighting and machinery operating;
- Fallout (landing on the ground due to various attractants of which light during the night is a principal risk) whence the Westland petrels are subsequently unable to take off due to their wing-structure and mortality results from traffic collisions, predation by vertebrate animals, starvation or dehydration as a result of being grounded;
- Climate related risks including damage to colonies from storms, food resources becoming more sparse, food resources being inaccessible due to changes in ocean currents and ocean temperatures.

I understand that the proposed mining activity is likely to be undertaken during the day and the night time, and that there will be machinery and lighting being used during the hours of dusk and darkness at different times through the year.

The ability of the population to withstand additional removals is currently unknown, and research is needed to estimate the effect of any additional removals from sources related to the mining activity. These very long-lived birds have populations that are very susceptible to adult mortality, and therefore great care should be taken in not negatively influencing their population status by adding deaths of birds to the current mortalities arising from fishing mortality and other human related activities. Removals of very few individuals can result in the decline of the population.

Efforts to understand the impacts of any increased human activity and particularly industrial activity within the zone used by the petrels are necessary and to carefully monitor the impacts of any deaths on the population size, trend and demographic parameters such as adult survivorship, recruitment and productivity.

I would like to make an oral submission to the hearing process.

Yours sincerely

Susan Waugh (Dr)