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| Before the Independent Commissioners |  |
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| Under | the Resource Management Act 1991 |
| In the matter of | a hearing on submissions on the proposed Te Tai o Poutini Plan  Hearing Topics 1 and 2: Introduction / Whole Plan and Strategic Objectives  Submitter: **TiGa Minerals and Metals Limited** |

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| Statement of Evidence of Robert George Brand |
| 2 October 2023 |
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**Introduction**

1. My name is Robert George Brand.
2. I am the Managing Director of TiGa Minerals and Metals Limited (**TiGa**) and have held that position since February 2023. I have authority to give evidence on behalf of TiGa.
3. I am an engineer with more than 40 years previous work experience in the mineral sands industry including leading established mining companies GMA Garnet, Barton Mines, Australian Abrasive Minerals and Australian Industrial Minerals. I have experience in developing garnet mining projects. In my experience, mining projects can be undertaken in an environmentally responsible way, and can achieve long lasting positive outcomes.

**Company overview**

1. TiGa's origins are in the Barrytown Project, which began as an initiative of New Zealand entrepreneurs and investors to develop an ilmenite mine in Barrytown on the West Coast. In 2012 they formed a company called Westland Titanium Limited. As the work required for the development grew, Westland Titanium Limited had to look overseas for additional capital to fund operations.
2. To continue funding the Barrytown Project, a joint venture called Barrytown JV Limited was incorporated in October 2015, and subsequently changed its name to TiGa Minerals and Metals Limited in February 2022.
3. TiGa is developing a mineral sand mine on the Barrytown flats to mine the heavy minerals which have been deposited over time in strandlines in coastal areas and connected rural areas. In particular, TiGa intends to mine ilmenite, garnet, zircon, and alluvial gold, all of which are high value heavy materials. TiGa holds an exploration permit, a mining permit, and has an exploration permit application over much of the Barrytown Flats area. TiGa has advanced exploration drilling and is seeking to secure the necessary resource consents for its mining activities.
4. TiGa will be operating on private land which is currently productive farmland. Operations will generally be short term and transitory, in other words, there will be some small areas of disturbance while operations are underway, followed by progressive rehabilitation. The process is designed to mitigate effects on the environment. That land will be returned to productive farmland following completion of the mining operation, with additional areas fenced off for native planting and environmental protection.
5. TiGa estimates its mining operations will generate around $63 million of export earnings per year from the production and export of gold, garnet, ilmenite, and zircon. This will also result in $6.6 million in wages and $27.4 million in non-wage spending for the local economy.
6. The majority of products and services required for the Barrytown project can and will be sourced locally in the West Coast Region. The mine will be operated by experienced New Zealand based staff and contractors, the majority being currently based in Westport and Greymouth. A full range of skills and qualifications will be required from qualified engineers, geologists and metallurgists; financial and administrative staff; skilled tradesmen such as electricians, mechanics, and welders; transport and machinery operators; as well as labourers requiring specialist training in mining and mineral processing. For key management and technical specialist roles TiGa will employ locals where possible. Roles will otherwise be filled by workers committed to moving to the area. TiGa anticipates employing 57 mining jobs, and supporting around 80 jobs in ancillary sectors. These jobs will likely include truck drivers, mechanics and engineers.
7. Employment opportunities for young people will assist to secure the future of the small communities on the West Coast. TiGa is in the early stages of establishing a scholarship programme to encourage local school leavers to study with, or be employed by TiGa, to work on the Barrytown Project and its other future aspirations.
8. TiGa strongly supports the strategic direction of the TTPP. It recognises the role that extractive industries play in the West Coast. TiGa wants to ensure that the proposed provisions of the TTPP operate as intended – by providing a mining pathway with appropriate management of environmental effects. TiGa strongly supports the enabling of mining in the TTPP, and wants to ensure that a consenting pathway is not unintentionally undermined through other plan provisions.
9. TiGa has invested heavily into preparing a quality resource consent application for the Barrytown Project. As a result, a large amount of detail has been provided proving that the Barrytown Project site is suitable for mineral extraction. This has included independent technical reports, significant engagement with councils and the community, detailed management plans and peer reviewing.

**The West Coast's connection with mining**

1. Prospecting and mining in Barrytown goes back to the 1870s. The sand deposits of heavy minerals at Barrytown have been known for many years. The West Coast has a unique mineral profile, which sets it apart from other parts of the country. The prevalence (and value) of minerals in the area, makes it an obvious choice for extractive operations.
2. The Barrytown ilmenite deposit is one of the highest-grade ilmenite deposits in the world, and represents a unique and exciting opportunity to develop a mine which will meet growing international demand for ilmenite, and provide substantial economic benefit to the West Coast Region and the New Zealand economy as a whole. Global demand for heavy minerals is rising.
3. Mineral extraction is a high value industry, and has the potential to benefit the region by generating significant employment (with high salaries), which will in turn deliver new economic opportunities for other businesses including construction, sciences, engineering, transport (including rail and shipping), hospitality, and accommodation. The improvement of transport infrastructure will be especially beneficial for the region. Upgraded and improved rail, road and shipping networks linking the West Coast up with other parts of the country will have positive flow on effects for other industries (such as the timber and dairy industries), which will in turn help to bolster economic activity in the region.

**Mining activity**

1. For mineral sand mining, the ilmenite deposit is locationally constrained to within or in close proximity to the coastal environment, because the deposits are a result of former coastal processes and only occur in these locations.
2. The mineral sand mining process begins long before minerals are extracted from the ground. It is an accepted norm that a mining project typically takes 10 years from initial discovery to first production. Drilling and exploration on-site takes place, sometimes over a time period of years, to establish the location of the mineral resource. This is followed by a lengthy period, often several years of environmental base line monitoring and study in order to understand the local conditions in which the mining operation will operate so that an appropriate mining operation can be designed. Land access agreements must be reached with the land owner and various licences and permits issued.
3. Then the land must be prepared for mining which can include construction of access roads, vegetation and pasture clearance, drainage and water management, constructing hard stands and car parks, staff facilities, establishing processing and storage facilities and establishing other infrastructure. Other pre-mining mitigation measures such as settling ponds and bunds are constructed – these are important to ensuring the mining process can proceed with acceptable effects. The extraction stage follows, with the wider site being utilised to support that process.
4. Even once mineral extraction is completed, the mining process is not complete as de-commissioning and rehabilitation of the site needs to occur. These ancillary activities also need to be enabled alongside mining extraction.
5. With respect to mineral sands projects, these are characterised by two distinct and separate units of operation as explained below.

*The Wet Concentration Plant (WCP)*

1. The WCP process uses water to transport and separate the valuable heavy minerals in the mined ore from their less valuable host minerals. It is economically and environmentally beneficial that the WCP is located at the mine site. The wet concentration process produces a Heavy Mineral Concentrate (HMC) that contains all of the valuable heavy minerals and is a saleable product in its own right, however at a lower value.

*Mineral Separation Plant (MSP)*

1. This process uses magnetic and electrostatics techniques to separate the components of the HMC into individual products that are significantly more valuable than when combined as HMC. The MSP is typically located as close to major transport and/or port facilities as possible for export.
2. TiGa’s development plan envisages the WCP being located at the Barrytown mine site. The MSP is a future opportunity which could be located in the Greymouth area with access to the rail services to the east coast for export, thereby ensuring maximum value is kept on the West Coast (rather than being gained overseas) which in turn enables greater development of West Coast industries.

**Conclusion**

1. TiGa is committed to making a positive contribution to the West Coast and to the environment, and is firmly of the view that investment in the extraction industry can achieve these outcomes. To that end, TiGa strongly supports the enabling of mining in the TTPP.

**Robert George Brand  
2 October 2023**