

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

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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)

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**Statement of evidence of John Stacey Ballingall**

19 January 2024

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## Qualifications and experience

- 1 My full name is John Stacey Ballingall.
- 2 I graduated from Massey University in Palmerston North with a Bachelor of Applied Economics and a Master of Applied Economics. I am a Chartered Member of the Institute of Directors.
- 3 I am currently employed as a Partner at Sense Partners Limited, an independent economics consultancy in Wellington. I have held that position since January 2019.
- 4 My previous work experience includes being the Deputy Chief Executive at the New Zealand Institute of Economic Research for 11 years, and the Deputy Director of the Economics Division at the Ministry of Foreign Affairs and Trade.
- 5 I have 22 years' experience in the application of economics to a wide range of business and policy issues, including regional economic development.
- 6 I have been involved in several Environment Court cases and District Plan hearings.
- 7 My role in relation to TiGa Minerals and Metals Limited's (**TiGa**) application to establish and operate a mineral sands mine at SH6 Barrytown (**Application and Application Site**) has been to provide advice in relation to economics.
- 8 My assessment is based upon the proposal description attached to the evidence of Ms Katherine McKenzie as Appendix 1.
- 9 In preparing this statement of evidence I have considered the following documents:
  - (a) the AEE accompanying the Application;
  - (b) submissions relevant to my area of expertise;
  - (c) Peer review of my economic evidence in the AEE accompanying the application by Mr Tim Heath of Property Economics, December 2023;
  - (d) section 42A report;
- 10 I have previously provided economic evidence to inform TiGa's 2020 consent application. I updated my analysis to inform TiGa's 2023 consent application.

## Code of Conduct for Expert Witnesses

- 11 While this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing

my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

### **Scope of evidence**

- 12 I have prepared evidence in relation to:
- (a) the key findings of my assessment of economic effects;
  - (b) matters raised by submitters to the Application related to the economy; and
  - (c) matters raised in the West Coast Regional Council's (**WCRC**) and Grey District Council's (GDC) staff reports (reports issued under s42A of the RMA).

### **Executive Summary**

- 13 The proposed mining operation will deliver significant regional economic benefits, including:
- (a) Export revenue of \$63.0 million per year once fully operational or \$274.4 million over the 5 years of establishment and operations of the mine under the current resource consent application.
  - (b) This would boost the Grey District's exports by around 37.8% per year and the West Coast region's exports by around 7.1%.
  - (c) Directly generating around \$33.7 million of additional GDP per year once fully operational, or around \$146.1 million over the life of the mine.
  - (d) This would lift the Grey District's GDP by 3.8% and the West Coast region's GDP by 1.5%.
  - (e) Spending on goods and services as inputs to production of around \$27.4 million per year, much of which will go to local businesses.
  - (f) Direct employment of 57 full time equivalent jobs, and a further 80 indirect jobs supported elsewhere in the economy. This would see employment in the Grey District increase by 2.0% and employment in the West Coast region rise by 0.9%.
  - (g) The 57 new direct jobs will generate \$6.6 million per year of additional wages in the region, at an average of around \$116,000 per job compared to the regional median wage of \$53,730.

(h) Government royalties, business tax and employees' income taxes of around \$33.0 million over the mine's lifetime.

14 In my opinion, any potential economic costs related to a temporary decrease in dairy support land, a decrease in tourist numbers and an increase in housing costs are unlikely to be material.

15 In my opinion, the economic benefits associated with the proposed operation far outweigh any potential economic costs. It will deliver significant net economic benefits to the Grey District and West Coast region.

#### **Assessment of effects**

16 I understand that TiGa's resource consent application is subject to the National Environmental Standards for Freshwater Management 2020 (NESFW), and Regulation 45D requires the Consent Authority to have satisfied itself that the extraction of the minerals will provide significant national or regional benefits in order for the applicant to benefit from a discretionary activity status in relation to activities adjacent to natural wetlands.

17 In this evidence, I outline the national and regional economic benefits associated with the mining operation, as well as the potential economic costs.

18 Based on my economic analysis, I consider the proposed mining operation will deliver significant regional economic benefits to the Grey District and wider West Coast region, and the project meets the regional benefit criteria in Regulation 45D of the NESFW.

#### **Export effects**

19 Based on financial modelling from the applicant, the operation planned under this consent application will generate around \$63.0 million of revenue once fully operational or \$274.4 million over the 5 years of establishment and operations of the mine under the current resource consent application.

20 This is based on the production and export of Gold (7% of total revenue), Garnet (36%), Ilmenite (48%) and Zircon (9%) and an assumed NZD:USD exchange rate of 0.665.<sup>1</sup>

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<sup>1</sup> We use the applicant's price assumptions for these calculations: Gold US\$1,840 p/oz; Garnet US\$188 p/lb, Ilmenite US\$200p/lb, Zircon US\$1,800 p/lb.

- 21 To provide a sense of context, the Grey District's average exports of goods and services (i.e. including tourism) in the five years before the COVID-19 pandemic were \$166.8 million, and the West Coast region's exports were \$888.4 million.<sup>2</sup>
- 22 The proposed operation would therefore boost the Grey District's exports by around 37.8% per year and the West Coast region's exports by around 7.1%.
- 23 The additional export revenue can be further analysed by looking at:
- (a) The amount of this revenue that is returned to factors of production (labour, capital, etc.), also known as its value added or GDP contribution;
  - (b) The amount that comprises spending on intermediate inputs to production (i.e. the goods and services used to produce output); and
  - (c) The amount that is accounted for by taxes and royalties.

### **GDP effects**

- 24 The mining operation would directly generate around \$33.7 million of additional GDP per year once fully operational.<sup>3 4</sup> This GDP contribution is the sum of the returns to factors of production – wages, operating surplus and returns to land.
- 25 Across 5 years of establishment and operations of the mine under the current resource consent, this equates to around \$146.1 million of additional GDP for the region.

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<sup>2</sup> Infometrics. 2022. 'Grey District economic profile'. <https://ecoprofile.infometrics.co.nz/Grey%2bDistrict> and equivalent for the West Coast region. Years to March 2016-2020 used to present a sense of 'normal' economic conditions, rather than the artificially low export period between April 2020 and March 2022 when borders were closed due to the pandemic.

<sup>3</sup> Calculated by multiplying gross revenue by the national-level share of value added in gross output for the 'Metal ore and non-metallic minerals mining and quarrying' industry in StatsNZ's 2020 input output tables. This assumes 1 year of establishment and 4 years fully operational mining activity.

<sup>4</sup> Mr Heath notes in his peer review (page 6) that "this national average is unlikely to provide an accurate estimate of the regional contributions to GDP. If this were the case the value-added figure could overestimate the contribution to regional GDP as there are inevitably values that are captured nationally that would not be represented regionally". It is true that a specific mining operation in a specific region could have a different cost structure that might lead to the value added share of gross output estimate being different to the national figure. However, the value added share of gross output could be lower *or higher* than the national average – not all regional estimates can be lower than the average, by definition. In lieu of any official regional input-output tables being produced by StatsNZ, I believe the national average is a reasonable proxy to use.

- 26 The Grey District's average real GDP in the five years before the COVID-19 pandemic was \$882.5 million, and the West Coast region's real GDP averaged \$2.19 billion.<sup>5</sup>
- 27 The annual increase in GDP directly associated with the proposed mining operation equates to 3.8% for the Grey District and 1.5% for the West Coast region.
- 28 To give a sense of significance, this 3.8% boost for the Grey District would be equivalent to adding the combined GDP of the Meat and Meat Product Manufacturing, Seafood Processing, Dairy Product Manufacturing, Fruit, Oil, Cereal and Other Food Product Manufacturing, Beverage and Tobacco Product Manufacturing, and Wood Product Manufacturing to the national economy (their combined share of national GDP is 3.7%).<sup>6</sup>
- 29 Consistent with my approach of providing conservative economic impact estimates, I have not included in this estimate the additional value added (or GDP) that would be generated through the downstream multiplier effects associated with the expansion of suppliers to the proposed operation or the flow-on effects of the additional spending of employees. Mr Heath notes in his peer review (page 7) “economists consider the multiplier effect on economic injections whereby the resulting contributions to an economy far exceed the direct spending”.

#### **Spending on intermediate inputs**

- 30 The mining operation will also require the purchase of intermediate inputs (e.g. equipment hire, repairs and maintenance) averaging \$27.4 million per year.<sup>7</sup>
- 31 While some specialised mining capital equipment will need to be imported, much of this spending on intermediate inputs will be destined for local suppliers. Key expenditure areas will include:
- (a) Rail transport services (\$6.3 million per year)
  - (b) Mining contractor (\$5.0 million)
  - (c) Power (\$3.9 million)
  - (d) Plant maintenance (\$1.7 million)

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<sup>5</sup> Infometrics, as above. Years to March 2016-2020 used to present a sense of 'normal' economic conditions. The five-year averages for 2018-2022 are \$921.7 million for Grey District and \$2.25 billion for the West Coast Region.

<sup>6</sup> Calculated using StatsNZ's nominal production GDP by industry series for the year ended March 2022, Table SNE048AA.

<sup>7</sup> Source: Applicant's financial modelling.

- (e) Road transport (\$1.6 million)
- (f) Environment and community (\$0.5 million)
- (g) Health and safety (\$0.3 million)
- (h) Laboratory (\$0.2 million)
- (i) Accounting (\$0.1 million)

### **Taxes and royalties**

- 32 TiGa will be required to pay royalties to the New Zealand government at a rate of 2.5% of net sales of the mineral obtained under the permit. Based on the applicant's revenue projections, these royalties will be around \$1.5 million per year when the mining activities covered by this consent are fully operational, or \$6.8 million in total across the establishment year and four years of full production.
- 33 It will also pay business tax averaging \$5.5 million per year when fully operational, or \$17.8 million across the mine's lifetime under this resource consent.
- 34 Income taxes paid by the 57 additional FTE workers at the mine will equate to around \$1.67 million per annum. This sums to around \$8.3 million of additional income tax flowing into the government's coffers over the lifetime of the mine's preparation and operation.
- 35 This combined \$33.0 million of royalties and tax income across the mine's lifetime can be used by the government to deliver important, well-being-enhancing public services such as health education, etc, or to fund infrastructure development.
- 36 It is impossible to determine in advance what share of this tax revenue might be re-invested in the West Coast, as it is not hypothecated by region. However, the available (albeit dated) evidence indicates that the West Coast region receives government spending (operating expenditure and capital expenditure) that is broadly in line with its share of the national population.<sup>8</sup>

### **Employment effects**

#### Direct jobs

- 37 The applicant expects to directly employ an estimated 57 Full Time Equivalent people across the mining site and in a separate office in Greymouth. The types of

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<sup>8</sup> Table 1 of NZIER. 2013. 'Regional government expenditure: Estimates of core crown spending by region'. NZIER report to MBIE and Treasury, April 2013. I am not aware of any more recent updates of this analysis.

roles to be filled were made available at the recent public meeting at the Barrytown Hall and are included in the evidence of Mr Berry.

- 38 The applicant will also pay a mining contractor for its services. The mining contractor will use its own employees and contractors to deliver these services. Similarly, the trucking contractor for the project will need to employ enough drivers to facilitate the expected movements of minerals each day.
- 39 Therefore the 57 FTE direct jobs referred to above is an underestimate of the total number of direct FTE jobs that will be generated by the proposed mining operation.
- 40 Some submitters suggest – without any supporting evidence – this direct jobs figure is too high. However, the number of roles is taken from TiGa’s own financial modelling. I do not see why TiGa would want to overstate its labour requirements and hence salary costs in its own financial modelling, which is designed to inform its investment decisions.
- 41 I note the comments of Mr Heath in his peer review (page 5) that “Property Economics considers the 57 direct job estimate is at the very least in the ballpark of the employment we would expect from a mining operation of this size”.

#### Indirect jobs supported

- 42 Fleming and Measham<sup>9</sup> explore in an Australian context the extent to which an expansion in direct mining employment leads to downstream multiplier effects on employment in local economies which already have mining operations present.<sup>10</sup>
- 43 While it would be preferable to draw on a New Zealand-specific version of this report, I am not aware of any that exist. In my view, drawing inferences from the Australian study is a reasonable approach to exploring the flow-on effects of the proposed Barrytown mining operation, as the upstream and downstream industry linkages of Australian and New Zealand mining operations are broadly similar.<sup>11</sup>

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<sup>9</sup> Fleming, A. and D. Measham. 2014. ‘Local job multipliers of mining’. *Resources Policy* 41 (214) 9-15.

<sup>10</sup> Their econometric approach to estimating mining multipliers is more robust than the traditional ‘input-output’ approach, since it is based on time series data recording actual employment patterns after mining project commence. It also considers any potential negative flow-on employment effects, such as job displacement, which an input-output multiplier cannot capture.

That is, an input-output employment multiplier would be *larger* than the 1.4 I have used. For example, a recent New Zealand estimate is that for every direct job generated in ‘Metal ore and non-metallic mineral mining and quarrying’, a further 1.96 indirect and induced jobs would be created elsewhere in the economy (Type II employment multiplier, see Insight Economics. 2022. ‘2020 National IO Multipliers for New Zealand (109 industry)’. <https://www.insighteconomics.co.nz/wp-content/uploads/2019/09/2020-National-IO-Multipliers-for-New-Zealand-109-Industry.xlsx>)

<sup>11</sup> This can be seen by looking at the latest input-output tables for New Zealand and Australia, which summarise the upstream and downstream industry linkages in an economy. While the Australian mining sector spends



- 44 They find statistically significant impacts of mining employment on jobs in four broad sectors: 'Accommodation and food services', 'Rental hiring and real estate services', 'Wholesale trade' and 'Transport, postal and warehousing'.
- 45 They estimate that for the average region with existing mines (as is the case here), every additional mining job generates around 1.4 further jobs in the local economy. This implies the 57 direct jobs at Barrytown could support a further 80 indirect jobs in the wider local economy during the mine's operation.

Contribution to regional employment

**Table 1 Direct contribution to local and regional employment**

	Current jobs in Grey District	Current jobs in West Coast	Jobs at proposed mining operation	Jobs in Grey District if mine proceeds	Jobs in West Coast if mine proceeds	Change in Grey District jobs	Change in West Coast jobs
<b>Mining jobs</b>	80	660	57	137	717	71.3%	8.6%
<b>Total jobs</b>	<b>6,900</b>	<b>14,900</b>	<b>57</b>	<b>6,957</b>	<b>14,957</b>	<b>0.8%</b>	<b>0.4%</b>

*Source: Applicant for direct numbers. Mining and total jobs for Grey District and West Coast Region taken from StatsNZ's Business Demography data for the year ended February 2023.*

- 46 Table 1 shows the direct impacts of the additional jobs generated by the proposed mining operation.
- 47 As at February 2023, 80 people were employed in mining in the Grey District. Using the conservative estimate of 57 direct FTEs associated with the proposed operation, this would see mining employment in the Grey District increase by 71.3% to 137 employees; and by 8.6% to 717 employees for the West Coast Region.
- 48 Given total employment in the Grey District was 6,900 at February 2023, the mining operation would directly increase the total number of jobs available in the District by 0.8% to 6,957. Total employment in the West Coast Region would increase by 0.4% to 14,957.
- 49 After taking into account the additional 80 indirect jobs associated with the operation's spending elsewhere in the economy:

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proportionately more than the New Zealand mining sector on accommodation services due to the need to house workers in more remote locations, the remainder of supplying and using industries are broadly similar.

- (a) Grey District total employment would rise to 7,037 (6,957 direct jobs from Table 1 plus 80 indirect), an increase in total employment of 2.0%.
  - (b) West Coast Region employment would rise by 0.9% to 15,037 (14,957 direct jobs from Table 1 plus 80 indirect).
- 50 In my view, these new jobs represent a significant regional benefit that would otherwise not occur, especially when one considers the high salaries these workers will receive (see next section).
- 51 Mr Heath's peer review supports my employment analysis, noting (page 5): "Property Economics agrees with Sense Partners' assessment of employment contributions".

### **Wages and incomes**

- 52 Mining jobs are well paid, relative to the average wage. In the West Coast region, the median mining salary in 2022 was \$80,070, some 60% higher than the median salary for all industries of \$53,730.<sup>12</sup>
- 53 The applicant has provided me with estimated salaries for the workers it will require. Based on this commercially sensitive information, the 57 new direct jobs will generate \$6.6 million per year of additional income in the region (an average of around \$116,000 per job).
- 54 As a cross-check, I looked at the Hays Salary Guide FY2023/24 for Australia and New Zealand, which is used by a range of businesses across many sectors to benchmark their salary offerings to staff. New Zealand data for mining is not available, so I show ranges across the seven Australian States.
- 55 These ranges give me confidence that the salaries being offered by TiGa are commensurate with those being offered elsewhere.<sup>13</sup> In a competitive global mining labour market, TiGa will need to meet these market benchmarks to attract and retain the right staff.
- 56 While some of this additional income for TiGa's workers will be saved and some may go to overseas contractors, much of it, plus much of the operation's non-employment operating expenditure of an estimated \$27.4 million per year, will be circulated within the local economy, supporting local businesses.

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<sup>12</sup> StatsNZ. LEED data. Dataset: Table 1.5: Main earnings source, by industry (ANZSIC06).

<sup>13</sup> As another point of comparison, Westland Mineral Sands has publicly stated that its average wage for direct employees was \$101,500 to \$117,500 per year. See Radio New Zealand. 2023. 'World class' resource on West Coast', published 30 November 2023.

**Table 2 Benchmark salaries for proposed mining operation**

NZD000 per year, 'Typical' salary, 'Mineral processing' industry

Role	Typical salary range, NZD000s
Maintenance superintendent	128 – 214
Mill superintendent	134 – 198
Maintenance planner	109 – 182
Electrician	86 – 177
Boilermaker/welder	86 – 166
Electrical engineer (mid-level)	107 – 161
Metallurgist	96 – 155
Shift supervisor	96 – 150
Geologist	102 – 150
Mill operator	75 – 120

*Source: Hays Salary Guide FY2023/24 for Australia and New Zealand*

- 57 Many submitters cited returns from the proposed mining operation going overseas as a reason why the consent should not be granted. Aside from the capital expenditure on imported plant, it is only the returns to capital or profits that will end up leaving the regional economy to overseas owners. This will compensate them for their financial risks.
- 58 But it is clear that the proposed operation will inject tens of millions of dollars each year in the local and regional economies through its purchases of goods and services to support production and the salaries it pays its workers. I see this as a significant regional economic benefit.

#### Conclusion on economic benefits

- 59 In my opinion, the proposed operation will deliver a range of significant benefits to the regional economy:
- (a) It will support 57 high-paying direct jobs and a further 80 indirect jobs in the wider economy, boosting Grey District employment by 2.0% and West Coast regional employment by 0.9%.
  - (b) The wages paid to the 57 direct employees total around \$6.6 million per year.

- (c) Export revenue averaging \$63 million per year, equivalent to 37.8% of the Grey District's total exports of goods and services and 7.1% of the West Coast region's total exports.
- (d) A regional GDP contribution of around \$33.7 million per year, equivalent to 3.8% of GDP in the Grey District and 1.5% of GDP for the West Coast region.
- (e) Spending on intermediate inputs of around \$27.4 million per year, much of which will go to local businesses.
- (f) A contribution to government tax revenue of around \$33.0 million over the mine's lifetime, comprising royalties, employees' income taxes and business taxes.

60 I note Mr Heath's peer review comments that "On the whole Property Economics is of the opinion that the results of the report with regard to regional contribution are likely to be within reason and represent an appropriate consideration of regional economic value" (page 7).

### **Economic costs**

#### Opportunity cost of land

61 Whenever resources such as land change from one type of production to another, there are opportunity costs to consider. These need to be netted off the gross benefits listed above to get a truer picture of net additionality of the proposed mine.

62 As I understand it, much of the site's 115 hectares of land is current being used for dairy support, and will be returned to dairy support at the completion of mining. Based on indicative per hectare gross revenue estimates from Dairy NZ, and assuming 100 hectares of the site is suitable for farming, this land might generate at most \$125,000 per year.

63 Compared to the gross revenue estimates from mining of \$63.0 million per year once fully operational, this foregone grazing revenue is very small. As such, I believe the proposed mine represents an efficient use of land, relative to its alternative uses.

#### Impacts on tourism

64 Many submitters have expressed concerns about the impact of the mine on tourism. In contrast, Development West Coast as Regional Tourism Organisation have submitted stating that they do not believe that the mining will impact tourism.

65 As far as I am aware, no submitter has put forward any estimates of the potential decrease in tourist numbers. To understand the nature of trade-offs that *might* be

involved, it is helpful to think about how many international visitors would have to not come to offset the additional export revenue that the mine would generate.<sup>14</sup>

66 The latest tourism data shows that in the year to July 2023, international visitors spent \$73 million in the West Coast economy. Domestic visitors spent \$143 million.

**Table 3 Tourism spending and numbers**

Spending for year to July 2023

Role	International visitor spending, \$ millions	Domestic visitor spending
Grey District	12	52
Buller District	9	42
Westland District	52	49
<b>West Coast Region</b>	<b>73</b>	<b>143</b>

Source: *Tourism Electronic Card Transactions (TECTs)*, Ministry of Business, Innovation and Employment <https://teic.mbie.govt.nz/teiccategories/datareleases/tects/>

67 The average (median) international visitor to New Zealand spends \$252 per day.<sup>15</sup> So the \$63 million annual export revenue from the proposed operation is equivalent to 250,000 international visitor nights.

68 In other words, from an export perspective, the West Coast would need to see more than a quarter of a million *fewer* international visitor nights per year as a result of the proposed mining operation in order to be net worse off.

69 In the year to September 2023, the West Coast attracted 531,100 international guest nights.<sup>16</sup>

70 Therefore unless you think the proposed mining operation will result in international visitor number nights almost halving, the mine will generate more export revenue per year than any potential losses from lower international tourism.

71 I note Ms Crawford’s evidence on visual and landscape matters finds the proposed operation will have:

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<sup>14</sup> I focus here on international visitors, as they generate export revenue that can be compared against the export revenue associated with the proposed operation.

<sup>15</sup> StatsNZ. International Visitor Survey, June 2023. Dataset: Median daily spend per visitor by country. <https://teic.mbie.govt.nz/teiccategories/datareleases/ivs/>

<sup>16</sup> MBIE tourism dashboards: <https://teic.mbie.govt.nz/ste/theEconomy/economicResilience/>

- (a) *a low to moderate level of effect (minor) on landscape character during the Project, and a very low level of effect (less than minor) on landscape character in the longer term (SoE of Ms Crawford, Figure 2).*
  - (b) *a low (less than minor) short term effect for the users of SH6 and the Pakiroa Beach foreshore. On private receptors, the visual effect varies, from very low (less than minor) through to low to moderate (minor) (SoE of Ms Crawford, Figure 2 and paragraph 66).*
- 72 Based on Ms Crawford’s assessment, and my own judgement, I consider a drop in tourism activity of this scale that could be attributed to the proposed mining operation to be highly unlikely.
- 73 Future downturns in international tourism are more likely to be due to other factors such as a global recession<sup>17</sup>, new pandemics or climate change anxiety causing reduced international travel.

#### Other potential costs

- 74 Other costs associated with the proposed mining could be as a result of potential environmental effects. These have been addressed in the evidence of other experts including Mr Farren (acoustic), Dr Bramley and Mr Fitzpatrick (ecology), Ms Crawford (visual and landscape), and Mr Fuller (transport). These effects are not amenable to quantification in an economic sense.

#### Conclusion on economic costs

- 75 In terms of costs that can be quantified – agricultural opportunity costs and tourism – I conclude these are not likely to be material, especially relative to the economic benefits outlined above.
- 76 Mr Heath’s peer review supports my assessment, noting “Property Economics agrees with the report’s conclusion [on economic costs] that even if there is an impact, it is likely to be minor and significantly outweighed by the economic contributions of the proposed mining operation” (page 7).

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<sup>17</sup> By way of comparison, after the Global Financial Crisis in 2008/09, international visitor numbers dropped as incomes declined in developed economies and long-haul travel become a luxury that many could not afford. Between the year to March 2008 and the year to March 2013, the West Coast’s international visitor numbers fell by a total of 26%.

### Conclusion on net economic benefits

- 77 Based on the analysis above, in my opinion the economic benefits associated with the proposed operation far outweigh any potential economic costs. It will deliver significant net economic benefits to the Grey District and West Coast region.
- 78 Mr Heath's peer review concurs (page 8), concluding that my analysis "has provided sufficient evidence that the application would constitute a regionally significant activity" and that "Property Economics is satisfied with the report's conclusions".

### **Matters raised by submitters**

- 79 Submitters have raised several thematic concerns related to the economic effects of the proposed operation, namely:
- (a) Concerns I have over-estimated the number of direct and indirect jobs associated with the operation.
  - (b) Concerns over where additional workers might reside, given the tight property market.
  - (c) Reputational damage to the tourism sector that could see a drop in visitor arrivals and spending.
  - (d) Mining generates less local spending than tourism.
  - (e) Concerns about mining as a boom-bust industry.
- 80 I address these in Table 4 overleaf.

**Table 4 Submitters' concerns over economic matters**

Concern/issue	Response
<p>The claims of additional direct jobs are unsubstantiated. The West Coast has low unemployment and a skills shortage – where will the additional workers come from?</p>	<p>The types of roles to be filled were made available at the recent public meeting at the Barrytown Hall and are included in the evidence of Mr Berry. I am not a mining logistics expert but have no reason to doubt it is accurate.</p> <p>Mr Heath noted in his peer review that “Beyond the information provided by the applicant, it would be unreasonable to expect Sense Partners to justify this employment number” (page 5).</p> <p>Some of the additional demand for labour will be met by workers from outside the region moving to the West Coast, supporting population growth. Some will be met by West Coast workers moving between jobs to take advantage of the higher wages on offer. I see both effects as positive for the West Coast community and economy.</p> <p>Mr Heath (page 5) responds to submitters' concerns as follows: “additional jobs and employment opportunities in an area can rarely be considered an economic cost. Typically, we would expect workers and households to migrate to locations where jobs are available”.</p>
<p>The indirect employment estimates (1.4 times the direct impacts) are based on a 2014 Australian mining industry source and are thus unreliable.</p>	<p>I agree it would be better to use a New Zealand source. Existing input-output multiplier estimates for New Zealand suggest a ratio of indirect and induced jobs to direct jobs of 1.96.<sup>18</sup> Such multipliers often overstate flow-on effects because they assume no displacement or price impacts. I have used a more conservative estimate of 1.4 from the 2014 Australian study that uses an econometric approach to address some of the theoretical shortcomings of input-output multipliers.</p>

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<sup>18</sup> See Type II multiplier for 'Metal ore and non-metallic mineral mining and quarrying' at <https://www.insighteconomics.co.nz/wp-content/uploads/2019/09/2020-National-IO-Multipliers-for-New-Zealand-109-Industry.xlsx>



Concern/issue	Response
	<p>Mr Heath agrees that I have likely been conservative, noting in his peer review that “the Australian research in question suggested that the local job multiplier average across the entire country is seven new jobs per mining job and the estimate of 1.4 was based on regions with existing operating mines. Consequently, this suggests that if the Grey District does have a proportionally smaller mining industry than the comparative regions, the multiplier would be higher rather than lower [than 1.4]” (page 4).</p>
<p>The higher paid jobs will be filled by “fly in fly out” temporary residents, not local workers.</p>	<p>This is not the case for the proposed operation. See evidence of Mr Berry.</p> <p>I note Mr Heath’s peer review comments (page 5) that “Even if a portion is “fly in and fly out”, those workers will still spend time in the Grey District and spend some of their incomes locally. However, Property Economics considers the majority of workers will either be existing locals or people who move to the district”.</p>
<p>The Grey District has a housing shortage. Bringing in additional workers will put additional pressure on accommodation availability.</p>	<p>I agree upwards pressure on rents or house prices is theoretically a risk to the extent the demand for labour is met by workers from outside the District. However, this risk needs to be put into perspective. There are 5,193 dwellings in the Grey District.<sup>19</sup> The additional demand on this housing stock from a handful of workers from outside of the District is not likely to have a material impact on prices or rents.</p> <p>Mr Heath notes in his review that “Property Economics considers it is not economically beneficial to discourage activities that grow the district economy on the basis of housing affordability. As clearly directed by the central government, the solution to the housing crisis is increasing the supply of</p>

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<sup>19</sup> Ministry of Housing and Urban Development. 'Market indicators'. <https://huddashboards.shinyapps.io/urban-development/> Estimate is for September 2023.

Concern/issue	Response
	<p>housing and removing barriers to development, rather than discouraging job creation" (p.5). I agree entirely.</p> <p>I understand that TiGA is in discussions with Hagley Group regarding underwriting housing developments at Kaiata and Paroa which may alleviate some of the pressure on the housing stock. See evidence of Mr Brand (paragraph 48) for more details.</p>
<p>The tourism data used in my February 2023 analysis is out of date. The sector has recovered strongly.</p>	<p>I used the latest available data in February 2023. I agree that more recent data shows tourism has recovered well. However, nominal international tourism spending of \$73 million in the year to July 2023 is still 15% below its pre-pandemic level (\$85 million in the year ended December 2019). Given price inflation over this period, real (i.e. inflation-adjusted) international tourism spending would be lower still. Nominal domestic visitor spending was \$143 million for the year to July 2023, compared to \$108 million in the year ended December 2019. Domestic spending has been dropping since it peaked in the year ended June 2021 at \$163 million.</p> <p>Using updated tourism data does not alter my conclusion that the proposed operation would be unlikely to have a material impact on international visitor arrivals.</p>
<p>My February 2023 analysis suggests "it's OK to sacrifice the livelihoods of Coast tourist operators for a small boost to Government coffers" (submission 146, page 3).</p>	<p>I disagree. I am demonstrating the extent of the potential trade-offs that could be involved. I do not have any inherent preference for one type of economic activity over another.</p> <p>I note Development West Coast (DWC)'s submission concludes "As the Regional Tourism Organisation (RTO), DWC has carefully considered the potential impact of the TiGa mine on the visitor experience for the region. We see no negative impact to the experience or reputation of the region" (submission 315, para 32).</p>

Concern/issue	Response
<p>The taxes and royalties paid by TiGa will not benefit the West Coast.</p>	<p>I disagree. It is true not all of that amount is hypothecated and redirected solely to the West Coast. But that's not how government taxation and spending works. The West Coast also receives government spending funded by activities across the rest of New Zealand. Existing evidence suggests the West Coast gets at least its 'fair share' of government expenditure.<sup>20</sup></p>
<p>The share of revenue from tourism that is retained on the West Coast is greater than that for mining.</p>	<p>I have seen no empirical evidence to support this statement. It could be true but depends on how much of the region's tourism's inputs are 'imported' from other regions or overseas. As far as I am aware, such data does not exist at a regional level.</p> <p>Even if it were true, it would not alter my conclusion that the proposed operation would deliver a significant net economic benefit to the region.</p> <p>In addition, I agree with DWC's submission (paragraph 28) that the "West Coast economy is not overly diverse and our challenge is to support all sectors to thrive, rather than concentrating on one at the risk of another".</p>
<p>Shareholders overseas will be the main benefactors of the proposed operation.</p>	<p>See my paragraphs 57 to 58. Also see Mr Brand's evidence (paragraphs 5 to 9).</p>
<p>Tourism is "a significant portion" of the West Coast economy, and this does not appear in the economic evidence.</p>	<p>I agree tourism is a significant industry for the region. In the year to March 2019 (i.e. pre-COVID), tourism directly accounted for 3.3% of the Grey District economy and 8.4% of the West Coast Region's economy.<sup>21</sup> Mining accounted for 8.2% and 3.5% respectively for the same period.</p>

<sup>20</sup> NZIER. 2013. 'Regional government expenditure: Estimates of core crown spending by region'. NZIER report to MBIE and Treasury, April 2013.

<sup>21</sup> Infometrics. <https://ecoprofile.infometrics.co.nz/Grey%2bDistrict/Tourism/TourismGdp>

Concern/issue	Response
<p>Mining is a boom-bust industry, so benefits are uncertain and will not endure. Commodity price cycles can lead to mine closures and job losses (e.g. Stockton).</p>	<p>We should be careful not to generalise based on the Solid Energy experience at Stockton. Enterprise-specific and historical factors were also at play, not solely the coal price cycle.</p> <p>It is correct that mines have a limited period of operation and that the economic benefit of any individual mine will drop as it winds up. This points to the value of a region diversifying within the mining sector so that activities can have overlapping production periods.</p> <p>The prices of Garnet and Ilmenite – the two key minerals to be produced by TiGa at the proposed operation – are much less cyclical than coal. They are much less likely to experience cyclical downturns given rising demand for rare earth materials overseas as countries look to electrify their transport systems and produce more renewable energy. See evidence of Mr Brand (paragraphs 13 to 27).</p>
<p>Mine closures led to worsening deprivation on the West Coast.</p>	<p>The West Coast's 'Deprivation Index has been consistently worse than the national average since 1991 (see Figure 1 in Appendix A), in part due to it having a much older age profile than the rest of New Zealand. While the Stockton closure will have contributed to a worsening in the Index, equally one can conclude the <i>growth</i> of the mining sector in the 2000s will have contributed to an improvement in the Index.</p>

### **Matters raised by WCRC and GDC staff reports**

81 The GDC Officer's report does not raise any matters or concerns around the economic aspects of the proposed operation that require a response. The report, which draws on my economic report and a peer review by Property Economics:

- (a) agrees that "it is clear there will be positive economic effects resulting from the proposal" (paragraph 107) and that these are "not speculative" (paragraph 111).
- (b) acknowledges there will be benefits to overseas shareholders but "the applicant's economic evidence as confirmed in the peer review notes there will be positive economic benefits from the proposal that are regionally significant" (paragraph 109)
- (c) concludes that "[w]hile the West Coast economy may be doing well, that does not remove the right for the applicant to apply for resource consent and also does not make the positive economic effects resulting from the proposal irrelevant" (paragraph 110)
- (d) determines that "given there are no visitor accommodation activities within the close vicinity of the site... adverse effects on existing visitor accommodation businesses will be less than minor" (paragraph 117).

### **Conclusion**

82 The economic benefits associated with the proposed operation – in terms of additional exports, GDP, jobs, wages and local spending – far outweigh any potential economic costs.

83 It will deliver significant net economic benefits to the Grey District and West Coast region.

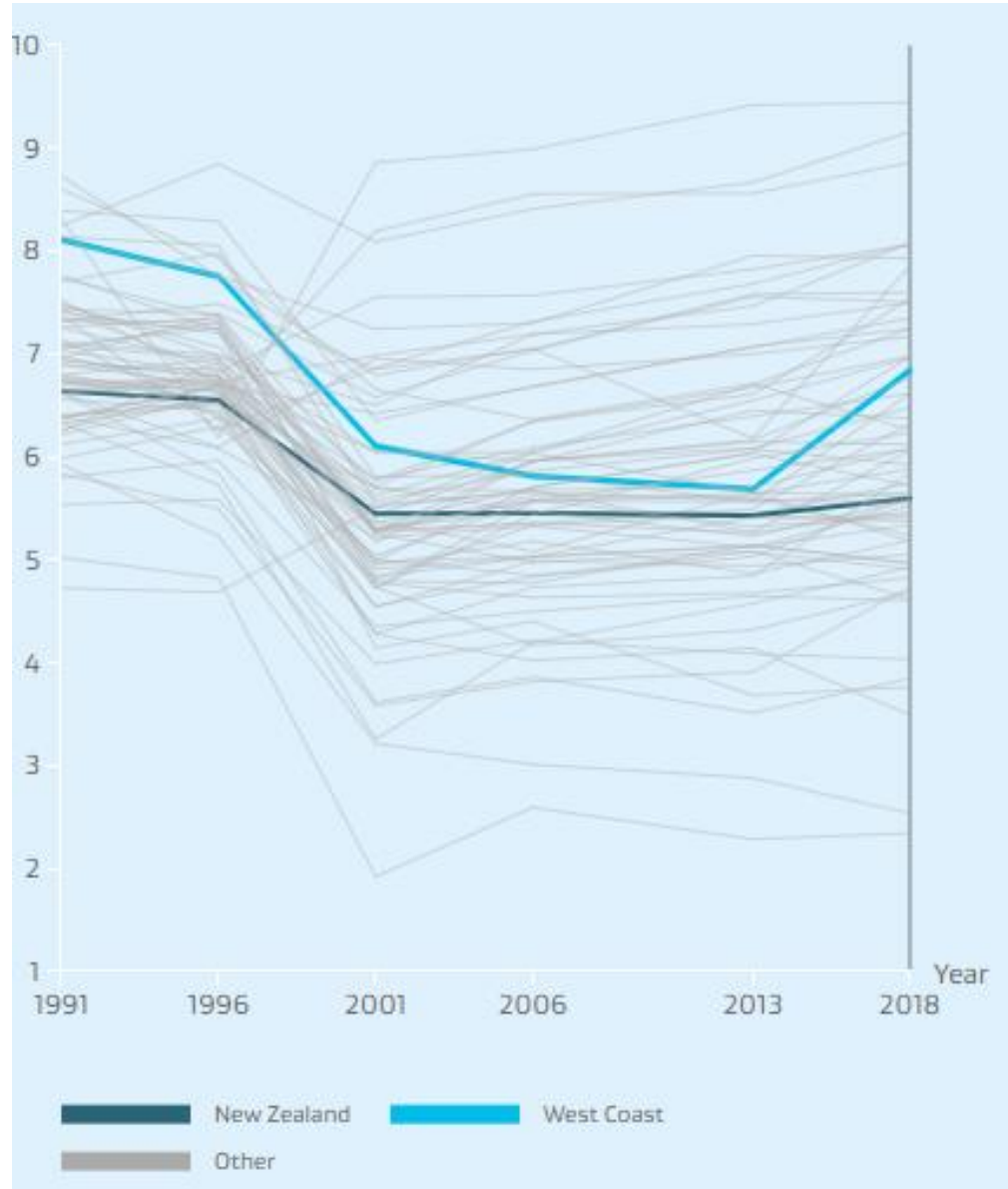
**John Stacey Ballingall**

Dated this 19<sup>th</sup> day of January 2024

## Appendix A West Coast Deprivation Index

Figure 1 West Coast Region Deprivation Index vs New Zealand

*Higher Index denotes more deprivation*



Source: MBIE Regional Economic Activity Web Tool:

<https://webrear.mbie.govt.nz/theme/deprivation-index/map/timeseries/2018/west-coast?accessedvia=west-coast&areatype=ta&right-transform=absolute>