1. Qualifications and Background

1.1 My name is Ivo Geoffrey Bertram. I live in Wellington and am an economist.

1.2 I am currently a Visiting Scholar in the School of History, Philosophy, Political Science and International Relations at Victoria University of Wellington. From 1976 to 2009 I was a Senior Lecturer in the School of Economics and Finance at that university, and from 2009 to 2023 a Senior Associate at the Institute for Governance and Policy Studies. From 1974 to 1976 I was a Research Officer at the Institute of Economics and Statistics at Oxford University.

1.3 I graduated with a BA Honours degree from Victoria University in 1966, and completed a D.Phil degree in economics at the University of Oxford in 1974.

1.4 My doctoral research led to a book, written with my thesis supervisor, on the economic history of Peru in the twentieth century[1], which included systematic analysis of the impact of the mining and petroleum industries on that country's economic development. We concluded that of the broad range of commodities exported by Peru over the period 1890-1977, the two with the weakest positive impact and most negative aspects had been petroleum and large-scale metals mining, due to their combination of capital-intensity, foreign ownership, successful tax minimisation, and frequent capture of government policy.

2. Expert witness code of conduct

2.1 In preparing this statement, I have read and complied with the Environment Court Code of Conduct for Expert Witnesses.

3. Economic impacts of mining in New Zealand

3.1 In 2010 I carried out and published a detailed economic analysis of the mining industry in New Zealand.[2]

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[1] Rosemary Thorp and Geoffrey Bertram, *Peru 189-1977: Growth and Policy in an Open Economy*, London and New York: Macmillan and Columbia University Press, 1978.

[2] *Mining and the Conservation Estate*, report for Royal Forest and Bird Protection Society of New Zealand, Simon Terry Associates Research Ltd, 2010, https://geoffbertram.com/wp-content/uploads/2021/12/mining-economics-and-the-conservation-estate-main-text-1.pdf and https://geoffbertram.com/wp-content/uploads/2021/12/mining-economics-and-the-conservation-estate-appendices-1.pdf ; "Mining in the New Zealand Economy", *Policy Quarterly*, 7(1):13-19, February 2011, https://geoffbertram.com/wp-content/uploads/2021/12/mining-in-the-nz-economy-pq-feb-2011_01-1.pdf .

3.2 I reproduce below a table from my 2010 report comparing the distribution of income ("contribution to Gross Domestic Product") across five branches of the industry: oil and gas, coal, quarrying, ironsands, and gold and silver.

Table 5
Estimated distribution of income by detailed subsector, year ending March 2007

March year 2007 data or estimates	Mining (ANZSIC Division B)	ANZSIC Level 2		ANZSIC level 3					
		Oil and gas	Mining and quarrying (incl services to mining)	Quarrying	Coal	Gold & silver	Ironsands	Total mining and quarrying	Services to mining estimates
Percentage shares of gross value added									
Compensation of employees	21.0%	12.7%	31.8%	34.6%	35.0%	21.7%	57.1%	32.4%	29.3%
Taxes on production incl ERL	4.6%	10.7%	4.9%	0.0%	4.1%	0.0%	0.3%	1.4%	13.1%
Gross operating surplus	74.4%	82.5%	63.9%	65.0%	60.8%	78.3%	42.9%	66.0%	56.9%
Depreciation	26.3%	32.6%	18.2%	15.9%	20.1%	46.1%	3.5%	24.1%	14.3%
Net surplus	48.1%	49.9%	45.8%	49.1%	40.8%	32.2%	42.9%	42.1%	42.6%
Income tax and royalties	na	na	na	14.7%	16.7%	8.3%	0.3%	13.4%	12.8%
After-tax net surplus	na	na	na	34.4%	24.1%	23.9%	42.9%	28.7%	29.8%

3.3 My report commented as follows on these numbers:

> Some clear conclusions … emerge, which have relevance for future debates over which types of mining are most likely to yield benefits for the economy. Quarrying and coal mining have significantly higher purchases of intermediate goods and services from other sectors than gold and silver mining, and a wage share that is more than one and a half times that of gold and silver (35% in quarrying and coal versus 22% in gold and silver). What this means is that the economic flows generated by gold and silver mining are disproportionately dominated by gross profit. Within gross profit, gold and silver mining allocates a far higher share to depreciation allowances (outside the tax net) than do coal and quarrying. Following from this is a very low income-tax take out of gross value added: gold and silver pay only 8.3% compared with coal's 17% and quarrying's 15%. Only ironsands mining contributes less tax than gold and silver (effectively nothing).
>
> With gross profit so dominant in the income generated by gold and silver mining, the benefit to the New Zealand economy depends especially heavily on ownership – where do the profits accrue, locally or overseas? The virtually complete overseas ownership of large-scale gold and silver mining means that New Zealand participation in its profits is limited to whatever minority shareholdings may be held in Newmont, Oceana, Coeur and any other future overseas entrants to the sector.

3.4 My 2010 report contained also a set of estimates of the net contribution to the New Zealand balance of payments of the five types of mining, set out in the table below:

Table 6
Retained value and balance of payments contribution by sector

March year 2007 data or estimates	Mining (ANZSIC Division B)	ANZSIC Level 2		ANZSIC level 3					
		Oil and gas	Mining and quarrying (incl services to mining)	Quarrying	Coal	Gold & silver	Ironsands	Total mining & quarrying excl. services	*Services to mining estimates*
% New Zealand ownership estimated	64%		n.a.	80%	100%	10%	0%		n.a.
Income retained in the New Zealand economy to second round of expenditure, $million			**1,650-1,786**	**463**	**564**	**157**	**32**	**1,217**	**433-569**
Local content of intermediate goods			1,010	240	350	97	20	706	304
Wages and salaries			282	85	75	32	12	204	78
Taxes			160	43	50	15	1	109	52
Gross profits (after tax) accruing in NZ			194-330	95	89	10	0	194	0-136
% of gross income spent in New Zealand			76%-82%	82%	83%	55%	70%	77%	73%-95%
Local content of intermediate goods			47%	43%	52%	34%	43%	45%	51%
Wages and salaries			13%	15%	11%	11%	25%	13%	13%
Taxes			7%	8%	7%	5%	2%	7%	9%
Gross profits (after tax) accruing in NZ			9%-15%	17%	13%	4%	0%	12%	0-23%
Income flowing offshore to imports and profits			384-520	102	114	126	14	356	28-164
Export earnings		489	925	4	371	264	20	659	265
Net direct foreign-exchange contribution $ million			**404-504**	**-98**	**257**	**138**	**6**	**303**	101-237
Net direct foreign-exchange contribution % of gross sales			**19%-25%**	**-17%**	**38%**	**49%**	**13%**	**19%**	17%-40%
Assumed excess cost of importing the product				100%	20%	0%	20%		0
Estimated import-substitution saving			1,873	1,121	369	19	32	1,541	332
Net total foreign exchange contribution $ million			**2,277-2,413**	**1,023**	**626**	**157**	**38**	**1,844**	**433-569**
Net total foreign exchange contribution % of gross sales			**105%-111%**	**181%**	**92%**	**55%**	**81%**	**117%**	**72%-95%**

Source: Appendix J Table J5.

3.5 My report commented

> Quarrying and coal mining exhibit 82-83% of gross sales revenue spent in New Zealand. Ironsands are 70%, and gold and silver 59%. Local-economy spending impacts, thus, are lowest for gold and silver mining.

3.6 I believe these results drawn from 2007 data remain broadly representative today, though obviously there have been changes of detail - for example, the 100% New Zealand ownership of coal mining no longer applies since the entry of Bathurst Resources Ltd.

4. Santana's projected economic benefits overstated

4.1 I agree with Dr Richard Meade that the Benje Patterson report, and the company's promotional materials, have greatly overstated the likely scale of economic benefit to New Zealand from the Bendigo-Ophir Gold Project. The projected gold price is extravagantly optimistic and the predicted tax calculations lack consideration of the normal means of tax minimisation in this industry, especially the offsetting of expenses of further exploration and development against the profits from current production.

4.2 I agree also with Dr Meade that the Benje Patterson analysis fails to account for negative aspects of the project, both pecuniary and non-pecuniary, and that the absence of any recognition of the opportunity costs of labour and other resources renders the benefits calculation economically untenable as it stands.

4.3 In particular I disagree with the Benje Patterson report when at page 6 it says that GDP is "appropriate [as a measure of direct economic impacts] because GDP is New Zealand's official measure of economic growth". While the last part of this statement is true, that is no justification for using GDP in the context of assessing net economic gains for particular beneficiaries – the region for example, or the New Zealand public at large. The "official" status of GDP is irrelevant to the question what are the economic effects of this project, because GDP can be seriously misleading as a measure of income for the inhabitants of a country when there is large-scale overseas ownership so that much of the added-value measured by GDP actually leaks abroad. That is dramatically the case with large-scale gold mining as noted above. In national income accounting, the measure which better captures income for the local population is GNI (Gross National Income) which subtracts that profit outflow from GDP to recognise the fact that locally-generated income flows out to benefit people elsewhere in the world.

4.4 Similarly when looking at regional economic effects, payments to factors of production (labour, capital, knowledge etc) located outside the region need to be set aside. Table 2 on p.7 of the Benje Patterson report treats all "GDP from operations" as "direct contribution to Otago economy", which makes no economic sense - the report fails to allocate value added across the various geographic locales that are recipients of flows of factor income.

4.5 The Benje Patterson report acknowledges (pages 15 and 17) that its multiplier-effect estimates are "theoretical maxima". This is not matched by any statement about what the theoretical minima might be. I agree with Dr Meade that the actual minima could well be zero, or even negative if there are crowding-out effects on other sectors of the local economy, which seems probable given the relatively fully-employed state of the Central Otago economy and the already-acute regional shortage of housing and infrastructure.

5. Bendigo not previously attractive to major operators

5.1 Neither Oceana Gold nor Newmont Mining, the two gold-mining transnationals currently or recently active in New Zealand gold mining, had regarded Bendigo-Ophir as worth pursuing, leaving the mineral rights in the hands of the small West Coast company Matakanui Gold Ltd which was acquired by Santana in 2020. Because of its established history of hard-rock gold mining, the Bendigo area had been included in various exploration efforts including evaluation by Patagonia Gold plc in 2005[3], and an aerial geomagnetic survey carried out in

[3] "Foreign gold company has Bendigo permit", Southland Times 31August 2005.

2007-2008 by Glass Earth Ltd and Australasia Gold Limited[4], but results had not triggered further action.

5.2 In 2004 Oceana Gold embarked on a major exploration campaign with the stated aim of diversifying out from its Macraes operation, stating that "by 2007, Oceana wanted to be a "multi-asset" miner with four sites producing gold, which would spread the risk."[5] The company subsequently developed a new mine at Reefton and acquired the Waihi mine from Newmont, but displayed little or no interest in Bendigo. In 2016 another wave of exploration plans was unveiled: "Oceana told sharemarket analysts in Canada, where the company is registered, that over the next two years it also planned to use six exploration permits in the northern Bay of Plenty and the Coromandel. It had budgeted US$10 million (NZ$14.5m) to explore drilling 34 kilometres of new and previously-used mine sites."[6] Again Bendigo was not identified as a target.

5.3 Whether the results from Santana's drilling programme would now suffice to change Oceana's mind is unknown at this point.

6. Santana's corporate track record

6.1 In considering the credibility of the projections and undertakings put forward by Santana Minerals Ltd it is important to be keenly aware of the nature and history of this company. Santana has never, since its establishment in 2013, constructed or operated a gold mine, nor a processing plant. Its proposal to undertake a project on the scale of Bendigo-Ophir is backed by no previous experience or performance to which the Fast-Track Panel might have reference, and it conspicuously lacks, at this point, the necessary resources to push through the project on its own account. I have reproduced in Appendix A the company's latest balance sheet. "Assets" consist roughly half-and-half of cash and the capitalised sum of past exploration expenditure. "Property, plant and equipment", within which actual mining equipment is included, is an insignificant part of the total - just $0.4 million of $106 million. In other words this company has to date made no significant investment in the physical gear required to excavate the proposed mine, erect the proposed plant, or construct and maintain the proposed tailings storage.

6.2 In this respect Santana contrasts dramatically with Oceana Gold, the main current operator and developer of large-scale gold mines in this country, whose Waihi North project is also being progressed under the Fast Track Approvals Act

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4 "Major OTAGO Airborne Geophysics Campaign Update" Stuff NZX Announcement 23 May 2007; "Drilling commences in the Otago region" Toronto Stock Exchange announcement 16 June 2008.

5 "Oceana to spend $125m in South Island" New Zealand Herald 30 September 2004.

6 "Oceana wants more Kiwi gold" Nelson Mail 5 April 2016

2024. Oceana is an established international company with a long track record of mining in New Zealand and the Philippines, and with a solid portfolio of equipment, skilled labour and technical expertise.

6.3 Santana Minerals is what is known as a "junior explorer", set up to undertake speculative exploration of mining areas that have not attracted the involvement of major transnational operators, or that have been abandoned by them. A review of Annual Reports since 2013 shows that before focusing on Bendigo-Ophir in 2020, Santana had carried out unsuccessful drilling programmes on three projects in Mexico, one in Chile, and one in Laos, and was carrying $21 million of impairments on its books to reflect the writing-off of those previous exploration efforts.

6.4 The junior-explorer business model is to identify an area of mineral interest, raise funds from speculative investors to finance a programme of exploration and evaluation, and see whether a possible mining development can be identified. If not, the investment is written off (entered as an "impairment" on the books) and the company's investors wear the loss if the impairment cannot be reversed by later success.

6.5 If a drilling programme identifies a worthwhile deposit and the necessary regulatory consents can be gained, the junior explorer can either seek to develop the mine, or on-sell the project to an established mining operator with the skills and resources to do so.

6.6 The economic projections set out in Santana's application documents assume that Santana itself finances, develops, owns and operates the mine and processing plant, and that the current ownership mix, including New Zealand shareholdings, holds good when the mine comes into production. In the event that a large overseas mining corporate is brought into the picture, whether in a joint venture or by outright sale, economic outcomes could vary significantly.

6.7 For example, the ownership structure, and hence the extent to which profits from a mine would remain in New Zealand, would be quite different if the project were to be on-sold to one of the major transnationals, with less return to New Zealand and lower tax payments. In addition, a major established transnational taking over via outright purchase or a joint venture arrangement would be able to charge for its head-office services, skills, and intellectual property, further diluting the return to New Zealand.

6.8 There is a strong incentive, for a junior explorer that advances a mine project through the exploration and consenting processes, to then sell the venture to a larger player with the required experience, personnel and equipment to undertake actual development. At that point Santana's

shareholders would secure a return on their money and the company itself would move on to its next opportunity. Because it carries zero debt and no inventory of equipment, Santana is well positioned to follow that route, whereas it is clearly underweight in terms of being able to carry the highly ambitious proposed mine undertaking through to production.

6.9 It is also unclear whether Santana with its current capitalisation could sustain the burden of lodging a serious bond to guarantee the long-run performance of the proposed tailings structure.

Geoff Bertram
26 March 2026

Appendix A
Santana Minerals 2025 balance sheet

Consolidated Statement of Financial Position as at 30 June 2025

	Note	Consolidated 2025 $	Consolidated 2024 $
Current assets			
Cash and cash equivalents	8	50,453,388	33,068,475
Trade and other receivables	9	557,639	754,335
Prepayments		201,577	75,650
Total current assets		51,212,604	33,898,460
Non-current assets			
Equity accounted investees	10	64,265	81,032
Property, plant and equipment	11	431,229	257,397
Right of use asset	12	266,886	52,594
Exploration and evaluation expenditure	13	54,420,890	35,446,495
Total non-curent assets		55,183,270	35,837,518
Total assets		106,395,874	69,735,978
Current liabilities			
Trade and other payables		3,360,723	1,690,227
Employee benefits payable		239,789	143,311
Lease Liability	14	158,392	32,224
Total current liabilities		3,758,904	1,865,762
Non-current liabilities			
Lease Liability	14	40,794	20,629
Total non-current liabilities		40,794	20,629
Total liabilities		3,799,698	1,886,391
Net assets		102,596,176	67,849,587