Economic impacts of MP4 mitigation and compensation commitments up to closure of operations

Final

Report to:
OceanaGold NZ Limited

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EAQUB & EAQUB

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1. Introduction

OceanaGold (New Zealand) Limited (OGNZL) has commissioned this report from economist Shamubeel Eaqub of Eaqub & Eaqub Limited. The purpose is to provide a preliminary assessment the economic impact of the Macraes Phase Four Project (MP4) closure and rehabilitation activities. These activities are subject to consent conditions, which will not be finalised until approval. This should be seen as indicative, and as a complementary supporting document to the main economic report.

3. Key assumptions for the project

The focus here is mine closure and rehabilitation activities, including rehabilitation of mining landforms, creation of pit lakes, dry capping of tailings storage facilities, water management and revegetation in accordance with closure objectives.

We have based this on company estimates of a possible scenario and costs associated with likely activities, identified in proposed consent conditions in expert reports.

We have relied on company expert views on the types and locations of suppliers who will provide the services, including direct employment and specific capital investments.

5.2 The modelling approach

We use the same modelling approach as the marginal effect of the project. To reiterate:

> The model used is a modified Input-Output table (using the latest 2024 Input-Output tables published by Statistics NZ) regionalised at the Territorial Authority level. We have used detailed analysis of suppliers to the Macraes Operation to understand the effect on suppliers, rather than rely on Statistics New Zealand's input-output tables. This ensures our analysis is grounded in the actual experience of the mine.
>
> We look at the effects of local, that is New Zealand, spending only. We don't shock revenue, which is highly volatile due to international gold price and exchange rate effects. In contrast, mining operation and capital investment plans are known with more clarity, and are less prone to change. This is also specifically focuses on money that will be specifically spent in New Zealand associated with the project.

We then quantify the expenditure effects relative to the economy (GDP) and job effects. The latter is often easier to conceptualise. By looking at the expenditure effects, we avoid issues of ownership rules and leakage of profits to shareholders, who are dispersed globally.

The analysis distinguishes three layers of economic effect. Direct effects are the mine itself: employment, wages, and on-site activity. Indirect effects are the jobs and income generated in NZ firms supplying goods and services to the mine. Induced effects are the spending by mine workers and supplier employees in the wider economy: on housing, retail, healthcare, and other local services. Together these three layers constitute the mine's contribution to New Zealand's national output. In input-output terms, the direct and indirect effects together are the Type I effect; adding induced effects gives the Type II effect. We report both, and treat the induced layer as an upper bound.

Economic effects are reported by year, and net present values at an 8% real discount rate. All figures are in 2026 dollars unless stated otherwise.

This is an economic impact assessment. We have set out the contributions in a way that makes it easy for the panel and interested parties to understand the economic effects and their channels. This allows the panel to then weigh up the relative costs and benefits to their satisfaction. The other reason is that a cost benefit analysis requires well specified effects to value. It is not yet clear which externalities the economic evidence should value, given the mitigation strategies including consent conditions should manage these externalities. If there are specific externalities the panel would like an economic valuation on, we can provide those in the future.

5.3 Results

The closure and rehabilitation programme

The company estimates (as at 7 August 2026 and subject to change) closure and rehabilitation will cost around $436 million in 2026 dollars, spread over seven decades. About $156 million is spent between 2028 and 2039, while the mine is still operating. The remaining $280 million is spent after closure, mostly on running the water treatment plants for around 60 years, alongside long-term monitoring, pest control and maintenance of the ecological areas.

Not all of that spending creates economic activity in New Zealand. Around $4 million buys land, which transfers ownership rather than paying anyone to produce something. Around $13 million is imported from overseas, mainly specialised earthmoving equipment. We model the remaining $420 million of domestic spending.

The company expects the work to be sourced locally: around 70% from Waitaki, 9% from Dunedin, 18% from the rest of Otago, and 2% from the rest of New Zealand. This reflects the nature of the work. Earthworks, fencing, planting, pest control and plant operation are done where the site is, by local contractors and workers.

Economic effects

The $420 million of domestic spending supports around $412 million of GDP across the whole economy over the life of the programme, including direct, indirect and induced effects (Appendix A, Figure 2). The direct and indirect effects (Type I) are together $340 million. In present value terms, at an 8% real discount rate, the GDP contribution is around $107 million, against spending with a present value of $109 million. The present values are much smaller than the nominal totals because most of the spending happens far into the future.

Each dollar of spending supports slightly less than a dollar of GDP. That is expected for this kind of work. The spending buys services with a high labour content and comparatively simple supply chains, so there's less scope for flow-on activity than the mine's own operational spending.

Around $165 million of the GDP effect, 40%, lands in Waitaki. Dunedin and the rest of Otago each take around 15%, and the remaining 30% spreads across the rest of New Zealand. The Waitaki share of activity is lower than its 70% share of spending because supply chains leak: a Waitaki contractor buys fuel, materials and equipment from firms around the country, and workers spend their wages beyond the district.

Employment

The programme supports around 2,060 FTE-years of employment over its life (Appendix A, Figure 1). Roughly half of that, around 1,060 FTE-years, occurs between 2028 and 2039, averaging around 90 jobs a year and peaking near 270 in 2030, the main construction year for the water treatment plants and dams.

The other half comes after the mine closes. The post-closure programme supports around 17 jobs a year for around six decades: operating the water treatment plants, monitoring, pest control, and maintaining fences and plantings. These are not large numbers against the mine's operational workforce of around 800. But they persist long after mining income has stopped, and they are concentrated in Waitaki and wider Otago.

Around 1,040 FTE-years, half the total, are in Waitaki and Dunedin combined.

Interpretation

Three things stand out from these results.

First, closure is not an economic cliff. The rehabilitation obligations themselves generate work: around $420 million of domestic spending, $412 million of GDP and around 2,060 FTE-years of employment. This activity cushions the wind-down of the mine and continues for decades after it.

Second, the work is local in a way that mining procurement is not. The main report found around a third of the mine's operational spending lands in Otago. For closure and rehabilitation, the company expects nearly all the spending to be sourced within Otago, and 40% of the resulting GDP stays in Waitaki alone.

Third, the spending is a condition of the consent, not a discretionary benefit. It is a cost to the company. But for the district it is real income: contracts for local firms and a small, stable workforce that outlasts the mine by two generations.

Limitations

These results are indicative and the cost estimates are high level. Consent conditions are not yet finalised, so the mitigation methods, and therefore the costs, may change. The estimates are a company scenario of likely activities, not a priced works programme.

The results are dominated by a single item. Running the closure water treatment plant accounts for $250 million, 57% of the programme. The company expects that operation to be sourced entirely domestically, 80% from Waitaki.

The modelling holds the 2024 structure of the economy and 2026 prices constant for seven decades. Over that horizon, technology, prices and the structure of the regional economy will change in ways our model can’t capture.

5.3 Conclusion

In my opinion, the closure and rehabilitation programme is economically material to Waitaki and wider Otago. It supports around $412 million of GDP and around 2,060 FTE-years of employment, half of it after mining ends, sustained over decades. The programme softens the economic transition that closure would otherwise impose on the district, and it does so with locally sourced work. These effects are indicative, because the consent conditions that determine the mitigation works are not yet set. They complement, and do not change, the conclusions of the main economic report.

Appendix A: Detailed economic model results

Figure 1: Employment effects of the closure and rehabilitation programme (FTE-years)

Category EMPLOYMENT (FTE-years)	Geography / Level	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040+	Total
Direct	Waitaki	16	15	83	14	14	14	14	14	14	14	14	27	241	492
Direct	Dunedin	21	10	12	8	8	8	8	8	8	8	8	20	7	136
Direct	Rest of Otago	4	4	21	7	7	7	7	7	7	7	7	22	58	164
Direct	Rest of NZ	6	0	2	2	2	2	2	2	2	2	2	8	0	31
Direct	**Total**	**47**	**30**	**118**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**31**	**77**	**306**	**823**
Indirect	Waitaki	3	3	15	3	3	3	3	3	3	3	3	5	93	141
Indirect	Dunedin	6	5	16	4	4	4	4	4	4	4	4	9	80	148
Indirect	Rest of Otago	5	4	20	4	4	4	4	4	4	4	4	10	76	149
Indirect	Rest of NZ	15	8	44	9	9	9	9	9	9	9	9	19	205	361
Indirect	**Total**	**29**	**20**	**95**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**42**	**454**	**798**
Induced	Waitaki	1	1	6	1	1	1	1	1	1	1	1	2	28	46
Induced	Dunedin	4	2	8	2	2	2	2	2	2	2	2	4	37	72
Induced	Rest of Otago	3	2	8	2	2	2	2	2	2	2	2	4	33	63
Induced	Rest of NZ	13	6	31	7	7	7	7	7	7	7	7	14	143	262
Induced	**Total**	**22**	**11**	**54**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**24**	**241**	**443**
Total	**All NZ**	**97**	**61**	**267**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**143**	**1,002**	**2,064**
Total	Local (Waitaki+Dunedin)	51	36	140	32	32	32	32	32	32	32	32	67	487	1,035

Figure 2: GDP effects of the closure and rehabilitation programme

Category	Geography / Level	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040+	Total	NPV 8%
ECONOMIC ACTIVITY CONTRIBUTION ($m)																
Direct GDP	Waitaki	2	1	8	2	2	2	2	2	2	2	2	3	108	138	27
Direct GDP	Dunedin	3	1	1	1	1	1	1	1	1	1	1	2	4	17	8
Direct GDP	Rest of Otago	1	0	2	1	1	1	1	1	1	1	1	2	25	36	8
Direct GDP	Rest of NZ	1	0	0	0	0	0	0	0	0	0	0	1	0	4	2
Direct GDP	**Total**	**6**	**3**	**12**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**7**	**137**	**195**	**46**
Indirect GDP	Waitaki	0	0	2	0	0	0	0	0	0	0	0	1	16	22	5
Indirect GDP	Dunedin	1	1	2	1	1	1	1	1	1	1	1	1	25	35	8
Indirect GDP	Rest of Otago	1	0	2	0	0	0	0	0	0	0	0	1	11	18	5
Indirect GDP	Rest of NZ	2	1	6	1	1	1	1	1	1	1	1	3	48	71	19
Indirect GDP	**Total**	**4**	**2**	**12**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**5**	**99**	**146**	**37**
Induced GDP	Waitaki	0	0	1	0	0	0	0	0	0	0	0	0	3	5	2
Induced GDP	Dunedin	1	0	1	0	0	0	0	0	0	0	0	1	6	11	4
Induced GDP	Rest of Otago	0	0	1	0	0	0	0	0	0	0	0	1	5	9	3
Induced GDP	Rest of NZ	2	1	6	1	1	1	1	1	1	1	1	3	26	47	16
Induced GDP	**Total**	**4**	**2**	**9**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**4**	**39**	**72**	**24**
TOTAL GDP / ACTIVITY	**All NZ**	**13**	**7**	**33**	**8**	**8**	**9**	**9**	**9**	**9**	**9**	**9**	**16**	**275**	**412**	**107**
TOTAL GDP / ACTIVITY	Local (Waitaki+Dunedin)	6	4	15	4	4	4	4	4	4	4	4	7	161	227	54

Figure 3: Closure and rehabilitation programme spend, by source geography

Category	Geography / Level	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040+	Total	NPV 8%
CLOSURE & REHABILITATION PROGRAMME SPEND ($m)																
Programme cost (supplied estimate)	**All sources**	**13**	**8**	**37**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**18**	**280**	**436**	**118**
less land purchases (transfers)	memo	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2
less imports / world sourcing	memo	0	0	1	1	1	1	1	1	1	1	1	1	0	12	7
Domestic spend (modelled)	**All NZ**	**13**	**7**	**35**	**8**	**8**	**9**	**9**	**9**	**9**	**9**	**9**	**16**	**280**	**420**	**109**
Domestic spend	Waitaki	4	4	25	4	4	4	4	4	4	4	4	7	221	296	65
Domestic spend	Dunedin	6	3	3	2	2	2	2	2	2	2	2	4	8	38	19
Domestic spend	Rest of Otago	1	1	6	2	2	2	2	2	2	2	2	4	51	76	19
Domestic spend	Rest of NZ	2	0	1	1	1	1	1	1	1	1	1	2	0	9	5

Figure 4: List of key activities assessed

Area	Item	Cost ($m)
Ecology	MEEA - fence	[redacted]
Ecology	Lizard salvage	
Ecology	400ha MEEA link - tussock planting	
Ecology	285ha pine block - tussock planting	
Ecology	Additional Macraes team	
Ecology	Support costs - vehicles, monitoring etc	
Ecology	60ha Cranky Jims link - plantings	
Ecology	Wetlands - planting	
Ecology	400ha MEEA link - land cost	
Ecology	MEEA - predator removal	
Ecology	285ha pine block - pines removal	
Ecology	MEEA establishment - land cost	
Ecology	Eco Fund	
Ecology	Other	
Water Quality	Closure RO plant (NBWR modifications)	
Water Quality	NBWR RO plant & infrastructure	
Water Quality	WRS construction - additional D10 dozer	
Water Quality	Coal & Camp Creek augmentation dams	
Water Quality	Nitrate removal bed	
Water Quality	Pit lake dosing - FeCl	
Water Quality	Engineered cut-off drains at WRS's	
Water Quality	Cut-off drain pumps (electricity)	
Other	Re-hab specific plantings	
Other	NBWR re-establishment	