Treaty Settlement Impact Assessment

Macraes Phase 4 (Fast Track Approvals Act)

Oceana Gold (NZ) Ltd



Ka whakawhārikitia e tātou te huarahi mō rātou a muri ake nei,
kia takahia kā tapuwae o kā tūpuna [1]

[1] To set a pathway for our mokopuna so they might walk in the footsteps of our tīpuna.

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Acknowledgement

The preparation of this Treaty Settlement Impact Assessment for the expansion of the Macraes Gold Project was undertaken with the assistance of:

- Kāti Huirapa Rūnaka ki Puketeraki
- Ka Tāki Te Umere
- Gail Tipa, Tipa & Associates

Front cover photo: OceanaGold Macraes Gold Project, Murphy's Ecological Enhancement Area (Aukaha, 2026)

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Report

For OceanaGold Limited

[2] Referred to as 'the Project' in this report.

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Toitū te Mana, Toitū te Whenua: Kā Rūnaka

This report has been prepared on behalf of Kāti Huirapa Rūnaka ki Puketeraki, who are recognised as mana whenua in the project area. Two further Rūnaka, Te Rūnanga o Moeraki and Te Rūnanga o Ōtākou, have interests in the proposal due to the potential impacts on the whenua and wai of Waihemo and Taiari.

Te Rūnanga o Moeraki



The takiwā of Te Rūnanga o Moeraki centres on Moeraki and extends from the Waitaki to the Waihemo (Shag River), and inland to Kā Tiritiri o te Moana (Main Divide). This includes shared interests with other Papatipu Rūnanga in Te Manahuna (Mackenzie Basin) and Tuawhenua (Queenstown Lakes and Central Otago).

Kāti Huirapa Rūnaka ki Puketeraki

Our Waitaha, Kāti Māmoe, and Kāi Tahu tūpuna (ancestors) were drawn to East Otago by the abundance of food and resources that made it an ideal location for permanent settlements.[4] The descendants of Waitaha, Kāti Māmoe and Kāi Tahu who settled this area remain to this day.



The hapū (subtribes) that have prominence within Kāti Huirapa Rūnaka ki Puketeraki are Kāti Huirapa, Kāi Te Ruahikihiki, Kāi Taoka, and Kāti Moki Tuarua. The descendants of these four hapū hold mana ki te whenua (authority or prestige to the land) over the project area.

The takiwā of Kāti Huirapa Rūnaka ki Puketeraki centres on Karitāne and extends from the Waihemo to Purehurehu, north of Heyward Point. Their takiwā extends inland to the Main Divide, sharing interests in the lakes and mountains to Whakatipu-wai-māori.

Te Rūnanga o Ōtākou



The coastal rūnaka of takiwā of Te Rūnanga o Ōtākou centres on Ōtākou on the Otago Peninsula and extends from Purehurehu to Te Mata-au. The inland reaches of their takiwā includes shared interests in the lands and mountains to the western coast with rūnaka to the north and south. The Taiari is a significant awa for Ōtākou. Potential impacts of the Project on the Lower Taiari via the Mareburn are at the basis of Ōtākou's interests.

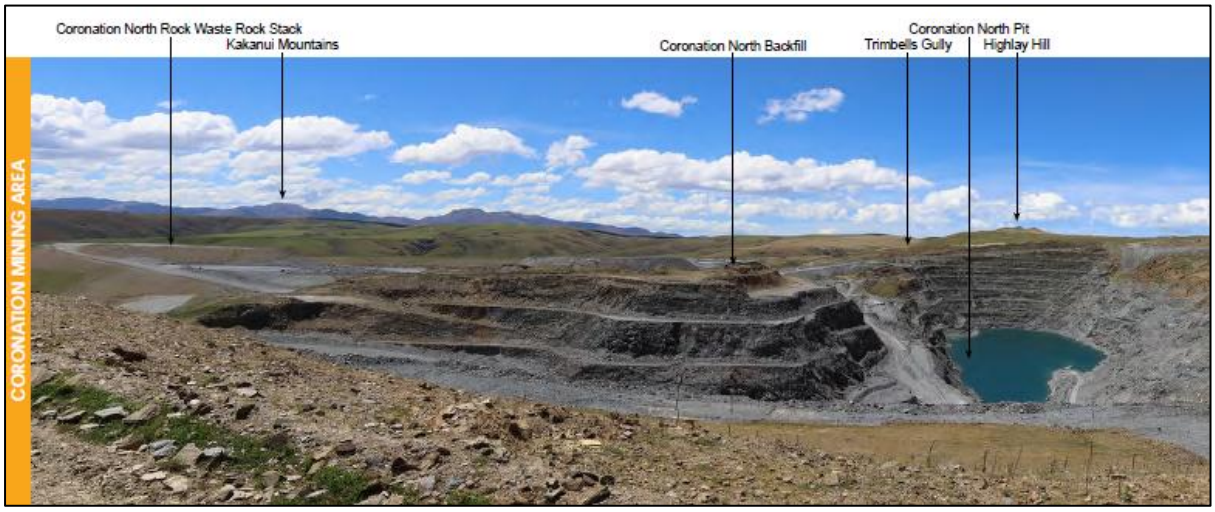
[4] See appendices 1 and 2 for a glossary of Māori terms, and a list of abbreviations used in this report.

1. He Kupu Arataki: Introduction

Ka ora te wai, ka ora te whenua, ka ora ai te tākata.

When the water is healthy and the land is healthy, then the people are healthy.

This assessment conveys the expectations of Kāi Tahu as mana whenua for the headwaters and the connected downstream catchments of the Waikouaiti, Waihemo[5] and the Taiari. For mana whenua, the whenua and wai are fundamental to tribal identity.[6] The survival and strength of our tūpuna were derived from the depth of their relationship to, and respect for, te taiao. Through whakapapa connections back to the atua, all natural resources are recognised as tūpuna and taoka that require the highest level of regard and care.

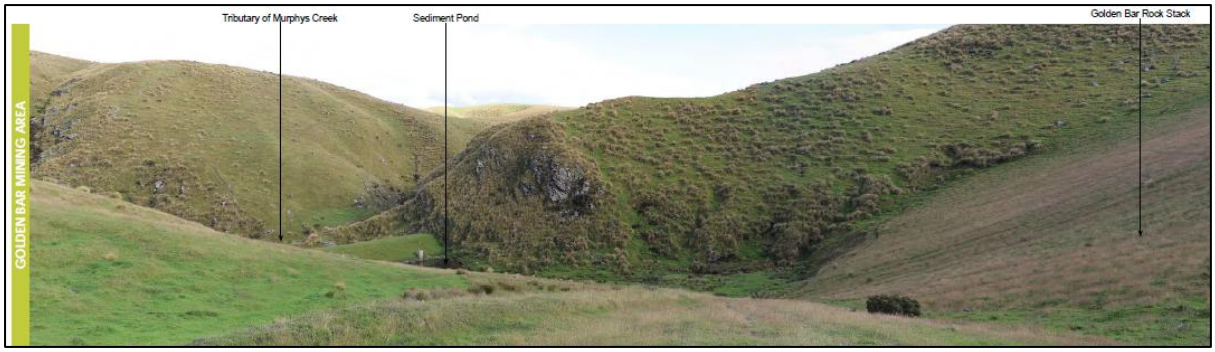


Whakaahua 1: Coronation North mining area[7]



Whakaahua 2: Frasers Pit [8]

[5] Waihemo / Shag River.
[6] TRONT, 1997.
[7] Boffa Miskell (2026) Landscape and Natural Character Effects Assessment, Graphic Supplement
[8] Boffa Miskell (2026) Landscape and Natural Character Effects Assessment, Graphic Supplement



Whakaahua 3: Golden Bar mining area[9]

At the heart of this relationship with te taiao is the knowledge that the longevity and wellbeing of Kāi Tahu communities lie in protecting our environment for mokopuna not yet born who will inherit the risks and impacts of the Macraes Gold Project (the 'Project').

The Project at Macraes Flat has progressively developed from 1990, and the current application will extend the life of the Macraes Operation through to approximately 2039.[10] However, the impacts of the Project on the Waikouaiti, Waihemo and the Taiari will operate over timescales that are measured in generations. The critical contaminant pathways will run for over four hundred years, and the pit lakes, waste rock stacks and tailings storage will remain on the whenua in perpetuity.

Ka Tāki Te Umere has engaged Aukaha Ltd to prepare a Treaty Settlement Impact Assessment that identifies the impacts of the Project on:

- The exercise of rakatirataka and kaitiakitaka by manawhenua.
- Whānau ora, the collective health and wellbeing of whānau, and how those effects compound and transmit across generations;
- The mauri of the affected awa and whenua.
- Mana whenua values and practices, including mahika kai and the protection of wāhi tūpuna landscapes
- The Māori reserves, the Waikouaiti Mātaitai (including Te Tauraka Poti, the Merton Tidal Arm), and the East Otago Taiāpure in the lower catchment; and
- The cultural redress secured under the Ngāi Tahu Treaty Settlement Act 1998.

Kāi Tahu has sought an enduring partnership with OceanaGold to address the cultural impacts of the Project, recommend mitigation to achieve utu (balance), and to secure durable, intergenerational protection for the whenua and wai.

This assessment should not be seen as Kāi Tahu approval of this project, but as a basis for ongoing engagement and discussion between OceanaGold and Kāi Tahu in the context of this stage of the Project.

[9] Boffa Miskell (2026) Landscape and Natural Character Effects Assessment, Graphic Supplement
[10] GHD (2026) Phase A – early mining (2026 – 2032) and Phase B – later mining (2033 – 2036). Bioresearches (2026C) states that MP4 will extend the operational life of the mine to 2039.

2. He Kaikape ā-Mahi: Methodology

The methodology for this report is based on a kaupapa Māori model of research, through which kaimahi at Aukaha developed, drafted, and finalised the report under the mandate and direction of mana whenua representatives. The mahi was undertaken in four poutama:

2.1 Te Poutama Tuatahi: Desktop Review/Review of Literature

A review of literature, available online resources and the application was undertaken by Aukaha kaimahi to build an understanding of the cultural and environmental context for the Project, and the key elements of the Project. This mahi rakahau included consideration of the following key sources:

- Macraes Phase 4 Fast-Track Project technical reports [11]
- Cultural Impact Assessment Macraes Phase III Oceana Gold (NZ) Ltd (May 2013)
- Cultural Impact Assessment Macraes Phase 4 (Stage 3) (May 2025)
- Iwi Archaeological Assessment, prepared by Brian Allingham for MPIII CIA
- Kāi Tahu ki Otago Natural Resource Management Plan
- Ngāi Tahu Claims Settlement Act 1998
- Cultural reports and evidence held on file in the Aukaha archives
- Cultural, archaeological, and ecological maps
- Relevant legislation, national and regional policies, and regional and district plans

2.2 Te Poutama Tuarua: Cultural Values Assessment

Mana whenua values provide a cultural framework for whānau to identify and communicate te ao Māori perspectives and to recommend mitigation to achieve utu (balance). The four core values of mana, mauri, tapu and whakapapa were the key focus of this part of the assessment.

2.3 Te Poutama Tuatoru: Cultural Impacts Assessment

This part of the assessment builds on the core values framework to address, as distinct impacted values and practices, the impacts of the project on the mauri of the affected awa and whenua, mahika kai, Māori reserves; the Waikouaiti Mātaitai (including Te Tauraka Poti, the Merton Tidal Arm); the East Otago Taiāpure; and the exercise of rakatirataka and kaitiakitaka.

2.4 Te Poutama Tuawhā

Finally, this section extends the assessment of cultural impacts by describing how those impacts translate into effects on whānau ora, the collective health and wellbeing of whānau, and how those effects compound and transmit across generations.

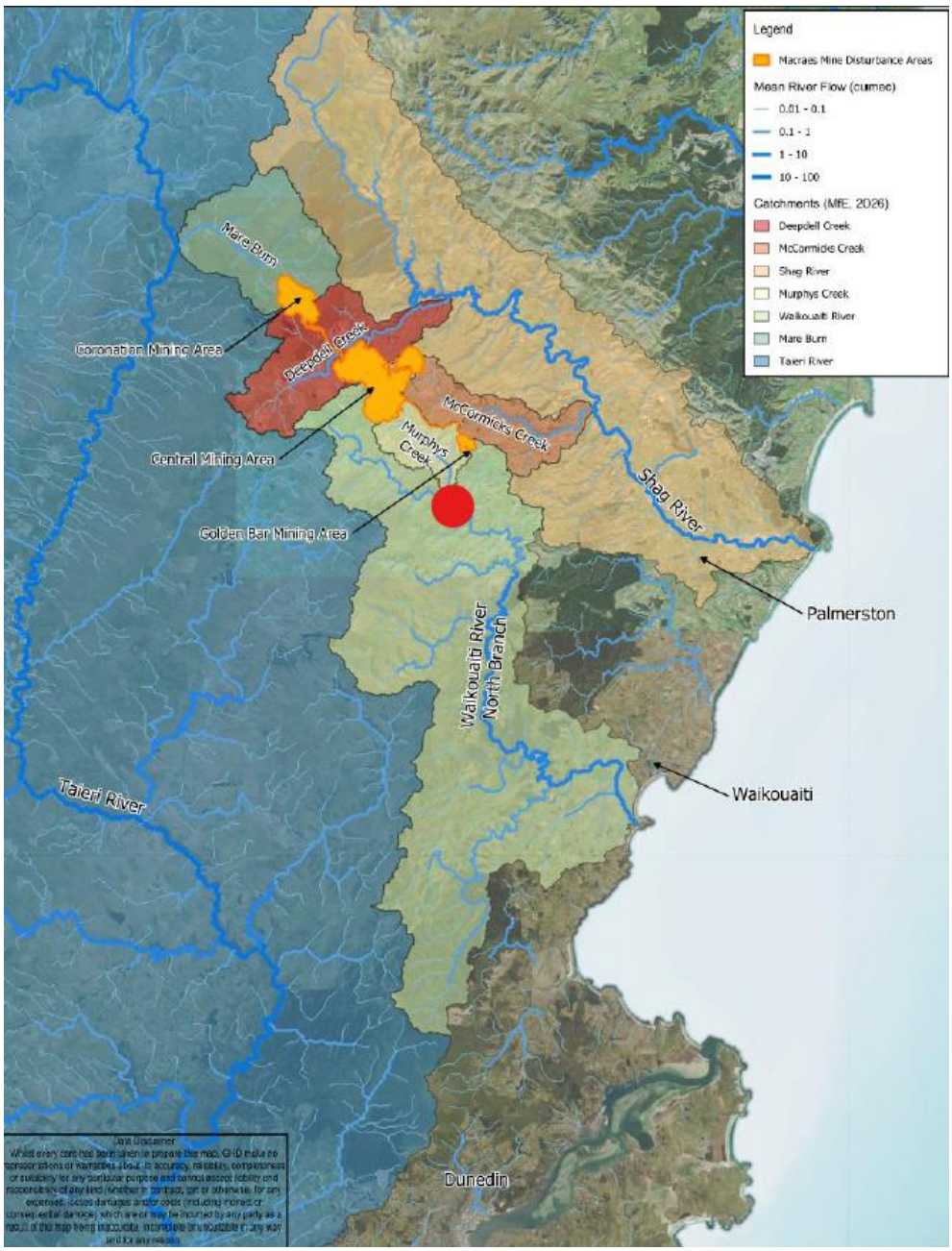
[11] The fast-track application and technical reports as updated in August 2026.

The cultural values assessment provided below was reviewed by mandated representatives from Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou to ensure that the assessment and recommendations accurately reflects the position of mana whenua.

3. Te Mana o te Wai

3.1 Introduction

The catchments affected by the Project are the headwaters of the Taiari, Waihemo and the North Branch of the Waikouaiti River.



Whakaahua 4: The Taiari, Waikouaiti River North Branch and Waihemo catchments (left to right) [12]

[12] GHD (2026) Surface and Groundwater Assessment, Figure 3.1

3.2 Taiari Catchment

The Taiari[13] catchment encompasses all or parts of several mountain ranges, including the southern slopes of the Kakaunui Mountains and the Taiari Ridge.

The Coronation pits and waste rock stacks are located at the northern end of the Taiari Ridge, in the headwaters of Trimbells Gully Creek and Māori Hen Creek. These creeks are tributaries of the Mare Burn which flows into the Taiari River to the east of Hyde. Trimbells Gully Creek, Māori Hen Creek and an unnamed tributary between these creeks drain the western sides of the Sister Peaks and Highlay Hill. The Taiari Ridge divides the Taiari and Waihemo catchments.



Whakaahua 5: Schist outcrops on the banks of Māori Hen Creek[14]

3.3 Waihemo Catchment[15]

The Waihemo is one of the major catchments within the North Otago Freshwater Management Unit, which extends southward from the Waitaki bridge to the northern boundary of the Waikouaiti River catchment. Land use in this catchment has tended towards water-demanding activities including dairy, with concurrent water quantity pressures during dry and low-flow periods.[16]

[13] Taiari is the correct spelling for the Taieri River. From its source, the Taiari River flows almost entirely around Pātearoa (the Rock & Pillar Range) before discharging into Te Tai-o-Āraiteuru (the Otago coastline)

[14] B. J. Allingham (2016) *The Coronation North Project 2016 – OceanaGold Archaeological Assessment Report on Remains of Māori Origin*

[15] Shag River

[16] ORC, 2024, North Otago FMU.

The Waihemo rises in the Kakaunui Mountains and flows approximately 90km southeast, entering the coast just south of Matakaea.[17] The northern tributaries of the Waihemo arise on the slopes of the Kakaunui Mountains and Horse Range, while the southern tributaries drain rolling hill country. The total area for the catchment is 550 km^2 and encompasses valley flats, rolling hillsides, and steeper mountain ranges.

The main tributaries of the Waihemo impacted by the Project include Deepdell Creek, Cranky Jims Creek, Tipperary Creek and McCormicks Creek. Deepdell Creek is the largest single tributary of the Waihemo, draining from the Taiari Ridge near Macraes Flat.[18]

Average annual precipitation in the Waihemo catchment is 595 mm,[19] but recent conditions have seen a drought declared in many areas of Te Waipounamu including North Otago and significant hotspots identified in East Otago.[20] This has seen the Waihemo fall below its minimum flow for a significant period from late January 2024 through to at least early March of the same year.



Whakaahua 6: Waihemo River Mouth

3.4 Waikouaiti Catchment

The Waikouaiti is the third largest catchment in Otago at 425 km^2, with the north branch covering 283 km^2, and the south branch covering 86 km^2. The two branches converge roughly 8 km upstream from the mouth at Karitāne.[21]

[17] Matakaea / Shag Point
[18] Olsen & Ozanne, 2014.
[19] LAWA, 2024, Shag River.
[20] NIWA, 2024, Hotspot Watch 1 March 2024.
[21] LAWA, 2024, Waikouaiti River.



Whakaahua 7: Huriawa pā and Waikōuaiti River mouth, Karitāne



Whakaahua 8: Local rakatahi paddle on the Waikouaiti

The headwaters of the North Branch of the Waikouaiti River are located on the flats between the Macraes township and the Frasers East Rock Stack. The excavation of the Frasers Pit and construction of waste rock stacks reduced the catchment area of the North Branch of the Waikouaiti River by 350ha.[22]

The boundaries between the Waihemo and Waikōuaiti catchments are indistinct due to a lack of dividing ranges. The Waikōuaiti is bordered to the west by the Nenthorn Stream catchment, Three O'Clock Stream catchment, and other small catchments that drain to the lower Taiari River.

[22] KTKO Ltd Consultancy (2013) Cultural Impact Assessment of Macraes Phase III, p.5

The Waikouaiti is bordered to the south by the Silverpeaks.[23] The Waihemo and the Waikōuaiti share headwaters with Te Hakapupu.[24]

Current land use reflects the fertile soils in the area, including pastoral and arable farming, and to a lesser extent forestry and horticulture. The mining activities at the MGP site are also a significant feature of the catchment.[25]

Vegetation in the Waikouaiti catchment has undergone considerable modification over the past 150 years; what was previously extensive forest and tussock lands has now largely been replaced with high- and low-producing grasslands interspersed with pockets of remnant broadleaf and native and exotic forest. Upstream of the confluence between the north and south branches of the awa, low-producing pastures dominate, with gullies populated by mānuka, kānuka, and introduced scrub. At a higher elevation in the Silverpeaks, in the headwaters of the south branch of the Waikouaiti, remnants of mānuka, kānuka, and indigenous broadleaf forest persist.[26]

3.5 Climate Change

Climate change impacts in East and North Otago foreshadow increased pressure on freshwater systems like the Waihemo and Waikouaiti (see Tūtohi 1 below).[27] These impacts are likely to be divergent and complex, ranging from hotter, drier conditions leading to increased risk of drought and ensuing pressures on water availability, through to increased intensity of weather events that amplifies the risk of flood events in rivers like the Waikouaiti.[28]

Tūtohi 1: Predicted climate change impacts for North Otago[29]

Increased annual mean temperature	Annual mean temperature is projected to increase by 1.5-3.5°C, with the largest changes occurring inland during the summer months, with an increase of 2.0-5.0°C. An annual increase of 10-60 hot days is projected.
Increased annual rainfall	Annual rainfall is projected to increase by 20-25%, with winter rainfall increasing considerably by 15-40% for some areas. A decrease in summer rainfall of 5-15% is projected for inland areas. Extreme, rare rainfall events are also likely to increase in intensity.
Sea level rise	The sea level is projected to rise by about 0.8m above present-day levels, with an increase of 0.9-1.2m in sea level.
Increased likelihood of wildfires	Wildfires will become more likely, as hotter, drier summers occur. Rural areas will be more highly exposed.
Increased drought potential	Drought potential is likely to increase. Decreases in annual dry days of 2-6 days are projected for coastal areas, with increases of 2-10 more dry days per year for other areas.

[23] LAWA, 2024, Waikōuaiti River.
[24] Pleasant River
[25] LAWA, 2024, Shag River.
[26] LAWA, 2024, Waikouaiti River.
[27] Macara, Woolley, Zammit, Pearce, Stuart, Wadwha, Sood, & Collins, 2019, p. 112; WDC, 2023, p. 2.
[28] Carter, 2019.
[29] Carter, 2019.

Increased likelihood of extreme weather events	Extreme weather events (e.g., severe storms) are likely to happen more often. Inland areas are projected to observe an increase of 6-12% wind, with coastal areas projecting a 0-4% decrease.
Increased sea-surface temperatures	Projections suggest that sea-surface temperatures in New Zealand will increase by 0.8°C-2.5°C by the end of this century
Decreased flow reliability	It is anticipated that surface water reliability will be less certain in North Otago, which may put constraints on availability of water supply.

4. He Whakamārama: Expansion of the Macraes Gold Project

4.1 Macraes Gold Project

The Macraes Gold Project has progressively developed from 1990 to the present day. Key elements of the Project have included:

- Open pits, waste rock stacks, and tailings storage facilities.
- Two underground mines (Frasers and Golden Point)
- A network of water management infrastructure including diversion drains, silt ponds, and water storage reservoirs;
- Two consented water storage reservoirs that have not been constructed, respectively the Camp Creek Dam and Coal Creek Dam
- A network of haul roads and general service tracks;
- A processing plant which extracts gold and produces tailings; and
- Associated infrastructure to support ongoing operations in the form of district roads, powerlines, workshop facilities and offices and associated water and amenity facilities.



Whakaahua 9: Macraes mine and processing plant [30]

[30] GHD (2024c) *MP IV Frasers TSF, Innes Mills, and Golden Point Cumulative Effects Assessment*

4.2 Overview of Macraes Phase 4

The Macraes Phase Four Project (the Project) aims to extend the life of mining operations through to 2039. The Project includes the following components:

Project Component	Description
Open Pit Extensions	Expansions at Innes Mills, Coronation, Coronation North, and Golden Bar pits.
Underground Mine Expansion:	Further development of the Golden Point Underground (GPUG) mine.
Tailings management	Construction of the Frasers Tailings Storage Facility (**FTSF**) Stage 3 to accommodate a total tailings storage of up to 153 million tonnes (**Mt)**.
	Hydraulic mining and relocation of tailings from the Mixed Tailings Impoundment (**MTI**), Southern Pit Option 10 TSF (**SP10**), and Southern Pit Option 11A TSF (**SP11**) to FTSF.
Waste Rock Disposal	Increased storage capacity at existing waste rock stacks and pit backfills at Coronation, Coronation North, Innes Mills, Frasers, Golden Point, and Golden Bar.
Water management infrastructure and operations	Construction of Camp Creek and Coal Creek water storage dams for flow and water quality management.
	Construction, operation and maintenance of a Water Treatment Plant; and
	Ongoing operation and maintenance of the Mine Water Management System (**MWMS**).
	Ecological trigger values that provide 95% species protection are proposed to replace the existing water quality compliance limits.[31]
Infrastructure and roading works	Realignment of Macraes Road in two stages
	Relocation of the Open Pit Mining Workshop.
Ecological enhancements	Establishment of the: • Murphys Ecological Enhancement Area (**MEEA**) near Murphys Creek, including predator fencing, access tracks, and site facilities. • Mt Highlay restoration area. • Cranky Jims Link shrubland enhancement area; and • Murphys Link tussock protection area
	Additional compensation measures for residual ecological impacts.
Mine closure and rehabilitation activities	Rehabilitation of mining landforms, creation of pit lakes, dry capping of tailings storage facilities, and revegetation in accordance with closure objectives.

[31] (Viridis 2026) *Recommended Surface Water Quality Compliance Framework*, Section 4.

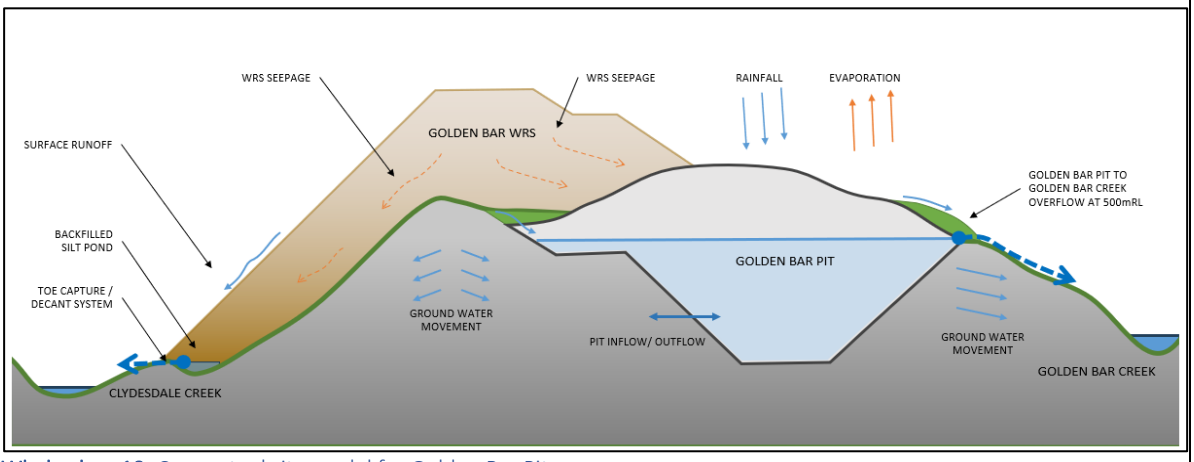
The effects on wai māori are and terrestrial ecology are summarised below.[32]

4.3 Wai Māori

During the mining phase all waters are managed on site and will generally remain within a closed mine water management system, including water from tailings impoundments, waste rock stacks and dewatered pits. Post-mining, seepage from waste rock stacks, tailings storage and pit lakes will be captured in silt ponds, pit sumps, seepage capture drains, or will discharge directly to the receiving environment.[33]

To support the MP4 development, a new water quality compliance framework is proposed. The framework will consist of ecological trigger values that, if exceeded, initiate adaptive management. The ecological trigger values provide 95% species protection and are intended to manage longer-term exposure risks.[34]

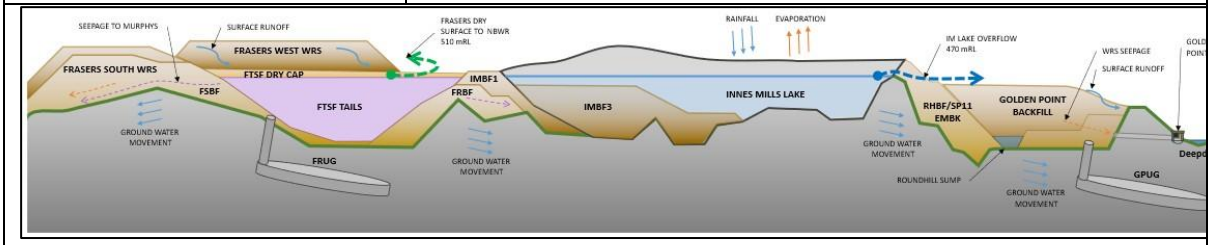
Golden Bar Pit	
Mine Components	Golden Bar pit and waste rock stack
Assessment	Post-mining, the Golden Bar pit lake is predicted to overflow after 58 years to Golden Bar Creek. Seepage from the WRS is predicted to flow mainly toward Murphys Creek, via its tributary Clydesdale Creek, with groundwater flow paths also directed toward McCormick's Creek. At 400 years post-closure, the estimated sulphate flux is approximately 149 kg/day for the Murphys Creek catchment and 0.26kg/day for the McCormick's Creek Catchment.[35]
Receiving Environment	**Waikouaiti Catchment:** Golden Bar Creek, Murphys Creek, Clydesdale Creek, North Branch of the Waikouaiti River. **Waihemo Catchment:** McCormick's Creek, Waihemo



Whakaahua 10: Conceptual site model for Golden Bar Pit

[32] The cultural impacts of the Project are not exclusively related to wai māori and ecology as discussed in Section 5.
[33] GHD (2026), *Surface and Groundwater Assessment*, p.ii.
[34] (Viridis 2026) *Recommended Surface Water Quality Compliance Framework*, Section 4.
[35] GHD (2026), *Surface and Groundwater Assessment*, p.34

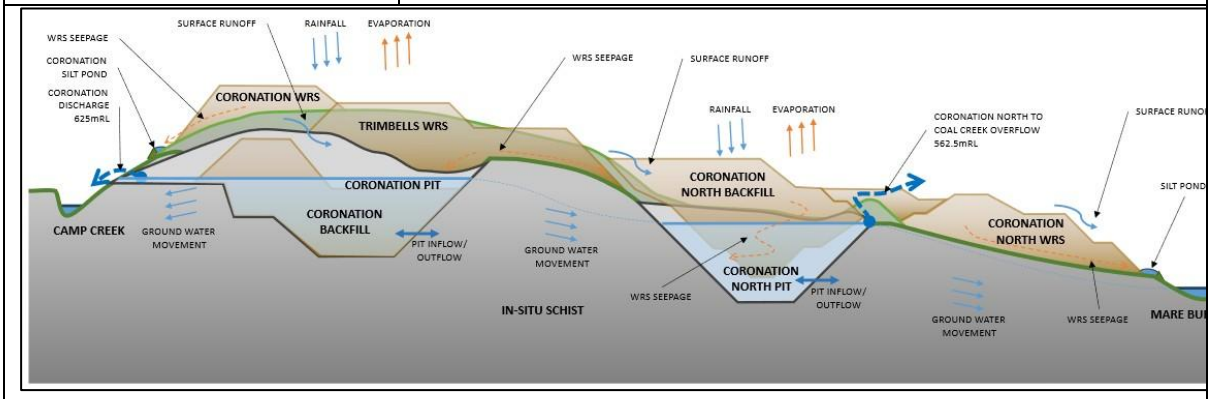
Central Mining Area	
Mine Components	Frasers South and West rock stacks; Innes Mills pit lake; Golden Point and Round Hill pit voids.
Assessment	Post-mining, the Innes Mills pit lake is predicted to overflow after 62 years to Deepdell Creek. Seepage capture drains are proposed within this area, with significant structures planned around the Frasers West and East waste rock stacks. Collected seepage will be pumped from the sumps to a water treatment facility or for use onsite within the mine water management system during mining. At 400 years post-closure, sulphate fluxes from waste rock stacks and the Innes Mill pit lake will discharge to Deepdell Creek, North Branch of the Waikouaiti River, Murphys Creek, Tipperary Creek, and Cranky Jims Creek.[36] The Golden Point and Round Hill pit voids are an area of the mine that will receive poor quality mine impacted water seeping from existing and proposed pit backfill material, existing embankments and the proposed Innes Mills Lake. Current operational practice is to dewater from the Round Hill sump to avoid seepage losses to Deepdell Creek via historic adits. The long-term mitigation measure is to install bore pumps through the Golden Point Backfill to capture seepage waters accumulating within the pit and maintain water levels such that flows through the historic adits to Deepdell Creek are avoided.
Receiving Environment	**Waikouaiti Catchment:** North Branch of the Waikouaiti River. **Waihemo Catchment:** Deepdell Creek, Tipperary Creek, Cranky Jims Creek, Waihemo



Whakaahua 11: Conceptual site model for the Central Mining Area

[36] GHD (2026) *Surface and Groundwater Assessment*, Table 5.2.

Coronation and Coronation North Pit	
Mine Components	Coronation and Coronation North pits, backfill and waste rock stacks; Trimbells Gully waste rock stack.
Assessment	Post-mining, the Coronation pit lake is predicted to overflow after 23 years to Camp Creek. The Coronation North pit lake is predicted to overflow after 64 years to Coal Creek. Seepage capture drains are proposed to be installed at the toe of Coronation North WRS to capture seepage from the waste rock stack. Collected seepage will be pumped to a water treatment facility or for use onsite within the mine water management system during mining. At 400 years post-closure, the seepage capture drains are predicted to intercept approximately 525 kg/day of sulphate. Over the same period, the estimated sulphate flux to the Mare Burn Creek catchment is approximately 412 kg/day, while the Deepdell Creek catchment is estimated to receive approximately 68 kg/day.
Receiving Environment	**Taiari Catchment:** Coal Creek, Trimbells Gully Creek, Māori Hen Creek, Mare Burn, Taiari River **Waihemo Catchment:** Camp Creek, Deepdell Creek, Waihemo.



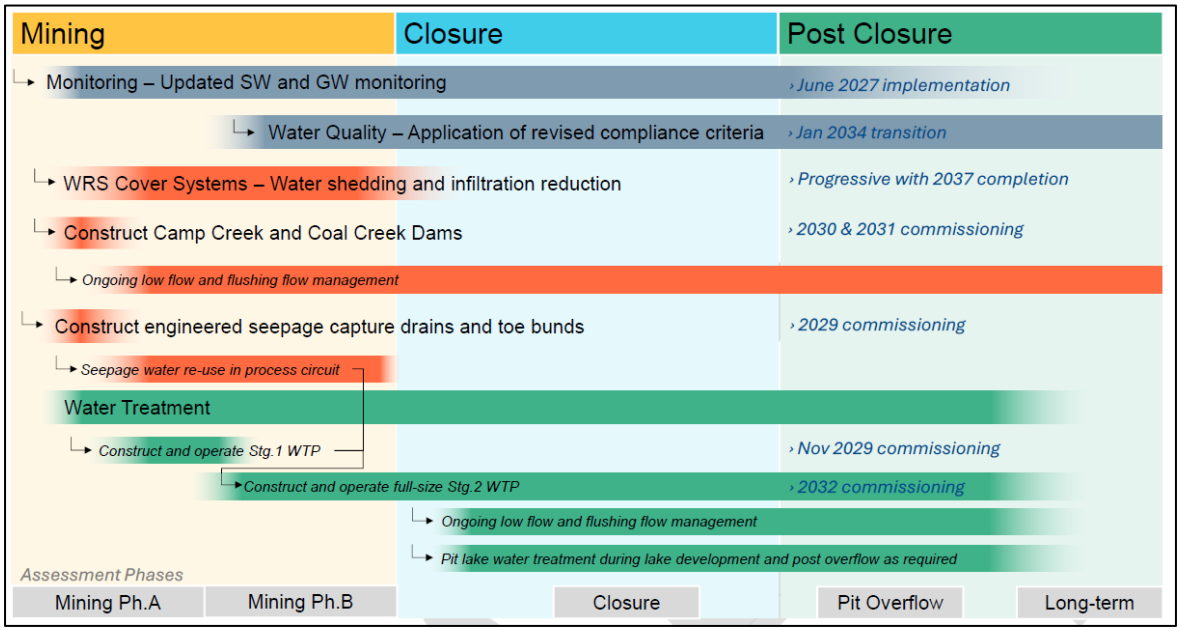
Whakaahua 12: Conceptual site model for Coronation and Coronation North Pit

The results of the groundwater modelling suggest that during dewatering of the pits, the influence on streamflow is expected to be low. Groundwater recovery during the post mining phase is expected after a period of approximately 400 years.[37]

Water quality and flow mitigation measures are proposed to support the Project. These mitigation measures include:

[37] GHD (2026), *Surface and Groundwater Assessment*, p.ii.

Mitigation
Seepage capture and treatment is proposed to reduce the contaminant loads discharged to the receiving surface water bodies. This includes progressive outer slope rehabilitation, interim waste rock stack management, and revised final capping. Improved operational management practices are also proposed to reduce overall waste rock stack infiltration rates.[38]
The construction of an active water treatment plant (WTP) using reverse osmosis (RO) technology and pretreatment systems is proposed to treat mine impacted water prior to discharging to the receiving environment.
Construction of the Camp Creek and Coal Creek augmentation dams is proposed to provide augmentation flows to Deepdell Creek and the Mare Burn catchments, respectively, during low-flow periods when receiving-water dilution capacity is reduced and the potential influence of uncaptured seepage on water quality is greatest.
Ongoing monitoring and water treatment of pit lakes through ferric chloride dosing for managing arsenic and dissolved metals concentrations**.**
Implementation of a flushing regime (where indicated by periphyton monitoring programs)



Whakaahua 13: Water quality and flow mitigation implementation timeframe

4.4 Effects on Terrestrial Ecology

The Project will result in adverse ecological effects, including the permanent loss and modification of terrestrial vegetation, fauna habitat and natural inland wetlands, and adverse effects on invertebrates, lizards and birds.

[38] GHD (2026) *Surface and Groundwater Assessment*, p.ii.

The expansion of mining will result in the loss of indigenous tussock grassland, natural inland wetlands, rock habitat, rare plant habitat, indigenous invertebrate habitat, lizard habitat and open-country avifauna habitat.[39]

Vegetation / habitat type	Ecological value	Areal extent of impact (ha)[1]	Magnitude of effect[2]	Residual level of effect[3]
Terrestrial habitats				
Indigenous tussock grassland	High	90.01	High	Very High
Dry shrubland (grey scrub)	Moderate	3.06	Low	Low
Schist rock outcrops	Very High	0.26	Low	Moderate
Wetland and riparian habitats				
Ephemeral wetland	Very High	1.28	High	Very High
Freshwater herbaceous wetland (FHW)	High	0.91	Moderate	High
Wetland sedgeland	Moderate	0.83	Low	Moderate
Wetland seepage	High	0.02	Low	Low
Wetland shrubland	Moderate	0.02	Low	Low
Copper tussock wetland	High to Very High	Not directly impacted	Not directly impacted	Not directly impacted
Riparian habitats (freshwater herbaceous vegetation and sedgeland)	Moderate to High	1.29	Low	Low to Moderate

Whakaahua 14: Ecological value, extent of impact, magnitude of effect and residual level of effect

The direct effects of the Project include vegetation clearance, with a resulting loss of habitats, mortality of flora and fauna, and displacement and habitat loss for mobile fauna,[40] as described below.

Terrestrial Vegetation

Direct Effects on Vegetation	Assessment
Loss of ecosystem extent	Loss of tall tussock grassland is the dominant effect of the Project. Dry shrubland loss is limited in extent and occurs primarily within Coronation North. Rock habitat loss is very small in absolute area but is ecologically important because of the specialised ecological functions and habitat values associated with schist outcrops and rocky substrates.
Loss of habitat supporting Threatened and At-Risk flora Species	Vegetation removal may result in direct loss of individual plants, reduction in habitat extent, and fragmentation of remaining habitat at Coronation North, the Central Mining Area and Golden Bar.
Habitat fragmentation and loss of ecological connectivity	Indigenous tussock grassland and shrubland remnants provide ecological linkages for indigenous flora and fauna. Vegetation

[39] Bioresearches (2026) *Ecological Impact Assessment for Terrestrial and Wetland Ecology Values*, p.10.
[40] Bioresearches (2026) *Ecological Impact Assessment for Terrestrial and Wetland Ecology Values*, p.109.

	clearance may reduce connectivity between remaining indigenous vegetation remnants.

Management actions to avoid or minimise adverse effects on indigenous vegetation communities and Threatened and At-Risk flora will be implemented in accordance with a Vegetation and Threatened and At Risk (TAR) Flora Management Plan.

Residual effects on terrestrial vegetation vary across the Project areas. The greatest residual effect is associated with the loss of high-value tussock grassland at Coronation North.

Invertebrates

Direct Effects on Invertebrates	**Assessment**
Permanent loss of habitat	The Project will result in the removal and modification of a range of habitats for indigenous invertebrates, including tussock grassland, shrubland, and rock tor habitats within the Project footprint. This is significant for species with specialised habitat requirements, including those whose larvae depend on native tussocks, speargrasses, or other host plants to complete their life cycles.
Injury or mortality of invertebrates during vegetation and habitat removal.	Vegetation clearance, topsoil stripping, and excavation activities will result in injury or mortality of invertebrates.
Habitat fragmentation and loss of ecological connectivity.	Habitat fragmentation will result from vegetation clearance and the development of infrastructure, reducing ecological connectivity.
Creation of habitat edge effects	Creation of new habitat edges may alter the composition and degrade the integrity of adjacent vegetation affecting the suitability of habitat for invertebrates.
Displacement of resident invertebrates.	Displacement of invertebrates into adjacent habitats where habitat quality may be lower or already supporting populations that are at, or near, carrying capacity.

Management actions to avoid or minimise adverse effects on invertebrates will be implemented in accordance with an Invertebrate Management Plan, which includes such measures as invertebrate salvage and relocation, host-plant salvage and relocation, habitat protection and enhancement, habitat creation, and monitoring.

Overall, the proposed mitigation measures are expected to contribute to a reduction in Project-related effects on invertebrates, although residual effects will remain high. Additional residual effects management beyond the proposed salvage and relocation of captured invertebrates, direct vegetation transfer,[41] and habitat enhancement is required to address these effects

[41] Bioresearches (2026) Direct Vegetation Transfer (DVT) of vegetation, threatened and at-risk plants (TAR), and invertebrate habitats

Lizards

Direct Effects on Lizards	Assessment
Permanent loss of habitat that supports protected and 'At Risk' lizards.	The Project will result in removal and modification of tussock grassland, shrubland, and rock tor habitats within the footprint. Loss of rock tor habitats represents the most significant direct effect, as these features support high-value, habitat-specialist species and are not readily replaceable. Removal of shrubland and tussock vegetation will reduce habitat availability and structural complexity for geckos and grassland-associated skinks.
Injury or mortality of lizards during vegetation and habitat removal	Vegetation clearance, topsoil stripping, and excavation activities will result in injury or mortality of lizards, including 'At Risk' species, within the impact footprint.
Habitat fragmentation and loss of ecological connectivity.	Habitat fragmentation will result from vegetation clearance and the development of infrastructure, reducing ecological connectivity.
Creation of habitat edge effects	Habitat fragmentation will result from vegetation clearance and the development of infrastructure, reducing ecological connectivity.
Displacement of resident lizards	Displacement of lizards into adjacent habitats where habitat quality may be lower or already supporting populations that are at, or near, carrying capacity.

Management actions to avoid or minimise adverse effects on lizards will be implemented in accordance with a Lizard Management Plan, which includes such measures as salvage and relocation, habitat protection and enhancement, habitat creation, and population monitoring. The management approach also reflects the objectives of the OceanaGold Lizard Management Strategy (OceanaGold 2026), which provides a broader framework for the holistic management of lizard populations across the mining operation.

Overall, McCann's skink is expected to experience a moderate level of residual effect. This reflects the high number of McCann's skinks potentially affected, estimated at approximately 62,000 individuals, and the large area of habitat to be lost, estimated at approximately 238.7 ha.

Southern grass skink and kōrero gecko are expected to experience very high levels of residual effect. This reflects the high number of southern grass skinks and kōrero geckos potentially affected, estimated at approximately 88,000 and 6,000 individuals respectively, and the large area of habitat to be lost, estimated at approximately 238.7 ha. The assessed level of residual effect is also higher because southern grass skinks and kōrero geckos are classified as 'At Risk' and are more habitat specific.

The application proposes enhancing and protecting approximately 1,000ha by way of an offset for the residual effects on lizards.

Birds

Direct Effects on Birds	Assessment
Permanent loss of habitat that supports indigenous birds	The Project will result in permanent loss or modification of habitats that support indigenous birds. The affected habitats include open pasture, exotic grassland, tussock grassland, shrubland, riparian gullies, wetlands, ponds, mine-modified ground, road margins and sparsely vegetated substrates.
Injury or mortality of birds or their nests during vegetation and habitat removal	Vegetation clearance, earthworks, vehicle movements and ground disturbance may result in injury or mortality of indigenous birds if works occur where birds are nesting or where dependent young are present.
Habitat fragmentation and loss of ecological connectivity.	Direct habitat removal may reduce local habitat continuity between open-country, wetland, riparian and shrubland habitats and affect movement through the Project area.
Creation of habitat edge effects	Edge effects are expected to be limited for most open-country species because these species already use open, exposed and modified habitats. Edge effects may be more relevant where works occur next to wetlands, shrubland, riparian gullies or denser vegetation used by fernbird, silvereye, grey warbler, and fantail.
Displacement of resident birds	Habitat removal and physical disturbance will displace birds from the direct impact area of the Project.

Management actions to avoid or minimise adverse effects on avifauna will be implemented in accordance with a Avifauna Management Plan, which includes measures to reduce the risk of injury or mortality of birds, eggs and chicks, minimise disturbance to breeding birds, and reduce indirect effects on retained habitats adjacent to the works area.

For most species, the post-management magnitude of effect remains low or negligible, reflecting the mobility of birds, the localised nature of habitat loss relative to available habitat in the surrounding landscape, and the limited evidence of reliance on the Project area for breeding. The highest post-management level of effect applies to kārearea (eastern falcon), pohowera (banded dotterel), and tōrea (South Island pied oystercatcher) due to their very high ecological value.

Natural Inland Wetlands

The Project will result in direct and indirect effects on wetland ecosystems through vegetation clearance, soil disturbance and earthworks, catchment alteration, groundwater drawdown and ongoing mining activities.[42]

[42] Bioresearches (2026) *Ecological Impact Assessment for Terrestrial and Wetland Ecology Values*, p.208.

Direct and Indirect Effects on Wetlands	Assessment
Reclamation and permanent loss	The Project and the Reservoirs will result in the cumulative permanent loss of approximately 11.53 ha of natural inland wetland extent, through direct loss and indirect dewatering and diversion of seepage. The affected wetlands comprise a range of wetland ecosystem types: • Ephemeral wetlands: 1.14 ha • Sedgeland wetlands: 1.43 ha (MP4), and 0.32 ha (the Reservoirs) • Freshwater herbaceous wetlands: 2.10 ha (MP4), and 2.7 ha (the Reservoirs) • Shrubland wetlands: 0.03 ha • Seepage wetlands: 0.02 ha • 3.58 ha of induced wetland (waste rock stacks); and • Copper tussock wetland: 0.21 ha (the Reservoirs).[43]
Predator Proof Fence	The earthworks required to construct the predator proof fence will directly impact 0.102 ha of natural inland wetland, consisting of herbaceous freshwater and sedgeland wetland types. These earthworks will be temporary in nature.
Habitat fragmentation and connectivity	Reclamation of wetlands has the potential to reduce connectivity between remaining wetland bodies and fragment existing wetland habitats. A cumulative 0.20 ha of sedgeland and herbaceous freshwater wetlands in the Coronation area will be isolated from the downstream catchment through reclamation of their lower extents from the placement of the Trimbells waste rock stack.

Overall, the level of effect on wetlands is assessed as variable across the Project Area. Proposed management measures include wetland boundary demarcation, hydrology monitoring and adaptive management, sediment and dust controls, water quality controls, wetland plant salvage and propagation where practicable, and management of indirect effects on wetlands that are retained during the Project.

4.5 Management of Residual Ecological Effects

A biodiversity offsetting and compensation package is proposed that includes predator-proof fencing, landscape-scale pest control, stock exclusion, protection and enhancement of existing tussock

[43] Bioresearches (2026C) *Wetlands Residual Effects Analysis Report*

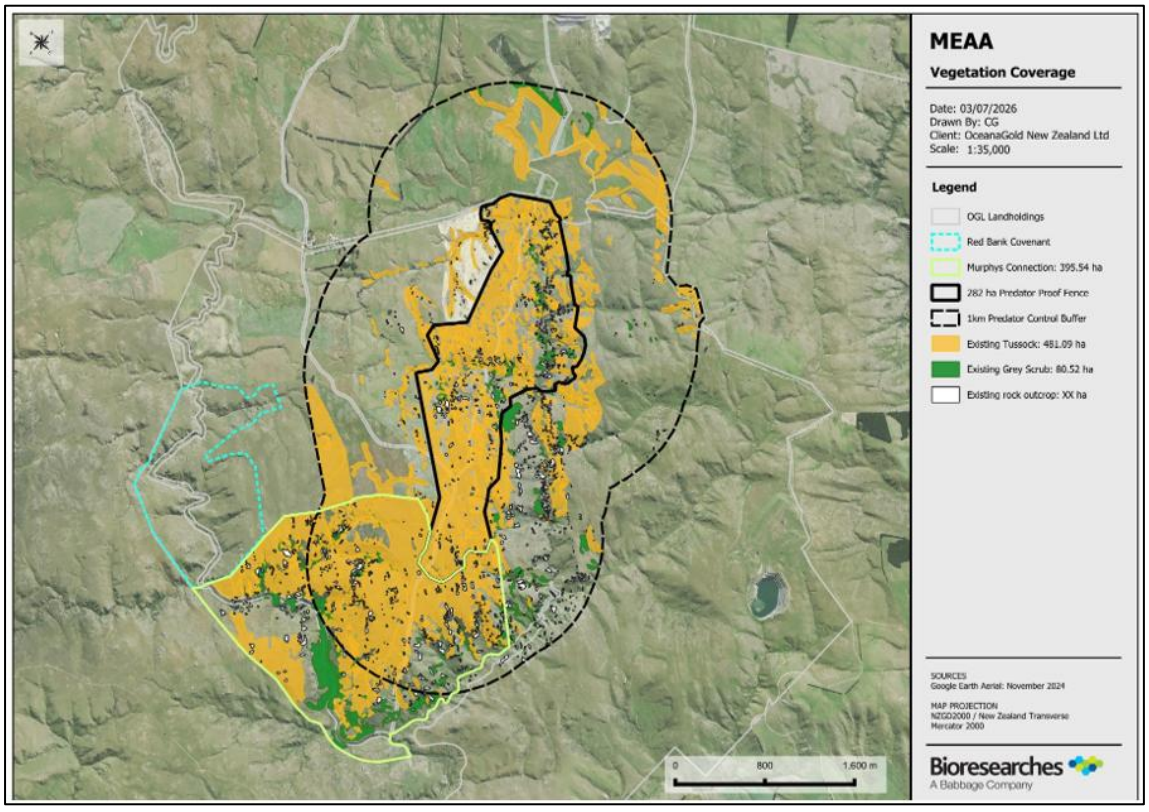
grassland, tussock and dry shrubland revegetation and enhancement, and removal of recently planted exotic conifers at Mt Highlay Station to avert future loss of indigenous lizard habitat.[44]

The proposed wetland compensation package includes wetland restoration, enhancement, buffering, stock exclusion, weed control, wetland plant salvage and propagation, and the experimental creation or recreation of wetland values.[45]

Murphy's Ecological Enhancement Area (MEEA)

The Murphy's Ecological Enhancement Area encompasses:

- Establishment of a 250-ha predator-proof fence to create a predator-free sanctuary for indigenous lizards, including McCann's skink, 'At Risk' southern grass skink, 'At Risk' kōrero gecko and 'Threatened' ('Regionally Endangered') Otago skink.
- Landscape-scale pest control across an approximately 1,004 ha buffer surrounding the fenced area.
- 395 ha ha of existing tussock grassland within the Murphys Link Area, stock-fenced and protected in perpetuity
- 80.5 ha of existing dry shrubland will be stock-fenced and protected in perpetuity
- Strategic protection and pest control to improve habitat connectivity with the high value Redbank Covenant (which supports endangered grand skink) and enhance habitat for invertebrates, lizards and avifauna.



Whakaahua 15: Murphys Ecological Enhancement Area

[44] Bioresearches (2026) *Ecological Impact Assessment for Terrestrial and Wetland Ecology Values*, p.9.
[45] Bioresearches (2026) *Ecological Impact Assessment for Terrestrial and Wetland Ecology Values*, p.9 – 10.

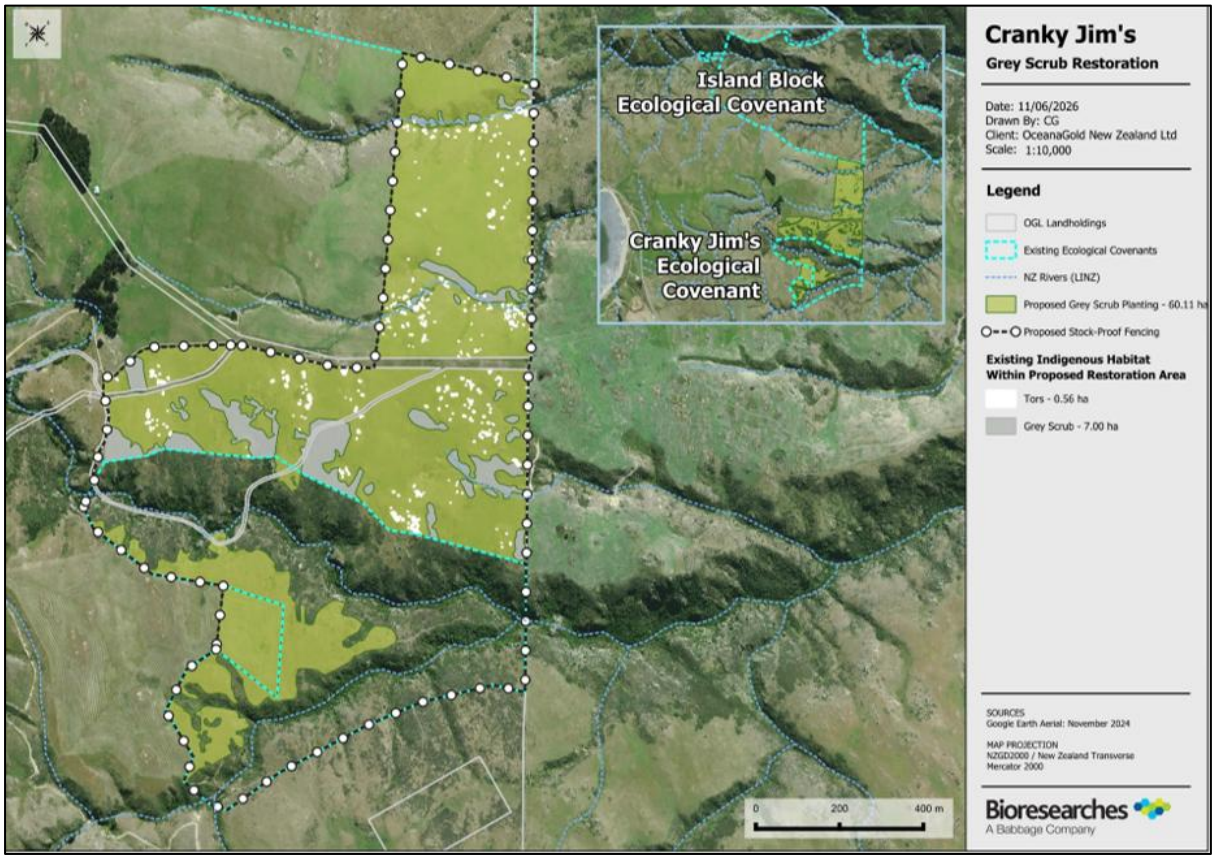
Cranky Jims Link

A series of three separate ecological covenants (Cranky Jims Wetland Covenant (97.4 ha), Cranky Jims Shrubland Covenant (47.2 ha) and Island Block Covenant (291.55 ha)) will be connected, forming one continuous protected area, the Cranky Jims Dry Shrubland Link.

The Cranky Jim's Link encompasses:

- 60 ha of grey scrub and dry shrubland restoration planting
- 0.56 ha of Tor and rock outcrop protection
- 7 ha of existing dry shrubland protection
- Pest browser and predator control for Cranky Jim's Link, as well as enhanced (not modelled) predator control for Cranky Jim's Shrubland covenant to improve existing fauna and flora habitats.

Cranky Jims Link will connect existing covenants (Cranky Jims Shrubland Covenant and Island Block Covenant) through restoration planting, which will be progressively enriched to support succession toward podocarp-dominant dryland forest. Over time, the development of structurally diverse shrubland and forest habitat is also expected to increase habitat availability and ecological connectivity for indigenous invertebrate, lizard and bird species.



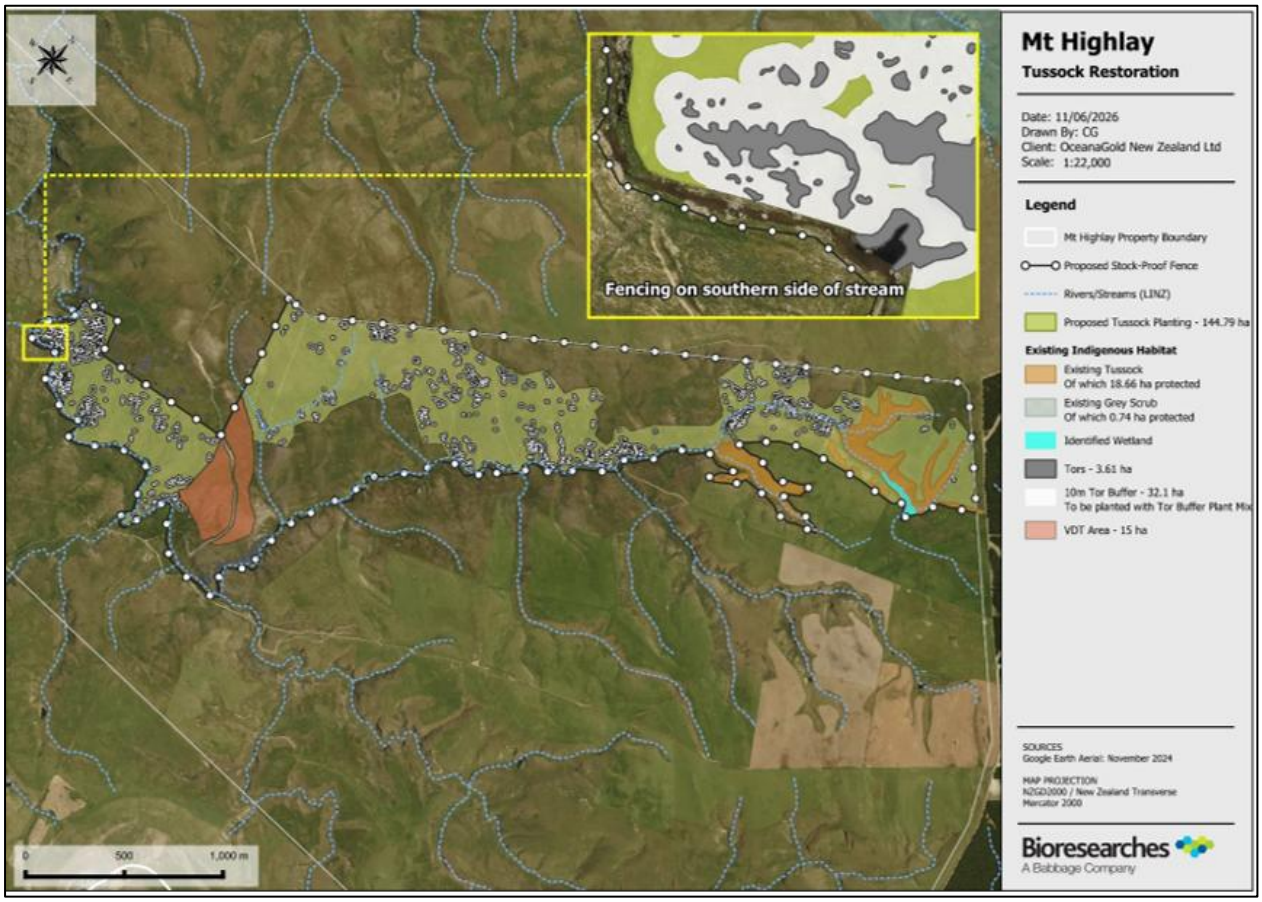
Whakaahua 16: Cranky Jims Dry Shrubland Link

Mt. Highlay Station Plantation

The Mt Highlay Station plantation comprises approximately 265 ha of recently established (three-year-old) plantation forest. Removal of the plantation trees will avert the future degradation and loss of indigenous habitats, including lizard habitat, vegetation communities, and wetlands.

Compensation actions at Mt Highlay Station include:

- Removal of 3-year old planted pine saplings to avert loss of indigenous habitats, particularly lizard habitat;
- 175.4 ha of tussock revegetation, including 38.9 ha of dedicated 10 m tor buffer planting mix to support restoration and enhancement of TAR plant species;
- 18.66 ha of existing tussock grassland protection;
- 0.74 ha of dry shrubland protection;
- 3.6 ha of rock outcrop protection.



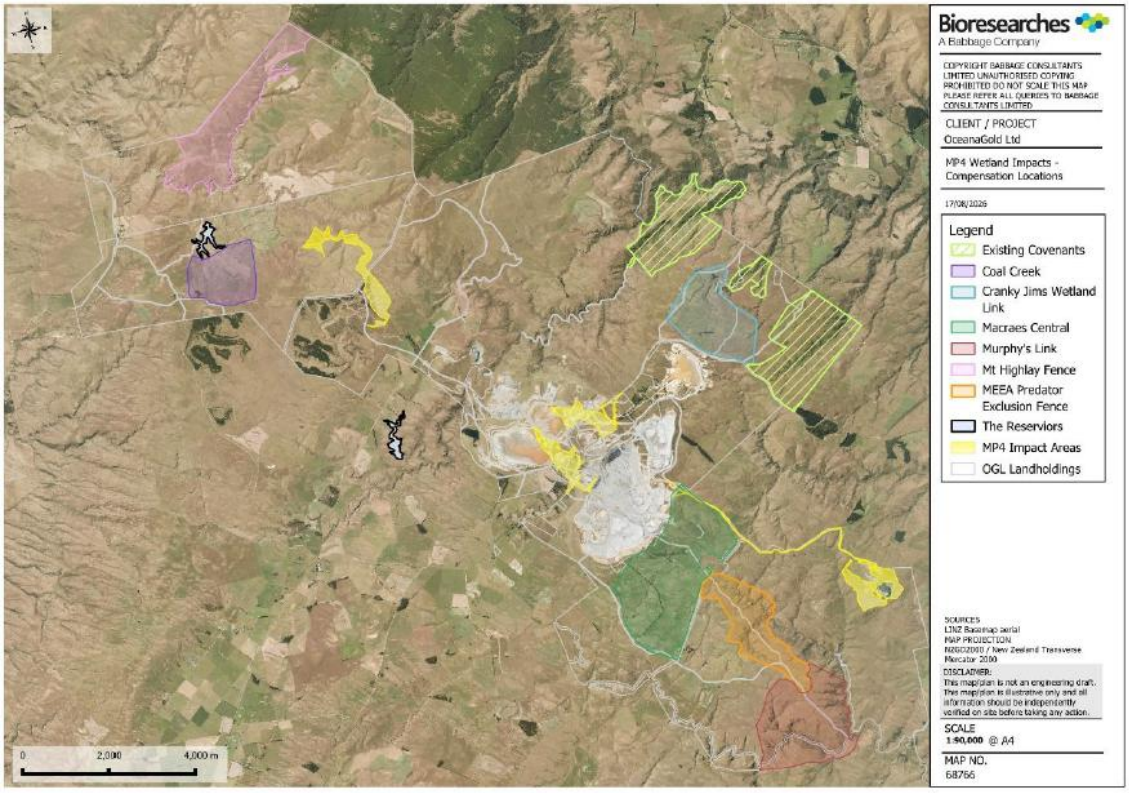
Whakaahua 17: Compensation tussock restoration area Mount Highlay

Wetlands Compensation Package

The key features of the wetlands compensation package include:

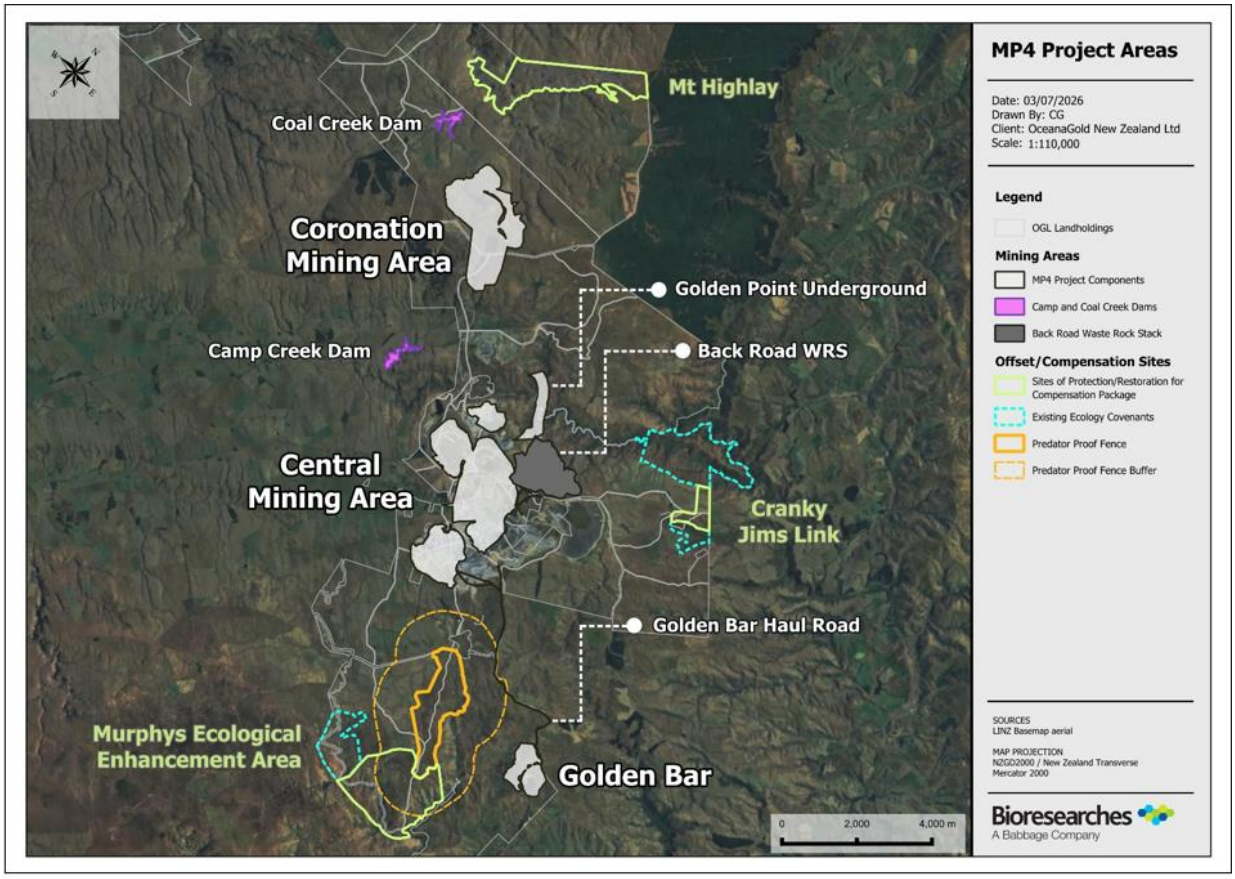
- Enrichment and enhancements of 2.78 ha of degraded, existing ephemeral wetlands currently subject to stock access and weed infestation.

- Restoration, enhancement, planting, buffering and stock exclusion of 5.23 ha of sedgeland.
- The trade up of 1.69 ha of exotic dominant freshwater herbaceous wetland for the establishment and enhancement of 5.40 ha of “Copper tussock” wetland.
- Enrichment and establishment of Threatened and At Risk plants throughout the compensation wetlands, including those salvaged from the impact wetlands.
- The restoration and protection of 0.14 ha of shrubland wetland, including, buffering and stock exclusion.
- The protection and stock exclusion of 0.22 ha of seep wetland throughout Murphy Link;
- The protection and stock exclusion of 0.96 ha of wetland, and 2.48 ha of unclassified riparian vegetation throughout Murphy Link;
- The protection and stock exclusion of 9.08 ha of wetland, throughout Coal Creek headwaters; and
- The protection and stock exclusion of 4.14 ha of wetland throughout Mount Highlay.[46]



Whakaahua 18: Location of the five compensation areas for wetland restoration

[46] Bioresearches (2026C) *Wetlands Residual Effects Analysis Report*



Whakaahua 19: Macraes Phase 4 project areas and offset/compensation sites

5. He Manawa Kāi Tahu: Mana Whenua Values

5.1. Values Framework

Mana whenua values provide a cultural framework for whānau to identify and communicate te ao Māori perspectives. Values identified by mana whenua provide a cultural baseline that is derived from the natural state of the environment, which can be used as a tool for assessing the impact of an environmental event or activity.[47]

For Kai Tahu, the wellbeing of the people and the wellbeing of the environment are integrally linked. The values framework for this assessment (see Tūtohi 2) emphasises this interconnectedness and the expression of these values across the environmental, cultural, social, and economic spheres.

This values framework lays the foundation for the assessment of the cultural impacts of the Project on the mauri of the affected awa and whenua, mahika kai, Māori reserves; the Waikouaiti Mātaitai (including Te Tauraka Poti, the Merton Tidal Arm); the East Otago Taiāpure; and the intergenerational exercise of rakatirataka and kaitiakitaka.[48]

[47] Harmsworth, Awatere, & Robb, 2016.
[48] Sections 9 and 10.

Tūtohi 2: Values framework[49]

	Autūroa	Auora	Autikaka	Autākata
	Mana	Mauri	Tapu and Noa	Whakapapa
Value	*Tūroa is about longevity, ongoing influence and leadership in our community*	*Ora is about health and wellbeing, not only in people but also in the land and waterways*	*This is about the protection of resources, people and particular areas, enabling us to look forward sustainably*	*Tākata is people, and whakapapa is about genealogy. In a Māori world, we take the past with us and whakapapa is forever generative.*
Key Intent	The mana of Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou is upheld within their takiwā.	The mauri of the whenua and wai is restored and enhanced including but not limited to the Taiari, Waikouaiti and Waihemo.	Balance is restored, and the future of our people and resources are protected.	The traditional authority of mana whenua in the Taiari, Waikouaiti and Waihemo is recognised through partnerships based on reciprocity and respect.
Environmental	Kāi Tahu are leaders in the management of our natural resources and built environment.	Mātauraka is incorporated through the co-design and co-management of our environment and resources	The environment is regenerated, and a sustainable future is secured.	Te Ao Māori informs policy, planning and decision-making
Cultural	Kāi Tahu will participate and demonstrate leadership in the community.	Kāi Tahu heritage and culture is visible, celebrated, protected and future proofed.	Communities, resources and customary practices are protected through responsible regulatory measures and processes.	Kāi Tahu values frameworks are embedded within consent conditions, restoration initiatives and mine practice.
Social	Kāi Tahu will have access to opportunities that enable social equity.	Whānau are thriving and connected	We are guided by tikaka and kawa (protocols) for the wellbeing of our whānau and wider community.	The social impacts of the Macraes Gold Project on the kaik of Kāti Huirapa ki Puketeraki are managed to meet the cultural needs, practices and values of whānau.

[49] Adapted from Dunedin City Council (2025) Te Taki Haruru, Māori Strategic Framework

Economic	Kāi Tahu are active across all sectors of the economy.	Economic directions consistently enhance outcomes and equality for Kāi Tahu.	The Kāi Tahu economy is recognised as a critical part of our collective wellbeing.	Kāi Tahu networks are well connected and supported to build a prosperous future.

Mātauraka underpins the definitions of mana whenua values. Every iwi, every hapū, every Rūnaka, has its own understanding of these values and their application, based on the mātauraka handed down to them through whakapapa. This section provides an explanation of each value, with a summary of how these values are linked to the areas affected by the proposed activity with reference to Kāi Tahu history and associations in the wider cultural landscape.

5.2. Mana

Mana is the word used to describe the authority and prestige that is passed down through lines of whakapapa and that originated with the creation of the world by atua, who are the original ancestors of the many aspects of te taiao, including people. The phrase 'mana whenua' has two meanings, firstly denoting the people who are recognised as the rightful holders of that authority and prestige and the representatives mandated by them, and secondly to express the exercise of that authority within a defined takiwā. In this context, mana whenua status primarily sits with Kāti Huirapa Rūnaka ki Puketeraki and extends to include Te Rūnanga o Moeraki and Te Rūnanga o Ōtākou who share interests in catchments that are affected by Oceana Gold mining activities.

Mana whenua status is acquired and maintained through actions like mahi taunaha, the process of discovering and naming land and resources, and tūturu te noho, maintaining rights through ongoing occupation and settlement. Tūturu te noho is underpinned by the concept of ahikāroa, referring to the long-burning fires of occupation.

In Te Waipounamu, rights of discovery are generally attributed to Rākaihautū, an early ancestor of Kāi Tahu whānui associated with the Waitaha people and the Uruao waka. Rākaihautū travelled on foot through the hinterland, digging and naming the lakes as he went using his kō named Tūwhakarōria. This process of shaping and naming the land was a means of establishing mana whenua status. Kāi Tahu ancestors subsequently assimilated Waitaha whakapapa and culture into the tribe, thus asserting Kāi Tahu as the mana whenua of much of Te Waipounamu.

Tūturu te noho was one of the primary means that mana whenua status was maintained by whānau in the days before European settlement. Kāika, pā, and nohoaka were established across the takiwā connected by ara tawhito. Settlement sites were chosen for political, economic, social, and practical reasons, often opting for places that were close to food and natural resources. Heke were undertaken across the year to visit remote areas of the wider estate, enabling seasonal practices to take place such as mahika kai, and treating and trading with other hapū and whānau. Moreover, these practices enabled the reaffirmation of ahikāroa through the warming of hearths across their takiwā.



Whakaahua 20: Huriawa Peninsula, where Te Wera's pā was located.

The exercise of mana gives rise to rights and responsibilities in relation the natural environment, and which must be kept in balance. These are expressed through the concepts of rakatirataka and kaitiakitaka, which are the means through which mana is exercised in the natural world.

Rakatirataka refers to the exercise of mana to give effect to Kāi Tahu culture and traditions in accordance with tikanga. The term pūtake-mauka is also used to refer to Kāi Tahu rangatiratanga entitlements over wai māori. Pūtake-mauka is a unique Kāi Tahu term recorded in whakapapa books, that relates to the ancestral source of rights from the mountains (which are our tūpuna).[50]

In the management of the natural world, rakatirataka is underpinned by the obligations placed on mana whenua as kaitiaki. The duty of kaitiakitaka is not merely about guarding or caretaking, it involves acting as an agent for environmental protection and decision-making, on behalf of tūpuna and mokopuna. The focus of kaitiakitaka is to ensure environmental, social and economic sustainability for future generations.

For Kāi Tahu, the state of the environment and the bounty of resources are significant measures of the mana of the people. Under the tenets of kaitiakitaka, mana whenua consider it their duty to protect and sustain te taiao for future generations. This includes caring for taoka species and their habitats and striving for the restoration of waterways like the Taiari, Waikouaiti and Waihemo and the whenua. These actions are an expression of their mana and enable the fulfilment of rakatirataka and kaitiakitaka roles handed down from the tūpuna.

[50] Pūtake (meaning both 'source' and 'ancestor') and 'mauka' (mountains)

5.3 Mauri

Mauri refers to a life force that all things possess. It connects the physical and spiritual aspects of our world and the objects and beings within it and is reflected in abundance, health, and vibrancy. Mauri is an observable expression of tapu and mana, and protection of mauri is the primary resource management principle for Kāi Tahu. Concepts such as tapu, noa and rāhui are applied by mana whenua to protect the mauri of a resource.

The mauri of the natural environment can be affected and depleted through human activities that do not balance development with the needs of te taiao. This degradation of mauri can be seen in the loss of indigenous biodiversity, changes to the landscape, and the impacts on freshwater, estuarine and coastal systems. For example, the mauri of a waterway is unable to protect itself against unnatural actions and interventions such as damming, diversions, altered flow regimes, discharges, and activities that impact on the riverbed. When the mauri of wai is degraded, there are multiple impacts. Physical effects may be noticeable in the environment, through changes in the āhua of the water, such as appearance, smell, colour, or taste. Changes in chemical composition or flow of water may also be present. These physical changes are also likely to affect animal and plant species that live in surrounding ecosystems, including loss of native habitat and creation of conditions that favour non-native species.

Such changes undermine the connection of mana whenua with wai and whenua, as mahika kai uses may become unsustainable. From here, a loss of knowledge can occur, as the opportunities to share the associated stories, practices, and histories diminish due to the lack of connection.

Whānau have seen this pattern take place over and over throughout the history of European settlement in Te Waipounamu, with many behaviours and actions that undermine and degrade the mana and the mauri of our waterways, taoka and whenua still in evidence today.

5.4 Tapu

Tapu is an all-pervading force that has been passed down through whakapapa to the people of today. Every natural element possesses a level of tapu derived from their connection to atua and tūpuna , who themselves were imbued with powerful tapu. The tapu status of people, places, and resources establishes expectations for the behaviour of whānau. Consequently, tapu operates much as any legal system, with prohibitions and restrictions acting as means of protecting and respecting the tapu of the environment, indigenous plants and animals, and the people themselves. Tapu also acts to influence human behaviour and conduct and is a customary form of legal system.

The obligation to respect and protect the environment is derived from the significant tapu of te taiao. Natural elements like water, earth, and air are very early ancestors that came into being at the time of the atua and the creation of the world. As a result, their tapu is heightened, as is the obligation to protect them as taoka handed down from tūpuna and held in trust for mokopuna to come.

5.5 Whakapapa

Kāi Tahu are bound to the land, water and all life supported by them by whakapapa. The word whakapapa references the build up of layers, a metaphor for the layering of generations from the past to the present, and into the future.

The following account of Kāi Tahu whakapapa and creation stories is sourced from the words of the famed Kāi Tahu leader, Matiaha Tiramōrehu.[51]

Nā Te Pō, ko Te Ao	*From the night came the day*
Nā Te Ao, ko Te Ao Marama	*From the day, the bright day*
Nā Te Ao Marama, ko Te Ao Tūroa	*From the bright day, the longstanding day*
Nā Te Ao Tūroa, ko Te Koretewhiwhia	*From the longstanding day, the unattainable void*
Nā Te Koretewhiwhia, ko Te Koreterawea	*From the unattainable void, the intangible void*
Nā Te Koreterawea, Ko Te Koretetamaua	*From the intangible void, the unstable void*
Nā Te Koretetamaua, ko Te Korematua	*From the unstable void, the parentless*
E moe ana Te Mākū i Mahoranuiātea	*Te Mākū, the damp, lay with Mahoranuiātea, the great expanse of light*
Ka puta ko Raki	*And the Raki the Sky was born*
Tuatahi e moe ana Raki i Pokoharuatepō	*First, Raki lay with Pokoharuatepō*
Tuarua, e moe ana Papatūānuku.	*Next, he lay with Papatūānuku the earth.*

Wai is a central element in Kāi Tahu creation traditions and is present very early in the whakapapa of the world. In this kōrero, darkness gives rise to the light, and through an abyss of nothingness, moisture materialises as the first iteration of wai.

The whakapapa continues down to Rakinui and his wives, Pokoharuatepō and Papatūānuku. The children of Rakinui and his wives created the elements of te taiao, including mountains, rivers, forests, and seas, and all living things. Kāi Tahu claim the same descent from Raki and his wives and are therefore connected to all things by whakapapa. Kāi Tahu tribal whakapapa thus links the cosmological world of the atua to present and future generations, giving rise to a spiritual relationship with te taiao and a respect for the mauri of that environment.

Similarly, whakawhanaukataka is expressed in the resource management approach “Ki Uta Ki Tai”, emphasising the holistic management of the interrelated elements within the natural environment. Water released by Raki makes its way into rivers, which in turn connect the entire landscape from the mountains to the sea. From the sea, water evaporates, condenses, and falls again on Papatūānuku, an eternal holistic cycle. MGP is situated in the headwater streams of Taiari, and Waikouaiti, Waihemo catchments. Therefore, under a Ki Uta ki Tai understanding of freshwater management, wāi māori in the headwaters should be in its purest form where it falls from Raki and flows from the mountains to the sea.

[51] From Tiramōrehu, Van Ballekom, & Harlow, 1987.

Whakapapa links whānau of today with te taiao through the actions of tūpuna in the past. From the stories of the shaping and naming of the land by Rākaihautū, to the mātauraka gained over generations, the connection to the whenua and the awa of Taiari, Waihemo and Waikouaiti continues.

6. He Pūkeka Wai: Mana whenua associations and connections

Layers of history, kōrero, mātauraka, and recorded knowledge can be examined to elicit the associations that tūpuna had with te taiao in the past. Mahika kai practices are a crucial component of mana whenua associations and connections with te taiao. Wāhi tūpuna and ara tawhito, and archaeological and ecological evidence, combine to provide an environmental context from which to elicit the associations of our tūpuna with the Project site. By looking at the key themes and activities that whānau are known to value in the context of the wider landscape, the activity and behaviour of whānau in the past becomes more obvious. Movement and travel through the landscape were key components of Kāi Tahu culture, driven by the practice of mahika kai.

This history of associations provides a blueprint for whānau to follow, as a guide for their aspirations and intentions in te taiao, now and into the future.

6.1 Mahika Kai

Mahika kai is a central element of mana whenua connections in the catchments within which the proposed activities are located. Mahika kai, a term that literally means 'food workings,' refers to the knowledge, activities, practices, places, and species associated with the gathering of natural resources, including kai, medicines and source materials like fibre and stone. Consequently, the term should be looked at holistically as referencing practices far beyond food gathering.



Whakaahua 21: Collecting tuaki at Karitāne

The practice of mahika kai has formed the basis of Kāi Tahu economic activity for hundreds of years and is still a core component of tribal economic and cultural development today.

Waterways like the Taiari, Waihemo and Waikouaiti were central to the practice of mahika kai, as sources of water, food, and other materials and as transport routes. These economic activities are linked to the natural patterns of target mahika kai species, and as a result, involved regular and systematic movement from the coast inland and back again. Known as heke, these seasonal migrations were undertaken by following ara tawhito with major rivers like the Waihemo, Waikouaiti, and Taiari providing important routes, leading from the coastal kāika to the headwaters. Trails were established based on accessibility and availability of infrastructure to support the heke, including campsites and settlements, and reliable sources of food, water, and resources.

Mahika kai resources provided the building blocks upon which Kāi Tahu life and identity have been built (see Appendix 5 for a full list of taoka mahika kai in the area). Mahika kai activities have a dual focus, both as a means of honouring ancestors, both human and non-human, and as a way of ensuring intergenerational sustainability for the uri yet to come. The sustainability of mahika kai is a fundamental priority to Kāi Tahu, and the restoration and sustainability of mahika kai is required to uphold the core values of mana, tapu, whakapapa, and mauri.

Kāti Huirapa Rūnaka ki Puketeraki, as kaitiaki understand that the health of the awa and whenua in the headwaters must be restored to protect and maintain mahika kai in the lower reaches and have put considerable effort into monitoring and restoration work with this aim. Restoration initiatives include He Pātaka Wai Ora, a Rūnaka-led monitoring and restoration project, the East Otago Taiāpure, and the Waikouaiti Mātaitai. He Pātaka Wai Ora was developed in 2014 to protect the health of Waikouaiti River, and its catchment, and the aim is to maintain the mana of the Waikouaiti and therefore the mana of whānau and hapū.

Kāti Huirapa Rūnaka ki Puketeraki have a long history of expressing concern about the state of the Waikouaiti awa. The estuary was the initial focus for this, as this was the most accessible.

Applications were made to establish customary fishing areas including the establishment of the East Otago Taiāpure in 1999, and an overlapping Waikouaiti Mātaitai in 2016. The aim is to manage and protect Kāi Tahu fisheries resources and mahika kai in the lower reaches of the Waikouaiti River.

Establishing these areas took years of time and effort indicating the commitment of Kāti Huirapa ki Puketeraki to the Waikouaiti and to rakatirataka and kaitiakitaka - protecting and enhancing connection to the environment and honouring whakapapa for future generations.

We realise that because of the lack of access, our backs were turned to the health of the awa. People could see the degradation increasing and felt impotent to do anything about it. Kāi Tahu has taken ownership of the issues rather than looking for someone else to blame.

He Pātaka Wai Ora speaks of Kāti Huirapa ki Puketeraki seeking to re-establish its relationship with the awa, physically, spiritually, and in terms of rebuilding knowledge.

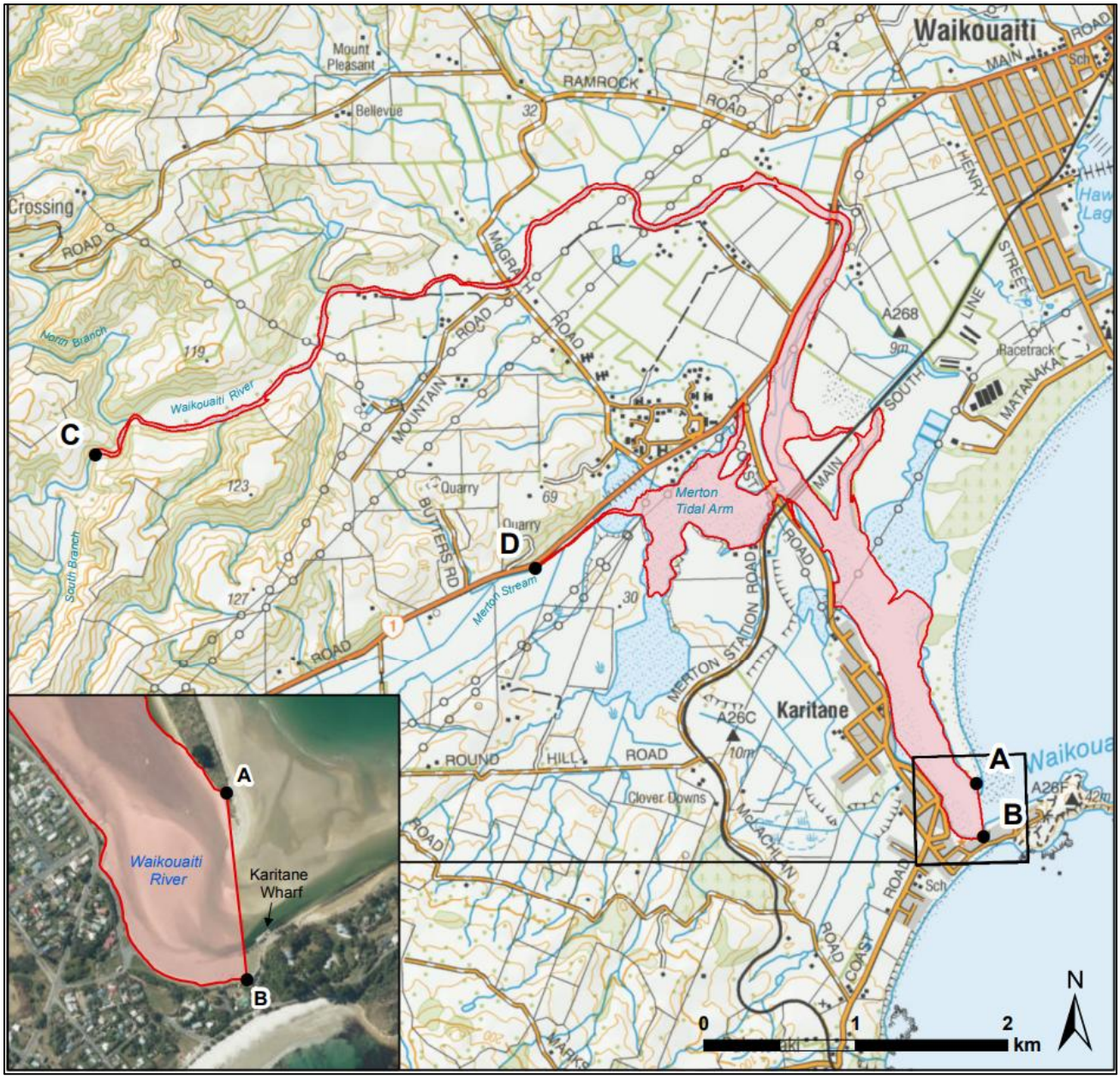
He Pātaka Wai Ora understands the importance of the practice of mahika kai in terms of maintaining mātauraka – recognises that mātauraka is passed on by active practicing and the physical act of being there, rather than by learning via other methods.

Brendan Flack, Kāti Huirapa Rūnaka ki Puketeraki, 2023.

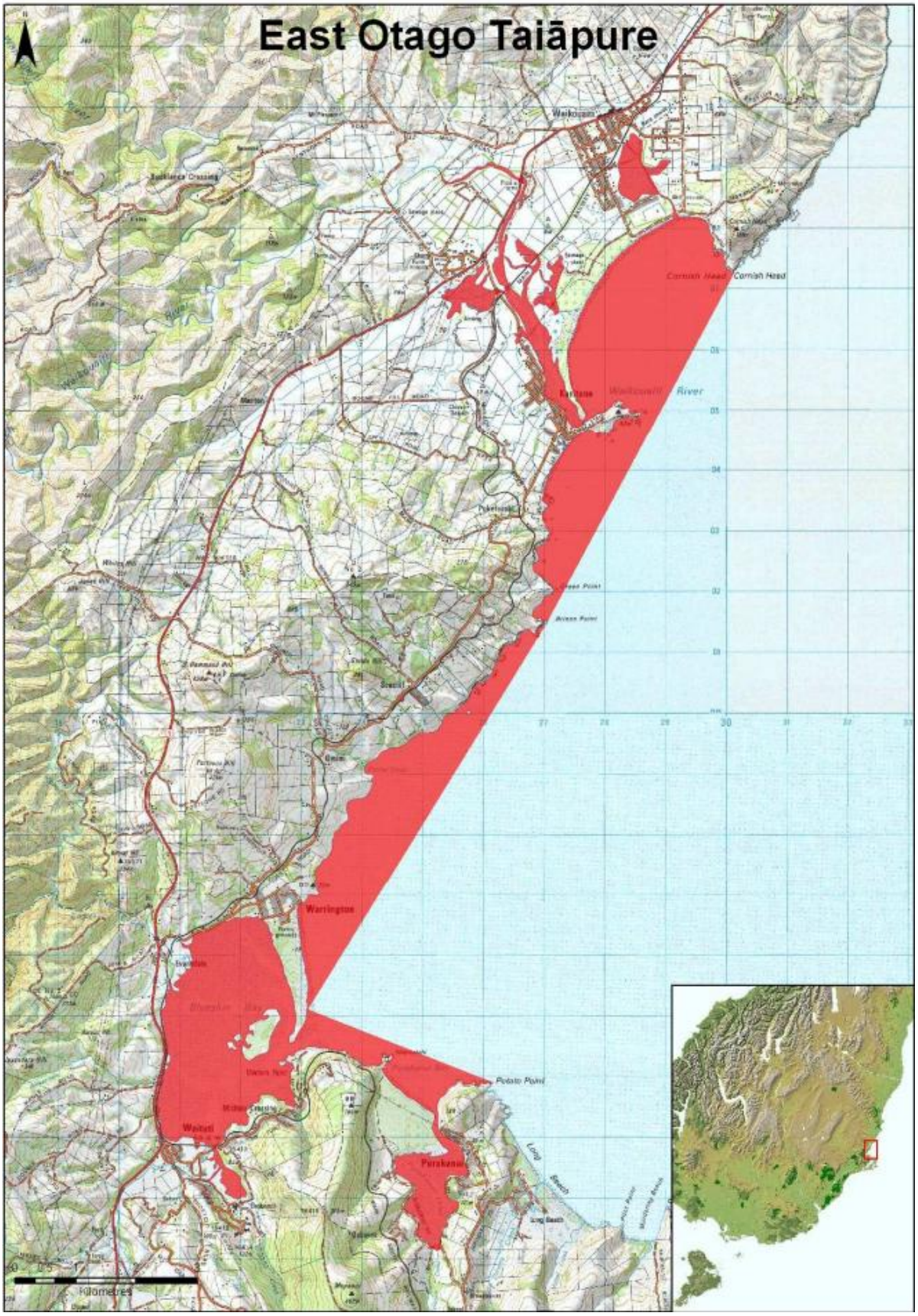
Similar concerns regarding the restoration and sustainability of mahika kai are held by mana whenua in respect to the Taiari and Waihemo catchments.



Whakaahua 22: Rakatahi doing restoration planting at Merton Tidal arm on the Waikouaiti Māori Trust Reserve, with Hikaroroa (Mount Watkin) in the background.



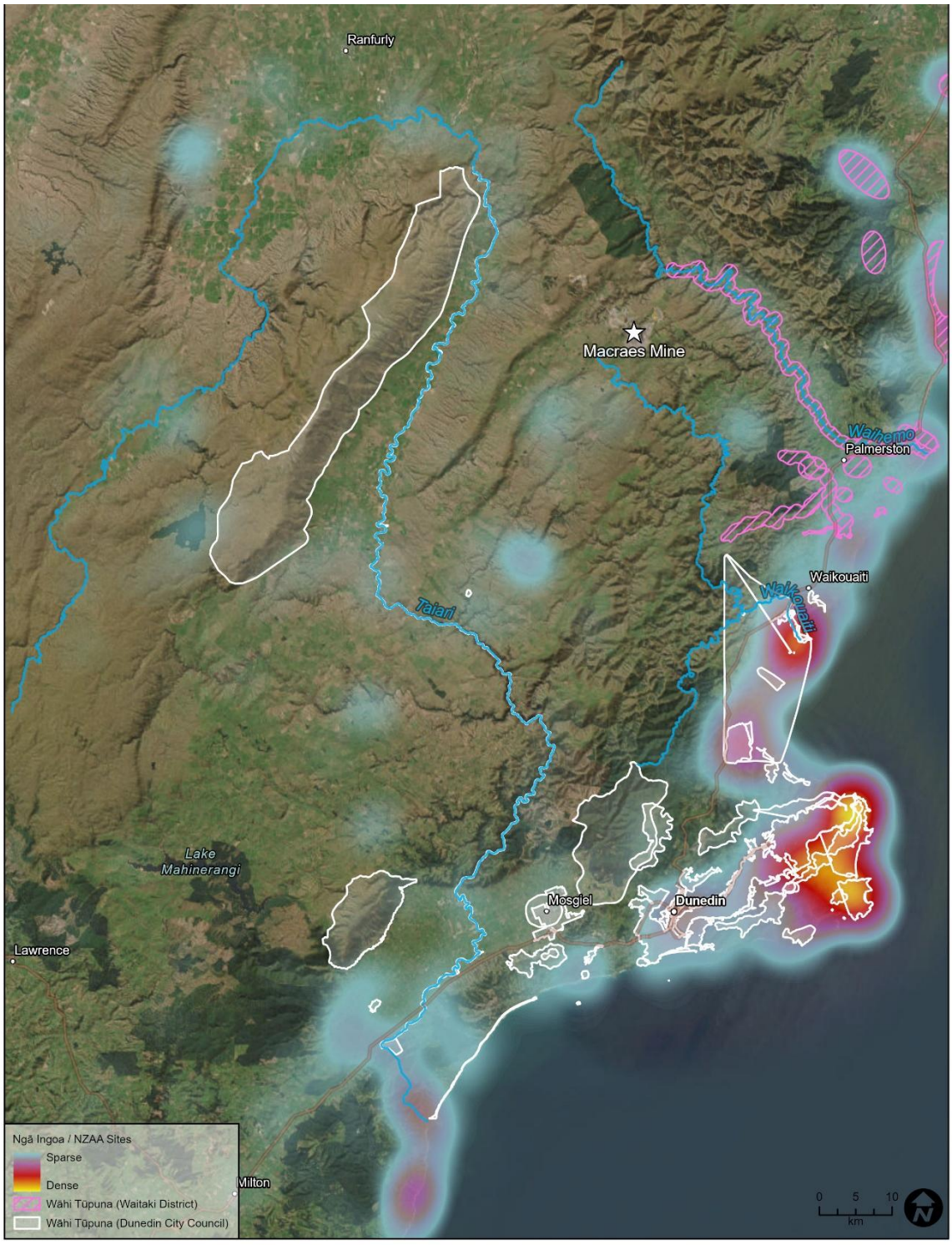
Whakaahua 23: Waikouaiti Mātaitai Reserve



Whakaahua 24: Waikouaiti Taiāpure Reserve

6.2 Wāhi Tūpuna and Ara Tawhito

Wāhi Tūpuna are landscapes and places that embody the relationship between mana whenua, their culture and traditions with their ancestral lands and waters, and their associated taoka. Ara tawhito are ancient trails formed by tūpuna following their arrival in Te Waipounamu that were entrenched through repeated use as trade routes and travel ways. Ara tūpuna connected wāhi tūpuna across the takiwā of Kā Rūnaka, enabling access to gather important resources through mahika kai practices.



Whakaahua 25: Density of the wāhi tūpuna landscape showing the long history of occupation and use within the Taiari, Waikouaiti, and Waihemo Catchments

The multitude of wāhi tūpuna in the East Otago area is indicative of the level of activity and association that mana whenua has with the area. Several key themes can be elicited from the history of these sites, particularly related to mahika kai and the naming of landscape features. Within these kōrero, the sinking of the Araiteuru waka at the mouth of the Waihemo feature strongly, with many sites named for waka crew he moved inland to explore and were turned to stone, becoming hills and mountains that now bear their names.[52]

Fundamental to the lifeways of whānau in the practice of heke, whereby whānau would travel from the coast to the inland areas. Access to the hinterland was provided by ara tawhito, well-trodden paths created by the feet of generations, enabling access to the upper lakes.

Heke enabled mana whenua to reaffirm ahikāroa by visiting the inland areas of their takiwā to 'warm their hearths.' Ahikāroa was the key means through which mana whenua retained the rights of tūturu ki te noho, referring to the rights of settlement. These rights were derived from the whakapapa link to Rākaihautū, an early tūpuna who lit the first fires in Te Waipounamu, naming the land and digging the many lakes as he travelled. Cultural practices like heke enabled these rights to be maintained across an extensive estate for generations.

Paths in and around the Waikouaiti and East Otago supported movement north and south along the coastline, with other travel-ways linked the coast with the inland areas. Both the Waihemo Valley and Waikouaiti River are recognised ara tawhito which facilitated passage from the coast to the inland regions[53]. Archaeology evidence just south of the MGP site and the complex networks of settlement and mahika kai activities surrounding the site provide clear evidence that whānau were accessing these areas extensively for generations.

Taiari

The Taiari (Taieri) River meanders down through three plains now known as Māniatoto (Maniototo), Strath Taiari, and Taiari, with hills and ranges between. The zig-zag nature of its twists and turns is reputed to be the result of the taniwha Matamata wriggling around looking for its lost master, Kāti Māmoe chief Te Rakitauneke. The taniwha finally reposed where Saddle Hill is now and remains as the peaks Turi Makamaka and Puke Makamaka. The name 'Taiari' refers to the way that the tidal changes in the ocean at the river mouth influence the flow of the river as far as the upper reaches.

[52] See Appendix 3 for a full list of wāhi tūpuna.
[53] TRONT, 2024, Kā Huru Manu.



Whakaahua 26: Upper Taiari Scroll Plain

Ōtākou and Puketeraki hapū made seasonal visits along the Taiari to gather resources and strengthen the kūpeka (net) of whakapapa on which their resource rights were based. Whānau groups from Ōtākou commonly migrated through the whole of late spring and summer into the interior. They gathered eels at the lakes on the Taiari Plain, took kanakana (lamprey) in the Whakaehu (Silverstream), and followed the Taiari into the Māniatoto, enjoying eeling and bird-trapping mahika kai activities as they went. Other resources were harvested along the way, including tī kouka, tikumu and taramea. The Taiari is now unique amongst rivers in Otago, in that it is the only one that remains open from the headwaters to the sea, providing unfettered access for native fish migration.

The Coronation and Coronation North Pits are located on the Taiari Ridge in the headwaters of the Taiari catchment.

Waikouaiti and Waihemo Catchments

Both the Waihemo and Waikouaiti catchments have been sites of settlement for ancestors of Kāi Tahu whānui for generations. These associations date back to the arrivals of three waka, Uruao, Takitimu, and Araiteuru. It is through these histories that mana taunaha and the rights of tūturu te noho were first established, rights which have never been conceded. The significance of the Waikouaiti and Waihemo Rivers for mana whenua is recognised in the statutory acknowledgement for Te Tai-o-Araiteuru[54]

Historical, archaeological, and wāhi tūpuna mapping identifies significant evidence of settlement in this area, including more than 50 known wāhi tūpuna along both awa and across the wider landscape (see Appendix 3 and 4).[55]

Waihemo River

The Waihemo reaches the ocean just south of Matakaea, an extensive occupation site with hundreds of years of history.

[54] Schedule 103, Statutory acknowledgement for Te Tai o Arai Te Uru (Otago Coastal Marine Area), NTCSA 1998.
[55] Schedule 103, NTCSA 1998.

Matakaea is recognised as a statutory acknowledgement area and as a tōpuni area, due to this long and significant history of association and occupation, and as the site of many urupā, the resting place of tūpuna.



Whakaahua 27: The mouth of the Waihemo at Matakaea

Due to the area's significance, several archaeological investigations have been undertaken at the site, which have found evidence of occupation from the fifteenth to the eighteenth century.[56] Middens have yielded evidence of kai from both coastal and inland habitats, including moa and fish bone,[57] indicating lifeways that reflect the tenets of 'ki uta ki tai.'

Given its obvious connections to Matakaea and to the people that lived there, the Waihemo itself holds many of the same associations.[58]

Waikouaiti River

"Ko Waikouaiti te awa waiora o ō tātou tini tūpuna , rere tonu, rere tonu."[59]

The Waikouaiti River is a wellspring for the wellbeing and identity of Puketeraki whānau, as referenced in this whakataukī. The whakataukī refers to the intergenerational nature of the relationship between the people and the river. The word 'waiora' links 'wai' or water with the word 'ora' meaning alive, well, or healthy.[60] The Waikouaiti is held in high esteem by Puketeraki due to its significance in relation to mahika kai and as a focus for the hapū in expressing kaitiakitaka.

[56] Heritage New Zealand: https://www.heritage.org.nz/list-details/5702/Listing
[57] NZAA, 2024.
[58] NTCSA 1998, Schedule 41; Schedule 83.
[59] The Waikouaiti is a wellspring of health passed down through generations, may it continue to flow.
[60] Moorfield, 2003-2024.

The awa flows through the centre of the cultural landscape of their takiwā, a landscape that carries a rich history to which mana whenua have an unbroken connection.

6.3 Māori archaeology

Archaeological evidence in East Otago provides further information about the activities being undertaken by whānau in the area in the past (see Appendix 4 for a full list of known Māori archaeological sites in the area), from which several themes emerge, conveying a long, complex history of occupation and settlement over centuries that facilitated kaitiakitaka and mahika kai practices.

The presence of many coastal birds, fish, and shellfish in middens along the coast and riverbanks speaks to the importance of the coastal and estuarine environment to tūpuna.

The presence of moa in midden both at the coast and inland, further illustrates the significant length of occupation in the area. The co-location of moa remnants with quarrying and flaking sites suggest that significant food-gathering activities were taking place, in which quarrying and toolmaking was undertaken on-site to process a ready food source available locally. For example, there is a cluster of known sites with these characteristics to the south of the MGP site.[61] To the east, a further two sites share similarities.[62]

Another theme that emerges from the archaeological record is the widespread harvesting and processing of kāuru, the inner core of the tī kōuka, which was cooked in umu tī. These large ovens feature strongly in the area to the south of Macraes, including a large group of ten umu tī located on the southeast of Whati Nunui.[63] While umu have been a common cooking method for centuries, this cluster of sites tends to indicate seasonal activity that including harvesting, processing, and cooking of kāuru on-site.[64]

Leading inland from these quarrying and umu tī sites, a further set of three sites classified as caches hint at a trackway leading inland, with provisions stored at these cache-sites. However, the sites were fossicked, and their contents have not been recorded, so it is difficult to discern their true meaning. Nevertheless, the presence of numerous taoka finds in the wider area to the south and southwest of the Project site indicates the importance with which this landscape was regarded.[65]

In terms of the lithic materials identified in these records, the presence of silcrete flakes is noteworthy, as a possible record of stone being worked for technological applications or trade.[66] Silcrete is a variety of duricrust; a hard, flaking sedimentary rocked formed from an amalgam of

[61] This cluster of sites includes (1) an umu (I43/49), (2) an artefact scatter (I43/155), (3) a silcrete quarry (I43/23) and (4) a silcrete working floor (I43/156). NZAA, 2024.
[62] These sites are an orthoquartzite quarry (I43/68) and a small settlement dating to the moa hunter period (I43/96); NZAA, 2024.
[63] There are ten umu tī in this area (I43/39, I43/48, I43/47, I43/45, I43/44, I43/43, I43/41, I43/42, I43/40, and I43/33).
[64] Holdaway & Jacomb, 2000.
[65] Anderson, 1991; Hogg, 2009.
[66] MfE & Statistics NZ, 2021; Russell, 2000.

quartz sand and freshwater gravels.[67] Silcrete is commonly found in areas of Central Otago like the Ida Valley.



Whakaahua 28: Silcrete blades found at Matakaea

During the early settlement period, tūpuna developed a technique to craft silcrete blades, ideal for carving and slicing.[68] These blades are often found near moa butchery sites, with some sites, like that at Matakaea, yielding thousands of flakes in one site. Flakes were so plentiful that one author has suggested that,

> *the chipped shards of silcrete found in bulk at butchery sites were works of haste, not of art. They would have meant little more… than plastic forks or knives do today, like disposable cutlery left at the scene of feasting.*[69]

The archaeological record reinforces mātauraka that records considerable numbers of wāhi tūpuna located across East Otago. These sites were strongly linked to mahika kai activities including the gathering of food, fibre, and stone. The fact that a large number of sites date back to the early phase of occupation from 1250 - 1450,[70] and that this association and connection has continued since that time, demonstrates that the landscape was well traversed and valued as a wāhi mahika kai.

These activities truly express living ki uta ki tai, with the wealth of food and resources acquired from both the coast and the inland areas featuring strongly across the archaeological record.

[67] Trewin & Fayers, 2005.
[68] McKinnon, 2015.
[69] Barker, 2017.
[70] Atholl Anderson (2025) *The Welcome of Strangers*, p.8

This core theme identifies East Otago and the Strath Taiari Plateau, encompassing Macraes Flat and the MGP site, as a food basket, but also and a source of wellbeing, pride, and identity, for the people of that place.

7. He Mahi Kai Hōaka: The Kāi Tahu history of loss

7.1 Introduction

The colonisation of Te Waipounamu had severe impacts on Kāi Tahu, incurring a history of loss primarily due to the profound impacts of land alienation and environmental disruption. The Kāi Tahu Deeds saw vast tracts of land transferred under unjust conditions, undermining tribal authority and access to resources. European farming practices and historic gold-mining operations further degraded ecosystems and disrupted traditional land-use. These forces, combined with ongoing land-use change, have had lasting consequences on Kāi Tahu wellbeing, identity, and connection to whenua.

7.2 The Kāi Tahu Deeds

The history of East Otago's settlement spans from the arrival of colonists at Waikouaiti in 1837, and the establishment of the whaling station there, which was acquired by Sydney businessman Johnny Jones in 1838. From 1838 through to 1840, Jones entered into several land agreements with rakatira of Kāi Tahu, including the purchase of a block that stretched from Waikouaiti to Wānaka in 1839.[71]

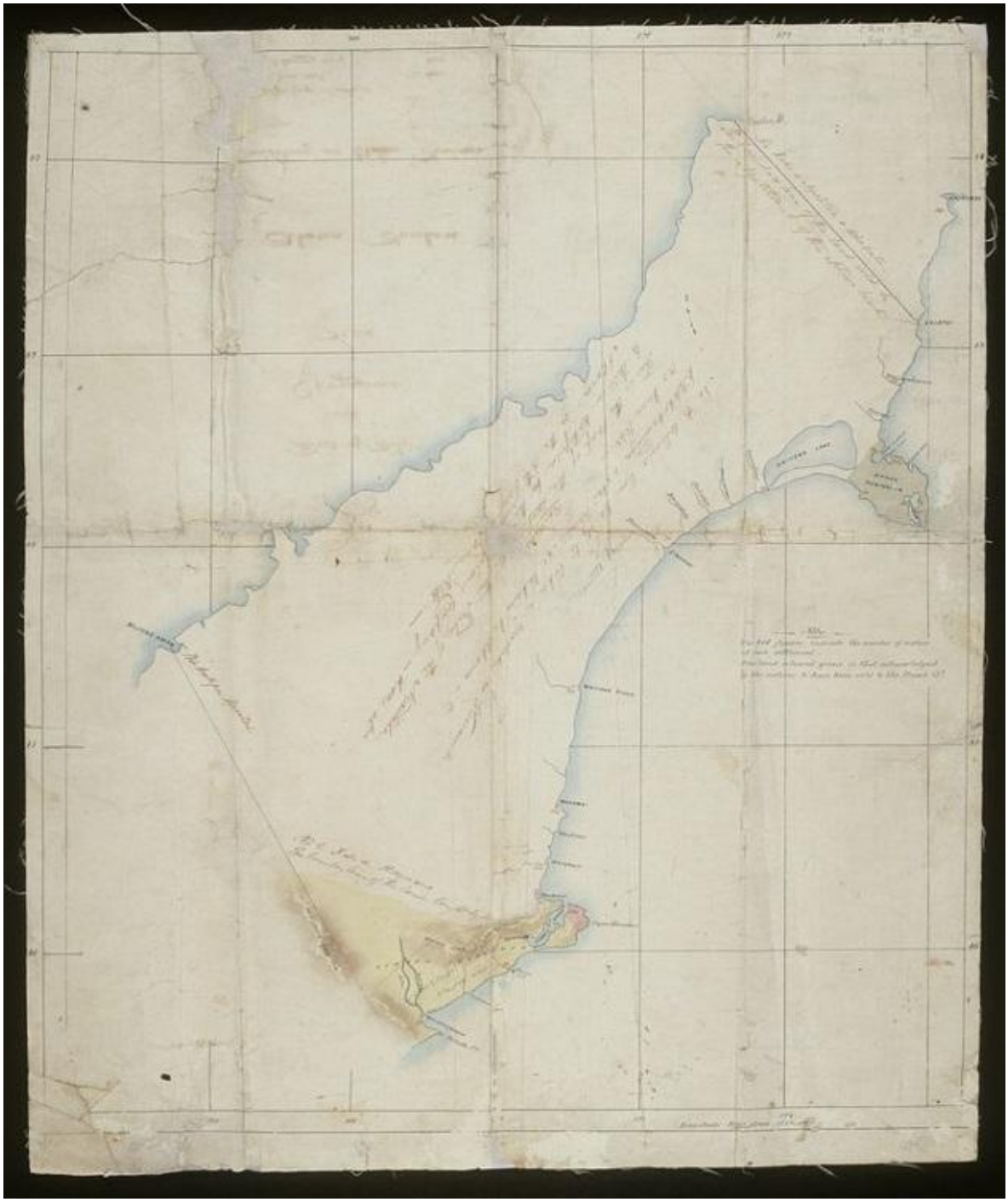
In 1840, Te Tiriti o Waitangi was signed by representatives of Kā Rūnaka when Crown representatives arrived in Te Waipounamu in late May and early June.

Subsequently, from 1844 to 1864, Kāi Tahu agreed a series of land sales with the Crown and their representatives. Rather than acting in good faith, the Crown reneged on key elements of these land purchase agreements, resulting in widespread land alienation and economic deprivation for mana whenua.

The 1848 Kemp's Deed was the largest of these Crown land purchases, comprising 13,551,400 acres for which £2,000 was paid. Although the deeds promised a tenth of the land would be retained as reserves for Kāi Tahu, less than 6,500 acres were allocated within the footprint of the deed, equating to less than 1%.[72]

Over the ensuing period, settlers began to arrive and to establish themselves, initially on the coast, but later inland, and sometimes building on existing whaling and trading settlements like Waikouaiti. With their arrival came a slew of new practices, technologies, and ideas, many of which have affected and degraded mana whenua associations and connections to te taiao.

[71] Waikouaiti Coast Heritage Centre, 2024.
[72] TRONT, 2017.



Whakaahua 29: The original Kemp's Deed map, 1848

Ancestral lands were surveyed, sold, and settled and it was increasingly difficult to follow kā ara tawhito and to access wāhi tūpuna and wāhi mahika kai. Changes in the ancestral landscape and the loss of mahika kai resources impacted on Kāi Tahu communities, contributing to the displacement of whānau, loss of knowledge and identity, and economic hardship.

The loss of connection to the whenua that followed the signing of the Deeds, coupled with the visible deterioration, degradation, and modification of whenua, wai and mahika kai since that time, is a source of great mamae for mana whenua. This is particularly true given the obligations of mana whenua as kaitiaki whenua in their takiwā.

7.3 Farming and growing

In the same year as the Te Tiriti o Waitangi was signed, Johnny Jones and his family immigrated from New South Wales to Waikouaiti, having previously had an estate established on land he had purchased at Matakana. He brought with him around a dozen families from Sydney, along with crops, sheep, cattle, and horses that they would farm. Thus, Jones established the first farm in Otago and became "the first to bring organised [Pākehā] settlement to the east coast of the South Island."[73]

The operation of Matakana Station had a profound effect on the environment, which effectively undermined mana whenua values and associations with the area. Large areas of wetland were drained around Waikouaiti, and there was extensive clearance of native forest, both of which were catastrophic for mahika kai practices and resources. This led to tensions with local Māori leadership, during which time, from 1848 to 1852, rakatira from Waikouaiti attempted to repossess land from squatters at Johnny Jones' whaling station.[74]



Whakaahua 30: Orbell's Crossing, Waikouaiti River, 1907[75]

Jones' farming enterprises in the area continued to have an impact. When the Dunedin City settlement was established in 1848, Jones increased food production and established a small trading

[73] Tapp, 1990.
[74] HNZPT, 2023.
[75] Hocken Library, 2024.

store at Waikouaiti, aiming to become the chief supplier of food to the new settlement. He later built a flour mill near Cherry Farm and maintained a monopoly in flour production until the early 1950s.[76]

7.4 Historic gold-mining activities

When gold was discovered in Central and North Otago in the 1860s, the population of Otago rose steeply, leading to significant growth in housing and infrastructure in places like Waikouaiti township.[77] Initial finds further inland were quickly followed by discoveries in North and East Otago from 1863.[78]

As miners flooded the Central Otago goldfields, other prospectors sought their fortune elsewhere in the district. One historic account describes the activities of a party prospecting in the Waikouaiti area in 1886, including sinking shafts, digging test-pits, and modifying waterways in attempts to find profitable gold sources. Water modification included dam and race construction, and waterway diversions in streams like Three O'Clock Creek.[79]

Initial impacts of the gold rush for East Otago were due to the huge boom in people arriving in the district, which typically involved travelling down Te Tai-o-Araiteuru in some fashion, arriving at ports like Ōamaru. This influx of people had significant economic benefits for these communities., which led to increased development, including the expansion of towns and settlements, and establishment of transportation networks.[80] However, as mining become established closer to the coasts, the environmental impacts included significant modification to waterways and the landscape to support mining activities.

Tunaheketaka, a lake near modern-day Waipiata, was massively impacted by sedimentation from sluicing, and gravel and tailings deposits from the Hamilton and Naseby gold diggings.[81] The lake had provided a significant eel fishery for whānau who lived in the area, and who were forced to leave when their food basket disappeared.

Closer to the Project, gold was discovered near Macraes in 1862, leading to a series of rushes in tributaries of the Waihemo, such as Deepdell Creek. Initially, miners worked the creek's gravels for mine, resulting in alluvial tailings along the waterway.[82]

The first major vein mined at Macraes was probably the Duke of Edinburgh in 1875, followed by the Golden Point/Round Hill lode system discovered in 1889.[83] Originally named 'Poverty Point,' the site went through a series of hands through to the mid-1900s, before closing in about 1930. After 1900, mining continued in the area via the Maritana Company operating initially on the west side of Deepdell until 1906 before recommencing work on the east side from 1912 through to 1939.

[76] Tapp, 1990.
[77] MCH, 2024.
[78] Otago Goldfields Heritage Trust, 2017; Pyke, 1887.
[79] 'Prospecting in the Waikouaiti District,' 1886, p. 11.
[80] 'Ōamaru Harbour,' 2012.
[81] Otago Central Rail Trail Trust, 2019.
[82] HNZPT, 2024, Golden Point Historic Area.
[83] HNZPT, 2024, Golden Point; OGL, 2020.

At this time, smaller operations focused on tungsten sprang up due to the drop in the gold price during WWII.[84]

Environmental standards were low amongst these early pioneers, as evidenced by unconstrained mining activity, the scars of which are still visible. Revegetation is slow in many of the areas affected by gold mining, due to the lack of soil depth as a result of widespread sluicing. Historic alluvial goldmining has wrought the most obvious landscape changes, due to the disruption of sands and gravels in riverbeds often using dredges. In contrast, historic hard-rock mining has left little visual impact as remnant scattered piles of waste have largely been overgrown.[85]



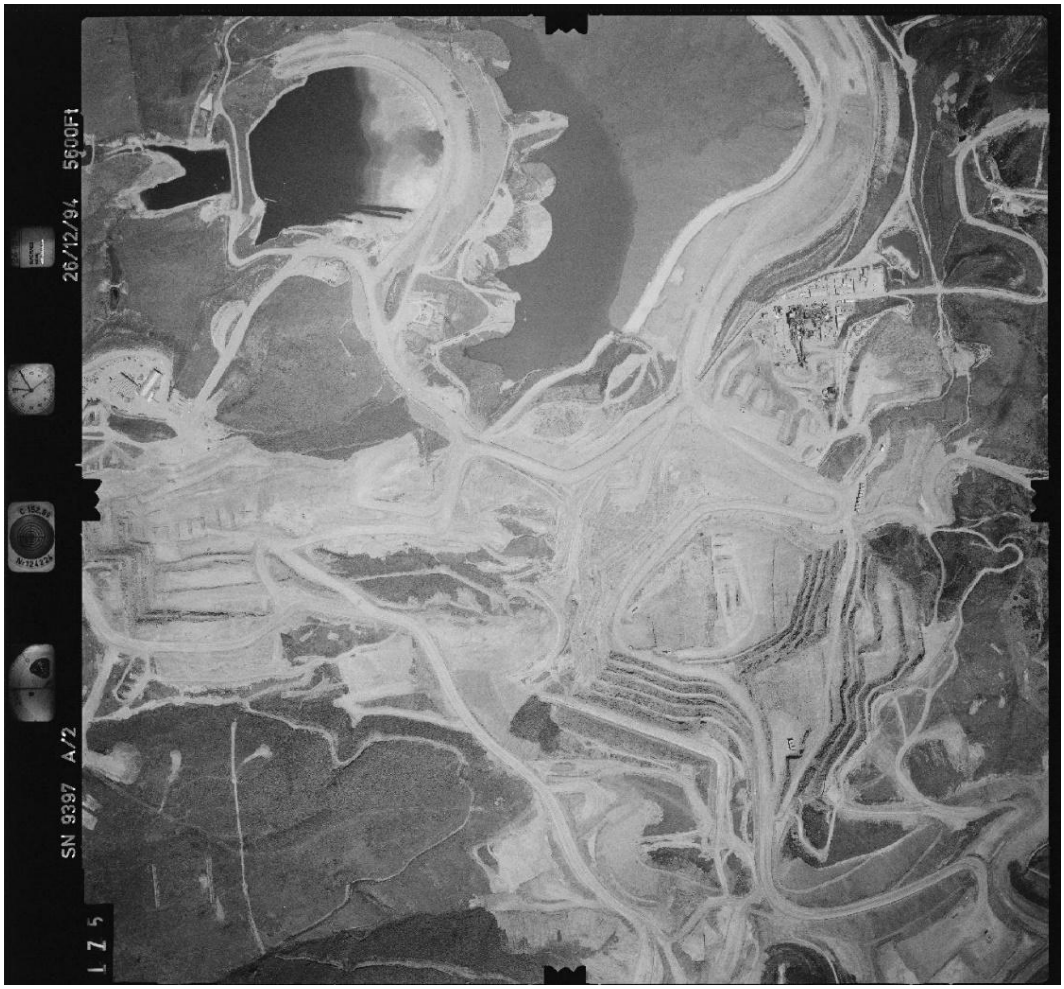
Whakaahua 31: Sluicing at Naseby, c. 1900

The development of the Macraes Gold Project continues this history of extractive land use within East Otago. This builds on a long history of land-use change (see Appendix 6) and that can be clearly seen in the following series of images.

[84] OGL, 2020.
[85] University of Otago, 2024. Environmental aspects of mining gold in Otago.



Whakaahua 32: Aerial photo of the site before the mine, 1947



Whakaahua 33: Aerial picture of the Project site, 1998



Whakaahua 34: Aerial picture of the Project site, 2004

7.5 Impacts on Mahika Kai and Ahikāroa

The significance of mahika kai as a cornerstone of Kāi Tahu kawa and tikaka cannot be overstated. It was through mahika kai practices that knowledge and skills were handed down, and through the seasonal practice of heke that the relationship with whenua and wai māori was sustained. This continued reaffirmation of ahikāroa across the seasons was a significant means of actioning rakatirataka and mana, but also provided opportunities for reconnection with the actions, stories, and knowledge of atua and tūpuna.

Thus, the deprivation suffered by Kāi Tahu since 1840 has encompassed not only the material loss of land as an asset base and the loss of seasonal hunting grounds, but the loss of a spiritual connection to te taiao and the ability to exercise rakatirataka, a fundamental building block of Kāi Tahu life and identity, and the means of passing on of mātauraka.[86]

The modification of the land and environment and the impacts on mahika kai continues through practices that include mining in the headwaters of the Taiari, Waikouaiti and Waihemo. For mana whenua, this is a history that replays over and over, with echoes of the losses of the past reverberating through to the future. The resulting legacy issues and cumulative effects have contributed to significant inequities in environmental outcomes, with Kāi Tahu ultimately bearing the ongoing cost of extractive industries. This includes the continued degradation of awa tūpuna and the whenua and the associated impact on the indigenous species and mahika kai practices that they support.

[86] Waitangi Tribunal, 1991.

8. Statutory Framework

8.1. United Nations Declaration on the Rights of Indigenous Peoples

The United Nations Declaration on the Rights of Indigenous Peoples (the Declaration) is a comprehensive international human rights document on the rights of Indigenous peoples. It covers a broad range of rights and freedoms, including the right to self-determination, culture and identity, and rights to education, economic development, religious customs, health and language.

By way of example, some of the articles of the Declaration that are relevant to the current application include, but are not limited to:

Article	
18.	Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.
20	Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities.
25	Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.
32	Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.
	States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.

OceanaGold recognises the unique rights and interests of indigenous people and communities and the importance of maintaining their cultural values and heritage as described in the Declaration.[87]

OceanaGold conducts its business activities consistent with the principles of Free Prior and Informed Consent (FPIC) and prioritises open engagement that enables informed decision making and due consideration of the interests of indigenous people.[88]

[87] OceanaGold (2024) *Human Rights Policy*
[88] OceanaGold (2024) *Human Rights Policy*

8.2 Resource Management Act 1991

The Resource Management Act 1991 recognises and provides for the Kāi Tahu values and interests in the Taiari, Waikouaiti and Waihemo catchments.

The relationship of Kā Rūnaka with the Taiari, Waikouaiti and the Waihemo is a matter of national importance that must be recognised and provided for in managing natural and physical resources.[89] The depth and breadth of the relationship of mana whenua with wai māori and whenua in these catchments is discussed in Section 6.

In achieving the purpose of the Act particular regard is required to kaitiakitaka.[90] Kāi Tahu whānau exercise kaitiakitaka in these catchments. Maintaining a balance between the right to access and use natural resources, and the responsibility to care for te taiao, with a focus on providing a sustainable base for future generations is implicit in kaitiakitanga.

8.3 National Policy Statement for Freshwater Management 2020 (NPSFM)

The concept of Te Mana o te Wai has been part of the NPSFM since 2014. However, Te Mana o te Wai was brought to the forefront of freshwater management in Aotearoa through the NPSFM 2020 (updated 2024).

Te Mana o te Wai recognises that protecting the health of freshwater (te hauora o te wai) protects the health and wellbeing of the wider environment (te hauora o te taiao). The NPSFM recognises the relationship of mana whenua with freshwater, requires that Māori freshwater values are provided for, and requires that mana whenua are actively involved in freshwater management processes.[91]

The concept of Te Mana o te Wai represents a significant paradigm shift in freshwater management. The previous focus on the scale and significance of the effects of resource use is now redirected onto the mauri or life-force of water and the enquiry becomes how do users of resources protect the water's health and well-being?[92]

Policy 6 of the NPSFM requires that there is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted. The NPSFM and the related National Environmental Standards for Freshwater 2020 (NESF) provide for vegetation clearance and earthworks in and near wetlands in some circumstances, but require that, if adverse effects on the wetland cannot be avoided, they are managed in accordance with an effects management hierarchy.[93]

[89] Resource Management Act 1991, section 6(e)
[90] Resource Management Act 1991, section 7(a)
[91] NPSFM 2020 Clause 1.3(4)(a)-(c), Policy 2, Clause 3.4.
[92] Aratiatia Livestock Limited and Ors v Southland Regional Council [2019] NZEnvC 191
[93] NPSFM 2020 Clause 3.22(1)(f); NESF Clause 45D.

8.4 Ngāi Tahu Claims Settlement Act 1998 (NTCSA)

The NTCSA was enacted to settle the historical Ngāi Tahu claims against the Crown and provides redress under Te Tiriti o Waitangi. The Crown apology in section 4 explicitly recognises the rakatirataka of Kāi Tahu within its takiwā.

The Act provides specific provisions that provide for the exercise of rakatirataka and kaitiakitaka by mana whenua in relation to mahika kai, taoka species, and other resource management matters. These include rights in relation to the management of specified significant areas including statutory acknowledgement areas.

The Statutory Acknowledgements for Taonga Species and Customary Fisheries, and for Te Tauraka Poti (Merton Tidal Arm) and the Otago Coastal Marine Area / Te Tai o Arai Te Uru, are set out in the Appendices of this assessment.

8.5 Otago Regional Policy Statement 2021 (RPS)[94]

The RPS recognises and provides for the relationship of Kai Tahu with whenua, wai māori and coastal waters, including through the following policy:

MW–P3 – Supporting Kāi Tahu hauora

The natural environment is managed to support Kāi Tahu hauora by:

(1) recognising that Kāi Tahu hold an ancestral and enduring relationship with all whenua, wai māori and coastal waters within their takiwā,

(2) protecting customary uses, Kāi Tahu values and relationships as identified by Kāi Tahu to resources and areas of significance, and restoring these uses and values where they have been degraded by human activities,

(3) safeguarding the mauri and life-supporting capacity of natural resources, recognising the whakapapa connections of Kāi Tahu with these resources as taoka, and the connections to practices such as mahika kai, and

(4) working with Kāi Tahu to incorporate mātauraka into resource management processes and decision-making.

The objective and policies relating to Te Mana o te Wai in the RPS were developed in consultation with mana whenua, as required by the NPSFM, and reflect the Kāi Tahu perspective on wai māori as follows:

LF-WAI-O1 Te Mana o te Wai

Otago's water bodies and their health and well-being are protected, and restored or improved where they are degraded, so that the mauri of those water bodies is protected, and the management of land and water recognises and reflects that:

(1) water is the foundation and source of all life - nā te wai ko te hauora o kā mea katoa

[94] The Otago Regional Policy Statement 2021 is now operative

(2) *there is an integral kinship relationship between water and Kāi Tahu whānui, and this relationship endures through time, connecting past, present and future,*

(3) *each water body has a unique whakapapa and characteristics,*

(4) *fresh water, land and coastal water have a connectedness that supports and perpetuates life,*

(5) *protecting the health and well-being of water protects the wider environment,*

(6) *Kāi Tahu exercise rakatirataka, manaakitaka and their kaitiakitaka duty of care and attention over wai and all the life it supports; and*

(7) *all people and communities have a responsibility to exercise stewardship, care, and respect in the management of fresh water.*

Te Mana o te Wai policies require that:

- The environmental, social, cultural, and economic relationships of Kāi Tahu with water bodies are sustained and mātauraka is incorporated into freshwater decision-making, management and monitoring processes.[95]
- The habitats of mahika kai and taoka species associated with water bodies are sustained and restored.[96]

This policy direction is also reflected in the long-term freshwater vision for the Taiari, Dunedin & Coast, and North Otago Freshwater Management Units (FMU),[97] and in the objective for wetlands.[98]

The PORPS objectives for wāhi tūpuna are also relevant, requiring protection of the values of wāhi tūpuna and recognition and provision for rakatirataka and kaitiakitaka over these areas. [99]

8.6. Kāi Tahu ki Otago Natural Resource Management Plan 2005 (NRMP)

The Kāi Tahu ki Otago Natural Resource Management Plan 2005 is the principal resource management planning document for Kāi Tahu in the Otago region.

The kaupapa of the plan is 'Ki Uta ki Tai' (Mountains to the Sea), which reflects the holistic Kāi Tahu philosophy underpinning resource management in Otago.

The plan is an expression of rakatirataka and kaitiakitaka, and expresses local Kāi Tahu values, knowledge, and perspectives on natural resource and environmental management issues. While the plan is first and foremost a planning document to assist Kāi Tahu in Otago in carrying out their kaitiaki roles and responsibilities, the plan is also intended to assist others in understanding Kāi Tahu values and policy.

[95] LF-WAI-P2(2) and (4)
[96] LF-WAI-P3(1)(c)
[97] LF-FW-O1A, LF-VM-03, LF-VM-04, LF-VM-05
[98] LF-FW-O9
[99] HCV-WT-O1 and HCV-WT-O2

The 2005 plan (**NRMP**) is divided into catchments, with specific provisions for the whole Otago area and for each catchment. The MGP is located within the East Otago Catchment.

Relevant provisions of the NRMP require:

- Recognition of the spiritual and cultural significance of wai māori to Kāi Tahu.
- Reduction in contaminants being discharged directly or indirectly to water.
- Restoration of the mauri of wai māori and coastal waters.
- Rehabilitation of contaminated environments.
- Protection of wetlands.
- Protection of the habitats and wider needs of mahika kai and taoka species, and restoration and enhancement of indigenous biodiversity.
- Recognition and support for the rakatirataka and kaitiakitaka of Kāi Tahu in resource management, including through:
  - involvement in the development of monitoring programmes, and
  - recognition of rakatirataka by empowering mana whenua interpretation of their histories and associations with wāhi tūpuna.

9. Cultural Impacts of the Macraes Phase 4 Project

9.1 Approach to this assessment

The values framework set out in Section 5 was used to assess the cultural impacts of the proposed expansion of the Macraes Gold Project and to recommend mitigation to achieve utu. This section expands the assessment beyond the four core values of mana, mauri, tapu and whakapapa to address, as distinct impacted values and practices: mahika kai; the mauri of the affected awa and whenua; Māori reserves; the Waikouaiti Mātaitai (including Te Tauraka Poti, the Merton Tidal Arm); the East Otago Taiāpure; and the exercise of rakatirataka and kaitiakitaka by Kā Rūnaka.

The following section adds an assessment of the intergenerational impact on these values and whānau ora that addresses the century-scale timescales over which the residual risks of the Project will operate. The rationale for this expanded scope is ki uta ki tai. The Macraes Gold Project occupies the headwaters of three awa, the Taiari (via the Mare Burn), the North Branch of the Waikouaiti, and the Waihemo (via Deepdell Creek).

Under a ki uta ki tai understanding of the environment, impacts generated at the headwaters do not remain there, contaminants and altered flows diminishes mauri throughout the catchment from the headwaters to the mid and lower reaches, estuaries, and the coastal waters of Te Tai-o-Araiteuru. It is in those mid and lower reaches that the customary protection areas of Kā Rūnaka, the mātaitai, the taiāpure, and the Māori reserves, are located, and where whānau continue to gather kai and exercise their customary rights. An assessment confined to the immediate mine footprint therefore systematically understates the cultural impact of the Project. The receiving environments of the Project are not merely the gullies and tussock lands of Macraes Flat.

The cultural impacts of the Project are consolidated in Section 9.9 and Tūtohi 3, and the expectations of Kā Rūnaka are consolidated in Section 9.10.

9.2 Mana and Rakatirataka

Under the Ngāi Tahu Claims Settlement Act 1998, the rakatirataka and mana whenua status and interests of Kāi Tahu are recognised within their takiwā, which encompasses the Project site and the wider area affected by Project activities. The mana and rakatirataka of Kāi Tahu afford them the responsibility to assess the impact of mining on cultural beliefs, values, and practices, and on mana whenua access and connection to land and waters in their takiwā.

The proposed expansion affects mana and rakatirataka in the following ways:

- Changes to the natural form and function of the headwaters of the Taiari, Waikouaiti and Waihemo through the taking and discharging of water, the reclamation and diversion of headwater tributaries, and the mixing of waters between catchments, are inconsistent with the duty of Manawhenua to uphold the mana of these awa. Each waterway has its own mana, mauri, and identity; altering its natural behaviour diminishes that mana and, by extension, the mana of the people.
- The setting of water quality compliance limits that permit significant adverse effects, without the involvement or agreement of Manawhenua, is an impact on rakatirataka. Te Mana o te Wai and the NPSFM 2020 require that Manawhenua are actively involved in freshwater management processes; consent frameworks that entrench compliance criteria without that involvement forestall the exercise of rakatirataka.
- The landscape and visual assessment does not assess the impacts of the Project on the broader wāhi tūpuna landscape experienced by Manawhenua. The omission of Manawhenua rights, interests and perspectives from a core technical assessment is itself an affront to mana and is inconsistent with Te Tiriti o Waitangi and the Te Tangi a te Manu methodology.
- The progressive consenting of the Project, including the consenting of the Continuity Project prior to the development of the fast-track consent application, and the progressive updating of technical reports through the current process, have hindered the ability of Kāi Tahu reviewers to holistically assess cumulative impacts and to engage meaningfully on mitigation. Process design and a consenting strategy that constrains the capacity of Manawhenua to respond is an impact on rakatirataka.
- The ongoing modification of whenua and wai increases the difficulty of maintaining and restoring connection to these places, undermining the ability of whānau to reaffirm ahikāroa and, over time, the standing of Manawhenua as rakatira and kaitiaki of a healthy takiwā.

Expectation: OceanaGold will work with Kāi Tahu in good faith and in a mana-enhancing way, including through a formal partnership mechanism for the life of the consents and post-closure, Manawhenua participation in the setting and review of compliance criteria, and support for the efforts of Kāi Tahu to reconnect whānau with the places affected by the Project.

9.3 Mauri

Protection of mauri is the primary resource management principle for Kāi Tahu. Mauri can be seen and felt, as can its loss. The Project, from its inception, has modified surface water and groundwater flows in the Taiari, Waikouaiti and Waihemo catchments, and the proposed expansion deepens and prolongs that modification. Specific impacts on mauri include:

- Permanent modification of the landscape and the creation of enlarged pit lakes and waste rock stacks, and new in-pit waste and tailings storage, in the headwaters of three awa tūpuna. Under ki uta ki tai, wai māori in the headwaters should be at its purest where it falls from Raki, instead, contaminated source water in these headwater catchments will pass through, around and beneath mine infrastructure in perpetuity.
- Long-term seepage and overflow pathways that carry contaminants into Trimbells Gully, the Mare Burn and Coal Creek (Taiari); Deepdell Creek and Highlay Creek (Waihemo); and Murphys Creek, Clydesdale Creek, Golden Bar Creek and the North Branch of the Waikouaiti. These pathways operate over timescales of 50 to 400-plus years, meaning the mauri of these waters is degraded for generations of mokopuna who have had no say in the decision.
- The permanent loss and modification of terrestrial vegetation, including significant impacts on tall tussock grassland, and reclamation of natural inland wetlands, remove habitat for taoka species and diminishes the visible expression of mauri across the whenua.
- Direct impacts on mokomoko, invertebrates and manu. The deaths of kōrero gecko, tussock skink and McCann's skink populations, the removal and modification of habitats for indigenous invertebrates, including tussock grassland, shrubland, and rock tor habitats, and impacts on manu including kārearea, pīhoihoi, kāhu and pūtakitaki, are direct impacts on mauri that offsetting elsewhere does not restore.
- The proposed Coal Creek and Camp Creek dams will take water from one part of the whakapapa of wai and use it to dilute contaminants in another. Dilution is not restoration, rather it treats awa as infrastructure for contaminant management and confuses the distinct whakapapa and mauri of each waterway. Kā Rūnaka record their position on these dams below.
- Permanent modification of the headwaters of the North Branch of the Waikouaiti post-closure, regardless of the effectiveness of the mitigation proposed in the application.

The Coal Creek and Camp Creek dams

The Coal Creek and Camp Creek dams occupy an unusual position in this assessment and Kā Rūnaka wish to be explicit about this mitigation measure, so that no part of this section is read against another.

The dams are not a measure that Kā Rūnaka sought, designed, or endorse. They are a flow-augmentation and dilution measure, proposed by OceanaGold, on which the water quality case for the Project depends. Under a ki uta ki tai understanding of wai, the transfer of water from one catchment to another, to dilute contaminants in a third catchment, does not restore mauri. Rather, it is further modification of awa tūpuna to manage adverse effects on water quality. The dams are themselves an impact, rather than a mitigation measure, when assessed against the value of mauri.

That does not mean Kā Rūnaka would prefer the expansion of the Project to proceed without them. The consequence of consenting the expansion of the Project while the measures on which its predicted compliance rests remain unbuilt is that the receiving environments bear the full contaminant load and mana whenua bear the risk that modelled improvements in water quality are not achieved over the long term. Kā Rūnaka are clear that between an expansion with the dams and an expansion without them, the latter is materially worse for the awa.

The position of Kā Rūnaka is therefore that:

- the expansion must not proceed ahead of the implementation of the mitigation measures on which its water quality case relies, including the construction of the Coal Creek and Camp Creek dams.
- the construction of those dams must not be treated as, mitigation of the Project's impacts on the mauri of the Taiari, Waikouaiti and Waihemo. The dams do not mitigate the impact on mauri and do not contribute to utu;
- reliance on dilution must reduce over the life of the Project and not become the settled design. The expectation of Kā Rūnaka is that avoidance and source control, including reshaping of waste rocks stacks, treatment of seepage at source, and conservative compliance criteria, will underpin the water quality case, with augmentation as a residual measure of last resort;
- if the dams proceed, their design, flow regime and operating rules are to be developed with mana whenua, with environmental flow requirements set to provide for mahika kai, fish passage and estuarine health, and not solely to achieve dilution at compliance points; and
- the effects of the dams themselves on Coal Creek, Camp Creek, and the receiving reaches of the Mare Burn and Deepdell catchments, are to be assessed as impacts in their own right and not balanced off against the effects they are intended to dilute.

Conclusion on mauri

Mana whenua apply the principle of utu, giving back more than is taken, as a means of protecting mauri. The proposed ecological offset and compensation package, including the Murphys Ecological Enhancement Area, Cranky Jims Link, and the Mount Highlay Station, does not achieve utu or balance for the expansion of the Macraes Gold Project. Offsets are focused on managing residual effects rather than actively uplifting the mauri of the awa and whenua. A comprehensive ecological management plan must be developed and implemented in partnership with mana whenua that uplifts the mauri of the awa and whenua from the headwaters at Macraes Flat to the coast.

9.4 Tapu

Activities that are inconsistent with life, those with the potential to significantly damage or degrade te taiao and the health of people, plants and animals, are considered tapu. It is the position of Kāi Tahu that the Project is significantly tapu in this location, because:

- The pit lakes, waste rock stacks and tailings storage will generate contaminants that pose long-term risks to aquatic life and to human health through kai gathered downstream.

- The current water quality compliance standards allow for significant adverse effects on water quality and exceed the thresholds required to protect aquatic life. The implementation of the proposed ecological trigger values framework and effective adaptive management is sought by mana whenua to provide 95% species protection.[100]
- The critical contaminant pathways (pit lake overflows and seepage through waste rock stacks, tailings storage, and historic adits) will operate long after the company's active presence at the site has ended, transferring the burden of vigilance to future generations. That burden could be compounded by a changing climate: closure designs and cost estimates that assume a static climate and understate both the risk of failure and the true cost of perpetual care.
- The post-closure water quality case rests on the Coal Creek and Camp Creek Dams, and on the pumping of seepage to a water treatment plant that will be required to manage the effects of contaminants on water quality over timescales of 50 to 400-plus years.
- The receiving environments at risk include Māori reserves, customary fisheries areas, estuaries, and the coastal environment, places of heightened tapu by reason of their whakapapa, their urupā and wāhi tapu, and their role in sustaining the people.

Tapu operates as a customary legal system: prohibitions and restrictions that protect the environment and the people. The appropriate response to activities of this level of tapu is avoidance first, and where avoidance is impossible, conservative and precautionary management standards that are well below the thresholds of harm rather than compliance limits set at or beyond those thresholds.

9.5 Whakapapa

Kāi Tahu whānui are connected through whakapapa to the landscapes, wai, coasts and indigenous species of Te Waipounamu. Wai, which appeared early in the whakapapa of the world, is of heightened mana and tapu and is a highly prized taoka. The impacts of the Project on whakapapa include:

- The severing and re-plumbing of the natural connections between headwaters and sea. Whakapapa binds each awa from its pūtake in the mauka to its hāpua and river mouth; piping, diversion, reclamation and inter-catchment transfer interrupt those genealogical connections.
- Impacts on taoka species that are themselves relations of Kāi Tahu through whakapapa, including mokomoko, manu, and the taoka plant species recorded in the Project area under Schedule 97 of the Ngāi Tahu Claims Settlement Act 1998.
- The intergenerational transfer of risk. Mitigation measures to manage the long-term discharge of contaminants, including the Coal Creek and Camp Creek dams and the construction of a water treatment plant, are yet to be implemented. Consenting the expansion ahead of these measures asks mokopuna to bear risks that the present generation has declined to resolve.
- The erosion of the conditions needed for whakapapa-based knowledge transmission. Mātauraka is passed on through the physical practice of mahika kai and through being present on the whenua

[100] Australian and New Zealand Environment and Conservation Council (ANZECC) water quality guidelines.

and wai. Further degradation of the whenua and wai narrows the opportunities for that transmission.

It is the position of Kāi Tahu that the expansion of the Project should not progress until the mitigation measures on which its water quality case relies are implemented, including the freshwater dams at Coal Creek and Camp Creek and the proposed water treatment plant. This position should not be read as an endorsement of those measures. For the reasons set out above, the dams and proposed mitigation measures do not restore the mauri of the awa and do not achieve utu; they are the minimum prerequisite that enables an expansion of this kind to be contemplated, rather than environmental enhancement. To consent the expansion ahead of these mitigation measures being implemented is to ask mokopuna to carry a risk that the present generation has declined to resolve and to do so on the strength of infrastructure that may never achieve the modelled improvements in water quality.

9.6 Mahika Kai

Mahika kai is a cornerstone of Kāi Tahu kawa and tikaka and a central element of mana whenua connection to the catchments in which the Project sits. The Taiari, Waikouaiti and Waihemo were central to the practice of mahika kai as sources of kai, water, fibre and stone, and as travel routes for heke. The archaeological and historical record establishes East Otago and the Strath Taiari plateau, encompassing Macraes Flat and the Project site, as a food basket and a source of wellbeing, pride and identity.

The impacts of the proposed expansion on mahika kai include:

- Degradation of water quality in mahika kai waterways. Sulphate, arsenic and other contaminants discharged to the Mare Burn and the Taiari River, Deepdell Creek and the Waihemo, Murphys Creek, and the North Branch of the Waikouaiti, will affect the habitats of tuna, kanakana, kōkopu, koukoupara and other taoka fish species, and the invertebrate communities on which they depend. Contamination of the headwaters and upper tributaries of these mahika kai waterways places these taoka species at risk.
- Reduction and diversion of flows. Water that would naturally feed the North Branch of the Waikouaiti is captured in pits and silt ponds reducing the headwater catchment of this awa tūpuna. Diminished flows reduce habitat, impede fish passage, concentrate contaminants, and reduce the flushing flows on which the estuary and its shellfish beds depend.
- Physical loss of mahika kai habitat at Macraes Flat, including the loss of indigenous tussock grassland, natural inland wetlands, rock habitat, rare plant habitat, indigenous invertebrate habitat, lizard habitat and open-country avifauna habitat.
- Impacts on the sustainability of downstream customary fisheries, where whānau gather tuaki, pipi, pātiki, inaka and tuna at Karitāne, Merton and the Waikouaiti estuary.
- Diminished confidence in kai. Mahika kai depends not only on the biological presence of species but on the confidence of whānau that kai is safe to gather and to serve to manuhiri. In a catchment publicly associated with mining contaminants, and in a community that has already lived through

the 2021 Waikouaiti lead contamination event, there is a real impairment of mahika kai even where guideline values are met. The mana of the kai, and of those who serve it, is affected.

- Interruption of knowledge transmission. It was through mahika kai that knowledge and skills were handed down and ahikāroa reaffirmed. Kāti Huirapa Rūnaka ki Puketeraki have invested heavily in restoring this relationship through He Pātaka Wai Ora, the taiāpure and the mātaitai; the cumulative effects of the Project run counter to, and undermine, that investment.

The restoration and sustainability of mahika kai is required to uphold the core values of mana, tapu, whakapapa and mauri. Kāi Tahu expect the mitigation package for the Project to include direct, funded support for mahika kai restoration in all three catchments, designed and led by Manawhenua.

9.7 Māori Reserves and Customary Protection Areas

The mid and lower Waikouaiti catchment and adjacent coast carry a lattice of customary protections that represent decades of sustained effort by Kāti Huirapa Rūnaka ki Puketeraki to secure recognition of their rakatirataka over their fisheries and mahika kai. These areas are the downstream receiving environment of the Project and must be assessed as receptors.

East Otago Taiāpure (1999)

The East Otago Taiāpure was established in 1999 over the coastal waters at the mouth of the Waikouaiti River, extending south along the East Otago coast to Pūrākaunui. The mouth of the Waikouaiti at Karitāne, overlooked by Huriawa and Te Pā a Te Wera, sits at the heart of the taiāpure, and the river is its principal freshwater input. The taiāpure was established after years of effort and is managed to sustain customary fisheries including pāua, kōura, tuaki and finfish. Contaminants and altered flows sourced from the Project that reach the North Branch of the Waikouaiti are carried down the awa and delivered through the river mouth directly into the waters of the taiāpure. The application does not assess effects on the taiāpure, its fisheries, or the management objectives of the taiāpure committee. For Kāi Tahu, the potential for long-term, low-level contaminant loading of a customary fisheries management area however diluted is an impact on mana, mauri and tapu, and on the credibility of a management regime that whānau have spent a generation building.

Waikouaiti Mātaitai (2016), including Te Tauraka Poti (Merton Tidal Arm)

The Waikouaiti Mātaitai extends over the lower Waikouaiti River and estuary, from above the Merton Tidal Arm to the river mouth at Karitāne. The mātaitai overlaps the taiāpure and provides for the management of customary food gathering by mana whenua. The mātaitai is hydrologically connected to the Project directly. The North Branch of the Waikouaiti, which receives waste rock seepage and reduced flows from the mine area, is the principal freshwater input to the estuary in which the mātaitai sits.

Within and adjoining the mātaitai lies Te Tauraka Poti, the Merton Tidal Arm, recognised by statutory acknowledgement under the Ngāi Tahu Claims Settlement Act 1998.[101] Te Tauraka Poti was a major

[101] Ngāi Tahu Claims Settlement Act 1998, Schedule 60

mahika kai for the kāika and pā of this coast, a rich source of tuna, mōhoao, giant kōkopu and waterfowl, and was particularly valued as a spawning ground for inaka. Much of its continuing significance lies in the fact that it is the only remaining wetland of any significance in the vicinity. Inaka spawning habitat is acutely sensitive to changes in flow regime, sedimentation and water quality in the contributing river. The adjacent Waikouaiti Māori Trust Reserve at Merton is the site of active restoration planting by rakatahi and whānau, a living expression of the reconnection with the awa that Kā Rūnaka are working to achieve.

The impacts of the Project on the mātaitai and Te Tauraka Poti therefore include:

- The risk of long-term contaminant loading of the estuary via the North Branch;
- reduced freshwater flows affecting salinity regimes, flushing, and inaka spawning conditions;
- risk to shellfish beds (tuaki, pipi) that are the everyday mahika kai of Puketeraki whānau; and
- the undermining of whānau-led restoration investment at Merton.

None of these matters are assessed in the application. The cultural impact of any contamination event reaching the mātaitai would be severe and enduring. A rāhui over the mātaitai occasioned by mining contaminants would represent a profound loss of mana and of food security for the hapū.

Māori Reserves

The Māori reserves of the mid and lower Waikouaiti catchment are the remnant land base retained by Manawhenua following the Kāi Tahu Deeds, and their integrity carries a significance out of all proportion to their area. These reserves depend on the health of the waters that flow to and past them. Where the Crown-derived land base of Manawhenua has already been reduced to fragments, activities that degrade the waters sustaining those fragments compound the original injustice.

Kāi Tahu expect the effects of the Project on Māori reserves and on the statutory acknowledgement area of Te Tauraka Poti to be explicitly assessed, monitored, and protected through consent conditions.

9.8 Intergenerational Protection of Cultural Values

The impacts assessed above operate over timescales measured in generations. The critical contaminant pathways will run for 400-plus years, and the pit lakes, waste rock stacks and tailings storage will remain on the whenua in perpetuity. Water treatment at the site itself may effectively be perpetual. Those bearing the impacts of the Project therefore include mokopuna not yet born, who will inherit its risks without having had any say in the decision. Kā Rūnaka accordingly assess not only the impacts themselves but the durability of the protections offered against them, judged ki uta ki tai and at catchment scale rather than solely at compliance points. Five matters determine whether those protections will hold.

The costing of perpetual care

Every post-closure protection rests on the adequacy of the funding behind it, and the most common failure of closed mines internationally is optimistic estimation of perpetual water treatment and maintenance costs. If the quantum is light, every protection built upon it protects an empty box. Kā

Rūnaka expect the full life-of-liability cost, water treatment, mine drainage management, and maintenance over a horizon of at least 400 years, to be modelled independently and conservatively, and not accepted from the applicant. The assumptions (including discount rate, inflation, and periods of investment underperformance) must be stress-tested and disclosed to Manawhenua; and funding arrangements must be subject to periodic independent adequacy review, with provision for topping up where a shortfall is found.

Climate change as a threat multiplier

The tailings, pit lakes, revegetation, and water management systems must survive a changing climate for the life of the management obligation. Intensified rainfall and flood flows, drought stress on revegetation, and altered groundwater interactions could all escalate both cost and the risk of failure. Kā Rūnaka expect the closure and rehabilitation design, the cost modelling, and the closure completion criteria to be climate-adjusted and note that Kā Rūnaka hold their own climate vulnerability assessment methods, which they expect to see applied to the closure liability and to the receiving catchments.

Corporate failure and successor risk

The most common way in which closed mines fail is that their owner fails. The protections afforded to cultural values must survive the insolvency, restructure, or change of ownership of the operator at any point in the life of the liability, whether in year 50 or year 400 post closure. Kā Rūnaka expect financial assurance held by the consent authority to be sized on the independent modelling described above; obligations are to be secured in forms that run with the land and bind successors, receivers and purchasers; and the principle that the polluter pays to be maintained throughout, so that the burden of perpetual care never defaults to whānau or to the public.

Baseline, monitoring and the evidential record

The ability of future generations to hold the operator and its successors to account is worthless without evidence. Demonstrating a decline in the mauri of these catchments in 50 years requires a robust cultural and environmental baseline, recorded now against indicators defined by Kā Rūnaka, including mauri, wai and mahika kai, before consent and closure conditions are locked in. A baseline cannot be constructed retrospectively. Kā Rūnaka expect the baseline work to be funded by the applicant and undertaken now, ongoing monitoring against the baseline to be defined, a resourced role provided for whānau, and the record to be held by Manawhenua in a durable form that endures across generations.

Review and adaptive management over time

Standards and mitigation fixed now embody today's knowledge. Over generations, better rehabilitation methods will become available, some standards will prove inadequate, and new pressures, including climate-driven pressures, will emerge. Kā Rūnaka expect a periodic review mechanism, tied to independent adequacy findings and defined triggers, through which compliance criteria, closure standards and funding can be revisited as knowledge and conditions change, on the

express basis that review may strengthen, but may not weaken, the protections afforded to cultural values without the agreement of Manawhenua

Expectation:

The intergenerational protections described in this section, including independent long-horizon and climate-adjusted costing, financial assurance that survives corporate failure, a funded baseline and whānau-led monitoring regime, and a ratcheting review mechanism, are addressed through consent conditions and through the formal partnership framework sought in Section 9.2.

9.9 Summary of Cultural Impacts and Recommendations (Tūtohi 3)

Tūtohi 3 summarises the cultural impacts of the components of the Project across the expanded range of values, with the recommendations of Kā Rūnaka. The final column identifies the provisions of the Ngāi Tahu Claims Settlement Act 1998 (NTCSA) engaged by each impact. The NTCSA requires consent authorities and the Environment Court to have regard to statutory acknowledgements in relation to the statutory areas concerned and provide for the use of those acknowledgements in submissions;[102] these duties apply directly to the consenting of the Project.

Project component	Values affected	Cultural impact	Recommendations	Relevant NTCSA 1998 provisions
Disturbance, deposition and reclamation of tributaries of the North Branch of the Waikouaiti River and Murphys Creek Continuity Project,[103] Innes Mills Extension, and Golden Bar Extension	Mana, mauri, whakapapa, mahika kai	Waterways have their own mana, mauri and identity; altering their natural form and behaviour adversely affects these values. Loss of stream extent and headwater habitat in the principal mahika kai catchment of Kāti Huirapa ki Puketeraki.	Rescope the Project to adopt methods that do not require disturbance or reclamation of natural waterways. Move mitigation beyond managing adverse effects to actively uplifting the mauri of the Waikouaiti catchment, with OGL working with mana whenua on post-closure measures. No depositing of contaminants into natural waterways.	Part 12 (Mahinga Kai), s 202 (purpose). ss 205–211, 215 (statutory acknowledgements and their use in consent processes). s 313 and Sch 103 – statutory acknowledgement for Te Tai o Arai Te Uru (Otago Coastal Marine Area), the receiving environment of the Waikouaiti.
Continuity Project,[104] Innes Mills Extension,	Mana, mauri, tapu, whakapapa	Seepage from the Frasers and Golden Bar waste rock stacks and overflow from	Consent conditions that secure active management of water quality, including	ss 206, 208–209, 211 – duties on consent authorities

[102] Ngāi Tahu Claims Settlement Act 1998, Sections 208–211.

[103] Resource consent for the Consent Continuity Project, which included the Frasers Backfill and Tailings Storage Facility, was granted in 2025.

[104] Resource consent for the Consent Continuity Project, which included the Frasers Backfill and Tailings Storage Facility, was granted in 2025.

Project component	Values affected	Cultural impact	Recommendations	Relevant NTCSA 1998 provisions
and Golden Bar Extension		the Golden Bar Pit will discharge to the North Branch of the Waikouaiti over the long term. The discharge of contaminants in the headwaters of the Waikouaiti would have severe cultural impacts extending to the mātaitai and taiāpure. Post-mining, the Innes Mills pit lake is predicted to overflow to Deepdell Creek and the Waihemo.	ecological trigger values, and the engagement of Manawhenua in the review of the performance monitoring, adaptive management, and ecological trigger thresholds.	and the Environment Court to have regard to statutory acknowledgements. s 206 and Sch 60 – Te Tauraka Poti (Merton Tidal Arm), downstream on the Waikouaiti. s 313 and Sch 103 – Te Tai o Arai Te Uru.
Direct and diffuse discharges from pit lakes, waste rock stacks, tailings storage and silt ponds to tributaries of the Taiari, Waihemo, and Waikouaiti	Mana, mauri, tapu, whakapapa, mahika kai	Kāi Tahu strongly oppose direct and diffuse discharges to waterways due to impacts on the mauri of the wai and on mahika kai. Active management of water quality is required during mining and post-closure; the critical seepage and overflow pathways will operate for 400+ years post-closure.	Further information is required on post-closure discharge management for all three catchments. Ecological trigger values are sought for all contaminants to provide 95% protection for aquatic communities.[105] Consent conditions are required that secure mana whenua engagement in the review of the performance monitoring, adaptive management, and ecological trigger thresholds. Mana whenua do not support the use of awa tūpuna for the disposal and dilution of contaminants.	ss 205–220 (statutory acknowledgements). ss 297–311 and Sch 98 – customary fisheries: special association with taonga fish species (s 298) including tuna, kanakana, īnaka and kōkopu present in the affected catchments. s 206 and Sch 60; s 313 and Sch 103.
Extension of Coronation, Innes Mills and Golden Bar Pits; Golden Bar WRS; road realignment	Mana, mauri, whakapapa, mahika kai	Permanent loss of terrestrial habitat for taoka species at Macraes Flat, including the loss of indigenous tussock grassland, natural inland wetlands, rock habitat, rare plant habitat, indigenous invertebrate	Prioritise avoidance of ecological effects on terrestrial habitats and taoka species. Salvage at least 80% of the impacted mokomoko population.	ss 287–296 – taonga species: s 288 acknowledges the special association of Ngāi Tahu with the taonga species; s 293 provides for their species management.

[105] Australian and New Zealand Environment and Conservation Council (ANZECC) water quality guidelines.

Project component	Values affected	Cultural impact	Recommendations	Relevant NTCSA 1998 provisions
		habitat, lizard habitat and open-country avifauna habitat. This includes the loss of habitat for taoka species that include kōrero gecko, tussock and McCann's skinks, kārearea, pīhoihoi, and Orocrambus sophistes. Offsets are focused on managing residual ecological effects rather than actively uplifting the mauri of the awa and whenua.	Replacement habitat of equal or higher quality, with ecological monitoring and adaptive management to demonstrate translocated populations thrive. Mana whenua involvement at all levels of remediation and mitigation, drawing on mana whenua-led restoration expertise. A cohesive, strategically guided ecological management plan for the Macraes Project from Macraes Flat to the Coast.	Sch 97 – taonga species recorded in the Project area, including kārearea, pīhoihoi, kāhu, pūtakitaki and listed taonga plants.
Water take, flow depletion and inter-catchment transfer (incl. proposed Coal Creek and Camp Creek dams)	Mauri, whakapapa, mahika kai, mātaitai, taiāpure	Diversion, reclamation and capture of natural runoff in pits and silt ponds deprives the headwaters of the North Branch of the Waikouaiti of its source flows Augmentation dams use awa tūpuna to dilute contaminants. Reduced freshwater flows affect flushing, salinity and inaka spawning conditions in the estuary, mātaitai and Te Tauraka Poti.	Do not consent the expansion ahead of the implementation of the flow mitigation on which the water quality case relies. Record expressly that the Coal Creek and Camp Creek dams are a dilution measure. The dams do not mitigate the impacts on mauri, nor do they contribute to utu. Assess the effects of the dams themselves on Coal Creek, Camp Creek and the headwaters of the Taiari and the Waihemo. Acknowledge that these are impacts on awa tūpuna in their own right. Develop flow regimes and operating rules with mana whenua that provide for mahika kai, fish passage and estuarine health. Require the water quality case to shift over time from dilution to avoidance and source control.	s 206 and Sch 60 – Te Tauraka Poti, valued particularly as an īnaka spawning ground. ss 297–306 and Sch 98 – taonga fish species dependent on flow and passage. s 313 and Sch 103 – Te Tai o Arai Te Uru.

Project component	Values affected	Cultural impact	Recommendations	Relevant NTCSA 1998 provisions
			Assess and monitor effects of altered flows on Te Tauraka Poti inaka spawning habitat.	
Long-term contaminant transport to the lower Waikouaiti, Waikouaiti Mātaitai, East Otago Taiāpure and Te Tauraka Poti	Mana, mauri, tapu, mahika kai, rakatirataka	The customary protection areas built by Kāti Huirapa ki Puketeraki over decades are the ultimate receiving environment of Project discharges. Contaminant loading in the receiving waters or a discharge event would compromise shellfish beds and customary fisheries, could necessitate rāhui, and would undermine whānau confidence in kai and whānau-led restoration at Merton. None of these receptors is assessed in the application.	Assess effects on the mātaitai, taiāpure, Te Tauraka Poti and Māori reserves as receptors, in partnership with the mātaitai and taiāpure management committees. Establish estuarine and shellfish contaminant monitoring (including sediment and tissue sampling) co-designed with mana whenua, funded by OGL for the life of the consents and post-closure. Contingency and response protocols, including cultural response (rāhui support, alternative kai provision) in the event of an exceedance.	ss 297–311 and Sch 98 – customary fisheries redress; ss 310–311 provide for temporary closures and restrictions on fishing, the statutory analogue of rāhui. s 206 and Sch 60 – Te Tauraka Poti. s 313 and Sch 103 – Te Tai o Arai Te Uru. (The mātaitai and taiāpure are Customary fisheries established under the Fisheries Act 1996 and Fisheries (South Island Customary Fishing) Regulations, consistent with the customary fisheries redress in the NTCSA.)
Impacts on wāhi tūpuna values and associations	Mana, mauri, whakapapa	The landscape and visual assessment omit mana whenua as a receptor and does not address the impacts of mining on the associative and perceptual values of the wider wāhi tūpuna landscape, located between two significant ancestral awa and near the ancestral mauka Hikaroroa.	Reassess landscape effects consistent with Te Tangi a te Manu, including associative and perceptual values for Tangata Whenua, with mana whenua as assessors of their own values.	ss 205–220 and s 215 – purposes of statutory acknowledgements. Sch 41 – statutory acknowledgement for Matakaea (Shag Point), at the mouth of the Waihemo. ss 237–253 and Sch 83 – Tōpuni for Matakaea, a symbol of the mana and rakatirataka of Kāi Tahu over the wider landscape.

Project component	Values affected	Cultural impact	Recommendations	Relevant NTCSA 1998 provisions
Overall cumulative impacts of the Macraes Gold Project	All values; rakatirataka and kaitiakitaka	The ability to exercise rakatirataka and carry out kaitiakitaka obligations is an important contributor to the mana of mana whenua; the limited recognition of this to date, the parallel consenting process, and ongoing modification of whenua and wai all diminish it. Cumulative effects have contributed to significant inequities in environmental outcomes, with Kāi Tahu bearing the ongoing cost of extractive industries.	A formal partnership framework between OGL and Kā Rūnaka covering governance, monitoring, compliance review and closure planning. OGL support for reconnection of whānau with the places affected by the Project, including access arrangements, wānaka on site, and support for mahika kai restoration. Compensation to Kāi Tahu where impacts on cultural values cannot be avoided, remedied or mitigated, in accordance with the principle of utu.	ss 4–6 – the Crown apology, recognising the rakatirataka of Ngāi Tahu and the Crown's failure to act in good faith, and expressing the intention to enter a new age of co-operation. Part 12 (Mahinga Kai), s 202 – the redress scheme as a whole, which the cumulative effects of the Project undermine.
Tūtohi 3: Cultural impacts of the Project				

9.10 Consolidated Expectations of Kā Rūnaka

Drawing the above together, the expectations of Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou in respect of the Project are that:

- Avoidance of impacts on waterways, wetlands, and taoka species habitat is prioritised, and the Project is rescoped where methods exist that avoid the disturbance or reclamation of natural waterways.
- The expansion does not proceed ahead of the consenting and implementation of the mitigation measures on which its water quality case relies, including the Coal Creek and Camp Creek dams and the diversion of seepage to a water treatment plant. This is on the express basis that these measures manage adverse effects and do not uplift mauri, do not constitute utu, and are not accepted by Kā Rūnaka as culturally appropriate in themselves, as discussed above.
- Water quality is managed conservatively during operations and post-closure, with the setting of ecological trigger values that provide 95% protection for aquatic communities. Mana whenua must be engaged in the review of the performance monitoring and adaptive management, and any review of the ecological trigger thresholds.
- The effects of the Project on the East Otago Taiāpure, the Waikouaiti Mātaitai, Te Tauraka Poti (Merton Tidal Arm), and the Māori reserves of the lower catchment are formally assessed,

monitored and protected through consent conditions, in partnership with the relevant management committees.

- A cohesive ecological management plan is developed that guides all covenants, offsets and enhancement areas across the Macraes Project and ensures that replacement terrestrial habitat is of equal or higher quality.
- Mitigation moves beyond the management of adverse effects to the active uplift of the mauri of the Taiari, Waikouaiti and Waihemo, including a funded, mana whenua-led programme of mahika kai and habitat restoration ki uta ki tai.
- At least 80% of the impacted mokomoko population is salvaged.
- A formal, enduring partnership framework between OceanaGold and Kā Rūnaka provides for shared oversight of monitoring, compliance, closure and post-closure management.
- Post-closure funding and financial assurance are based on independent, conservative, climate-adjusted modelling of the full life of the liability (400-plus years), with assumptions disclosed to Manawhenua, periodic independent adequacy review with provision for top-up, and obligations that run with the land, bind successors, and survive the insolvency or change of ownership of the operator.
- A cultural and environmental baseline, against indicators defined by Kā Rūnaka, is established and funded before consent is granted, with ongoing whānau-led monitoring resourced as a defined role and the evidential record held by mana whenua in durable form.
- Compliance criteria, closure standards and funding adequacy are subject to periodic review, tied to independent findings and defined triggers, on the basis that review may strengthen but not weaken the protections afforded to cultural values without the agreement of mana whenua.
- OceanaGold resources Kāi Tahu where impacts on cultural values cannot be avoided, remedied or mitigated, in accordance with the principle of utu.

This section should be read as a basis for ongoing engagement and discussion between OceanaGold and Kāi Tahu, and not as Kāi Tahu approval of the Project.

10. Intergenerational Impacts on Whānau Ora

10.1 Purpose and approach

The cultural impacts of the Project on the values of mana, mauri, tapu, whakapapa, mahika kai, the customary protection areas of the lower catchments, and the exercise of rakatirataka and kaitiakitaka, are assessed above. This section extends that assessment by describing how those impacts translate into effects on whānau ora, the collective health and wellbeing of whānau, and how those effects compound and transmit across generations.

For Kāi Tahu, hauora is not an individual attribute but a collective and intergenerational state. The whakataukī that opens this assessment, ka ora te wai, ka ora te whenua, ka ora ai te tākata, expresses the foundational understanding that the health of whānau is derived from, and inseparable from, the

health of wai and whenua. It follows that the cultural impacts identified above are not confined to the environment or to abstract cultural values, rather they operate directly on the wellbeing of the whānau of Kā Rūnaka, and they will continue to do so for as long as the impacts themselves endure. Because the critical contaminant pathways of this Project operate over a time frame that is 400-plus years post-closure, the relevant unit of analysis for whānau ora impacts is not the consent term but the successive generations who will live with the consequences of mining.

In Māori concepts of time, past, present and future are held together, ka mua, ka muri. Decisions taken now are made in the presence of the tūpuna whose losses are recorded in Section 7, and in the presence of the mokopuna who will inherit their outcomes. This section therefore reads the impacts of the Project in both directions, backwards, as the continuation of a documented history of loss, and forwards, as a commitment of future generations to conditions they have had no part in choosing.

10.2 Whānau ora framework for this assessment

Whānau ora is assessed here across six interdependent dimensions, consistent with the values framework in Section 5 of this assessment (which expresses Manawhenua values across environmental, cultural, social and economic spheres) and with established whānau ora outcome frameworks used across the motu. The six dimensions are:

- **Taha wairua and identity**: Spiritual wellbeing, security of identity, and the strength of connection to whakapapa, atua, tūpuna and place.
- **Mātauraka and knowledge transmission**: The capacity of whānau to hold, practise, and pass on mātauraka, tikaka, te reo and the skills of mahika kai.
- **Taha tinana and kai**: Physical health, food security, and confidence in the safety and abundance of customary kai.
- **Whanaukataka and social cohesion**: The strength of relationships within and between whānau, hapū and Rūnaka, and the collective practices (heke, wānaka, mahika kai expeditions, marae life) that sustain them.
- **Economic security and self-determination**: The whānau and hapū economic base, including the mahika kai economy, and the capacity of whānau to determine their own futures.
- **Kaitiakitaka**: The ability of whānau to fulfil their obligations as kaitiaki, and the burden placed on successive generations by environmental legacies they must monitor and manage.

These dimensions do not operate independently. Whānau ora is generated at their intersection; kai that is gathered together strengthens whanaukataka, the practice of gathering transmits mātauraka, successful transmission secures identity, and the exercise of kaitiakitaka over a healthy takiwā upholds the mana from which collective confidence and wellbeing flow. Conversely, an impact at any point propagates through the other dimensions, and where it persists across generations its effects accumulate.

10.3 Pathways from the cultural impacts of mining to whānau ora

Taha wairua and identity

For Manawhenua, the land is fundamental to identity. The whenua and awa affected by the Project carry whakapapa from the mauka to the sea, and the landscape between the Waikouaiti and Waihemo, near the mauka Hikaroroa, is a wāhi tūpuna. The permanent modification of that landscape, the creation of pit lakes, waste rock stacks, and tailings storage in the headwaters of three awa tūpuna, and the degradation of the mauri of those awa are experienced by whānau as harm to ancestors and as mamae. This is the grief that the historical record of Section 7 shows accumulates through the generations. Where children grow up knowing their awa as reclaimed, diverted, and contaminated, the wairua dimension of their identity forms around loss rather than abundance. The inability to experience the environment as tūpuna experienced it is already a source of significant mamae for the present generation; each further degradation deepens that inheritance for the generations that follow.

Mātauraka and knowledge transmission

Mātauraka is passed on by active practice and the physical act of being there, rather than by learning through other methods. This is the central intergenerational mechanism that is at risk. The knowledge that sustains whānau ora, where and when kai is gathered, the tikaka and kawa that govern gathering, the names and kōrero of places, the reading of water and weather, survives only where each generation can practise alongside the one before it. The cultural impacts identified above, including loss of stream extent and wetlands, degraded water quality, diminished flows, reduced abundance and safety of kai, narrow the opportunities for that shared practice. A skill not practised for one generation is not merely paused; the chain of transmission is broken, and its restoration requires deliberate, costly reconstruction, as the experience of Kāti Huirapa Rūnaka ki Puketeraki with He Pātaka Wai Ora demonstrates. The Rūnaka's own account records that when access to the awa was lost, 'our backs were turned to the health of the awa,' and that rebuilding knowledge and relationship has taken decades of sustained effort. The Project's long-term impacts risk requiring future generations to repeat that reconstruction, or worse, leaving them without the fragments from which reconstruction is possible.

Taha tinana and kai

Mahika kai is both a food system and a health system. Customary kai, tuna, inaka, pātiki, tuaki, tītī and the wider basket described in Appendix 5, contributes to nutrition, to food security in economically constrained households, and to the physical activity and time on the whenua and wai that sustain health. The cultural impacts described above operate on this dimension in two ways. First, materially, contaminant loading and flow depletion reduce the abundance and condition of kai species in the Mare Burn, Deepdell Creek, the North Branch of the Waikouaiti, the estuary, the mātaitai and the taiāpure. Second, through confidence, whānau must be able to trust that the kai they gather and serve is safe. A catchment associated with mining contaminants suffers a chilling effect on gathering even where guideline values are met. Parents who do not trust the safety of kai do not take their children gathering, children who are not taken do not learn, and the health benefits of the mahika kai economy

are replaced, generation by generation, by purchased food, with the associated costs to household economics and to health. Should a contamination event ever necessitate rāhui over the mātaitai, the effect on the food security, health and mana of the hapū would be immediate and would echo for a generation.

Whanaukataka and social cohesion

The collective practices of mahika kai, the shared work of gathering, processing and distributing kai, and the manaakitaka of serving customary kai to manuhiri, are the foundations of whanaukataka. These practices bring generations together in common purpose and reaffirm the relationships between whānau, hapū and Rūnaka across the takiwā. Section 7.5 records how the deprivation suffered since 1840 encompassed not only material loss but the loss of these connective practices. The restoration initiatives now under way, the taiāpure, the mātaitai, He Pātaka Wai Ora, and the rakatahi restoration planting at the Merton reserve, are deliberate acts of social reconstruction, they are how the present generation is re-weaving whanaukataka around the awa. The cumulative impacts of the Project run directly against this reconstruction.

Economic security and self-determination

Mahika kai has formed the basis of Kāi Tahu economic activity for hundreds of years and remains a core component of tribal economic development. The economic dimension of whānau ora is affected through the continued erosion of natural capital, the waters, wetlands, fisheries, and taoka species on which the customary economy and emerging whānau enterprises, including kai-based, tourism-based, and restoration-based enterprises, depend. It is also affected through opportunity cost, the time, expertise and resources of Kā Rūnaka that must be devoted, decade after decade, to reviewing consent applications, contesting compliance regimes, and monitoring legacy contamination are diverted from the development aspirations of whānau.

Kaitiakitaka and stewardship capacity

The duty of kaitiakitaka is inherited through whakapapa. Every generation of Kāi Tahu will hold responsibility for the waters and whenua affected by this Project, whatever their condition. The post-closure design of the Project, including passive management of contaminant seepage and pit lake overflow over a timeframe of 400-plus years, therefore constitutes a direct, quantifiable transfer of burden to future generations. Mokopuna who receive this inheritance must maintain vigilance over infrastructure they did not consent to, advocate within compliance regimes they did not set, and carry the cultural consequences of any failure. The ability to exercise rakatirataka is a fundamental building block of Kāi Tahu life and identity; a takiwā burdened with perpetual contaminant management diminishes that ability for every generation it persists. Conversely, where Manawhenua are resourced as genuine partners in long-term monitoring and management, the same obligation can become a source of employment, science capability and mana for successive generations. Which of these futures eventuates is a design choice available to this consent process.

10.4 The generational timeline of the Project's effects

The technical assessments for the Project describe the effects in the years post-closure. Tūtohi 4 restates those timescales in generations, assuming that mining at Macraes will conclude around 2039[106] and that a generation is approximately 25 years. The purpose of this translation is to make visible who, in whakapapa terms, will be living with each stage of the Project's legacy.

Time post-closure (approx.)	Generation affected	Predicted state of the environment	Whānau ora implications
0–25 years (to c. 2064)	Children of today's rakatahi (1st generation)	Active water management required post-closure. Pit lakes filling. Coronation Pit overflows to Camp Creek Landscape of pits, stacks and tailings storage permanent. Vegetation and wetland loss, and mokomoko mortality, already incurred.	This generation inherits the landscape as modified and the compliance regime as set, with no opportunity to have participated in either. Their experience of the awa is of reclaimed and diverted headwaters with baseline expectations of the takiwā shifted downward ('shifting baseline' effect on identity and aspiration).
c. 50 years (c. 2089)	Mokopuna of today's rakatahi (2nd generation)	Pit lakes filling Seepage pathways to the headwaters of the Taiari, Waihemo and the North Branch of the Waikouaiti operating.	Kaitiaki of this generation must monitor and respond to seepage from infrastructure built a lifetime earlier. Confidence in kai from the Taiari, Waihemo and the North Branch of the Waikouaiti River and estuary depends on the adequacy of monitoring and mitigation designed now.
c. 75 years (c. 2114)	3rd–4th generations	Golden Bar pit lake overflowing to Golden Bar Creek and the North Branch of the Waikouaiti River. Innes Mills pit lake overflowing to Deepdell Creek and the Waihemo. Coronation pit lake overflowing to Camp Creek and the Waihemo. Coronation North pit lake overflowing to Coal Creek, Mare Burn, and the Taiari River.	The mahika kai values of the Taiari, Waihemo, and the North Branch of the Waikouaiti River, will be impacted by increasing contaminant load as pit lakes overflow, with consequential impacts for whānau four generations removed from the consent decision. Stewardship burden and monitoring costs continue with no corresponding benefit

[106] A.06 Project Description, section 6.1.

Time post-closure (approx.)	Generation affected	Predicted state of the environment	Whānau ora implications
		Seepage pathways to the headwaters of the Taiari, Waihemo and the North Branch of the Waikouaiti operating.	stream to the hapū unless one is established now.
c. 400+ years (c. 2439 and beyond)	8th generation and beyond	Golden Bar pit lake overflowing to Golden Bar Creek and the North Branch of the Waikouaiti River. Innes Mills pit lake overflowing to Deepdell Creek and the Waihemo. Coronation pit lake overflowing to Camp Creek and the Waihemo. Coronation North pit lake overflowing to Coal Creek, Mare Burn, and the Taiari River. Contaminant pathways from pit lakes, waste rock, tailings and historic adits continue in perpetuity.	Whānau eight generations from now, as distant from us as we are from the generation of the Kāi Tahu Deeds, receive the overflow of decisions made in this consent process. The appropriate test for the adequacy of mitigation is whether it would be accepted by that generation; anything less transfers harm across whakapapa.

Tūtohi 4: Generational timeline of predicted post-closure effects (timescales as described in the MP4 FTAA application and technical assessments; generational translation by this assessment).

10.5 Compounding the existing history of loss

The intergenerational effects described above do not fall on a blank ledger. Section 7 of this assessment records the history of loss borne by Kāi Tahu in these catchments. This includes the Kāi Tahu Deeds and the failure of the Crown to honour them; the reduction of the land base to less than 1% of the Kemp's Deed footprint; the draining of wetlands and clearance of forest; the destruction of mahika kai; and the environmental legacy of historic gold mining. Each of these losses had its own whānau ora consequence, including displacement, economic hardship, loss of knowledge and identity, and those consequences were themselves transmitted intergenerationally.

The significance of the Project for whānau ora must therefore be assessed as an addition to an already heavily loaded cumulative burden, not as if it fell on an intact system. Whānau in these catchments are undertaking a deliberate, costly, generation-long project of recovery of reserves, fisheries, knowledge, and connection. Impacts that would be absorbed by a system in a state of abundance instead strike directly at recovery investments and at the thin margins of what remains. For Manawhenua, this is a history that replays repeatedly. The measure of this consent process is whether it interrupts that pattern or perpetuates that pattern for future generations.

10.6 Summary: Cultural Impacts Mapped to Whānau Ora[107]

Cultural Impacts	Primary whānau ora dimensions affected	Intergenerational mechanism
Modification of the natural form and function of the headwaters; reclamation and diversion of the North Branch of the Waikouaiti; reclamation of headwater tributary streams of the Taiari and Waihemo.	Taha wairua and identity; mātauraka; kaitiakitaka capacity	Permanent alteration of awa tūpuna means every future generation forms its identity and relationship with a diminished awa; the natural reference state passes out of living memory (shifting baseline).
Long-term contaminant discharge to the Taiari, Waihemo and Waikouaiti catchments (50–200+ year pathways)	Taha tinana and kai; kaitiakitaka capacity; economic security	Stewardship burden, monitoring costs and food-safety risk are transferred to the 2nd–8th generations post-closure; benefits of the resource accrue to the present.
Flow depletion and inter-catchment transfer; reduced flushing flows to the estuary	Taha tinana and kai; mātauraka; whanaukataka	Reduced abundance of tuna, inaka and shellfish diminishes the gathering practices through which knowledge and relationships are transmitted; effects concentrate at the mātaitai and Te Tauraka Poti where whānau practice is centred.
Loss of wetlands, tussock grasslands and taoka species habitat; mokomoko mortality	Taha wairua; mātauraka; kaitiakitaka capacity	Loss of relations (taoka species) held through whakapapa; extinguishment of local populations forecloses the ability of future kaitiaki to restore them (e.g. former Otago and grand skink habitat).
Risk to the Waikouaiti Mātaitai, East Otago Taiāpure, Te Tauraka Poti and Māori reserves	All six dimensions	These areas are the institutional inheritance of decades of hapū effort; contaminant loading or a rāhui event would strike food security, confidence, mana and the restoration investment of rakatahi simultaneously, with effects persisting a generation or more.
Exclusion of mana whenua from review of water quality and adaptive management; process constraints on holistic assessment	Kaitiakitaka capacity; economic security; whanaukataka	The setting of ecological trigger thresholds binds the next generation of kaitiaki; sustained diversion of Rūnaka capacity into contestation depletes the resources available for whānau development.

[107] Cultural Impacts in Section 9 mapped to whānau ora.

Cultural Impacts	Primary whānau ora dimensions affected	Intergenerational mechanism
Cumulative effects atop the documented history of loss	All six dimensions	Cumulative impacts of expanding the mining operation fall on recovery investments rather than abundance; repetition of the historical pattern teaches each generation that loss is the norm, with corresponding effects on aspiration, cohesion and trust.

Tūtohi 5: Mapping of cultural impacts to whānau ora dimensions and intergenerational mechanisms.

10.7 Implications for mitigation: intergenerational utu

Because the impacts of the Project on whānau ora are intergenerational, mitigation confined to the consent term cannot achieve utu. Utu, giving back more than is taken as a means of restoring balance, must be structured to operate across the same generational horizon as the impacts themselves. Kā Rūnaka accordingly expect that, in addition to the recommendations in Tūtohi 3, the mitigation package for MP4 will include:

- An enduring, funded mechanism that resources monitoring, mahika kai restoration, and whānau reconnection for the full duration of the post-closure contaminant pathways, not merely the life of the consents.
- Manawhenua-led monitoring across all three catchments, including estuarine shellfish and sediment monitoring at the mātaitai and Te Tauraka Poti, structured to build science capability and employment within the hapū in each generation (kaitiakitaka as opportunity rather than a burden).
- A funded programme of intergenerational knowledge transmission, wānaka, heke, and mahika kai practice on the awa and at the coast, involving pakeke and rakatahi together, recognising that the transmission chain, once broken, cannot simply be repurchased.
- Support for the restoration initiatives through which whānau are rebuilding whanaukataka and connection, including He Pātaka Wai Ora and the restoration of the Merton reserve, at a scale that at least matches the Project's downstream footprint.
- Periodic intergenerational review of compliance criteria and closure arrangements at agreed intervals with Manawhenua as decision-making participants, so that each generation of kaitiaki has a genuine opportunity to reset the terms it inherits.
- Resourcing for residual impacts on whānau ora that cannot be avoided, remedied or mitigated, assessed with reference to the generational timeline in Tūtohi 4.

The guiding whakataukī of Kāi Tahu whānui, *mō tātou, ā, mō kā uri ā muri ake nei*; for us and our children after us, sets the standard against which this Project will ultimately be judged by those living in these catchments. A consent structure that leaves the mokopuna of 2080, 2120 and 2230 with

contaminant pathways, monitoring burdens and diminished mahika kai, and nothing with which to meet them, fails that standard. A consent structure that pairs every long-term impact with an equally long-term stream of restoration, capability and partnership at least holds open the possibility that whānau ora in these catchments will be stronger, not weaker, for each generation that inherits it.

11. Conclusion

He manawa tahi, he manawa ora, he manawa toa, he manawa Kāi Tahu

A united heart, a vibrant heart, a determined heart, this is the heart of Kāi Tahu



Whakaahua 35: Terina Raureti (left) and Georgia-Rae Flack (right) on the Waikouaiti Estuary. The waka is Hiwa-i-te-rangi.[108]

This assessment outlines the position of Kāi Tahu on the expansion of the Macraes Gold Project through a consent process under the Fast Track Approvals Act (2024).

Kāi Tahu are mana whenua for the headwaters and the connected downstream catchments of the Waikouaiti North Branch, Waihemo[109] and the Taiari. The wellbeing of Kāi Tahu communities and the wellbeing of these catchments are integrally linked. The mana whenua values framework for this assessment emphasises this interconnectedness and the expression of these values across the environmental, cultural, social, and economic spheres.

The Macraes Gold Project located in the headwater catchments of these awa has impacts on the values of mana, mauri, tapu, whakapapa, mahika kai, the customary protection areas of the lower catchments, and the exercise of rakatirataka and kaitiakitaka, as assessed above. These impacts translate into effects on whānau ora, the collective health and wellbeing of whānau, that compound and transmit across generations. The critical contaminant pathways of the Project will run for 400-plus years, and the pit lakes, waste rock stacks and tailings storage will remain on the whenua in perpetuity. Water treatment at the site itself may effectively be perpetual. Those bearing the impacts of the

[108] Hiwa-i-te-rangi is the youngest star in the Matariki cluster – the star to which you send your dreams and aspirations.
[109] Waihemo / Shag River.

Project therefore include mokopuna not yet born, who will inherit its risks without having had any say in the current consent decision

Because the impacts of the Project on whānau ora are intergenerational, mitigation confined to the consent term cannot achieve utu. Utu, giving back more than is taken as a means of restoring balance, must be structured to operate across the same generational horizon as the impacts themselves.

The Kāi Tahu expectations are that:

Impacts on natural waterways, wetlands and aquatic ecology	
1.	Avoidance of impacts on waterways, wetlands, and taoka species habitat are prioritised, and the Project rescoped where methods exist that avoid the disturbance or reclamation of natural waterways.
2.	The expansion does not proceed ahead of the consenting and implementation of the mitigation measures on which its water quality case relies, including the Coal Creek and Camp Creek dams and the diversion of seepage to water treatment plant(s).
3.	The effects of the dams themselves on Coal Creek, Camp Creek, and the receiving reaches of the Mare Burn and Deepdell catchments, are assessed and mitigated.
4.	The design, flow regime and operating rules the Coal Creek and Camp Creek dams are developed in collaboration with mana whenua, with environmental flow requirements set to provide for mahika kai, fish passage and estuarine health. The construction of the dams with the sole objective of achieving dilution at compliance points is not supported by Kāi Tahu.
5	Reliance on dilution reduces over the life of the Project and does not become the settled design of the Project. Avoidance and source control, including reshaping of waste rocks stacks, treatment of seepage at source, and conservative compliance criteria, must underpin the water quality case, with augmentation of flows as a residual measure of last resort to manage effects on water quality.
6.	Water quality is managed conservatively during operations and post-closure, with the setting of ecological trigger values that provide 95% species protection for aquatic communities. Mana whenua must be engaged in the review of the performance monitoring and adaptive management, and any review of the ecological trigger thresholds.
7.	A cultural and environmental baseline, against indicators defined by Kā Rūnaka, is established and funded before consent is granted, with ongoing whānau-led monitoring resourced as a defined role and the evidential record held by mana whenua in durable form.
Impacts on Terrestrial Ecology	
8.	A cohesive ecological management plan is developed that guides all covenants, offsets and enhancement areas across the Macraes Project and ensures that replacement terrestrial habitat is of equal or higher quality.
9.	Mitigation moves beyond the management of adverse effects to the active uplift of the mauri of the Taiari, Waikouaiti and Waihemo, including a funded, mana whenua-led programme of mahika kai and habitat restoration ki uta ki tai.
10.	At least 80% of the impacted mokomoko population is salvaged.

Impacts on Customary Fisheries and Māori Reserves	
11.	The effects of the Project on the East Otago Taiāpure, the Waikouaiti Mātaitai, Te Tauraka Poti (Merton Tidal Arm), and the Māori reserves of the lower catchment are formally assessed through the fast-track process, and monitored and protected through consent conditions, in partnership with the relevant management committees.
Resourcing, Bond and Post-Closure Funding	
13.	OceanaGold resources Kāi Tahu where impacts on cultural values cannot be avoided, remedied or mitigated, in accordance with the principle of utu.
14.	Post-closure funding and financial assurance are based on independent, conservative, climate-adjusted modelling of the full life of the liability (400-plus years), with assumptions disclosed to Manawhenua, periodic independent adequacy review with provision for top-up, and obligations that run with the land, bind successors, and survive the insolvency or change of ownership of the operator.
15.	Compliance criteria, closure standards and funding adequacy are subject to periodic review, tied to independent findings and defined triggers, on the basis that review may strengthen but not weaken the intergenerational protection afforded to cultural values without the agreement of mana whenua.

In conclusion, this assessment should not be seen as Kāi Tahu approval of this project, but as a basis for ongoing engagement and discussion between OceanaGold and Kāi Tahu in the context of this stage of the Project.

Kāi Tahu has sought an enduring partnership with OceanaGold to address the cultural impacts of the Project, develop and implement mitigation that achieves utu (balance), and to secure durable, intergenerational protection for the whenua and wai.

The expectation is that OceanaGold will work with Kāi Tahu in good faith and in a mana-enhancing way, including through a formal partnership mechanism for the life of the consents and post-closure, that will ensure that manawhenua have an enduring and resourced role that enables the exercise of rakatirataka and kaitiakitaka.

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Appendix 1: Glossary of Māori words and phrases

āhua	Nature, appearance
āruhe	edible rhizome of bracken fern, fern root
ahikāroa	title to land through longstanding occupation; literally 'the long-burning fires'
ara tawhito	ancestral trails
atua	deity, early ancestor
awa	river
hāpua	lagoon, swamp, wetland
hāpuka	groper
heke	migration, movement
inaka	whitebait
kāeo	freshwater mussel
kāika	settlement(s)
kāika mahika kai	food gathering settlement(s)
kāika nohoaka	settlement(s)
kākihi	limpet
kāuru	edible parts of the cabbage tree
kai	food
kaimahi	colleague
kaimoana	seafood
kaitiaki	trustees, minders, custodians, guardians, stewards
kaitiakitaka	the exercise of guardianship by the mana whenua of an area in accordance with tikaka Māori in relation to natural and physical resources, and including the ethic of stewardship
kanakana	lamprey
kaupapa	principles, values, purpose
ki uta ki tai	from the mountains to the sea; references mana whenua perspectives of the environment as an integrated whole
kōareare	edible rhizome of raupō
kōkopu	cockabully
kōramu	cats' eye
kōrero	conversation
koukoupara	upland bully
kuku	green-lipped mussel
mātauraka	knowledge, wisdom, understanding
mahi	work, activities
mahi taunaha	the process of discovering and naming land and resources
mahika kai	practices, knowledge, and activities related to food gathering
mamae	pain, distress
mana	status, prestige, honour
mana whenua	customary authority exercised by an iwi or hapū in an identified area, and the people mandated to exercise it on their behalf
mauri	life force, life essence
nohoaka	temporary campsites
onewa	basalt
pakohe	argillite
papaī	speargrass
papatipu rūnaka	entities mandated to uphold mana in their takiwā
patete	seven finger plant
pātiki	flounder

pawhaitiri	a small fish
pora	wild turnip
poutama	step, phase
rāhui	temporary ritual/ban
raupō	bulrush
rai	scorpion fish
rakahau	research
rakatirataka	chiefly authority
rūnaka	council, board
takiwā	territory
taoka/taoka tuku iho	treasure
tapu	spiritual restrictions
tauraka waka	mooring site
te taiao	the natural environment
tī kōuka	cabbage tree
tikaka	correct procedure, correct method
tiotio	barnacle
tūpuna /tūpuna	ancestors
tītiko	mudsnail
toheroa	bivalve mollusc
toki	adze
tōpuni	a dog-skin cloak, to lay a cloak over (lit.) prominent landscapes managed under statute that were identified under the NTCSA 1997 as a symbol of the mana and rakatirataka of Kāi Tahu[110]
tuaki	NZ cockle
tūpāpaku	deceased person or people
tuna	eel
tūturu te noho	maintaining rights through ongoing occupation and settlement
umu	oven
umu tī	oven used to preserve kāuru
uri	descendant(s)
wāhi mahika kai	food gathering sites
wāhi tūpuna	ancestral landscapes of significance to iwi
wai	water
waiora	health
wai māori	freshwater
wai tai	coastal waters/saltwater
waka	canoe
whānau	extended family
whakaahua	image
whakapapa	genealogy
whakataukī	proverb
whakawhanaukataka	the process of building relationships
whānui	broad, extensive
whenua	land, lands

[110] TRONT, 2024, Mana recognition; NTCSA 1997, s12.5.

Appendix 2: He Rāraki Whakaahua: List of Figures

Number	Description	Reference
1	Coronation North mining area	Boffa Miskell, 2026
2	Frasers Pit	Boffa Miskell, 2026
3	Golden Bar mining area	Boffa Miskell, 2026
4	The Taiari, Waikouaiti River North Branch and Waihemo catchments	GHD, 2026, Figure 3.1
5	Schist outcrops at the banks of Māori Hen Creek	Allingham, 2016.
6	Waihemo river mouth	Bridge, 2022.
7	Huriawa Pā and Waikouaiti River Mouth, Karitāne	
8	Local rakatahi paddle on the Waikouaiti	Courtesy of Suzi Flack
9	Macraes mine and processing plant	GHD, 2024c.
10	Conceptual site model for Golden Bar Pit	GHD, 2026, Figure 4.2
11	Conceptual site model for the Central Mining Area	GHD, 2026, Figure 4.4
12	Conceptual site model for Coronation and Coronation North Pit	GHD, 2026, Figure 4.3
13	Water quality and flow mitigation implementation timeframe	GHD, 2026, Figure 6.1
14	Ecological value, extent of impact, magnitude of effect and residual level of effect	Bioresearches, 2026, Table 1 – 1
15	Murphys Ecological Enhancement Area	Bioresearches, 2026-B, Figure 5.2
16	Cranky Jims Dry Shrubland Link	Bioresearches, 2026-B, Figure 5.3
17	Compensation tussock restoration area Mount Highlay	Bioresearches, 2026-B, Figure 0-1
18	Location of the five compensation areas for wetland restoration	Bioresearches, 2026-C, Figure 4-1
19	Macraes Phase 4 project areas and offset/compensation sites	Bioresearches, 2026, Figure 2.1
20	Huriawa Peninsula, where Te Wera's pā was located	Taylor, 1950, p. 104.
21	Collecting tuaki at Karitāne	
22	Rakatahi doing restoration planting at Merton Tidal Arm on Waikouaiti Māori Trust Reserve, with Hikaroroa in the background	Courtesy of Suzi Flack
23	Waikouaiti Mātaitai Reserve	

24	Waikouaiti Taiāpure Reserve	
25	Density of the wāhi tūpuna landscape showing the long history of occupation and use within the Taiari, Waikouaiti, and Waihemo Catchments	Te Rūnanga o Ngāi Tahu, 2026
26	Upper Taiari Scroll Plain	Aukaha, 2025
27	The mouth of the Waihemo at Matakaea	Hosking, 2013.
28	Silcrete blades found at Matakaea	Barker, 2017.
29	The original Kemp's Deed map, 1848	Waikouaiti Coast Heritage Centre, 2024.
30	Orbell's Crossing, Waikouaiti River, 1907	Hocken Library, 2024.
31	Sluicing at Naseby, c. 1900	National Library of New Zealand, 2024.
32	Aerial photo of the site before the mine, 1947	Retrolens, 2024.
32	Aerial picture of the project site, 1998	Retrolens, 2024.
34	Aerial picture of the project site, 2004	
35	Terina Raureti (left) and Georgia-Rae Flack (right) on the Waikouaiti Estuary. The waka is Hiwa-i-te-rangi. https://ngaitahu.iwi.nz/opportunities-and-resources/publications/te-karaka/hiwa-i-te-rangi-tk83/	Courtesy of Suzi Flack
36	Rock shelter (I43/128), located near the head of Te Wai a te Atua (Three O'Clock Stream)	NZAA, 2024.

Appendix 3: Wāhi tūpuna in the East Otago area

Ikoa Māori	Ikoa Pākehā / Whakaaturaka
Waimātaitai	A kāika mahika kai on the Waihemo where āruhe, tuna, fish, koukoupara, kōareare, and tutu were gathered.
Te Umu Kōau	A kāika nohoaka, kāika mahika kai, and pā tūturu on the Waihemo.
Te Motu Tatakaha	An island at the mouth of the Waihemo.
Puketapu	A small hill overlooking Palmerston. Puketapu was a passenger on the Arai-te-uru waka.
Te Awaure	Anderson's Lagoon A kāika nohoaka and kāika mahika kai where tūī and kererū were gathered.
Te Hakapupu	Pleasant River A river that has historically been a rich source of mahika kai such as tuna, pātiki and inaka.
Otutahanga	A kāika mahika kai at Te Hakapupu where tuna were gathered.
Te Ruatūpāpaku	Mount Royal A prominent mountain that overlooks Te Hakapupu. Te Ruatūpāpaku was a passenger on the Arai-te-uru waka.
Te awa wi	A kāika mahika kai on the Waihemo where tuna and inaka were gathered that was named for a passenger on the Arai-te-uru waka.
Te Roto a Te Uatahi	A kāika mahika kai on the Waihemo where tuna and inaka were gathered.
Oturito	A kāika mahika kai on the Waihemo where tuna, inaka, and āruhe were gathered.
Te Waiaterimurapa	A kāika mahika kai on the Waihemo where tuna and kōareare were gathered.
Te Wai o Perekuku	A kāika mahika kai on the Waihemo where tuna, inaka, and āruhe were gathered.
Matau Kareao	A kāika mahika kai on the Waihemo where tuna and raupō were gathered.
Te Iho o Putete	A kāika mahika kai and hāpua in the Waihemo where tuna and kōareare were gathered.
Te Papawai	A kāika mahika kai on the Waihemo where tuna, inaka, pawhaitiri, patete, āruhe, and pora were gathered.
Kotakaka Take	A kāika mahika kai on the Waihemo where tuna, inaka, and āruhe were gathered.
Whare Paaka	A kāika mahika kai on the Waihemo where kāuru and tuna were gathered.
Upoko Paoa	A kāika mahika kai on the Waihemo where tuna, weka, āruhe, papaī, and purau were gathered.
Whati Nunui	Nenthorn Creek
Hora Takaha	A kāika mahika kai on the Taiari.
Pātearoa-ki-raro	Hummock Range
Pātea	Mount Stoker
Pātea Whatiia	A kāika mahika kai on the Taiari.

Te Wai-a-te-Atua	Three O'Clock Stream
Owhakaoho	Trotter's Creek
Te Wai a te ao	Mount Mackenzie A tributary of Te Hakapupu that flows from Mount Mackenzie to Mount Watkins.
Ohikaroroa	Mount Watkins A mountain north-west of Waikouaiti in North Otago named for an ancestor from the Ārai-te-uru waka.
Pahatea	Mount Derdan A kāika mahika kai and also the name of the river in the area, where tuna, tūī, kererū, āruhe and tutu berries were gathered.
Kaukau-Paikea / Kao kao a Paikia	Names recorded for the ridges of the land at Pahatea.
Kaiwaka	A rock located at the south side of Te Hakapupu.
Upoko Takahia	A kāika mahika kai north of Te Hakapupu located on a lagoon where tuna, bullrush tubers, flax stems, tutu berries, and flax fibre were gathered.
Otuatahanga	A kāika mahika kai and awa located on Te Hakapupu where tuna were gathered.
Kā Tamariki-a-Heikura	Smylers Peak
Hakariki	The south branch of the Waikouaiti where it is recorded that kāuru was gathered.
Waipaku	A stream that flows into Matainaka.
Kaka hu tuna	A creek that runs from Beach Street towards the Waikouaiti.
Matainaka	Hawksbury Lagoon A lagoon that was known as a habitat for inaka and aquatic birds. The Māori Land Court established a fishing easement on the lagoon in 1868, but important cultural sites in the area such as the pā, lagoon, urupā, and kāika nohoaka were not included.
Waikouaiti	Waikouaiti River The river flows from the mountains of North Otago into a large, extended estuary on Te Tai-o-Araiteuru The estuarine environment where wai māori combines with wai tai creates an important mahika kai site as a rich habitat for fish, shellfish, and waterfowl. The area is also renowned for inaka, tuna, and pātiki, and shellfish like tuaki, and pipi.
Okauia	A kāika mahika kai on the Waikouaiti River.
Whaka patu kuku	A place on the Waikouaiti River in the approximate location of Orbells Crossing.
Pā tamariki	A backwater and creek located near the Waikouaiti River mouth.
Tauraka o Poti	The backwater of the Waikouaiti.

Tauraka o Waka	A tauraka waka locate on the Waikouaiti River near Merton including the backwater and tidal flats in front of Merton Station.
Taumata o Puaka / Taumata o Poaka	A terrace in front of Merton Station.
Te Taha a Poti	A backwater behind Merton Station.
Tapari Kōau	A mahika kai site on the Waikouaiti River where inaka and tuna were gathered.
Ohinepouwera	The sandspit and beach located at the southern end of Ohinetemoa opposite the Karitāne township.
Matariki	A kāika located at Puketeraki.
Karitāne	A small township and fishing port in East Otago, on the south bank of the Waikouaiti River estuary. Formerly known as "Old Waikouaiti", it was once the site of the Waikouaiti Whaling Station, established in 1837.
Maramao	The channel at the mouth of the Waikouaiti.
Huriawa	Site of Te Pā a Te Wera, a pā situated on the prominent peninsula overlooking the mouth of the Waikouaiti.
Huirapa	A creek below Puketeraki marae.
Whakamaniaro	A creek drawn from Puketeraki Hill that joins with the Huirapa Creek.
Te Pou o Te Wera	A place located near the Waikouaiti River.
Owhare	A kāika located at the bend of the Waikouaiti River.
Te Pari Kōau	Cliffs located on the Waikouaiti River.
Kā Iwi a Weka	Mount Baldie
Te Kopare o Pahi	A kāika mahika kai located near Pahatea where āruhe, kōkō, tūī and tutu berries were gathered.
Te Roto-a-Hineritai	Flag Swamp A kāika mahika kai and awa where tuna and raupō were gathered.

Appendix 4: Archaeological sites in the East Otago Area

General location	NZAA number	Site type	Details
Te Tai-o-Araiteuru	J43/33	Midden Taoka	Heat shattered stones Unspecified taoka
	J43/32	Midden Taoka	Tītiko, pipi, kuku; makā and hāpuka bone Flakes of silcrete, obsidian, chalcedony, polished grey argillite, basalt
	J43/22	Umu	Pits
	J43/23	Midden	Kuku, pāua, kāeo, oven stones
	J43/10	Midden	Heat shattered stones, pāua, pipi, tītiko, and fish and bird bones
	J43/42	Terraces	Large pits located across a series of terraces on the southwest flank of Ōhineamio with views to south encompassing Huriawa, Māpoutahi, and Pukekura; possible defensive location
	I43/17	Umu/midden	Burnt stone, burnt bird and fish bone, vertebrae and spine including makā, rai, and petrel, shells including pāua, kuku, and kōramu
	I43/16	Umu	Charcoal fragments, large oven stones
	I43/50	Midden/umu	Makā, pāua, other fish and shellfish, unidentified sea mammal
	I43/13	Urupā Taoka	Burial site of at least two tūpāpaku Flake materials, taoka
	I43/12	Midden/umu	Scattering of midden containing burnt stone, charcoal, cockle, pipi and cats eye
	I43/150	Urupā	Koiwi
	I43/14	Midden/umu	Four possible ovens (with no occupational material on surface)
	I43/3	Pit	No further details
Waihemo – Shag River	J43/2	Midden/umu Taoka	Flakes of chert, orthoquartzite Broken toki onewa
	J43/17	Umu	Charcoal fragments, oven stones
	J43/18		
	J43/19	Umu	Small ovens stones, faint charcoal layer
	J43/27	Umu	Raised pits
	J43/28	Umu	Oven pit
	J43/21	Umu	Oven pits
	I43/28	Taoka	Quartzite blades, moa bone, and toki

Te Hakapupu – Pleasant River	J43/9	Midden	Heat-fractured stones, shell, and bone, including pāua, kāeo, and kākihi
	J43/4	Midden/umu Taoka	Three oven pits (remnants) with oven stone; midden containing shell, fish, and bird bone Stone flakes, silcrete toki
	J43/34	Pits	Series of pits, terracing
	J32/8	Midden	Scatters of midden material containing kāeo, pipi, and bone
	J43/7	Midden	Scatters of broken shell containing tuaki, pipi, kaeti, and tītiko
	J43/26	Midden/umu	Scattered oven stones, midden scatter containing tuaki, tītiko, toheroa, and pipi
	J43/1	Kāika	Pre-1769 settlement site – blackened soil, midden scatters of tītiko, pipi, and tuaki
	J43/64	Midden	Midden containing shell
	J43/24	Umu	Blackened soil, cracked stones
	J43/31	Midden Taoka	Oven-heated stones, shell, and bone Moa eggshell and bones
	J43/30	Taoka	Silcrete scraper, silcrete flake
	J43/6	Midden	Tītiko, charcoal, and burnt stone
	I43/19	Umu	Burnt stone fragments, blackened soil
	I43/27	Umu	Two oven pits
	I43/26	Midden/umu	Burnt stones, charcoal remnants
	I43/70	Umu	Oven put with raised rim
	I43/25	Umu	Two oven pits
	I43/69	Umu	Oven pits with raised rim
	I43/24	Umu	Several oven pits
Waikouaiti	I43/11	Midden/umu	Scatters of midden material containing tuaki, tiotio, kuku, and kāeo
	I43/10	Midden/umu	Darkened earth, possibly natural, close to other midden/umu sites
	I43/8	Midden/umu	Small deposit consisting of tītiko and tuaki
	I43/5	Midden/umu	Scatters of midden material containing tītiko, pipi, tuaki, kuku, and burnt stone Possible beaching place for canoes
	I43/9	Midden/umu	Burnt stone fragments, layer of charcoal, and some red quartz/jasper
	I43/7	Midden/umu	Layer of shell and charcoal

	I43/6	Midden/umu	Five patches of midden containing tītiko, small fish vertebra, pipi, and charcoal
Whati Nunui	I43/130	Taoka	Two silcrete blades found on a rock tor
	I43/49	Umu Taoka	Burnt stone and charcoal Toki pakohe
	I43/155	Kāika Taoka	Rock overhangs Silcrete flakes, moa bone
	I43/23	Quarry Taoka	Flaking floor Silcrete flakes
	I43/156	Quarry	Scattered fragments of worked silcrete spread across 500m^2
	I43/51	Kāika Taoka	Burnt moa bone Silcrete fragments, two blades
	I43/68	Quarry	Silcrete flakes, evidence of flaking floor
	I43/96	Taoka	Silcrete flake scatters, moa gizzard stones
	I43/29	Umu	Pits, destroyed by ploughing 1963
	I43/31	Taoka	Cache – unspecified, items fossicked
	I43/30	Taoka	Cache – small wooden bowl, other items fossicked
	I43/32	Taoka	Cache – small wooden bowl with notched rim, located in schist rock cleft
	I43/39	Umu	Oven pit, burnt schist and quartz rock
	I43/41	Umu	Two oven pits with traces of surrounding stone paving, burnt schist, charcoal
	I43/42	Umu	Charcoal, burnt schist
	I43/40	Umu	Large oven pit
	I43/43	Umu	Oven pit
	I43/48	Umu tī	Oven pits, burnt volcanic stone, blackened soil Many tī kōuka had been cleared for farming
	I43/47	Umu	Two oven pits, burnt volcanic stone and schist, blackened soil
	I43/44	Umu	Three oven pits, burnt schist, charcoal
	I43/45	Umu, rock shelters	Oven pit, several rock shelters near a stream



Whakaahua 36: Rock shelter (I43/128), located near the head of Te Wai a te Atua (Three O'Clock Stream)

Appendix 5: Taoka Mahika Kai

Mammals	Kekeno
	Whakahao / Kake
	Kurī
Shellfish	Pipi
	Tuaki
	Tītiko
	Ataata
	Kāeo
	Purau
	Papaī
	Kuku
	Kākihi
	Pāua
	Tiotio
	Ngāeti
Fish	Tuna
	Pātiki
	inaka
	Kōkopu
	Kanakana
	Koukoupara
	Pawhaitiri
	Makā
	Rai
	Hāpuka
Birds	Kererū
	Kōkō / Tūī
	Weka
	Moa
	Aquatic birds
	Petrel, unspecified
	Kea

Plants for Kai	Āruhe
	Tutu berries
	Kōareare
	Pora
	Kāuru
	Tī kōuka
	Raupō (Kōareare)
Plants – Other Uses	Putete[111]
	Totara[112]
Plants - Fibre	Raupō
	Taramea
	Tikumu
	Pīkao
	Harakeke
Geology	Silcrete
	Pakohe
	Pounamu
	Onewa
	Matā
	Porcellanite
	Quartz Quartzite Orthoquartzite
	Chalcedony
	Kurupaku
	Whaiapu

[111] Sap from the Putete (Seven-finger plant) was used to heal sores and to treat cold sores and could be mixed with the bark and water to create a lotion for skin complaints. Leaves could be boiled to make a teething tincture, and the wood was also useful as an effective fire-starter; Riley, 1994. Other medicinal plants are likely to have been collected, but Putete is the only one identified in the review of literature.

[112] There is reference to a reported waka made of totara in the archaeological record (I43/19). The properties of tōtara lend it to usefulness for building waka, for which it was commonly used. Barclay-Kerr, 2006.

Appendix 6: Timeline of Land-use Change in the catchments[113]

Period	Kāi Tahu events	Catchment modification	Housing and Social Systems	Primary industries	Trade, Commerce, and Infrastructure
Pre-1860s	**1848-50** Measles epidemic, significant Māori death rate noted	Wetland drainage Native deforestation	**1837** Settlement at Matainaka **1838** Goodwood estate purchased from local Māori **1840** Waikouaiti Mission established	Flax milling **1839-40** Matanaka Station built **1840** Cherry Farm cultivations supply whalers **1848** Increased food production **1854-55** 'Pastoral invasion'	**1837** Whaling at Karitāne/Waikouaiti **1843** Land Court Commissioners award 2560 acres to Johnny Jones **1848** Waikouaiti trading store opens
1860-1900	**1868** Māori Fishing reserve established at Matainaka	Native deforestation Exotic planting **1860s** Extensive wetland drainage **1863ff**.Water modification by mining activities **1864** Rabbits, hares, and deer released **1866** Black swan released **1869ff** Trout released **1881** Extensive lagoon drainage **1881-1883** causeways built at Matainaka **1897** Mallards released	**1860** Hawksbury Hundreds subdivision **1861** Mount Royal purchased **1861** Public School opens **1864** Shag River Hundreds subdivision **1866** Matainaka renamed Hawksbury; Borough Council established **1866** Waikouaiti Lodge of Oddfellows established **1870s** 27,000 migrants arrive in Otago **1872** Allotments sold at Hawksbury	**1863** Shag Point Coal Mine opens **1864** First Waikouaiti bridge built **1864** Macraes Flat gold strike **1866ff**. Nursery and fruit farms **1870-90 Otago** Huge increase in pasture conversions **1880s-90s** Dredging on Three O'Clock, Deepdell, and Nenthorn Creeks **1888** Waikouaiti Cheese Factory opens **1888** Nenthorn gold strike **1889** Golden Point gold strike **1899** Dredging in the Waihemo	**1860** Beach Street Store opens **1862** Thriving commercial district on Beach Street, Waikouaiti **1862** Cherry Farm flour mill established **1864** Main North Road from Dunedin opens **1864** Shag River flour mill established **1867** 40-mile water race built, Shag Valley **1872** Hawksbury flour mill established **1878** Dunedin Main trunk line opens

[113] 'A new field for gold dredging,' 1899; 'Coal once a draw to Shag Point,' 2024; Christie, 1929; DOC, 2024, Golden Point; FFNZ, 2024; Fisher, 2021; Fisheries (Declaration of Waikouaiti Mātaitai Reserve) Notice 2016; Hawksbury Lagoon Incorporated, 2024; 'Help on river pollution,' 1971; HNZPT, 2024, Tumai; Jones, 2019; Leitch & Scott, 1995; McCaskill, 2009; McKewen, 2014; MCH, 2024, Waikouaiti; POWA, 2019; TCCL, 1905; Waitaki Whitestone Geopark, 2024.

Period	Kāi Tahu events	Catchment modification	Housing and Social Systems	Primary industries	Trade, Commerce, and Infrastructure
1900-1970		**1901** River channelling **1901** Matainaka causeways extended **1912** Matainaka 'wildlife reserve' established **1953** Matainaka 'wildlife refuge' established	**1912-14** North Otago holdings number 540, support 1,500 people **1933** Preliminary investigations, Waikouaiti source-water **1950s** Waikouaiti Water Treatment Plant Scheme constructed **1952** Cherry Farm hospital opens	**1900ff**. Increased orcharding; mining structures used for irrigation **1900ff.** Widespread pine forestry planting **1914ff**. Increased sheep, dairy farming	
1970-2000	**1998** Ngāi Tahu settlement signed **1999** East Otago Taiāpure established	**1971** Pollution noted, Waikouaiti River/Karitāne estuary	**1972** Culverts built at Matainaka **1984** Waikouaiti WWTP built	**1990** Macraes Mine opens in the headwaters of the Waikouaiti River **1998** Poultry farm opens	
2000-2024	**2016** Waikouaiti Mātaitai Reserve established	**2020-2023** Waikouaiti lead contamination event occurs			

Appendix 7: Statutory Acknowledgements for Wāhi Tūpuna

Ngāi Tahu Claims Settlement Act 1998, Schedule 60- Te Tauraka Poti (Merton Tidal Arm)

Statutory area

The statutory area to which this statutory acknowledgement applies is the wetland known as Te Tauraka Poti (Merton Tidal Arm), the location of which is shown on Allocation Plan MD 56 (SO 24722).

Preamble

Under section 206, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic, and traditional association to Te Tauraka Poti, as set out below.

Ngāi Tahu association with Te Tauraka Poti

Te Tauraka Poti, fed by the streams known as Kirikiri Whakahoro and Kokonui, was a major mahinga kai for kāinga and pā located on the coast north of the Otago Peninsula. The wetlands were a rich source of kai, including tuna (eels), mōhoao (black flounder), giant kōkopu and waterfowl. The wetlands were particularly valued as a spawning ground for inaka (whitebait).

The tūpuna had considerable knowledge of whakapapa, traditional trails and tauranga waka, places for gathering kai and other taonga, ways in which to use the resources of Te Tauraka Poti, the relationship of people with the wetland and their dependence on it, and tikanga for the proper and sustainable utilisation of resources. All of these values remain important to Ngāi Tahu today.

As a result of this history of use, there are a number of wāhi taonga within the wetland area, including middens and other evidence of occupation. These are important as places holding the memories of Ngāi Tahu tūpuna.

Te Tauraka Poti formed an integral part of a network of trails which were used in order to ensure the safest journey and incorporated locations along the way that were identified for activities including camping overnight and gathering kai. Knowledge of these trails continues to be held by whānau and hapū and is regarded as a taonga. The traditional mobile lifestyle of the people led to their dependence on the resources of the wetland.

Much of Te Tauraka Poti's continuing significance to Ngāi Tahu lies in the fact that it is the only remaining wetland area of any significance in the vicinity. The mauri of Te Tauraka Poti represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the wetland.

Ngāi Tahu Claims Settlement Act 1998, Schedule 103- Te Tai o Arai Te Uru (Otago Coastal Marine Area)

Statutory area

The statutory area to which this statutory acknowledgement applies is Te Tai o Arai Te Uru (the Otago Coastal Marine Area), the Coastal Marine Area of the Moeraki, Dunedin Coastal and Molyneaux constituencies of the Otago region, as shown on SO Plans 24250, 24249, and 24252, Otago Land District, and as shown on Allocation Plan NT 505 (SO 19901).

Preamble

Under section 313, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic, and traditional association to Te Tai o Arai Te Uru as set out below.

Ngāi Tahu association with Te Tai o Arai Te Uru

The formation of the coastline of Te Wai Pounamu relates to the tradition of Te Waka o Aoraki, which foundered on a submerged reef, leaving its occupants, Aoraki and his brothers, to turn to stone. They are manifested now in the highest peaks in the Kā Tiritiri o Te Moana (the Southern Alps). The bays, inlets, estuaries and fiords which stud the coast are all the creations of Tū Te Rakiwhānoa, who took on the job of making the island suitable for human habitation.

The naming of various features along the coastline reflects the succession of explorers and iwi (tribes) who travelled around the coastline at various times. The first of these was Māui, who fished up the North Island, and is said to have circumnavigated Te Wai Pounamu. In some accounts the island is called Te Waka a Māui in recognition of his discovery of the new lands, with Rakiura (Stewart Island) being Te Puka a Māui (Māui's anchor stone). A number of coastal place names are attributed to Māui, particularly on the southern coast.

The great explorer Rakaihautu travelled overland along the coast, identifying the key places and resources. He also left many place names on prominent coastal features. Another explorer, Tamatea, sailed along the Otago coast in the waka Takitimu. After the waka eventually broke its back off the coast of Murihiku, Tamatea and the survivors made their way overland back to the North Island, arriving at the coast by the place Tamatea named Ō-amaru (Ōamaru).

Place names along the coast record Ngāi Tahu history and point to the landscape features which were significant to people for a range of reasons. For example, some of the most significant rivers which enter the coastal waters of Otago include: Waitaki, Kakaunui, Waihemo (Shag), Waikouaiti, Kaikarae (Kaikorai), Tokomairiro, Mata-au (Clutha), and Pounawea (Catlins). Estuaries include: Waitete (Waitati), Ōtākou (Otago), Makahoe (Papanui Inlet), Murikauhaka (Mata-au and Kōau estuaries), Tāhaukupu (Tahakopa Estuary), and Waipātiki (Wapati Estuary). Islands in the coastal area include Ōkaihe (St Michaels Island), Moturata (Taieri Island), Paparoa, Matoketoke, Hakinikini, and Aonui (Cooks Head).

Particular stretches of the coastline also have their own traditions. The tradition of the waka (canoe) Arai Te Uru and its sinking at the mouth of the Waihemo (Shag River) has led to the coastal area of Otago being known as Te Tai o Araiteuru (the coast of Arai Te Uru). Accounts of the foundering, the wreckage, and the survivors of this waka are marked by numerous landmarks almost for the length of the Otago coast. The boulders on Moeraki coast (Kai Hīnaki) and the Moeraki pebbles are all associated with the cargo of gourds, kūmara and taro seed which were spilled when the Arai Te Uru foundered.

For Ngāi Tahu, traditions such as these represent the links between the cosmological world of the gods and present generations. These histories reinforce tribal identity and solidarity, and continuity between generations, and document the events which shaped the environment of Te Wai Pounamu and Ngāi Tahu as an iwi.

Because of its attractiveness as a place to establish permanent settlements, including pā (fortified settlements), the coastal area was visited and occupied by Waitaha, Ngāti Mamoe and Ngāi Tahu in succession, who, through conflict and alliance, have merged in the whakapapa (genealogy) of Ngāi Tahu Whānui. Battle sites, urupā and

landscape features bearing the names of tūpuna (ancestors) record this history. Prominent headlands, in particular, were favoured for their defensive qualities and became the headquarters for a succession of rangatira and their followers. Notable pā on the Otago coast include: Makotukutuku (Oamaru), Te Raka-a-hineatea (Moeraki), Te Pā Katata, Pā a Te Wera, (Huriawa Peninsula), Māpoutahi (Pūrākaunui), Pukekura (Taiaroa Head), and Moturata (Taieri Island). The estuaries from the Waitaki River to the Chaslands also supported various hapū.

Tūpuna such as Waitai, Tukiauau, Whaka-taka-newha, Rakiiamoa, Tarewai, Maru, Te Aparangi, Taoka, Moki II, Kapo, Te Wera, Tu Wiri Roa, Taikawa, and Te Hautapanuiotu are among the many illustrious ancestors of Ngāti Mamoe and Ngāi Tahu lineage whose feats and memories are enshrined in the landscape, bays, tides and whakapapa of Otago.

The results of the struggles, alliances and marriages arising out of these migrations were the eventual emergence of a stable, organised and united series of hapū located at permanent or semi-permanent settlements along the coast, with an intricate network of mahinga kai (food gathering) rights and networks that relied to a large extent on coastal resources. Chiefs such as Kōrako (several), Tahatu, Honekai, Ihutakuru, Karetai, Taiaroa, Pōtiki, Tuhawaiki, and Pokene being some among a number who had their own villages and fishing grounds. Otago Peninsula (Muaupoko) had many kāinga nohoanga with a multitude of hapū occupying them. At one time up to 12 kāinga existed in the lower Otago harbour, some larger and more important than others.

The whole of the coastal area offered a bounty of mahinga kai, including a range of kaimoana (sea food); sea fishing; eeling and harvest of other freshwater fish in lagoons and rivers; marine mammals providing whale meat and seal pups; waterfowl, sea bird egg gathering and forest birds; and a variety of plant resources including harakeke (flax), fern and tī root. In many areas the reliance on these resources increased after the land sales of the 1840s and 1850s, and the associated loss of access to much traditional land-based mahinga kai.

Many reefs along the coast are known by name and are customary fishing grounds, many sand banks, channels, currents and depths are also known for their kaimoana. One example is Poatiri (Mt Charles - Cape Saunders) the name of which refers to a fish hook. Poatiri juts out into the Pacific, close to the continental shelf, and is a very rich fishing ground. Another example is Blueskin Bay which was once a kōhanga (breeding ground) for the right whale, although it is well over 150 years since it has seen this activity.

Other resources were also important in the coastal area. Paru (black mud used for dyeing) was obtained from some areas. Some of the permanent coastal settlements, such as those at the mouth of the Mata-au (Clutha River), and at Ōtākou and Pūrākaunui, were important pounamu manufacturing sites. Trading between these villages to the south and north via sea routes was an important part of the economy.

The Otago coast was also a major highway and trade route, particularly in areas where travel by land was difficult. Pounamu and tītī were traded north with kūmara, taro, waka, stone resources and carvings coming south. Travel by sea between settlements and hapū was common, with a variety of different forms of waka, including the southern waka hunua (double-hulled canoe) and, post-contact, whale boats plying the waters continuously. Hence tauranga waka (landing places) occur up and down the coast in their hundreds and wherever a tauranga waka is located there is also likely to be a nohoanga (settlement), fishing ground, kaimoana resource, rimurapa (bull kelp - used to make the pōhā, in which tītī were and still are preserved) with the sea trail linked to a land trail or mahinga kai resource. The tūpuna had a huge knowledge of the coastal environment and weather patterns, passed from generation to generation. This knowledge continues to be held by whānau and hapū and is regarded as a taonga. The traditional mobile lifestyle of the people led to their dependence on the resources of the coast.

Numerous urupā are being exposed or eroded at various times along much of the coast. Water burial sites on the coast, known as waiwhakaheketūpāpaku, are also spiritually important and linked with important sites on the land. Places where kaitangata (the eating of those defeated in battle) occurred are also wāhi tapu. Urupā are the resting places of Ngāi Tahu tūpuna and, as such, are the focus for whānau traditions. These are places holding the memories, traditions, victories and defeats of Ngāi Tahu tūpuna, and are frequently protected in secret locations.

The mauri of the coastal area represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the coastal area.

Appendix 8: Statutory Acknowledgement for Taonga Species

Ngāi Tahu Claims Settlement Act 1998, Schedule 97 – Taonga Species

Birds[114]

Name in Māori	**Name in English**	**Scientific name**
Kāhu	Australasian harrier	*Circus approximans*
Kārearea	New Zealand falcon	*Falco novaeseelandiae*
Karoro	Black-backed gull	*Larus dominicanus*
Pīhoihoi	New Zealand pipit	*Anthus novaeseelandiae*
Pūtakitaki	Paradise shelduck	*Tadorna variegata*
Riroriro	Grey warbler	*Gerygone igata*

Plants[115]

Name in Māori	**Name in English**	**Scientific name**
Akatorotoro	White rata	*Metrosideros perforata*
Aruhe	Fernroot (bracken)	*Pteridium aquilinum* var *esculentum*
Harakeke	Flax	*Phormium tenax*
Horoeka	Lancewood	*Pseudopanax crassifolius*
Houhi	Mountain ribbonwood	*Hoheria lyalli* and *H. glabata*
Kahikatea	Kahikatea/White pine	*Dacrycarpus dacrydioides*
Kāmahi	Kāmahi	*Weinmannia racemosa*
Kānuka	Kānuka	*Kunzia ericoides*
Kāpuka	Broadleaf	*Griselinia littoralis*
Karaeopirita	Supplejack	*Ripogonum scandens*
Karaka	New Zealand laurel/Karaka	*Corynocarpus laevigata*

[114] Taonga bird species recorded within the Project Area (*OceanaGold – MP4 Terrestrial Ecological Impact Assessment, Table 9, Ahika Consulting*)

[115] Taonga plant species recorded within the Project Area are highlighted in blue ((*OceanaGold – MP4 Terrestrial Ecological Impact Assessment, Table 9, Ahika Consulting*)

Name in Māori	Name in English	Scientific name
Karamū	Coprosma	*Coprosma robusta, coprosma lucida, coprosma foetidissima*
Kātote	Tree fern	*Cyathea smithii*
Kiekie	Kiekie	*Freycinetia baueriana* subsp *banksii*
Kōhia	NZ Passionfruit	*Passiflora tetranda*
Korokio	Korokio Wire-netting bush	*Corokia cotoneaster*
Koromiko/Kōkōmuka	Koromiko	*Hebe salicfolia*
Kōtukutuku	Tree fuchsia	*Fuchsia excorticata*
Kōwahi Kōhai	Kōwhai	*Sophora microphylla*
Mamaku	Tree fern	*Cyathea medullaris*
Mānia	Sedge	*Carex flagellifera*
Mānuka Kahikātoa	Tea-tree	*Leptospermum scoparium*
Māpou	Red matipo	*Myrsine australis*
Mataī	Mataī/Black pine	*Prumnopitys taxifolia*
Miro	Miro/Brown pine	*Podocarpus ferrugineus*
Ngaio	Ngaio	*Myoporum laetum*
Nīkau	New Zealand palm	*Rhopalostylis sapida*
Pānako	(Species of fern)	*Asplenium obtusatum*
Pānako	(Species of fern)	*Botrychium australe* and *B. biforme*
Pātōtara	Dwarf mingimingi	*Leucopogon fraseri*
Pīngao	Pīngao	*Desmoschoenus spiralis*
Pōkākā	Pōkākā	*Elaeocarpus hookerianus*
Ponga/Poka	Tree fern	*Cyathea dealbata*
Rātā	Southern rātā	*Metrosideros umbellata*
Raupō	Bulrush	*Typha angustifolia*
Rautāwhiri/Kōhūhū	Black matipo/Māpou	*Pittosporum tenuifolium*

Name in Māori	Name in English	Scientific name
Rimu	Rimu/Red pine	*Dacrydium cypressinum*
Rimurapa	Bull kelp	*Durvillaea antarctica*
Taramea	Speargrass, spaniard	*Aciphylla* spp
Tarata	Lemonwood	*Pittosporum eugenioides*
Tawai	Beech	*Nothofagus* spp
Tētēaweka	Muttonbird scrub	*Olearia angustifolia*
Tī rākau/Tī Kōuka	Cabbage tree	*Cordyline australis*
Tīkumu	Mountain daisy	*Celmisia spectabilis* and *C. semicordata*
Tītoki	New Zealand ash	*Alectryon excelsus*
Toatoa	Mountain Toatoa, Celery pine	*Phyllocladus alpinus*
Toetoe	Toetoe	*Cortaderia richardii*
Tōtara	Tōtara	*Podocarpus totara*
Tutu	Tutu	*Coriaria* spp
Whaririki	Mountain flax	*Phormium cookianum*
Whīnau	Hīnau	*Elaeocarpus dentatus*
Wī	Silver tussock	*Poa cita*
Wīwī	Rushes	*Juncus* all indigenous *Juncus* spp and *J. maritimus*

Appendix 9: Specific concerns identified by Kā Rūnaka through review of technical reports

Kā Rūnaka reviewer comments on earlier versions of the assessments and management plans provided prior to lodgement are set out in this table. The comments in this Appendix 9 and any consequential impacts for the wider Treaty SIA do not take account of the versions of management plans lodged by OceanaGold as part of the substantive application. Kā Rūnaka reserve their position regarding any modifications made to the substantive application not made available to Kā Rūnaka prior to lodgement.

Section, Page	OceanaGold Position	Feedback on OceanaGold Position	Clarification or Proposed Kā Rūnaka Position
Frasers Tailings Storage Facility Stage 3 Technical Report (EGL)			
5.4 p20	Consolidation of tailings post placement will be in the order of metres. Detailed closure design will account for expected tailings consolidation.	Consolidation will continue post closure, albeit at a reduced rate. Design must account for this long-term change in the FTSF surface RL and the potential to interfere with drainage to NBWR.	Condition required to ensure drainage is maintained post closure to reduce ponding on the FTSF (and potential increase in contamination). Potential post closure bonding issue.
5.5 p20	Spillway and outlet channel over the West Embankment will maintain drainage for FTSF surface	As above	As above
5.6 p21	Seepage control using sub surface drains is proposed to manage this water and have it report to the Innes Mills Open Pit (IMOP) long term. Acknowledged potential impact to Murphys Creek but controlled by lower RL drainage system.	There is potential for this seepage to enter the NBWR with adverse impacts on water quality. These drainage elements are key to maintaining water quality in the NBWR catchment.	This impact is potentially a long-term issue, and the maintenance of the drainage system will be key to maintaining water quality in the NBWR. A funding mechanism needs to be made available to land management parties post closure.
5.10 p23	Two early closure scenarios (ephemeral lake and Pit Lake scenarios) presented. Neither discusses water quality. There is contamination potential.	Potential long-term contamination of water entering the NBWR and a requirement for treatment.	Subject to the Geochemistry review there may be some work required to reassure Kā Rūnaka that water quality in the NBWR is maintained or able to be managed with an appropriate funding mechanism being made available post closure.
5.11 p24	A permanent stream diversion channel across the		Kā Rūnaka does not support the design of

Section, Page	OceanaGold Position	Feedback on OceanaGold Position	Clarification or Proposed Kā Rūnaka Position
	Frasers Backfill (FRBF) embankment will be designed for the headwaters of the NBWR. The design allows for a permanent low flow channel for ecological reasons, and for the optional revegetation of the banks.		the permanent channel for the headwaters of the NBWR due to intergenerational risks to the mataitai and taiapure.
12.1 p34	The Dam Safety Assurance Programme (DSAP) required by the Building Act and Building Regulations will require annual dam compliance certificates.	This may become a long-term compliance issue that needs be maintained post closure for a period. There is no proposal as to how this would be managed if required.	A long term, post closure mechanism to manage commitments arising from the mine needs to be established.
Open Pit Extensions - Geotechnical Stability (PSM)			
General Comment	Multiple highwalls will remain post closure presenting a potential risk to the public. These will be addressed through step backs and exclusion zones. The long-term management of the ground control management plans is proposed for the protection of the Golden Bar Road.	Kā Rūnaka are concerned that there has been no apparent effort made to mitigate for the risk presented by high wall features post closure other than using exclusion zones and monitoring. It is considered that alternatives, such as reducing overall face angles and backfilling should have been assessed for feasibility rather than defaulting to the least cost option. In essence, a series of "cliffs" will exist where none did before.	This requires engineering input into the final wall / slope design. It is unreasonable that perpetual degradation to the environment should be created by the development without any amelioration or mitigation for the impact. The high wall in the existing Golden Bar Pit is such that it poses a real risk to animals and people where no risk existed prior to the development.
Waste Rock Stacks - Geotechnical Stability (PSM)			
5.1 p26	Sedimentation and Run-Off: second bullet point: Side slopes should maintain a uniform profile to prevent channelisation of surface flow which increase erosion risk.	Evidence already exists for erosion of the side slopes of the FWWRS. This indicates even with uniform slope construction of the WRS there is erosion action. This will require ongoing maintenance to prevent sedimentation and potential contamination of the NBWR (at least in this area). This is long term, post closure issue which will require a post	This a perpetual liability issue for which funding must be provided for ongoing management noting that it cannot be effectively addressed through alternative slope design.

Section, Page	OceanaGold Position	Feedback on OceanaGold Position	Clarification or Proposed Kā Rūnaka Position
		closure management regime.	
Golden Point Underground Extension - Mine Subsidence Assessment (PSM)			
9 p75	Bullet point 5: If potential horizontal strain is materialised it could lead to a partial or complete loss of surface flow in Deepdell Creek.	Ka Rūnaka is of the view that the loss of any natural waterway is unacceptable. Given the unavoidable loss of headwater sections of both the NBWR and Waihemo that has already occurred because of mining activity at Macraes, the loss of any further waterway must be avoided.	Conservative design of the mining exclusion zone under the Deepdell Creek must be undertaken to avoid the creation of tension fractures that could lead to the loss of surface flow in this area.
Hydraulic Mining Pre-Feasibility Study of SP11, SP10 and MTI Tailings Storage Facilities (Agilitus)			
8.4 p71	Stormwater Management: The modelling shows that for a Probable Maximum Precipitation (PMP) event 700mm / 48hrs will result in ± 308 ML of accumulated water that will need be removed before mining can recommence. There is no mention of how this additional volume of water will be managed prior to discharge to the receiving environment.	There should be no discharge of untreated water (for sedimentation and if necessary, chemical contamination) to the receiving environment. There will be urgency in undertaking the dewatering in order that the mining of the tailings can be undertaken according to the required schedule. There is no mention of how this extraordinary volume of water will be treated prior to discharge.	Kā Rūnaka propose that hydraulic mining of the tailings storage is precluded unless sufficient water treatment capacity is in place. No untreated or partially treated water should be discharged to the receiving environment.
Arsenic Removal by $FeCl_3$ dosing of pit lakes memorandum (31 August 2026) (MWM) [Hydrogeochemical Pit Lake Modelling Report – P265]			
Discussion p.8	Mixing efficiency and particle residence time. It is acknowledged that active agitation and or aeration may be required to ensure adequate mixing of the dosed ferric chloride.	Given the dosing will be required for +100years it is assumed active mixing methods will be required to be maintained post closure. There is no mention of the post closure water treatment management and resourcing in the documentation provided. It is possible given the long-term nature of the treatment requirements that alternative technology may become available in time and may be utilised if funding is available (see note across).	OGL should provide funds that are available for the likely term of active water treatment. These funds should be managed by way of a Trust or similar endowment mechanism such that funds are available to meet all reasonably anticipated future requirements.

Section, Page	OceanaGold Position	Feedback on OceanaGold Position	Clarification or Proposed Kā Rūnaka Position
Background / Arsenic Sorption; p.2	The arsenic in solution will be removed via sorption onto ferric hydroxide precipitates. This is effective if the environment remains in an oxidising state.	Should the pit lake environment become reducing (e.g. stratification and lower oxygen saturation) the arsenic is released back into solution. This poses a risk to the fundamental treatment methodology.	It is proposed that detailed investigations are undertaken in existing flooded pits at Macraes to determine the likelihood of stratification becoming an issue. This work would need be undertaken prior to pumping down of any existing pits. Alternative, long term water treatment options should be identified and resourced prior to mine closure to ensure this risk is mitigated.
Pit Lake WQ Modelling (Coronation, Coronation North, Golden Point, Innes Mills) (MWM)			
	All pits will fill over time (some over decades) and will discharge to the Shag / Waihemo tributaries. Water quality will exceed ANZECC guidelines for recreational use and will require treatment prior to discharge. In pit dosing will be used to reduce concentration of dissolved metals but dosing will need be ongoing beyond mine closure. No other water treatment methodology is discussed.	The modelling of the water quality in the pits at closure and over the next 100+ years is based on models developed for the site. There is potential for deviation from the predicted model outcomes and there is no discussion on how this will be managed other than by "adaptive management practices". The options available for this are not discussed and it is apparently assumed these will be developed on an ad hoc basis is the need arises.	The uncertainty around the methodology for treatment, its duration, and the need to maintain any methodology over time, presents a significant post closure risk. OGL should be required to provide financial resources, available to the land administrator, to address these uncertainties, should they materialise.
Erosion and Sediment Control Report (EGL)			
3.0 Existing erosion and sediment control practice p.11	The waste rock has been typically end dumped in high lifts and this results in segregation with coarse rock at the base of each lift as shown in Plate 8. This has subsequently acted as an underdrain beneath.	This acknowledgement of the segregation of material in the WRS is in direct conflict with the desired WRS construction that limits lift heights to minimise segregation to help manage oxidation processes.	This "conflict" needs to be resolved as the desired outcome for WRS construction cannot satisfy both outcomes.
		Note: this document is a report and not a Management Plan. The report calls for site specific	Ka Rūnaka will need to sight the Erosion and Sediment Management Plans prior to their

Section, Page	OceanaGold Position	Feedback on OceanaGold Position	Clarification or Proposed Kā Rūnaka Position
		structures / systems to be installed based on existing site knowledge and standard documentation such as the ECAN controls.	implementation. They are not available currently.
Air Quality Assessment and Air Quality Management Plan (Tonkin & Taylor)			
AQMP S.8.3.2 p.24 Framework prior to MP4	Insoluble dust deposition rates at sites DG07 and DG17 must not exceed 3 g/m²/30 days of insoluble dust above background more than twice in any calendar year.	This is one example of the limits imposed by consent in the OGL operation. What is unclear is the steps to be take in the event the trigger levels are reached.	For completeness and for the assurance of the community there should be specific actions required (beyond putting on another water truck), for example ceasing operations in that area until such time as control measures are in place. This is beyond the steps required in Section 8.5 of the AQMP. Dust is an immediate impact and waiting for a month then the commissioning of an independent expert to review things does nothing for health or amenity values impacts.
Blasting, Vibration, and Airblast Effects Assessment (TechNick) and the Noise, Airblast and Vibration Management Plan (NAVMAP)			
NAVMAP 3.2.7: Managing effects of blasting on historic buildings p.23	If vibration monitoring undertaken in accordance with this NAVMAP indicates that vibration trigger limits have been exceeded at Building 2 or Gay Tan's Cottage, the Consent Holder must immediately revise blast design and engage a SEQP – Heritage Structures.	The management plan does not call for cessation of blasting until the survey and repair work is undertaken, rather it calls for a revision of basting practice, the preparation of a survey and a report. This offers less than ideal protection to the heritage sites which may be the subject of vibration induced damage.	The plan should be amended to require the cessation of blasting pending a review of the blast design which includes the measured impact of the exceedance of PPV from the measured blast and the approval of the relevant authority.
NAVMAP 4.3.2 Monitoring Results, Investigation & Reporting p.28	In the event of a valid non-compliant airblast or vibration reading the event should be reported through to the relevant territorial authority	The Applicant should consider sharing the results with residents of affected properties as well as the Territorial Authority.	Kā Rūnaka propose that there is a threshold beyond which blasting cannot occur.
NAVMAP 4.3.2 Monitoring Results,	In the event of a valid non-compliant noise reading the event should be reported	The Applicant should consider sharing the results with residents of affected	

Section, Page	OceanaGold Position	Feedback on OceanaGold Position	Clarification or Proposed Kā Rūnaka Position
Investigation & Reporting p.28	through to the relevant territorial authority	properties as well as the Territorial Authority.	
NAVMAP Throughout the document	Trigger Action Response Plans (TARPs)	The document refers to Trigger Action Response Plans (TARPs) but there are none included for review or consideration. The Applicant should provide the relevant TARPs that form part of the Noise, Airblast and Vibration Management Plan.	The TARP should ensure the relevant operations are suspended if they are generating non-compliant noise readings. Ongoing impact of the non-compliant noise level on the receiving environment (and population) is unacceptable.
Macraes Phase 4 Project: Recommended Surface Water Quality Compliance Framework. (Viridis)			
Section 4.3.2 Proposed trigger values p.11	Parameters were selected based on their environmental relevance, association with mining-related processes, and potential to influence ecological health. In general, the trigger values align with a guideline protection level for 95% of species	Given the disparate WQ monitoring criteria that have evolved over the term of the operation and associated tranches of consents it is not unusual to have various standards being used as reference points. It is logical that at the MP4 approvals stage an attempt is made to rationalise these various generations of compliance standards.	Kā Rūnaka needs to be comfortable with a standard that achieves protection for 95% of species found in the various catchments. Given the importance of these catchments for the provision of kai a more conservative approach may be desired.
Section 4.3.3 Compliance assessment p.12	For chronic and acute trigger values, a site returns to compliant status where monthly compliance monitoring demonstrates no further exceedances over a continuous six-month period.	It is proposed that three levels of compliance are adopted; acute, chronic and eutrophication. This approach is probably acceptable, but where chronic exceedance levels are triggered there is potential for an extended period of discharge at levels that are above those that are acceptable for a period that could be as long as 12 months or more. Given the reliance of some mana whenua on these rivers as a source of kai this is probably not acceptable.	Kā Rūnaka may wish to adopt chronic trigger levels that are lower than those proposed or accept the current levels and require the Applicant to notify at the first instance of a chronic level being exceeded rather than the protracted monitoring programme proposed. This would enable notification of Kā Rūnaka of any potential issues of contamination impacting food sources.
5.2.3 Application of guideline values p.17	In these watercourses, naturally elevated background levels and legacy mining influences	It is accepted that background levels for As are elevated in Deepdell due to historic mining and that	Ka Rūnaka propose the 95% ANZG DGV level as the minimum level of compliance.

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	cause arsenic concentrations to frequently exceed the ANZG 95% DGV. In this context, adoption of the 90% species protection level provides a more appropriate basis for distinguishing project-related effects from background conditions	periodic exceedances of ANZG 95% DGV occur. To use this as justification for setting a ANZG 90% DGV for compliance seems to adopt a permissive approach whereas the retention of the 95% criteria would retain the status quo. Why accept a deterioration of the WQ standards? Periodic exceedances of the 95% are better than a 100% compliance with a 90% DGV.	
5.2.3 Application of guideline values p.18	For chronic triggers, which are intended to manage longer-term exposure risks, a limited number of exceedances is permitted over defined assessment periods, consistent with approaches adopted in regional and international guideline frameworks.	Given that the compliance level will only be determined following a potential exceedance of 12 months (or more) and this is then followed by a six-month period of monitoring and reviewing, there exists a possibility for 18 months of chronic level discharges to be ongoing. This will expose those using the rivers as a food source to potential contamination until such time as compliance is achieved.	Ka Rūnaka can either advocate for a tighter set of criteria to constitute non-compliance with chronic levels and/or require notification of water quality monitoring results in order that appropriate management and education of those using the rivers as a food source can be undertaken.
68766BIO2_MP4Fast_Lizard_values_06052026_Rev A_OGLreview_DvW			
1.1 P8	Size of fenced reserve compared to impact area. 387.6 ha within the direct impact area, with a proposed 265 ha mitigation site (Highlay Station) and a 250-ha mammal exclusion fenced area.	The size and location of the fence is appropriate, however additional work is required in some areas to create connecting habitat from the fenced reserve through to the surrounding habitats within the pest control area.	This could take the form of “lizard corridors” of constructed rock stacks and planting with associated rodent predator control as required. This is important to ensure that spillover from the fenced reserve can be connected to suitable habitats in the surrounding area.
68766BIO2_MP4Fast_BatValuesAssessment_21052026_RevB			
S2, P16-23	Survey indicates that no bats are present within the direct impact area or any of the surrounding land, including remnant gully vegetation and rock torrs.	Methodology is appropriate, and results are plausible.	

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	Very limited habitat available for bats in the area.		
OGL_MP4FT_Vegetation_RevBv9_260608			
S6.6, P 2-3	"All indigenous vegetation communities and notable habitat features within the new area of the ESA meet at least one criterion for ecological significance under at least one applicable planning instrument."	Agree with assessment against statutory documents based on information provided.	Unable to reach a position until draft Assessments of Environmental Effects, mitigation/offset plan, and Management Plans are submitted.
Appendix 4, P 35-44	Maps showing locations of vegetations plots and survey paths for assessing vegetation communities	Plots and survey paths appear appropriate in the context of the surrounding landscape.	As above
B26 - Assessment of Aquatic Environmental Effects			
S 5.2.2, P34	The applicant sets out a summary of water quality limit compliance outcomes in the receiving environment during different phases of the MP4 Project, focussing on physicochemical parameters such as nutrients and metals.	The proposed monitoring sites and analytes do not reflect key concerns expressed by mana whenua around cumulative downstream effects on mahika kai sites in the Waikouaiti catchment.	That the applicant support mana whenua to undertake catchment-scale monitoring in the Waikouaiti catchment taking a "ki uta ki tai" approach. This includes ecological, physicochemical, and cultural monitoring in line with the "He Pātaka Wai Ora" approach developed by Kāti Huirapa Rūnaka ki Puketeraki.
Landscape and Visual Assessment Review			
General Comments		The report recognises mana whenua values but does not establish how those values influence the assessment itself. Cultural values appear to provide contextual information rather than serving as determinants of landscape significance and effect. The assessment risks conflating historic/existing degradation with reduced importance. A degraded environment can remain highly significant, particularly where it forms	

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		the source environment of a culturally significant river system. Greater distinction should be made between current condition and underlying value. Proposed mine expansion/extension as well as rehabilitation activities represent permanent alteration to the original headwater landform and hydrological system. Rehabilitation therefore improves post-mining landscape condition but does not restore the pre-mining environment. Synthesis leading to effects ratings appears derived predominantly from the existing modified character of the landscape and anticipated rehabilitation outcomes.	
2.1.1	Information reviewed as part of the desktop analysis of the receiving environment	List of information reviewed updated to include culturally relevant information.	The desktop analysis included Kā Huru Manu and the Cultural Impact Assessment prepared for Macraes Phase 4.
2.1.2	Approach to site analysis	Speak to what site appraisal work has been undertaken, within and outside the OGL boundaries. Note the extent to which the wider cultural landscape has been visited, so to assist in the synthesising and making informed judgement on effects relative to values.	Discuss site appraisal work / site visits undertaken. A cultural site visit by the Assessors may be valuable to assist in the cultural landscape aspects.
2.1.3	Description of engagement with Pūkenga Alayna Rā	The addition states that Dr. Rā's input has "informed the way cultural landscape values are recognised and described" and "assisted with ensuring that the landscape assessment is appropriately informed by cultural landscape considerations." However, these values do not appear	Kā Rūnaka seek an accurate description of how mana whenua values have been integrated in the assessment of effects beyond the acknowledgement of their existence, i.e. how they are affected by the proposed changes.

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		to be weighted and integrated into the assessment of effects. This must be clarified and outlined here.	
3.1	Site location and description	Part of this section seems to be the 'Project Description', as opposed to the site and context description. Suggest moving this to Section 5. Suggest bringing 3.2 MP4 Setting up into 3.1 to speak to the location and landscape context. This section should also include scale of landscape that is being assessed, and what exists within it. This description of location and landscape context also needs to include the mana whenua lens on this cultural landscape. Draft text on key landscape attributes relevant to mana whenua has been suggested to Assessors for inclusion.	Revise and expand the site location and description to include context, scale, and landscape attributes relevant to mana whenua.
3.5 & 3.6	3.5 covers landscape character and 3.6 covers the Cultural Impact Assessment	Suggest renaming 3.5 to Landscape Character and Values, and integrating 3.5 and 3.6 such that the structure is: 3.5 Landscape character and values 3.5.1 Waitaki Landscape Study 3.5.2 Dunedin Landscape Management Areas Review 2007 3.5.3 Cultural landscape values 3.5.4 Landscape character dimensions	Assessor to restructure and revise content to better synthesise landscape character and values, including cultural landscape values.
3.6.5.1	This section seeks to describe physical landscape character.	Physical landscape values also need to include broader occupation, heritage, and archaeology. The reference	Cultural landscape values should acknowledge broader relationships with the

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		to mahika kai sites should acknowledge that they are both historic and ongoing.	landscape and that they are both historic and ongoing, e.g. for mahika kai.
3.7	Description of natural character with regards to water bodies	The section lacks any mention of headwaters, which are crucial not only in the understanding of hydrology in natural character but also relevant to mana whenua values associated with natural character. Headwaters are discussed under 11.1.2 Cumulative Natural Character Effects so this is also a matter of report consistency.	Authors to acknowledge headwaters under natural character.
6.0 (p19)	Introduction to Landscape, Natural Character (NC) and Visual Effects	The report recognises mana whenua values but does not establish how those values influence the assessment itself. While the report now references mana whenua values and the cultural context of the receiving environment, it remains unclear how those values influence the assessment methodology, significance thresholds, or overall conclusions. Cultural values appear to provide contextual information rather than serving as determinants of landscape significance and effect. Suggested text for insertion on consideration of effects on mana whenua values and relationships with the landscape.	Kā Rūnaka seek an assessment methodology that incorporates mana whenua values as determinants of landscape significance and effect, not just context of the receiving environment.
6.2 (p20)	Method to assess natural character effects	The methodology adopts a predominantly western biophysical understanding of natural character, relying on abiotic, biotic, and experiential attributes. While these attributes are relevant, the proposed	Kā Rūnaka seek an assessment that incorporates mana whenua values and concepts in the understanding and assessment of natural character.

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		methodology does not adequately explain how mana whenua concepts such as mauri, whakapapa, tapu, Ki Uta Ki Tai relationships, or the ancestral status of freshwater environments are incorporated into the assessment of natural character. The current wording positions cultural input as supplementary to the technical assessment rather than recognising that mana whenua may understand the character and condition of freshwater environments through a different lens. The qualification "relevant cultural input" should be removed. Given the documented cultural associations of the affected catchments and waterways, cultural values are inherently relevant to understanding the natural character of the receiving environment. The issue is not whether cultural input is relevant, but how it has informed the assessment.	
6.3 (p20 – 22)	Method to assess visual effects	Two text suggestions for inclusion on: - The limitations of visibility mapping and visual exposure in capturing broader landscape, natural character, or cultural effects. Consideration of culturally significant locations and landscapes.	Assessor to include suggestions in acknowledgement of broader effects and cultural significance of the landscape.
7.0 (p22)	Coronation Mining Area – introduction	Suggested insertions and revisions to: - Speak to change in the landscape over	Assessor to revise section to acknowledge the significance of headwater systems and

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		time and how a prolonged history of landscape modification provides importance context but does not diminish the significance of further modification. Acknowledge the significance of headwater systems to the cultural landscape within and beyond the immediate project area.	reframe how the history of landscape modification affects the assessment.
7.1 (p23)	Coronation Mining Area – Site Appraisal	Suggested additions and revisions to: - Address prior successive phases of landscape modification. - Acknowledge the ecological and cultural importance of the headwater landscape. Consider landscape values as informed by cultural associations and ecological functioning, not just visual exposure.	Assessor to address the impacts of prior landscape modification and acknowledge the ecological and cultural significance of the landscape.
7.2.4 (p25)	Coronation Mining Area – Rehabilitation and Closure	Suggested insertions and revisions to: - Acknowledge permanent alteration of headwater landscape landforms, processes, and cultural values. - Reframe closure and rehabilitation outcomes so as not to indicate full restoration of landscape values or original characteristics of	Assessor to reframe closure and rehabilitation outcomes in consideration of permanent landscape alteration and broader catchment implications.

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		the pre-mining environment. Consider implications of closure outcomes for the wider Taiari and Waihemo catchments beyond the immediate project area.	
7.5 (p26)	Coronation Mining Area – Landscape effects Landscape effects considered **low-moderate** reducing to **low** at closure.	Landscape effects considered **high**, reducing to **moderate-high** at closure, to reflect the contribution of the mining extensions to cumulative landscape modification and permanent alteration of the landscape post-closure. Suggested insertions and revisions provided.	Kā Rūnaka considers landscape effects of the proposed Coronation Mining Area expansion to be **high** reducing to **moderate-high** at closure and seeks for this to be reflected in the report.
7.6.1 (p26 – 28)	Coronation Mining Area – Existing natural character Existing natural character considered **low-moderate** at Trimbells Gully and **low-moderate** at Deepdell Creek.	Existing natural character considered **moderate** at Trimbells Gully and **moderate** at Deepdell Creek, reflecting the retention of characteristics including hydrological connectivity, ecological functioning, natural landform expression, and cultural significance – despite historic and ongoing modification. This reinforces the importance of avoiding additional degradation and influences the subsequent assessment of natural character effects. Suggested insertions and revisions provided.	Kā Rūnaka considers existing natural character of the proposed Coronation Mining Area expansion to be **moderate** at Trimbells Gully and **moderate** at Deepdell Creek and seeks for this to be reflected in the report.
7.6.2 (p28 – 30)	Coronation Mining Area – Natural character effects Natural character effects considered: - Coal Creek: **low** during operation, reducing to **very low** at closure. - Trimbells Gully: **low-moderate** during operation,	Natural character effects considered: - Coal Creek: **moderate** during operation, reducing to **low-moderate** at closure. - Trimbells Gully: **moderate** during operation, reducing to **low-moderate** at closure.	Kā Rūnaka considers natural character effects of the proposed Coronation Mining Area expansion to be as follows, and seeks for this to be reflected in the report: - Coal Creek: **moderate** during operation, reducing to **low-**

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	reducing to **low** at closure. - Camp Creek and Highlay Creek: **low-moderate** during operation, reducing to **low** at closure. "no direct effects on the active bed or margins of Deepdell Creek"	- Camp Creek and Highlay Creek: **moderate** during operation, reducing to **low-moderate** at closure. While occurring within catchments that have experienced historic modification, these additional interventions further increase human influence over hydrological processes within the headwater environment and contribute to the cumulative modification of natural character values and processes including hydrological and ecological functioning. Though closure measures are expected to improve conditions and reduce the visibility of operational infrastructure, permanent modifications to hydrological processes, drainage pathways and catchment function will remain evident within the post-mining environment. Suggested text revisions provided. Natural character effects on Deepdell Creek to be discussed, given recent evidence from the GPUG Integrated Health Assessment.	**moderate** at closure. - Trimbells Gully: **moderate** during operation, reducing to **low-moderate** at closure. - Camp Creek and Highlay Creek: **moderate** during operation, reducing to **low-moderate** at closure. Natural character effects on Deepdell Creek to be discussed.
7.6.3 (p30)	Coronation Mining Area – Summary of natural character effects Natural character effects considered **low** for the Taiari River catchment and **very low** for the Waihemo River Headwaters (Deepdell Creek).	Natural character effects considered **moderate** for the Taiari River catchment and **moderate-high** (to be discussed) for the Waihemo River Headwaters (Deepdell Creek), reflecting further engineering modification of headwater processes, catchment connectivity, and	Kā Rūnaka considers natural character effects of the proposed Coronation Mining Area expansion to be **moderate** for the Taiari River catchment and **moderate-high** (to be discussed) for the Waihemo River

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		natural character. Suggested text revisions provided.	Headwaters (Deepdell Creek) and seeks for this to be reflected in the report. Further discussion needed regarding the natural character effects rating for the Waihemo headwaters.
8.0 (p32-33)	Central Mining Area – introduction	Suggested insertions and revisions to acknowledge the significance of headwater systems, cultural associations, and retention of landscape values despite existing mining activity.	Assessor to revise section to acknowledge retained landscape values and the significance of the headwater environment and catchment context.
Macraes Phase 4 Project Landscape Rehabilitation Strategy and Management Plan Draft V3. 3			
General		The Landscape Rehabilitation Strategy and Management Plan (LRSMP) is fundamentally a rehabilitation aspiration rather than a demonstration that rehabilitation outcomes can be reliably achieved. The LRSMP uses intentionally ambiguous language to describe rehabilitation outcomes and relies heavily on the assumed success of rehabilitation outcomes. It provides little evidence that permanent engineered landforms, "pit lakes", tailings facilities and altered catchments will cease to be experienced as mining landscapes. While monitoring and review will be needed, the LRSMP claims an inability to provide detailed plans, instead describing only "foundation concepts and general approaches based on widely accepted best practice [that] can be outlined at this preliminary design stage." This leaves	The LRSMP should be updated to take account of these perspectives.

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		consenting authorities and mana whenua without a framework for assessing whether rehabilitation outcomes are achieved, nor levers for enforcing adequate environmental management or upholding cultural rights, values, and interests. Even if the ecological objectives are achieved, the LRSMP does not address the irreversible loss of ancestral landscape values, wāhi tīpuna, ara tawhito and whakapapa relationships with place, which remain permanent adverse effects that cannot be avoided, remedied, or mitigated through rehabilitation or management plans alone. This directly conflicts with the LRSMP's stated vision of "a legacy free from economic and environmental burden" for Iwi.	
Purpose and vision	"The purpose of the LRSMP is to enable the modified mined landscape to be re-integrated into the Macraes Flat landscape following the completion of proposed mining activity. This includes ensuring the rehabilitated landforms remain sympathetic to the surrounding upland rolling character with the majority of the site returned to pastoral land use that approximates the existing landscape patterns and contouring within the Macraes Flat landscape." The stated vision of the LRSMP is twofold, to:	The stated purpose begins a pattern of intentional ambiguity within the LRSMP, wherein the rehabilitation outcomes are framed as "sympathetic" to the landscape character and "approximat[ing]" and "visually blend[ing] with] existing landscape patterns. The stated vision of leaving "a legacy free from economic and environmental burden" for the community and Iwi does not capture the permanent and cumulative impacts of mining operations which are self-admittedly "both destructive and extractive …	The LRSMP should be revised to provide clarity of rehabilitation outcomes and demonstrate how successful visual integration with the landscape will be determined.

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	• "Achieve a world leading mine closure with a stable, productive landform that visually blends with the landscape, while minimising environmental impacts and the requirement for ongoing intervention and supporting the wider community to transition to a life without mining at Macraes." • "Transition from operation to post closure in partnership with the community and Iwi, to leave a legacy free from economic and environmental burden."	to the extent [that the landscape] cannot be restored to [its] original form." Given the inherent destructive and extractive nature of mining, it is unclear to Kā Rūnaka how the legacy of the mine can be free of economic and environmental burden, particularly where local and cultural values and relationships with the landscape have been permanently altered or severed.	
	Rehabilitation aspiration, rather than outcome. The LRSMP acknowledges that landform and landmass cannot be restored to their original form following mining, and thus intentionally uses "rehabilitation" rather than "restoration." However, it still claims that landforms will be "generally commensurate with broader landscape patterns" and "able to support and sustain ecological values of a similar nature and achieve beneficial landscape outcomes in response to underlying landscape values." Final landform outcomes are variously described with language such as: "naturalise WRS Edges as far	The LRSMP is still largely a rehabilitation aspiration, not a demonstrated outcome. This continues the pattern of intentional ambiguity in rehabilitation outcomes. Much of the plan describes what the final landforms intend to achieve but provides very little objective testing that these outcomes will be achieved. The plan repeatedly relies on contouring, scalloping, planting, and vegetation succession to overcome highly engineered landforms, yet does not appear to provide the type of comparative landscape analysis, visual verification, or tested performance criteria that would demonstrate success. Given the nature and extent of the mining operations,	The LRSMP should be revised to include objective criteria that determine whether the final landforms are no longer visually legible as engineered features and enable this to be demonstrated rather than asserted.

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	as practical", “transitions between natural and formed surfaces shall be rounded and naturalised", "softening and integrating", "smoothing and blending", "natural-looking transitions”, “visually blends with the landscape.”	mitigation efforts are likely to be incongruous with the original landscape and natural character and do not restore the original environment or landforms	
	The LRSMP notes that “It is difficult or may be impractical or unrealistic to develop a detailed plan in advance because the precise nature of the final landform can only be determined for each section of mine as mining activity is completed. … Notwithstanding this, the foundation concepts and general approaches based on widely accepted best practice can be outlined at this preliminary design stage.”	While some amount of adaptive management will undoubtedly be needed, the lack of detailed design is problematic as it does not allow for an accurate understanding of effects on landscape values – when those effects ratings depend so heavily on the assumed success of rehabilitation.	The LRSMP should be updated to make it clear Kā Rūnaka how post-closure landscape effects can be determined with accuracy rather than reliant on assumed rehabilitation outcomes that are not planned with reasonable certainty.
	The LRSMP acknowledges Macraes’ position at the headwaters of the Taiari, Waikouaiti, and Waihemo river catchments and its corresponding cultural significance. One of the rehabilitation objectives is to “Protect and enhance the natural character of the headwaters of Taieri [sic] River, Waihemo/Shag River and Waikouaiti River.” Relevant components of the Rehabilitation Strategy include: • #7 Permanent Water Diversion: “Permanent Water Diversion of a tributary of Waikouaiti River North Branch along the embankment	While the connection to the catchments is mentioned, closure outcomes beyond the immediate project area, including implications for the wider Taiari, Waihemo catchments, are not described. Downstream impacts on communities, livelihoods, and cultural values, rights, and interests must be considered from a ki uta ki tai perspective. It is not clear what a “coherent post-mining landscape” for the Waikouaiti headwaters would look like or how it would achieve meaningful outcomes for mana whenua. Stating a future reliance on engagement places undue burden on mana whenua when adequate	The LRSMP needs to make clear how the strategy will protect the ecological health and integrity of downstream catchment reaches beyond the immediate project area The LRSMP needs to make clear how rehabilitation will support the protection and enhancement of cultural values, rights, and interests within these catchments.

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	adjoining Macraes Road above the Frasers TSF." • #8 Waterway Enhancement: "Enhancement to new and existing waterways will include riparian planting along a section of the Waikouaiti River North Branch and parts of the expanded mining area. Refer to Stream Compensation Management Plan." For the Frasers TSF specifically, the rehabilitation objectives include: "Integrate the capped TSF surface and embankment edges with adjoining rehabilitated landforms to create a coherent post-mining landscape in the North Branch of the Waikouaiti headwaters" and "Engage with mana whenua during detailed closure and rehabilitation planning to recognise cultural landscape values and relationships associated with the Waikouaiti River North Branch headwaters." The LRSMP acknowledges that pastoral farming and historic mining activities have already altered drainage patterns and waterway landforms.	consideration of post-closure outcomes should be a prerequisite to beginning work on MP4 – the lack thereof presents a significant gap against which successful rehabilitation and closure outcomes cannot be measured in 30 years' time. Prior landscape modification should not be relied upon to reduce the understanding of effects on the landscape from this mining expansion and intensification and thus the required mitigations. This corresponds to my feedback on the LVA that cumulative degradation is treated as reducing sensitivity of the landscape and natural character, in contrast to a pūkeka lens where cumulative degradation heightens the importance of protecting what remains and restoring environmental integrity.	
	Rehabilitation infrastructure and rehabilitation activities are assumed to be successful. There is no discussion of what may happen if these were to fail. For example, the Frasers TSF is planned to hold the	The LRSMP does not acknowledge the risks if the rehabilitation outcomes are not achieved, nor does it provide evidence that key risks can be overcome and managed should they eventuate.	The LRSMP needs to detail what risks are associated with the rehabilitation and closure activities and how these risks will be managed during closure, post-closure, and in perpetuity.

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	tailings from ore processing in perpetuity; there is no discussion of what might happen if the cap fails and leaches contaminants into the surrounding waterways. Spillways are explicitly designed to enable any excess overflow to discharge to the wider water catchment, which could cause significant downstream effects in the catchment.		Further, it should set out what safeguards are in place should these risks eventuate. It should also detail the instances where maintenance is required indefinitely and on what basis the post-mining landscape is considered successfully restored.
	The LRSMP refers to "pit lakes."	The use of "lakes" should be amended to avoid incorrectly conjuring an image of natural lake environments. Use of wording which implies a degree of naturalness for an inherently and permanently modified landscape with toxic elements in perpetuity relates to the landscape's future state and how is it perceived, understood, and used by tangata whenua and local communities.	The LRSMP should provide alternative language for "pit lakes" and other components of the post-mining context to avoid implying naturalness and ecosystem health.
	Climate is identified as one of the factors influencing rehabilitation. The LSRMP only identifies current climate conditions.	The LSRMP does not discuss future projected climate. Future climate change could have a significant impact on environmental outcomes and the long-term containment of tailings and other materials. For example, temperature and precipitation fluctuations, extremes, and changing seasonal patterns could impact cap integrity or affect the efficacy of vegetation efforts.	The LRSMP should detail how future climate changes might affect the suitability, efficacy, and long-term maintenance of components of the rehabilitation plan – including containment of contaminated water, spillways, the potential for increased erosion, vegetation health, waterway, and catchment functioning, etc.
	The LRSMP focuses heavily on landforms and to some extent ecological outcomes but is largely silent on ancestral landscape integrity.	From my TTatM perspective, landscape is not merely landforms or habitat. It is also whenua, hīkoi, whakapapa, wāhi tīpuna, associative relationships and	The LRSMP should be clear that rehabilitation involves replacing landforms and ecological attributes (many of which may not actually

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		lived experience. Those dimensions are largely absent from the LRSMP itself. The plan cannot rehabilitate an ara tawhito, re-establish inherited relationships with an original landform, or restore the historic physical continuity of catchments. Those in perpetuity effects cannot be managed by the LRSMP.	be achieved), but this will be a fundamentally different physical landscape where wāhi tīpuna have been destroyed in perpetuity.
Archaeology Management Plans (Camp Creek Dam and Reservoir; Coal Creek Dam and Reservoir; Murphys Ecological Enhancement Area; Coronation Pit and Trimbles Waste Rock Stack; Golden Bar Pit and Waste Rock Stack; Innes Mills Pit and Macraes Road Realignment)			
General	The Māori provisions are the same in all six plans word for word. The historic European and Chinese provisions are different in each one.	The Māori provisions were carried over and not considered in detail. This issue is dealt with reactively, through a discovery protocol that has not been given what it needs to work. For example, there is nothing identified across six plans. There are around forty historic sites named but not one is Māori – which we deem highly improbable.	These plans need to be rewritten to take account of Māori archaeology.
General		Tākata whenua will only be told about a find if it is judged "likely to be of interest to Māori", and the consultant makes that call. Information provided only on request, and only as a description of the find By contrast vibration exceedances go to HNZPT automatically.	The AMPs need to be amended to provide for notifications which are more reflective of provisions for rakatirataka, kaitiakitaka and recognition of whakapapa to the whenua and potential archaeological sites.
General	There is provision of a fixed 20 m stop-work radius	This distance is arbitrary for a scatter, umu complex or ara tawhito, where extent is set by distribution of material.	Extent determined by site type and confirmed on site, 20 m as a minimum rather than a fixed figure.

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General	Aukaha named as tākata whenua contact and emergency contact	There is no role for Kā Rūnaka or mana whenua. There is no ability to halt works, no ability to determine the culturally appropriate treatment of kōiwi tākata or taoka tūturu, no part in resumption, and no involvement in any of the revisions. No kaitiaki provision anywhere in the suite of conditions, and no programme time for karakia or other tikanga considerations	Mana whenua should nominate the point of contact and the AMPs need to be amended to take account of cultural considerations and practices.
General	The Appendix A briefing entry for Māori sites runs to one sentence, and is illustrated with material from Nelson and Te Rauone Beach		
General	The effects on Kāi Tahu rock art are not considered.	Dr. Gerard O'Regan, Kāi Tahu rock art specialist, has advised that there is a possibility of unrecorded rock art within the project area, and that investigation should be conducted anywhere rock shelters or rock formations are present, particularly where there is limestone or schist. That is not a remote prospect at Macraes. Schist is the common rock across the project area, and outcrops, tors and overhangs are a normal feature of this landscape. The advice therefore defines a survey trigger that applies across the suite rather than at one location. The one registered site nearby carrying rock art potential, I42/158, is not named in any of the plans.	Survey for rock art wherever rock shelters or rock formations occur within or adjacent to the works areas, with particular attention to limestone and schist, designed with rūnaka and with appropriate specialist involvement, before works proceed in any undisturbed ground. Rock art and rock shelters named as site types in the discovery protocol, the pre-works requirements and the contractor briefing in every plan. I42/158 identified in the relevant AMPs, with its position stated relative to the works. The results of that survey to inform the

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			monitoring provisions in each plan, rather than the existing no-monitoring positions being carried forward unchanged.
Coronation Pit and Trimbles Waste Rock Stack AMP		I42/222, a registered possible urupā at Coronation that has never been test pitted, is not named in the AMP for the expansion works at that location. Neither is the other material reported from the same area — a quartzite blade findspot and possible rock shelters. That plan expressly recommends no archaeological monitoring at all.	This issue is site-specific rather than site-wide, and it needs resolving before works proceed at Coronation.
Camp Creek Dam and Reservoir, Archaeological Management Plan, Ver. 1, July 2026 (and detailed comments similar for all other plans)			
Sites	No Māori site named anywhere in the document. The AMP states the area was occupied and used by Māori and their sites remain across the landscape No reference to unrecorded material. Allingham's pit site near I42/158, the quartzite blade findspot and the possible Coronation rock shelters are absent. I42/222 and I42/158 are not mentioned. I42/157 is expressly brought in as context for the destroyed sites.	While stating that the area was occupied and used by Māori no further consideration is given to this. Contextual treatment has been applied selectively	Identify and name Māori sites in and adjacent to the footprint, including unregistered material. State expressly the position of I42/158 and I42/222 relative to the works and provide for them specifically
Evidential Basis	Section 5 of the AMP asserts that no buried evidence is likely to be affected.	This conclusion is unsourced. The wrong project is named and is contradicted within the document by requirements predicated on buried features surviving within the footprint of the dam. Buried evidence expected for historic archaeology, but	

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		excluded for Māori archaeology, without stated reason. No date, personnel, or coverage. Section 3 concedes known sites could not be located under vegetation. An incomplete survey supporting a negative finding on the least visible site types present.	
Site types	No silcrete scatters, umu, oven scoops, charcoal and FCR, rock shelters, midden named in the discovery protocol. Appendix A includes six detailed rows on European material; one sentence for Māori sites with no diagnostic content. Imagery is Nelson flaked stone and Te Rauone adze and bone point, which is coastal, and outside this takiwā.	Section 4 requires detailed mapping, race sectioning, and hut excavation — all historic. No subsurface testing, no Māori site types. A contractor briefed on this AMP could not recognise a silcrete scatter or a deflated umu, so the On-Call Protocol has no trigger.	Name these types in the protocol, the pre-works mapping requirements, and the briefing. Replace the Appendix A row with diagnostic descriptions and field photographs of interior Otago material, prepared or approved by rūnaka. Remove the Nelson and Te Rauone imagery.
Kaitiaki	No provision for Kaitiaki monitoring available at rūnaka discretion and no provisions for access, induction, PPE, H&S and pre-agreed payment for these functions. No provision for karakia provided with accompanying programme time.	Section 8 makes archaeological briefing mandatory before earthworks and for each new contractor. There is no cultural equivalent. No consideration of tīkaka.	Monitoring at rūnaka discretion, with access, induction, PPE, H&S, and payment pre-agreed; rūnaka-delivered cultural induction alongside the archaeological briefing; karakia with programme time.
Rūnaka role	Aukaha is the organisation named in the management plans. Section 5 states that notification to Rūnaka only if the site is "likely to be of interest to Māori". Section 1 provides for updates with no rūnaka role. Resumption is based	Mana whenua not recognised. This relies upon a consultant's judgement and applied by people the plan has not equipped to recognise the cultural material. Cultural procedures further subordinated to statutory compliance.	Plan amended to recognise mana whenua and enable specific feedback.

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	on HNZPT written approval alone.	Rūnaka can halt works and can vary provisions	
Discovery	Notification for discovery is via Aukaha and notification sequenced behind Site Manager and Origin Treatment sits with the archaeologist; HNZPT approves resumption.	Kōiwi partially correct: AGS8 2010, POA 1975, Police, remains not moved pending response. Taoka tūturu process cited but not set out. There is no pathway, and custody. No reference to TRONT Kōiwi Tākata Policy 2017.	All discoveries notified to rūnaka directly and immediately. Delete the subordination of tikanga to statutory compliance. Express stop-work power; rūnaka determination of treatment for kōiwi tākata, taoka tūturu and wāhi tapu; resumption conditional on rūnaka as well as HNZPT; a variation mechanism available to rūnaka. Set out notification, custody and the rūnaka role. Correct the broken cross-reference.
Work Site	Halt work site fixed at 20 metres.	This distance is arbitrary for a scatter, umu complex or ara tawhito, where extent is set by distribution of material.	Extent determined by site type and confirmed on site, 20 m as a minimum rather than a fixed figure.
Reporting back	Section 5: information provided "where Takata Whenua so request". No provision for review of site reports and records with reasonable time to comment. No content which sets out how sensitive locations will be kept confidential from public and contractor layers. Section 6 requires GPS and landscape mapping with no confidentiality handling; Figure 1 distributed to contractors	Opt-in, limited to a description of the find. Site records and reports provided in draft with time to comment Sensitive locations kept out of public and contractor layers. No information management provisions.	Outcomes, draft site records, and draft reports provided as of course, with a stated comment period. Sensitive locations withheld from contractor and public layers, disclosure controlled by rūnaka.
Proportion	Māori archaeology limited to a short section at the end of the management plan.	Māori archaeology not integrated into the plans. Total content: one introductory sentence, three	

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	Recording standards only specified for historic features.	conditional protocol clauses, two notification bullets, one appendix row, all reactive. Nothing on scatter recording, charcoal or dating samples, soil description, lithic sourcing. Every operative requirement in the AMP should address historic archaeology.	