

## Your Comment on the Central and Southern Blocks Mining Project

Please include all the contact details listed below with your comments and indicate whether you can receive further communications from us by email to substantive@fasttrack.govt.nz.

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Please ensure that you have authority to comment on the application on behalf of those named on this form.			
<b>Organisation name (if relevant)</b>	Mirumiru Pa ki Marokopa - Marokopa Marae Maca Applicant _ Natasha Willison-Reardon		
<b>First name</b>	Natasha		
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**Thank you for your comments**

# SUBMISSION TO THE EXPERT PANEL

## Central and Southern Block Mining Project

Fast-track Application FTAA-2512-1153

**Filed by:**

**Natasha Willison-Reardon**

Named applicant, Marine and Coastal Area (Takutai Moana) Act 2011

application CIV-2017-419-082-P

Named applicant, Marokopa Mātaitai Reserve (Fisheries Notice 2010 No. F567)

*in co-submission with*

**Te Aroa Pou**

Co-Chair, Mirumiru Pā ki Marokopa

on behalf of Hapū ki Marokopa me Kiritehere

Waikato-Maniapoto, Ngāti Maniapoto, Ngāti Toa ki Marokopa,

Ngāti Toa Tupahau, Ngāti Rārua ki Marokopa,

Ngāti Kinohaku, Ngāti Te Kanawa, Ngāti Pēhi

Filed before 11.59 pm, Tuesday 20 May 2026

*Ko au ko te moana, ko te moana ko au. Ko au ko te awa, ko te awa ko au. Ko au ko te one, ko te one ko au.*

*I am the sea and the sea is me. I am the river and the river is me. I am the sand and the sand is me.*

## 1. Ko wai mātou | Who we are

Natasha Willison-Reardon, named applicant for the Marine and Coastal Area (Takutai Moana) Act 2011 application CIV-2017-419-082-P (rohe moana to Tirua Point), and named applicant for the Marokopa Mātaitai Reserve (Fisheries Notice 2010 No. F567), file this submission in co-submission with Te Aroa Pou, Co-Chair of Mirumiru Pā ki Marokopa.

We file on behalf of The MACA Application Hapū ki Marokopa me Kiritehere, with an obligation of kaitiakitanga to the takutai, the awa, the Mātaitai Reserve, the Rohe Moana, and the kaimoana of this rohe.

As the MACA applicant and as Te Aroa Pou, Co-Chair of Mirumiru Pā ki Marokopa, we oppose the granting of a 35-year consent to Taharoa Ironsands Limited for the Central and Southern Blocks Mining Project (FTAA-2512-1153) in the form proposed. The Assessment of Environmental Effects does not address the cumulative effects on the Marokopa and Kiritehere rohe moana, the Mātaitai Reserve, the takutai, or the critically endangered Māui dolphin. Until those effects are independently assessed and conditions are developed.

### 1.1 Te tautoko mai i ngā rōpū whanaunga | Support from our partner organisations

This submission carries the full support of the following organisations, with whom Marokopa and Kiritehere stand as partners and with whom we share the same Uara:

- Te Whare Hauaauru: the cluster of marae sitting under Te Nehenehenui along the west coast of the rohe. Te Whare Hauaauru is the kāhui of marae that bring the voice of the western marae to the iwi table. Mirumiru Pā ki Marokopa is one of its member marae.
- Te Nehenehenui: the post-settlement governance entity for the iwi of Maniapoto, established under the Maniapoto Claims Settlement Act 2022. Te Nehenehenui represents and acts on behalf of Maniapoto in matters affecting the rohe, including resource consent decisions of the scale of this application.
- Ngā Hapū o Te Uru: the collective of hapū of the western coast working together on shared coastal, environmental, and mana whenua kaupapa. Ngā Hapū o Te Uru brings the unified voice of the western hapū to issues affecting the takutai.

Marokopa and Kiritehere are partners with these organisations. We work together on the same Uara: te mana o te taiao, the protection of our taonga tuku iho, the exercise of kaitiakitanga, the upholding of Te Tiriti o Waitangi, and the wellbeing of our whānau, hapū, and iwi for the generations to come. This submission is filed in alignment with that shared kaupapa.

## 1.2 Acknowledgment of the Tāhāroa mana whenua and capacity disclosure

**Ko Kāwhia te ihu o te waka, ko Tāhāroa kei waenganui, ko Marokopa te kei o te waka.**

***Kāwhia is the prow of the waka, Tāhāroa sits at the centre, Marokopa is the stern of the waka.***

This submission covers the rohe moana from Harihari to Tirua Point only. Ngāti Mahuta and Ngāti Rangitaka are the mana whenua of Tāhāroa. This application does not speak over their mana. It acknowledges the whānau connection that exists between Tāhāroa and Marokopa and the whānau who live and work across both, while limiting the scope of this submission to the rohe moana from Harihari to Tirua Point.

Natasha is the Co-Chair of The Tāhāroa Lakes Trust. This submission acknowledges all the mahi of The Tāhāroa Lakes Trust but is separate from it.

## 2. He mihi | Acknowledgments

***Ko te onepu pango te pae, ko te kūrae e tūwhera ana mō te inanga, e kati ana i te āwhā, ko te waha o te awa te kōrero a te awa ki te moana.***

***The black sand is the threshold, the river bar that opens for the inanga and closes against the storm, the mouth of the awa is the kōrero between the river and the sea.***

*Tuatahi, ka mihi atu mātou ki a rātou kua wheturangitia, ki ō tātou whānau kua wehe atu ki te pō. Ki ō tātou tūpuna, ki ō tātou mātua, ki ō tātou pakeke kua huri kē. Kei te whiti tonu mai koutou ki runga i a mātou hei whetū o te rangi. Nā koutou tēnei takutai i waiho mai, nā koutou tēnei whenua i pupuri, nā koutou te taonga e tiakina nei e mātou i tēnei rā. Ka mau mātou ki tā koutou tuku iho, ka kawē tonu i tō koutou kaupapa. Moe mai rā, moe mai rā, moe mai rā.*

First, we acknowledge those who have become stars, our whānau who have departed to te pō. To our tūpuna, our parents, and our elders who have crossed over. You continue to shine upon us as the stars of the night sky. It was you who left to us this takutai, you who held this whenua, you whose taonga we now protect. We hold to what you handed down, we carry your kaupapa forward. Rest in peace, rest in peace, rest in peace.

Second, we acknowledge our Kuini Māori, Ngā Wai hono i te Pō, and Te Kāhui Ariki. E te Kuini, may blessings rest upon you and your house. Through your leadership we are bound together and the kaupapa of the motu remain alive. We greet you, we greet you, we greet you.

We acknowledge our marae: Aruka, Te Kōraha, and Maketū. To the paepae that still stand, to the whareniui that call to the iwi, to the ringawera who welcome the manuhiri. You are the pou who tend the ahi kā, the homes that hold the wairua of the iwi.

*Ka mihi ki a Te Rūnanga o Ngāti Mahuta. Ki ngā pou ārahi e tautoko mai ana i te kaupapa, e arataki ana i a mātou i roto i ngā wā katoa. Ka mihi nui ki a koutou.*

We acknowledge Te Rūnanga o Ngāti Mahuta. To the leadership who support the kaupapa and guide us in all seasons. Our deep acknowledgement to you.

We acknowledge the whānau Trusts, the Ahu Whenua Trusts, and the Lands Trusts leading the mahi for the whenua, the wai, and the taonga of our tūpuna. You are the strong hands holding the whakapapa of these inherited lands. We acknowledge the chairs, the trustees, and the kaimahi who give of themselves in every season.

We acknowledge all our whānau supporting the kaupapa in their own ways. To those who stand at the front leading the mahi, and to those quietly doing their part, living off the land, gathering kai from the ngahere, the awa, and the moana. You are not in the background; you are the thread of the whāriki that keeps the taonga held.

We acknowledge the whānau who live at Tāhāroa, the whānau of Te Tāhāroa-a-Ruaputahanga who tend the ahi kā. We also acknowledge those of you who continue to work at the site, providing for your whānau and raising your tamariki. You too are kaitiaki, holding tikanga in the work you do for your families. We acknowledge you.

We acknowledge the Expert Panel and the members who have allowed us to bring our kōrero before you. We acknowledge the space you have made for the voice of the iwi and the voice of the kaitiaki of this rohe to be heard.

We acknowledge our rangatahi. You have stood up to carry the technical mahi, the science, the research that has supported this kaupapa. You have lifted the voice of the iwi, you have laid out the data, the maps, the science so the Panel can see clearly. You are the navigators of tomorrow, and you are also standing as the navigators of today.

The kaupapa remains one and the same: to protect the taiao so that the generations to come may live. We stand together under that kaupapa, holding fast to the sand of our tūpuna.

*Ahakoā te roa o te wā, kotahi tonu te onepu, kotahi tonu te taiao, kotahi tonu te whakaaro.*

Though time is long, the sand is one, the taiao is one, the thinking is one.

### **3. Ngā taonga tuku iho me ngā ture | The protected taonga and the laws that must be upheld**

This rohe moana is protected by a layered set of Tiriti, Kawenata, and statutory instruments. Each instrument is binding on the Crown, on Ministers, and on the Expert Panel exercising decision-making functions under the Fast-track Approvals Act 2024. The instruments are described separately below because each one carries its own weight and its own duty. The application by Taharoa Ironsands Limited must be tested against every one of them.

#### **3.1 Te Tiriti o Waitangi | The Treaty of Waitangi**

Te Tiriti o Waitangi, signed in 1840, is the foundational instrument from which all of the other protections set out in this section derive their authority. It is the agreement between the Crown and Māori, including the rangatira of the iwi from whom Hapū ki Marokopa me Kiritehere descend. The te reo Māori text guarantees to Māori te tino rangatiratanga o ō rātou whenua, kāinga, me ō rātou taonga katoa: the unqualified exercise of chieftainship over their lands, settlements, and all their treasures. The takutai, the awa, the Mātaitai Reserve, the Rohe Moana, the mahinga kai, the kaimoana, and the Māui dolphin are all such taonga.

How Te Tiriti connects to this process: the Fast-track Approvals Act 2024, at section 7, requires every person performing functions, powers, and duties under the Act to act in a manner that is consistent with the obligations arising under existing Treaty settlements and recognised customary rights, and consistent with section 4 of the Conservation Act 1987 and the Treaty clauses in other conservation legislation. Section 4 of the Conservation Act requires the Act to be interpreted and administered as to give effect to the principles of the Treaty of Waitangi. Part 2 of the Resource Management Act 1991 requires decision-makers to take into account the principles of the Treaty and to recognise and provide for the relationship of Māori with their ancestral lands, water, sites, wāhi tapu, and other taonga.

Te Tiriti is therefore not a background consideration. It is a binding obligation that runs through every other instrument named in this section. The Panel's decisions on this application must be made in a manner that gives effect to it, including by ensuring that mana whenua are consulted, that customary rights are upheld, and that the relationship of Hapū ki Marokopa me Kiritehere with this rohe moana is recognised and provided for.

#### **3.2 Te Kawenata o Mirumiru Pā ki te Kīngitanga | The Kawenata with the Kīngitanga**

Mirumiru Pā ki Marokopa is bound to the Kīngitanga by Kawenata. The Kīngitanga, established in 1858 with the raising of Pōtatau Te Wherowhero as the first Māori King, is a movement of unification, of mana motuhake, and of the protection of whenua, taonga, and the wellbeing of the iwi who pledge to it. The Kawenata held by Mirumiru Pā ki Marokopa places this marae within that movement and within the protections and obligations that the Kīngitanga has carried for over 165 years.

How the Kawenata connects to this process: the Kawenata is a living instrument. It binds Mirumiru Pā ki Marokopa to the Kīngitanga and the Kīngitanga to the marae. Decisions affecting the whenua, the takutai, and the taonga of this rohe are matters in which the Kīngitanga retains a continuing interest. Mirumiru Pā ki Marokopa carries that interest forward in this submission. The Panel is asked to take into account that the protections being sought for this rohe moana are not the protections of one marae alone but are held within the wider network of the Kīngitanga, with all the mana that follows from that.

### **3.3 The Area / Rohe Moana of Marokopa and Kiritehere, Gazette notice (2004)**

The formal recognition of this rohe moana as a customary fishing area was made by the Fisheries (Kaimoana Customary Fishing) Notice (No. 16) 2004 (No. F288), published in the New Zealand Gazette on 22 July 2004 as notice 2004-go4804, page 2245, Issue No. 91. The Notice was issued under Regulation 9 of the Fisheries (Kaimoana Customary Fishing) Regulations 1998.

The Notice defines two area/rohe moana, side by side, that cover the whole of the rohe addressed by this submission:

- Kiritehere area/rohe moana, commencing at Tirua Point (38°23.2'S; 174°38.1'E), running northerly along the coastline to the mouth of the Waipaua Stream (38°18.9'S; 174°42.7'E), then due west to the outer limit of the exclusive economic zone, and returning along the EEZ boundary to the point of commencement.
- Marokopa area/rohe moana, commencing at the mouth of the Waipaua Stream (38°18.9'S; 174°42.7'E), running northerly along the coastline to Harihari Beach (38°13.1'S; 174°42.9'E), then due west to the outer limit of the exclusive economic zone, and returning along the EEZ boundary to the point of commencement.

Under clause 4 of the Notice, Ngāti Kinohaku, Ngāti Te Kanawa, and Ngāti Pēhi, as represented by the Marokopa Marae, are confirmed as the tangata whenua of the area/rohe moana to which the appointment of Kaitiaki relates.

Under clause 3 of the Notice, Tame Hohaia and Alan Willison were appointed as Kaitiaki for the Kiritehere area/rohe moana, and George Kete, Hemi Kete, Tom King, and Greg Martin were appointed as Kaitiaki for the Marokopa area/rohe moana.

Under clause 5 of the Notice, no customary food gathering of fisheries resources may take place in either area/rohe moana without an authorisation from the Kaitiaki. This is a binding legal control, not a courtesy. Any activity that interferes with the kaimoana resources of the area/rohe moana, including activity consented under the Fast-track Approvals Act 2024, must take into account that the exercise of customary food gathering in this rohe is regulated by the Kaitiaki named in the Notice and their successors.

This 2004 Notice is the foundation legal instrument for the recognition of the Marokopa and Kiritehere rohe moana, and predates both the Mātaitai Reserve (declared 2010) and the further Kaimoana Customary Fishing Notice (No. 10) 2012 (MPI 87) which sits alongside it.

### **3.4 The Marokopa Mātaitai Reserve, Gazette notice (2010)**

The Marokopa Mātaitai Reserve was declared by the Fisheries (Declaration and Notification of Marokopa Mātaitai Reserve and Appointment of Tangata Kaitiaki/Tiaki) Notice 2010 (No. F567), published in the New Zealand Gazette on 16 December 2010 as notice 2010-go9620, page 4253, Issue No. 173. The Notice was signed at Wellington on 7 December 2010 by Hon Phil Heatley, Minister of Fisheries and Aquaculture, and David Scranney, Spatial Allocations Manager acting under delegated authority from the chief executive, Ministry of Fisheries.

The Notice was made pursuant to Regulations 23 and 25 of the Fisheries (Kaimoana Customary Fishing) Regulations 1998. It came into effect on the 28th day after notification in the Gazette.

Under clause 4 of the Notice, the Mātaitai Reserve is declared over all fisheries waters enclosed by a line:

- commencing at a point on the mean high water mark (MHWM) at Tirua Point (38°23.20'S; 174°38.10'E),
- proceeding northerly along the MHWM to a point at Harihari Beach (38°13.10'S; 174°42.90'E),
- then due west to a point 3 km offshore (38°13.10'S; 174°40.71'E),
- then southerly along a line every point of which is 3 km from the MHWM, to a point 3 km offshore due west of the point of commencement (38°23.20'S; 174°35.91'E),
- and then due east for 3 km to the point of commencement.

Under clause 5 of the Notice, the chief executive named Alan Willison and Hemi Kete as Tangata Kaitiaki/Tiaki for the Mātaitai Reserve.

Under clause 6 of the Notice, commercial fishing within the Mātaitai Reserve is prohibited under Regulation 27 of the Fisheries (Kaimoana Customary Fishing) Regulations 1998. Under clause 7, no fishing for customary food gathering purposes may take place in the Mātaitai Reserve without authorisation from the Tangata Kaitiaki/Tiaki.

The legal effect of this Gazette notice is that the Marokopa Mātaitai Reserve is a permanent feature of the Crown's regulatory map of Aotearoa's coastal marine area. The Reserve extends 3 km seaward of the MHWM along the whole length of coast from Tirua Point to Harihari Beach. Any consent application affecting the Reserve, or the waters and seabed adjacent to it, must address the Reserve's legal status, the prohibition on commercial fishing within it, and the authority of the named Tangata Kaitiaki/Tiaki and their successors.

### **3.5 The confirmed customary fishing area, MPI 87 (2012)**

The 2004 area/rohe moana Notice was followed by a further instrument under the Fisheries (Kaimoana Customary Fishing) Regulations 1998: the Fisheries (Kaimoana Customary Fishing) Notice (No. 10) 2012, Notice No. MPI 87. This is a separate statutory instrument from the 2004 Notice and from the 2010 Mātaitai Reserve. It sits alongside them and defines the wider customary fishing arrangements for Hapū ki

Marokopa me Kiritehere. The Rohe Moana adjoins and includes the Mātaitai Reserve but holds its own legal status under the Regulations.

### **3.6 The Marine and Coastal Area (Takutai Moana) application**

High Court proceedings CIV-2017-419-082-P are filed under the Marine and Coastal Area (Takutai Moana) Act 2011 by Hapū ki Marokopa Marae, covering the rohe moana to Tirua Point. The application is live. It asserts customary marine title and protected customary rights along this coastline.

Section 62 of the MACA Act 2011 protects an applicant group from the issuing of any permit or consent that would have a more than minor adverse effect on a protected customary right or on customary marine title, until the application is determined. The Panel must therefore consider the live MACA application as a relevant matter before granting any consent that affects this rohe.

### **3.7 Set net prohibition for Māui dolphin**

A set net prohibition applies along the West Coast of Te Ika-a-Māui to protect the Māui dolphin (*Cephalorhynchus hectori maui*), a critically endangered taonga species with a global population of approximately 50 to 60 individuals over one year of age. The set net ban is given effect under the Fisheries Act 1996 and the Marine Mammals Protection Act 1978. The waters offshore of Marokopa and Kiritehere fall within Māui dolphin habitat.

The Wildlife Act 1953 also applies, given Māui dolphin status. Any activity likely to affect a Māui dolphin requires Wildlife Act authorisation in addition to any consent issued under the Fast-track Approvals Act.

### **3.8 Te whakapono o ngā ture | The full set of binding instruments**

For the avoidance of doubt, the following statutory and Treaty instruments are all engaged by this application and must be upheld in any decision:

- New Zealand Gazette notice 2004-go4804: Fisheries (Kaimoana Customary Fishing) Notice (No. 16) 2004 (No. F288), gazetted 22 July 2004, defining the Marokopa and Kiritehere area/rohe moana, confirming Ngāti Kinohaku, Ngāti Te Kanawa, and Ngāti Pēhi as tangata whenua, and appointing the Kaitiaki
- New Zealand Gazette notice 2010-go9620: Fisheries (Declaration and Notification of Marokopa Mātaitai Reserve and Appointment of Tangata Kaitiaki/Tiaki) Notice 2010 (No. F567), 16 December 2010, declaring the Marokopa Mātaitai Reserve from Tirua Point to Harihari Beach extending 3 km seaward of the MHWM, and appointing Alan Willison and Hemi Kete as Tangata Kaitiaki/Tiaki
- Fisheries (Kaimoana Customary Fishing) Notice (No. 10) 2012, Notice No. MPI 87: the confirmed Rohe Moana customary fishing area
- Fisheries Act 1996, Part 9, sections 174 to 186 (customary fishing instruments)
- Fisheries (Kaimoana Customary Fishing) Regulations 1998, including Regulation 9 (Kaitiaki appointment for area/rohe moana), Regulations 23 to 25 (Tangata Kaitiaki appointment and

authorities for Mātaitai Reserves), and Regulation 27 (commercial fishing prohibition within Mātaitai Reserves)

- Marine and Coastal Area (Takutai Moana) Act 2011, including section 62 (protection of applicant groups during the application period) and the provisions on customary marine title and protected customary rights
- Resource Management Act 1991, including the requirement under Part 2 to recognise and provide for the relationship of Māori with their ancestral lands, water, sites, wāhi tapu, and other taonga, and to take into account the principles of the Treaty of Waitangi
- Marine Mammals Protection Act 1978: protection of Māui dolphin as a marine mammal
- Wildlife Act 1953: protection of Māui dolphin as absolutely protected wildlife and the requirement for Wildlife Act authorisation
- Conservation Act 1987, including the section 4 obligation to give effect to the principles of the Treaty of Waitangi in administering the Act
- Fast-track Approvals Act 2024, section 7: the Panel must perform its functions in a manner consistent with obligations arising under existing Treaty settlements and recognised customary rights, and consistent with section 4 of the Conservation Act 1987 and Treaty clauses in other conservation legislation
- Te Tiriti o Waitangi / Treaty of Waitangi: the foundational instrument from which all of the above derive their obligations to mana whenua
- Te Kawenata o Mirumiru Pā ki Marokopa ki te Kīngitanga: the Kawenata binding the marae to the Kīngitanga and the protections that movement carries for whenua, taonga, and the wellbeing of the iwi

Each of these instruments creates its own duty. The Panel's task is not to weigh one against the others but to satisfy itself that the application complies with all of them. Where the application is silent on an instrument, that silence is itself a gap the Panel must address before consent is granted.

#### **4. Te whakaaro Māori | How our tūpuna read this coast**

Long before there was a mine at Taharoa, before there was an Act of Parliament, before there was a hearing room, there was this coast and there were our tūpuna who read it the way we read a face.

Ko te onepu te kiri o te takutai. The sand is the skin of the coast. Ko ngā puke one ngā pakihwi o te takutai. The dunes are the shoulders of the coast. Ko te waha o te awa, ko reira te kōrero a te awa ki te moana. The mouth of the awa is where the river speaks to the sea. Our tūpuna understood the takutai as a living body, monitored through the taonga species themselves. When the kanae came in, the season had turned. When the īnanga ran, the time was right. When the kōura was found in a new part of the awa, the wai was clean. The taonga species were the instruments, and they still are.

What follows in section 5 sets the issues out side by side: how each matter sat in te ao Māori in the days of our tūpuna, how our people dealt with it, what the science now says, and how the Panel can amend the application or impose consent conditions to respond. Both the issues at the level of the takutai and the

underlying technical terms used in TIL's Assessment of Environmental Effects are addressed in the same table so the connection between them is visible on a single page.

## **5. Ngā take | Issues and technical terms for the Marokopa and Kiritehere rohe moana**

The table on the following pages addresses the effects of the proposed mining operation on the Marokopa and Kiritehere rohe moana only. It does not cover effects on Taharoa, which sit with the Taharoa C Block Incorporation and other mana whenua voices.

Each row sets out the issue or technical term in te reo and English, then describes the matter in te ao Māori (how it sat in tūpuna days and how our people dealt with it), then in te pūtaiao (the science), then the connection back to TIL's application or AEE and the specific amendment we are seeking.

## Te ripanga | The combined table

Te take   The issue or technical term	Te ao Māori   In tūpuna days, and how our people dealt with it	Te pūtaiao   The science	He whakatikatika   Connection to the consent and amendment sought	Ngā tohutoro pūtaiao   Science references
<b>A. Ngā take matua   The core issues for our takutai</b>				
<p><b>Te onepu pango me te awhi o te takutai</b></p> <p><i>The black sand and the sediment system that holds the coast together</i></p>	<p>Our tūpuna understood the onepu pango as a living taonga that flowed in a slow northward river along the takutai, building and renewing the coast tide by tide. They read the direction of the sand by walking the beach after each storm. They knew that what the moana took from one place was carried to another. Nothing was lost. The system held itself in balance.</p> <p>Our people dealt with this by living within that balance. Kāinga were sited behind stable dunes. Cultivation was set back from the active sand. Urupā were placed where the dune behind them was holding. Tikanga limited what could be taken from the dune face. The onepu was never extracted at scale.</p>	<p>The West Coast operates as one continuous littoral cell. NIWA research confirms southwesterly swell drives sand northward. Marokopa sits approximately 30 to 35 kilometres updrift of Taharoa, so sand flows from our beaches and our river mouth toward the mine.</p> <p>TIL extracts up to 4 million tonnes per year (around 1.6 million cubic metres of sand removed permanently). Over 50 years that is in the order of 200 million tonnes already gone, with a further 140 million tonnes proposed over the next 35 years. The deficit at Taharoa pulls sand from updrift (Marokopa) at an accelerated rate. The Coastal Restoration Trust has documented landward-migrating mobile dunes at Nukuhakari, the classic indicator of a sand-starved coast.</p>	<p>Substantive Application, Production Volume and Consent Term provisions, and AEE Coastal Processes section.</p> <p>Suggested amendment: require an independent regional sand budget assessment for the West Coast littoral cell from south of Marokopa to Kawhia, by a coastal geomorphologist not engaged by TIL, as a precondition of consent. Cap annual extraction tonnage at a level the assessment shows the system can sustain.</p>	<p>NIWA, West Coast Coastal Erosion and Sediment Systems research programme.</p> <p>NIWA, 'Shifting Sands': West Coast ironsand and coastal change (NIWA web feature).</p> <p>Coastal Restoration Trust of New Zealand (2015-2018), Difficult Sites Series, Nukuhakari Station, West Coast.</p> <p>Waikato Regional Council (2018), Coastal Erosion Hazard reports for the West Coast of the Waikato region.</p> <p>Komar, P.D. (1998), Beach Processes and Sedimentation, 2nd edition, Prentice Hall (West Coast longshore drift principles).</p> <p>Bird, E.C.F. (2008), Coastal Geomorphology: An Introduction, 2nd edition, Wiley (sediment budgets and beach response to extraction).</p> <p>KASM (Kiwis Against Seabed Mining), West Coast impacts documentation.</p> <p>Engineering New Zealand Heritage Record: Taharoa Ironsand Mining (50 years of production history).</p> <p>Acknowledged by TIL itself: Tonkin and Taylor (May 2024), TIL AEE, production volumes at 4</p>

				Mt p.a.,used here as the applicant's own admission of the extraction scale.
<p><b>Te puke one</b></p> <p><i>The dune as the shoulder of the coast</i></p>	<p>Ko ngā puke one ngā pakihiwi o te takutai. The dunes were the shoulders that carried the weight of the Tasman Sea so that the wetlands, the awa, the kāinga, the māra, and the urupā behind them could live. When the moana stormed, the dune face took the blow. In the calm after, the wind carried sand back and the shoulder rebuilt.</p> <p>Our people dealt with this by planting and protecting the binding plants of the dune: pīngao, spinifex, wīwī. Stock were kept back. Pathways across the dune were kept narrow and rotated so the vegetation could recover.</p>	<p>In a healthy coastal system the beach and dune are coupled, exchanging sand back and forth. Mining permanently removes sand from this reservoir. Each year the volume available for storm recovery is reduced. Storms erode the same amount from Marokopa's dune, but the recovery phase delivers less sand back. The dune retreats by a little more than it recovers with each cycle.</p> <p>A beach with less sand is a steeper, more reflective beach. Wave energy concentrates on the remaining dune face, accelerating erosion.</p>	<p>AEE Coastal Hazards section, and proposed consent conditions on monitoring.</p> <p>Suggested amendment: insert annual independent dune profile transect monitoring at agreed transects through Marokopa, Kiritehere, and Nukuhakari as a binding condition of consent, with trigger thresholds that reduce extraction rate if dune retreat exceeds the agreed limit. Fund a dune restoration programme co-designed with mana whenua (pīngao and spinifex replanting).</p>	<p>Hesp, P.A. (2002), 'Foredunes and blowouts: initiation, geomorphology and dynamics', <i>Geomorphology</i>, 48(1-3): 245-268.</p> <p>Hesp, P.A. (2013), 'Conceptual models of the evolution of transgressive dune field systems', <i>Geomorphology</i>, 199: 138-149.</p> <p>Walker, I.J. and Hesp, P.A. (2013), 'Fundamentals of aeolian sediment transport: airflow over dunes', <i>Treatise on Geomorphology</i>, vol 11.</p> <p>Coastal Restoration Trust of New Zealand (2015-2018), <i>Difficult Sites Series</i>, Nukuhakari Station.</p> <p>Department of Conservation, <i>Coastal dune vegetation guide (pīngao, spinifex, marram management)</i>.</p> <p>Bergin, D.O. and Herbert, J.W. (1998), 'Pīngao on coastal sand dunes', <i>Coastal Dune Vegetation Network Technical Bulletin</i>.</p> <p>Waikato Regional Council, <i>Coastal Erosion Hazard reports</i>.</p>
<p><b>Te waha o te awa o Marokopa</b></p> <p><i>The mouth of the Marokopa river</i></p>	<p>Ko te waha o te awa, ko reira te kōrero a te awa ki te moana. The waha was where the river spoke to the sea. Our tūpuna read the sand bar like a face. They knew when it was open, when it was closing, when the sea would push through. They timed travel, fishing, and tauranga waka by the bar.</p>	<p>The Marokopa River mouth is a sand bar and spit system whose stability depends on the regional sand supply. When supply is reduced, the bar thins, lowers or shifts. The river mouth becomes more vulnerable to storm breaching, saltwater pushes further upstream, and the tidal prism (the volume of water</p>	<p>AEE Freshwater and Estuarine Effects section (currently focused on Lake Taharoa and Wainui Stream), and proposed consent conditions on monitoring.</p> <p>Suggested amendment: extend AEE to include salinity intrusion risk at the Marokopa River. Insert annual Marokopa river mouth monitoring (bar</p>	<p>Hume, T.M. and Herdendorf, C.E. (1988), 'A geomorphic classification of estuaries and its application to coastal resource management, a New Zealand example', <i>Ocean and Shoreline Management</i>, 11(3): 249-274.</p> <p>Hume, T.M., Snelder, T., Weatherhead, M., Liefing, R. (2007), 'A controlling factor approach to estuary classification', <i>Ocean and Coastal Management</i>, 50(11-12): 905-929.</p>

	<p>Our people dealt with this by maintaining mātauranga of the bar and passing it down. They did not interfere with the negotiation between the awa and the moana. Wāhi tapu and spawning grounds were named and protected.</p>	<p>moving in and out with each tide) changes.</p> <p>With the tidal prism changes salinity, sediment deposition, temperature and dissolved oxygen, affecting every taonga species in the estuary.</p>	<p>position, depth, salinity intrusion gauge) as a binding condition, methodology co-designed with mana whenua, results provided directly to the Mirumiru Pā ki Marokopa kaitiaki, with thresholds that trigger reduction or suspension of extraction.</p>	<p>Kirk, R.M. and Lauder, G.A. (2000), 'Significant coastal lagoon systems in the South Island, New Zealand', DOC Science for Conservation 146.</p> <p>Hart, D.E. (2007), 'River-mouth lagoon dynamics on mixed sand and gravel barrier coasts', Journal of Coastal Research, SI 50.</p> <p>NIWA, New Zealand estuary classification database.</p> <p>Waikato Regional Council, Coastal Erosion Hazard reports.</p>
<p><b>Ngā mahinga kai, te īnanga, te tuna, te kahawai</b></p> <p><i>The mahinga kai, the īnanga, the tuna, and the kahawai</i></p>	<p>Our tūpuna did not need instruments to monitor the takutai. They monitored through the taonga species. When the kanae came in, the season had turned. When the īnanga ran in autumn, the time was right. When the kōura was found in a new part of the awa, the wai was clean.</p> <p>Ko Ruaputahanga te kaipupuri o te tuna. Ruaputahanga is the holder of the tuna. The whakapapa of the tuna in this rohe runs through her, and the tuna of the Marokopa awa are taonga of the highest order. They are food, they are tohu, they are the long migration that links our awa to the deep moana and back again. The waha o te awa is the door they pass through to begin their final journey.</p>	<p>Īnanga spawn in low-intertidal fringe vegetation at river mouths in autumn. Eggs develop through winter and are highly sensitive to salinity, sediment disturbance, and altered tidal inundation. If the Marokopa river mouth is altered, īnanga spawning at Marokopa is directly at risk.</p> <p>Tuna (longfin and shortfin eel) are catadromous: they spend most of their lives in the freshwater of the awa and migrate as adults through the river mouth into the Pacific to spawn near Tonga, never returning. Their juveniles (elvers) ascend back through the river mouth and into freshwater. Both the downstream adult migration and the upstream juvenile return depend on a stable, open, well-mixed river mouth. Sand bar</p>	<p>AEE Freshwater Ecology, Marine Ecology, and Mahinga Kai sections.</p> <p>Suggested amendment: insert annual surveys at the Marokopa river mouth covering īnanga spawning habitat, tuna migration windows (both downstream adult migration and upstream elver return), kanae indicator surveys, and kahawai near-shore presence and abundance, as binding conditions. Results to be provided directly to Mirumiru Pā ki Marokopa with adaptive management triggers attached. Fund a co-designed mātauranga Māori monitoring framework using these taonga species as the primary monitoring instruments, recognising Ruaputahanga's mana as kaipupuri o te tuna and the historic kōrero of kahawai abundance held by mana whenua.</p>	<p>McDowall, R.M. (1990, revised 2000), The New Zealand Whitebait Book, Reed Publishing.</p> <p>Mitchell, C.P. (1989), 'Whitebait spawning ground management', New Zealand Freshwater Fisheries Report 113, MAF Fisheries.</p> <p>Department of Conservation (2009), New Zealand Threat Classification System: Conservation status of New Zealand freshwater fish, 2009.</p> <p>Jellyman, D.J. (2007), 'Status of New Zealand fresh-water eel stocks and management initiatives', ICES Journal of Marine Science, 64(7): 1379-1386.</p> <p>Jellyman, D.J. and Tsukamoto, K. (2002), 'First use of archival transmitters to track migrating freshwater eels <i>Anguilla dieffenbachii</i> at sea', Marine Ecology Progress Series, 233: 207-215.</p>

	<p>Ngā kōrero o te kahawai. Our tūpuna held kōrero of the abundance of kahawai on this takutai: of shoals that turned the water silver, of tauranga ika known by name and worked at the right tide, of the wā when the moana fed every kāinga along the coast. The kahawai was a kai for manuhiri, a kai for the everyday, and a sign that the moana was in balance.</p> <p>Our people adjusted take to the signal. Rāhui were placed. Spawning sites were protected. Hīnaki were set only at the right time, and only at the right place. The mātauranga was held by named kaitiaki and passed down. The taonga species were the instruments and the people responded to what they were saying.</p>	<p>thinning, salinity intrusion, and changes to the tidal prism interfere with both legs of that journey.</p> <p>Kahawai are a coastal pelagic species that follow inshore baitfish concentrations. Healthy kahawai populations depend on a productive near-shore environment: clean water, intact reef and surf-zone habitat, and unaltered freshwater plumes from the awa. Vanadium and trace metal discharge into the CMA, sediment plume movement under storm conditions, and changes to the freshwater discharge profile of the Marokopa awa all affect kahawai habitat and the abundance our tūpuna documented.</p> <p>Kanae use the estuary as feeding and nursery habitat. Kākahi require stable, well-oxygenated freshwater with low turbidity. Kōura in the awa and on the near-shore reef are sensitive to water quality and sediment chemistry change.</p>		<p>Hartill, B., et al. (2007-present), Kahawai (Arripis trutta) stock assessment series, NIWA / Fisheries New Zealand.</p> <p>Ministry for Primary Industries, Aquatic Environment and Biodiversity Annual Reviews (kahawai, kanae, freshwater fish).</p> <p>Hapū ki Marokopa me Kiritehere, oral kōrero held by mana whenua (Ruaputahanga whakapapa to te tuna; tūpuna kōrero of kahawai abundance on this takutai).</p>
<p><b>Te wai o te kaimoana me te vanadium</b></p>	<p>Our tūpuna read the cleanliness of the wai through the kaimoana. If the kūtai was full and sweet, the water was clean. If the kīna shells were</p>	<p>Vanadium is a trace heavy metal in titanomagnetite. It enters the CMA through dewatering discharge during ship loading</p>	<p>AEE Discharge Characterisation, Marine Ecology, and Human Health sections, and proposed consent conditions on monitoring. Engaged</p>	<p>ANZECC and ARMCANZ (2000), Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 2 (vanadium trigger values for marine waters).</p>

<p><i>Water quality in the kaimoana and vanadium contamination</i></p>	<p>thin, something was wrong. If the pūpū were small or absent, the rocks were sick. Kaimoana was both food and instrument.</p> <p>Our people dealt with this by knowing each gathering site over generations. When a site was changing, it was rested. Kaimoana was not taken from a place that was telling them it was unwell.</p>	<p>(up to 75,000 cubic metres per day per event) and process water and stormwater (up to 32,000 cubic metres per day).</p> <p>Vanadium bioaccumulates. Shellfish, kīna, and bottom-feeding finfish concentrate it from sediment and water. People who harvest kaimoana are exposed to whatever is in those organisms. The AEE proposes no vanadium monitoring in mahinga kai.</p>	<p>instruments: NZ Gazette 2010-go9620 (Mātaitai F567), Fisheries (Kaimoana Customary Fishing) Regulations 1998 reg 24 (Tangata Kaitiaki authority), MPI 87 (2012 Rohe Moana), MACA Act 2011 application CIV-2017-419-082-P.</p> <p>Suggested amendment: require a full contaminant profile of the discharged dewatering fluid and a near-shore sediment vanadium baseline before consent issues. Insert a binding vanadium and trace heavy metal monitoring programme covering shellfish, kīna, finfish, and benthic sediment within and adjacent to the Marokopa Mātaitai Reserve and the Rohe Moana, with annual reporting direct to Mirumiru Pā ki Marokopa as Tangata Kaitiaki under reg 24 and adaptive management triggers if guideline values are exceeded.</p>	<p>ANZG (2018), Australian and New Zealand Guidelines for Fresh and Marine Water Quality (updated framework).</p> <p>World Health Organization (2000), Air Quality Guidelines for Europe, 2nd ed., Chapter 6.12 Vanadium.</p> <p>Crans, D.C., Smee, J.J., Gaidamauskas, E. and Yang, L. (2004), 'The chemistry and biochemistry of vanadium and the biological activities exerted by vanadium compounds', Chemical Reviews, 104(2): 849-902.</p> <p>Miramand, P. and Fowler, S.W. (1998), 'Bioaccumulation of vanadium and other trace metals in organisms collected near the marine environment of a vanadium-rich pelletizing factory', Marine Pollution Bulletin.</p> <p>Ministry for the Environment / Ministry of Health, Provisional Maximum Acceptable Values for trace metals in drinking water and recreational water.</p> <p>New Zealand Coastal Policy Statement 2010, Policies 21 (enhancement of water quality) and 23 (discharge of contaminants).</p> <p>Acknowledged in TIL AEE (Tonkin and Taylor, May 2024): dewatering discharge volume up to 75,000 m<sup>3</sup>/day per event; process water and stormwater up to 32,000 m<sup>3</sup>/day, used here as the applicant's own data.</p>
<p><b>Te hau me te puehu onepu</b></p> <p><i>The wind and ironsand dust travelling south</i></p>	<p>Our tūpuna knew every wind by name. The hau o te tonga, the southerly, drove the onepu northward. The hau o te raro, the northerly, returned it. The westerly built the dune. The wind directions</p>	<p>The Taharoa dune field reaches 90 metres and acts as an aerodynamic barrier. Mining removes it and replaces it with large flat exposed areas of ironsand. Wind energy that</p>	<p>AEE Air Quality and Dust section, and TIL's Dust Management Plan.</p> <p>Suggested amendment: extend the monitoring boundary of the Dust Management Plan southward to</p>	<p>Bagnold, R.A. (1941), The Physics of Blown Sand and Desert Dunes, Methuen, London.</p> <p>Pye, K. and Tsoar, H. (2009), Aeolian Sand and Sand Dunes, 2nd ed., Springer.</p>

	<p>were a conversation between the sky and the land.</p> <p>Our people read the hau and planned around it. Kāinga were set behind dune forms that broke the wind. Nothing was burned or scattered that the wind would carry to a place that did not consent to receive it. The mana of one place was not to be imposed on another by the hau.</p>	<p>would have been redirected is free to sweep across the exposed area.</p> <p>Under northerly and north-westerly wind conditions, ironsand is carried southward toward Marokopa. The fine particulate is titanomagnetite dust: around 82 percent iron oxide, 7.6 percent titanium dioxide, 8 percent silica, and trace vanadium, chromium, phosphorus and sulfur. TIL acknowledges wind-blown sand from the mine reaches Taharoa Village. No monitoring south of the mine is proposed.</p>	<p>include continuous airborne dust monitoring stations between Taharoa and Marokopa, including at least one within the Marokopa catchment and one at Kiritehere. Require modelling of dust and sand transport under northerly and north-westerly wind conditions specifically. Set binding trigger levels: exceedance requires suspension of dust-generating activities under those wind conditions.</p>	<p>Sherman, D.J. and Hotta, S. (1990), 'Aeolian sediment transport: theory and measurement', in Coastal Dunes: Form and Process, Wiley.</p> <p>NIWA, West Coast wind climate datasets and aeolian transport studies.</p> <p>MetService, historic wind direction records (King Country / west coast Waikato stations).</p> <p>Ministry for the Environment, Ambient air quality guidelines (PM10 and PM2.5 for fine particulate).</p> <p>Waikato Regional Council, Regional Air Plan provisions on dust discharge.</p> <p>Acknowledged in TIL AEE (Tonkin and Taylor, May 2024): wind-blown sand reaches Taharoa Village, used here as the applicant's own admission of off-site dust travel.</p>
<p><b>Te Māui dolphin</b></p> <p><i>The Māui dolphin (Cephalorhynchus hectori maui)</i></p>	<p>Te tohorā iti o te Hauāuru. The little dolphin of the West Coast was known to our tūpuna and was treated as a tohu of the moana. To see them was a sign that the wai was healthy and that the kai was running.</p> <p>Our people dealt with this through tikanga of restraint. They were not hunted. They were not chased. Nets were set in ways and at times that did not catch them. The modern set net ban that protects them today is a continuation of that tikanga, now in the language of regulation.</p>	<p>The Māui dolphin is critically endangered. Most recent published estimate is approximately 50 to 60 individuals over one year of age. The coastal area off Marokopa and Kiritehere is within their known range.</p> <p>Increased ship movements (from 20 to 35 events per year) and underwater noise from submarine pipeline operations and ship loading are recognised stressors for cetaceans. TIL's AEE assesses risk as minor to negligible without species-specific monitoring or</p>	<p>Substantive Application, request to increase ship loading from 20 to 35 events per annum, and AEE Marine Mammals section. Engaged instruments: Marine Mammals Protection Act 1978, Wildlife Act 1953, Conservation Act 1987 s4, the West Coast set net prohibition, Fast-track Approvals Act 2024 s7.</p> <p>Suggested amendment: do not grant the increase from 20 to 35 events per year without a Māui dolphin specific monitoring and adaptive management plan developed with the Department of Conservation and mana whenua. The plan to include passive acoustic monitoring of the ship loading area</p>	<p>Baker, C.S., et al. (2016), 'Estimating the abundance and effective population size of Māui dolphins using microsatellite genotypes in 2010-11, with retrospective matching to 2001-07', Department of Conservation report.</p> <p>Baker, C.S., et al. (2021), updated abundance estimates for Māui dolphin, University of Auckland / DOC.</p> <p>Department of Conservation and Fisheries New Zealand (2020), Hector's and Māui Dolphin Threat Management Plan.</p> <p>Slooten, E. and Dawson, S.M. (2010), 'Assessing the effectiveness of conservation management decisions: likely effects of new protection measures for Hector's dolphin',</p>

		<p>independent verification. A species with 50 to 60 individuals globally cannot lawfully be assessed on that standard.</p>	<p>and submarine pipeline, mandatory vessel speed restrictions in identified habitat, and automatic suspension of ship loading on confirmed Māui dolphin presence within a defined buffer. Wildlife Act authorisation must accompany any consent.</p>	<p>Aquatic Conservation: Marine and Freshwater Ecosystems, 20(3): 334-347.</p> <p>Currey, R.J.C., Boren, L.J., Sharp, B.R. and Peterson, D. (2012), A risk assessment of threats to Maui's dolphins, MPI / DOC.</p> <p>Marine Mammals Protection Act 1978.</p> <p>Wildlife Act 1953 (Māui dolphin absolutely protected).</p> <p>Department of Conservation, West Coast set net prohibition zones (Marine Mammals Protection Regulations).</p>
<p><b>Te wā roa o te whakaetanga</b></p> <p><i>The 35-year consent term</i></p>	<p>Our tūpuna planned across generations. A decision today was tested against what it would mean for the mokopuna of the mokopuna. Long horizons were natural. They knew that the takutai responds slowly.</p> <p>Our people kept decisions reviewable. Rāhui were set, lifted, set again as the tohu changed. No single decision was allowed to lock in a path that the next generation could not reconsider. The mana of the rangatira was tested by their willingness to change a decision when the evidence changed.</p>	<p>The AEE assesses current-state effects and projects them forward using current conditions. A 35-year consent in a coastal environment under climate change requires dynamic modelling, not static projection.</p> <p>Over 35 years: approximately 140 million additional tonnes of iron sand removed; approximately 1,225 ship-loading events; operations through a period of accelerating sea level rise and increasing storm intensity. By the time effects are visible at Marokopa, the consent will have been running for another decade.</p>	<p>Substantive Application, request for 35-year consent term.</p> <p>Suggested amendment: limit the consent term to no more than 10 years in the first instance, with a formal review at year 10 informed by all monitoring outputs in this submission. Renewal beyond year 10 conditional on monitoring evidence showing the regional sand budget, dune system, river mouth, mahinga kai, and Māui dolphin indicators are within agreed thresholds. Mana whenua of Marokopa and Kiritehere are to be named participants in the year 10 review.</p>	<p>Ministry for the Environment (2022), Aotearoa New Zealand's first national adaptation plan.</p> <p>Ministry for the Environment (2017, updated 2022), Coastal Hazards and Climate Change: Guidance for Local Government.</p> <p>NIWA (2022), Interim sea-level rise projections for Aotearoa New Zealand.</p> <p>IPCC AR6 (2021-2023), Working Group I Physical Science Basis and Working Group II Impacts, Adaptation and Vulnerability.</p> <p>New Zealand Coastal Policy Statement 2010, Policy 24 (identification of coastal hazards) and Policy 27 (strategies for protecting significant existing development).</p> <p>Waikato District Council (2020), Coastal Hazards Assessment.</p> <p>Royal Society Te Apārangi (2016), Climate change implications for New Zealand.</p>

<p><b>Te whakaaetanga o ngā mana whenua</b></p> <p><i>Recognition of mana whenua</i></p>	<p>Our tūpuna held mana whenua and mana moana at this rohe from the time of the waka Tainui. That mana was never ceded. Decisions about the takutai were made by those who held the whakapapa to it.</p> <p>Our people dealt with this through the protocols of consultation, hui, and shared decision-making. The voice of mana whenua was the first voice and it carried weight equal to or greater than the voice of those who came later.</p>	<p>TIL and Hapū ki Marokopa, Mirumiru Pā ki Marokopa, the Takutai Moana applicants have not engaged yet prior to lodging this application. The AEE refers to consulting done but does not address the downstream rohe moana of Marokopa and Kiritehere where the cumulative effects land.</p> <p>The Fast-track Approvals Act 2024 imposes obligations on the Panel to act consistently with Treaty settlements and recognised customary rights. The Mātaitai Reserve, the Rohe Moana of Marokopa, and the live Takutai Moana application all engage these obligations.</p>	<p>Substantive Application, Affected Parties register, and the CMA Discharge Consent components. Engaged instruments: NZ Gazette 2004-go4804 (s186A rohe moana), NZ Gazette 2010-go9620 (Mātaitai F567), MPI 87 (2012), MACA Act 2011 application CIV-2017-419-082-P, Fast-track Approvals Act 2024 s7.</p> <p>Suggested amendment: list Hapū ki Marokopa, Mirumiru Pā ki Marokopa, and the Takutai Moana applicants as named affected parties on the consent. Insert binding rights to information, consultation, and participation throughout the consent period, including automatic notification of any compliance issue, monitoring exceedance, or consent variation. A formal engagement protocol to be developed before consent issues, funded by the applicant, reviewed at year 5 and year 10.</p>	<p>Fast-track Approvals Act 2024, section 7 (consistency with Treaty settlements and recognised customary rights).</p> <p>Marine and Coastal Area (Takutai Moana) Act 2011, section 62 (protection of applicant groups).</p> <p>Fisheries (Kaimoana Customary Fishing) Regulations 1998, Regulations 9 and 24 (Kaitiaki appointment).</p> <p>Conservation Act 1987, section 4.</p> <p>Resource Management Act 1991, Part 2 (sections 6(e), 7(a), 8).</p> <p>New Zealand Coastal Policy Statement 2010, Policy 2 (Treaty of Waitangi, tangata whenua and Māori heritage).</p> <p>Waitangi Tribunal jurisprudence on Treaty principles, including partnership, active protection, and informed decision-making.</p>
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**B. Rapunga kupu | Technical terms used in TIL's application and AEE**

<p><b>Aeolian Transport</b></p> <p><i>Sand carried by wind</i></p>	<p>Our tūpuna knew the hau as the carrier of the onepu. Each direction of wind had a name and a purpose. Nothing was scattered into the wind that another rohe had not consented to receive.</p>	<p>Mining at Taharoa exposes large areas of bare sand to extreme westerly winds. When wind direction shifts to northerly or north-westerly, this mobilised sand and fine ironsand dust travels southward toward Marokopa. The dust carries trace</p>	<p>AEE Air Quality and Dust section, and the Dust Management Plan.</p> <p>Suggested amendment: extend monitoring south of the mine to include Marokopa and Kiritehere stations, with binding trigger levels for northerly wind events.</p>	<p>Bagnold, R.A. (1941), The Physics of Blown Sand and Desert Dunes.</p> <p>Pye, K. and Tsoar, H. (2009), Aeolian Sand and Sand Dunes, 2nd ed., Springer.</p> <p>Sherman, D.J. and Hotta, S. (1990), 'Aeolian sediment transport: theory and measurement', in Coastal Dunes: Form and Process, Wiley.</p>
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		iron oxides, titanium dioxide, and vanadium with it.		NIWA, West Coast wind climate and aeolian sediment transport studies.
<p><b>Wind Dimensions</b></p> <p><i>Direction and effect of each wind</i></p>	Hau o te tonga, hau o te raro, hau o te uru, hau o te rāwhiti. Each wind had its own name, season, and effect on the takutai. The tūpuna planned by them.	Each wind direction matters for where Taharoa's disturbed sand ends up. The AEE focuses on northward longshore drift driven by south-westerlies. Northerly wind events that carry mobilised ironsand dust southward toward Marokopa have had less attention.	AEE Coastal Processes section, and Dust Management Plan.  Suggested amendment: require modelling of dust and sand transport under northerly and north-westerly wind conditions specifically, not only under the dominant westerly assumption.	NIWA, National Climate Database (CliFlo), West Coast wind records.  MetService, historic wind direction records, King Country and west coast Waikato stations.  Sturman, A. and Tapper, N. (2006), The Weather and Climate of Australia and New Zealand, 2nd ed., Oxford University Press.
<p><b>Wind Shadow</b></p> <p><i>Sheltered zone behind a dune</i></p>	Kāinga were sited in the lee of the puke one. The shelter the dune created behind it was as much a taonga as the dune itself.	The Taharoa dune system reaches 90 metres and creates significant wind shadows. Mining removes the dune and the shadow disappears, redistributing wind energy across the landscape and exposing previously sheltered areas, including south toward Marokopa.	AEE Mine Plan and Rehabilitation Plan.  Suggested amendment: require staged rehabilitation that reinstates dune form (not only dune surface) before progression into the Southern Block.	Hesp, P.A. (2002), 'Foredunes and blowouts: initiation, geomorphology and dynamics', Geomorphology, 48: 245-268.  Walker, I.J. and Nickling, W.G. (2002), 'Dynamics of secondary airflow and sediment transport over and in the lee of transverse dunes', Progress in Physical Geography, 26(1): 47-75.  Pye, K. and Tsoar, H. (2009), Aeolian Sand and Sand Dunes.
<p><b>Beach-Dune Coupling</b></p> <p><i>The beach and dune as one system</i></p>	The tūpuna saw the beach and the puke one as one body. Storm, calm, storm, calm: the body breathed and rebuilt itself.	Mining removes sand from the dune-beach reservoir permanently. With less sand in the system, Marokopa's dune cannot recover fully between storms. Each storm erodes a little more than the previous storm replaced. Over decades, the dune thins and retreats.	AEE Coastal Processes and Cumulative Effects sections.  Suggested amendment: require an independent beach-dune sand reservoir assessment for the Marokopa to Nukuhakari section. Adjust the proposed extraction rate downward if the reservoir cannot sustain it.	Sherman, D.J. and Bauer, B.O. (1993), 'Dynamics of beach-dune systems', Progress in Physical Geography, 17(4): 413-447.  Houser, C. and Ellis, J. (2013), 'Beach and Dune Interaction', Treatise on Geomorphology, vol 10, Elsevier.  Coastal Restoration Trust of New Zealand (2015-2018), Difficult Sites Series, Nukuhakari Station.

<p><b>Frontal Dune / Foredune</b></p> <p><i>The first dune behind the beach</i></p>	<p>Te puke one o mua. The first dune was the first defence. It was planted, watched, and given priority because everything behind it depended on it.</p>	<p>If Marokopa's frontal dune is thinned by a regional sand deficit, it provides less protection during storms. Storm waves can overtop or breach the dune, flooding the river estuary and threatening properties and cultural sites inland.</p>	<p>AEE Coastal Hazards section, and proposed consent conditions on monitoring.</p> <p>Suggested amendment: insert annual independent dune profile transect monitoring at Marokopa and Kiritehere as a binding condition, with trigger thresholds for extraction rate reduction if dune retreat exceeds the agreed limit.</p>	<p>Hesp, P.A. (2002), 'Foredunes and blowouts', <i>Geomorphology</i>, 48: 245-268.</p> <p>Bergin, D.O. and Herbert, J.W. (1998), 'Pīngao on coastal sand dunes', <i>Coastal Dune Vegetation Network Technical Bulletin</i>.</p> <p>Waikato Regional Council, Coastal Erosion Hazard reports.</p> <p>New Zealand Coastal Policy Statement 2010, Policy 26 (natural defences against coastal hazards).</p>
<p><b>Littoral Cell System</b></p> <p><i>One connected coastal sand loop</i></p>	<p>Ko te takutai he tinana kotahi. The coast was understood as one body, not many. What happened at one part was felt at another.</p>	<p>Taharoa and Marokopa are inside the same littoral cell. Sand moves northward through Marokopa's coastline toward Taharoa. When mining removes that sand permanently, Marokopa is the updrift area that supplies the replacement.</p>	<p>Substantive Application, Project Description and Scale section.</p> <p>Suggested amendment: require an independent West Coast littoral cell sediment budget assessment from south of Marokopa to Kawhia as a precondition of consent.</p>	<p>Komar, P.D. (1998), <i>Beach Processes and Sedimentation</i>, 2nd ed., Prentice Hall.</p> <p>Bird, E.C.F. (2008), <i>Coastal Geomorphology: An Introduction</i>, 2nd ed., Wiley.</p> <p>NIWA, West Coast sand transport studies and littoral cell mapping for Aotearoa.</p> <p>Carter, R.W.G. and Woodroffe, C.D. (eds) (1994), <i>Coastal Evolution: Late Quaternary Shoreline Morphodynamics</i>, Cambridge University Press.</p>
<p><b>Longshore Drift</b></p> <p><i>Sand moving along the shore</i></p>	<p>Our tūpuna knew the slow river of onepu that ran north along the takutai. They walked the beach after each storm and read where the sand had moved.</p>	<p>Sand travels along Marokopa's beach northward toward Taharoa as part of this natural system. The mining operation intercepts and permanently removes that sand. This gradually depletes the sand available to Marokopa's beach and dune system.</p>	<p>AEE Coastal Processes section (longshore transport modelling).</p> <p>Suggested amendment: require independent verification of the longshore transport modelling by a coastal geomorphologist not engaged by TIL, with the verified model accompanying the consent.</p>	<p>Komar, P.D. (1998), <i>Beach Processes and Sedimentation</i>.</p> <p>NIWA, West Coast sand transport studies.</p> <p>NIWA, 'Shifting Sands': West Coast ironsand and coastal change.</p> <p>US Army Corps of Engineers, <i>Coastal Engineering Manual</i>, Chapter III-2 (Longshore Sediment Transport).</p>

<p><b>Updrift / Downdrift</b></p> <p><i>Where sand is coming from, where it is going</i></p>	<p>Whence and whither. The tūpuna read the takutai by knowing the source and the destination of the moving sand.</p>	<p>Marokopa is updrift of Taharoa. When the mining operation acts as a sand sink, it draws sand from the updrift direction at an accelerated rate, pulling Marokopa's sediment budget down.</p>	<p>AEE Effects on Adjacent Coastal Environment section.</p> <p>Suggested amendment: insert a dedicated updrift effects assessment for the Marokopa coast, on the same standard as the downdrift assessment toward Kawhia and Aotea.</p>	<p>Komar, P.D. (1998), Beach Processes and Sedimentation.</p> <p>US Army Corps of Engineers, Coastal Engineering Manual, Chapter III-2.</p> <p>Bray, M.J., Carter, D.J. and Hooke, J.M. (1995), 'Littoral cell definition and budgets for central southern England', Journal of Coastal Research, 11(2): 381-400 (methodology applicable to West Coast cell).</p>
<p><b>Sediment Budget</b></p> <p><i>Sand bank account: deposits, withdrawals, balance</i></p>	<p>Our tūpuna lived within a balance they could feel. They did not need to write the balance down because the takutai showed it.</p>	<p>Taharoa removes 4 million tonnes per year permanently. Over 50 years that is around 200 million tonnes already withdrawn. Marokopa's beach and dune are part of the same account and the balance has been falling.</p>	<p>Substantive Application, Production Volume and Term provisions.</p> <p>Suggested amendment: cap annual extraction tonnage at a level supported by an independent sediment budget. Tie the consent term to a sediment budget review cycle.</p>	<p>Rosati, J.D. (2005), 'Concepts in Sediment Budgets', Journal of Coastal Research, 21(2): 307-322.</p> <p>Komar, P.D. (1998), Beach Processes and Sedimentation.</p> <p>Engineering New Zealand Heritage Record: Taharoa Ironsand Mining (50-year production history).</p> <p>Acknowledged in TIL AEE (Tonkin and Taylor, May 2024): annual production figures, used here as the applicant's own admission of withdrawal volumes.</p>
<p><b>Sediment Deficit</b></p> <p><i>More sand leaving than arriving</i></p>	<p>When the takutai started telling the tūpuna it was thinning, they listened. Nothing was taken from a place that was telling them it could not give.</p>	<p>A sustained sediment deficit reduces sand available to the entire regional system. For Marokopa: a thinner beach, a shorter and lower dune, less storm absorption capacity. The deficit compounds with time.</p>	<p>AEE Cumulative Effects section.</p> <p>Suggested amendment: require explicit modelling of cumulative sediment deficit over the 35-year consent period across the Marokopa to Kawhia coast. Attach extraction rate adjustment triggers to the model output.</p>	<p>Rosati, J.D. (2005), 'Concepts in Sediment Budgets', Journal of Coastal Research, 21(2): 307-322.</p> <p>Bray, M.J., Carter, D.J. and Hooke, J.M. (1995), 'Littoral cell definition and budgets for central southern England', Journal of Coastal Research, 11(2): 381-400.</p> <p>Coastal Restoration Trust of New Zealand (2015-2018), Nukuhakari Station.</p>

				Waikato Regional Council, Coastal Erosion Hazard reports.
<p><b>Sediment Sink</b></p> <p><i>A point where sand accumulates and is removed</i></p>	<p>Te wāhi e ngaro ai te onepu. A place that draws sand toward it from all directions. The tūpuna understood that a permanent sink changes everything around it.</p>	<p>Taharoa's mining operation is a major sediment sink. Sand enters from the south (Marokopa's direction), is mined and loaded onto ships, and leaves the coastal system permanently. The sink pulls sand toward it from updrift beaches at Marokopa.</p>	<p>AEE Project Description and Effects on Adjacent Coastal Environment sections.</p> <p>Suggested amendment: require characterisation of the mine as a permanent sediment sink and assessment of its sink-radius effect on updrift coasts, not just on the mine footprint.</p>	<p>Komar, P.D. (1998), Beach Processes and Sedimentation.</p> <p>Rosati, J.D. (2005), 'Concepts in Sediment Budgets', Journal of Coastal Research, 21(2): 307-322.</p> <p>Davis, R.A. and FitzGerald, D.M. (2004), Beaches and Coasts, Blackwell (chapter on coastal extraction effects).</p>
<p><b>Tidal Prism</b></p> <p><i>The volume of water in and out with each tide</i></p>	<p>Te wā o te tai. The tūpuna knew the shape and depth of the waha by the rhythm of the tide that passed through it.</p>	<p>If Marokopa's river mouth bar is reduced or repositioned, the tidal prism changes. With it changes salinity, sediment patterns, and estuary ecology. Īnanga, kanae, and kākahi all depend on a stable estuarine environment.</p>	<p>Proposed consent conditions on monitoring.</p> <p>Suggested amendment: insert annual Marokopa river mouth tidal prism, bar position, and salinity intrusion monitoring as a binding condition, with adaptive management thresholds.</p>	<p>Hume, T.M. and Herdendorf, C.E. (1988), 'A geomorphic classification of estuaries', Ocean and Shoreline Management, 11: 249-274.</p> <p>Friedrichs, C.T. and Aubrey, D.G. (1988), 'Non-linear tidal distortion in shallow well-mixed estuaries: a synthesis', Estuarine, Coastal and Shelf Science, 27(5): 521-545.</p> <p>O'Brien, M.P. (1969), 'Equilibrium flow areas of inlets on sandy coasts', Journal of the Waterways and Harbors Division, ASCE 95(WW1): 43-52 (classic tidal prism relationship).</p>
<p><b>Salinity Intrusion</b></p> <p><i>Saltwater pushing into freshwater country</i></p>	<p>When the moana pushed up the awa further than it should, the tūpuna read the tohu: the freshwater plants would die, the tuna would shift, the Īnanga spawn would fail. The awa was telling them the bar at the waha was weak.</p>	<p>If the river mouth barrier is degraded, saltwater pushes further upstream. This kills freshwater vegetation, harms Īnanga and tuna, and disrupts the cultural mahinga kai values of the awa.</p>	<p>AEE Freshwater and Estuarine Effects section (currently focused on Lake Taharoa and Wainui Stream).</p> <p>Suggested amendment: extend this section to include salinity intrusion risk at the Marokopa River. Require a salinity gauge upstream of the mouth as a monitoring condition.</p>	<p>Pritchard, D.W. (1967), 'What is an estuary: physical viewpoint', in Estuaries, AAAS Publication 83.</p> <p>Savenije, H.H.G. (2005), Salinity and Tides in Alluvial Estuaries, Elsevier.</p> <p>Hume, T.M., Snelder, T., et al. (2007), 'A controlling factor approach to estuary classification', Ocean and Coastal</p>

				<p>Management, 50: 905-929 (NZ estuary salinity classes).</p> <p>New Zealand Coastal Policy Statement 2010, Policy 23 (discharge of contaminants and freshwater/marine interface).</p>
<p><b>Titanomagnetite</b></p> <p><i>The black mineral that is mined and what it carries</i></p>	<p>Ko te onepu pango he taonga nō ngā atua. The tūpuna knew the onepu pango was different to other sand. It carried the whakapapa of the volcanic fire and the rivers that brought it down.</p>	<p>Around 82 percent iron oxide, 7.6 percent titanium dioxide, around 8 percent silica, and trace vanadium, chromium, phosphorus, sulfur. The trace heavy metals are not biologically inert. They bioaccumulate in marine organisms around Taharoa and potentially southward toward Marokopa.</p>	<p>AEE Discharge Characterisation and Marine Ecology sections.</p> <p>Suggested amendment: require a full contaminant profile of the discharged dewatering fluid (not only the bulk concentrate) and a near-shore sediment vanadium baseline before consent issues.</p>	<p>Buddington, A.F. and Lindsley, D.H. (1964), 'Iron-titanium oxide minerals and synthetic equivalents', <i>Journal of Petrology</i>, 5(2): 310-357.</p> <p>Wright, T.L. (1959), 'Petrology of the ironsands of the west coast of the North Island, New Zealand', <i>NZ Journal of Geology and Geophysics</i>, 2(3): 506-525.</p> <p>Brathwaite, R.L. and Pirajno, F. (1993), <i>Metallogenic Map of New Zealand</i>, GNS Science Monograph.</p> <p>Christie, T. and Brathwaite, R.L. (1997), 'Mineral commodity report 15, Iron', Institute of Geological and Nuclear Sciences.</p>
<p><b>Vanadium</b></p> <p><i>Trace heavy metal that builds up in kaimoana</i></p>	<p>If the kaimoana told the tūpuna the wai was sick, the kai was not taken from that place. The instrument was the kai itself.</p>	<p>Vanadium is discharged with dewatering fluid (up to 75,000 cubic metres per day per event, increasing to 35 events per year). At elevated concentrations it is neurotoxic and endocrine-disrupting. No vanadium monitoring in near-shore species is required under the proposed consent.</p>	<p>Proposed consent conditions on monitoring.</p> <p>Suggested amendment: insert a binding vanadium and trace heavy metal monitoring programme covering shellfish, kīna, finfish, and benthic sediment within and adjacent to the Marokopa Mātaitai Reserve and Rohe Moana, with annual reporting direct to Mirumiru Pā ki Marokopa.</p>	<p>ANZECC and ARMCANZ (2000), <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i>, Volume 2.</p> <p>ANZG (2018), <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (updated).</p> <p>World Health Organization (2000), <i>Air Quality Guidelines for Europe</i>, 2nd ed., Chapter 6.12 Vanadium.</p> <p>Crans, D.C., Smee, J.J., Gaidamauskas, E. and Yang, L. (2004), 'The chemistry and biochemistry of vanadium and the biological</p>

				<p>activities exerted by vanadium compounds', Chemical Reviews, 104(2): 849-902.</p> <p>Agency for Toxic Substances and Disease Registry (ATSDR) (2012), Toxicological Profile for Vanadium, US Department of Health.</p>
<p><b>Bioaccumulation</b></p> <p><i>Contaminant building up in living organisms over time</i></p>	<p>He āta whakaroa, he āta whakaroa. Slow gathering, slow gathering. The tūpuna knew that some things did not poison in one tide. They poisoned in a lifetime.</p>	<p>If vanadium accumulates in kaimoana (shellfish, kīna, kōura, finfish) near the coast between Taharoa and Marokopa, people harvesting those species are exposed to increasing concentrations over time. This is a food safety and cultural wellbeing issue that has not been assessed.</p>	<p>AEE Human Health and Cultural Effects sections.</p> <p>Suggested amendment: require a cumulative bioaccumulation pathway assessment for vanadium and other trace heavy metals over the 35-year consent term, with food safety advice protocols agreed with mana whenua.</p>	<p>Miramand, P. and Fowler, S.W. (1998), 'Bioaccumulation of vanadium and other trace metals in organisms collected near a vanadium-rich pelletizing factory', Marine Pollution Bulletin.</p> <p>Rainbow, P.S. (2007), 'Trace metal bioaccumulation: models, metabolic availability and toxicity', Environment International, 33(4): 576-582.</p> <p>Luoma, S.N. and Rainbow, P.S. (2008), Metal Contamination in Aquatic Environments: Science and Lateral Management, Cambridge University Press.</p> <p>Ministry for Primary Industries, Aquatic Environment and Biodiversity Annual Reviews (contaminant uptake in commercial and customary fisheries species).</p>
<p><b>Plume Dispersal</b></p> <p><i>How discharged material spreads through the sea</i></p>	<p>Our tūpuna read the way the awa pushed colour into the moana. They knew that the storm could carry it back, sideways, or further than expected.</p>	<p>TIL's plume modelling was done by Met Ocean Solutions, engaged by TIL, using average current conditions. Under storm conditions, coastal currents on the west coast can rotate or reverse. Southerly or south-easterly swells could carry discharge southward from Taharoa toward Marokopa. Not modelled.</p>	<p>AEE Plume Dispersal modelling.</p> <p>Suggested amendment: require independent plume dispersal modelling under southerly and south-easterly storm conditions, by a modeller not engaged by TIL, and disclose the model outputs in full.</p>	<p>Fischer, H.B., List, E.J., Koh, R.C.Y., Imberger, J. and Brooks, N.H. (1979), Mixing in Inland and Coastal Waters, Academic Press (foundational text on plume mixing).</p> <p>Lewis, R. (1997), Dispersion in Estuaries and Coastal Waters, Wiley.</p> <p>NIWA, West Coast current and wave studies.</p> <p>Acknowledged in TIL AEE (Tonkin and Taylor, May 2024) and Met Ocean Solutions plume modelling: average current conditions only, used here as the applicant's own</p>

				admission that storm-condition scenarios were not modelled.
<p><b>Coastal Marine Area (CMA)</b></p> <p><i>The shared sea between high water and 12 nautical miles</i></p>	<p>Te moana o tātou. The shared sea. No one rohe owned the moana but each rohe carried responsibility for the part it touched.</p>	<p>All discharges from Taharoa's ship loading and process water release occur in the CMA. The CMA is the shared coastal environment of all communities along the West Coast, including Marokopa.</p>	<p>Substantive Application, CMA Discharge Consent components.</p> <p>Suggested amendment: list Hapū ki Marokopa, Mirumiru Pā ki Marokopa, and the Takutai Moana applicants as named affected parties on the CMA discharge consent, with notification, information, and participation rights through the consent term.</p>	<p>Resource Management Act 1991, section 2 (definition of coastal marine area).</p> <p>New Zealand Coastal Policy Statement 2010 (gives effect to the RMA in the CMA).</p> <p>Resource Management Act 1991, Part 12 (coastal occupation and discharge consents).</p>
<p><b>Dewatering Discharge</b></p> <p><i>The liquid released from ironsand during ship loading</i></p>	<p>Anything tipped into the moana found its way to other parts of the moana. The tūpuna did not need to be told that.</p>	<p>Up to 75,000 cubic metres per day per loading event, increasing to 35 events per year. Carries trace iron, titanium, and vanadium into the CMA. Over a 35-year consent term with 35 events per year, the cumulative discharge is very large and has not been independently assessed for long-term effects.</p>	<p>Substantive Application, request to increase ship loading from 20 to 35 events per annum.</p> <p>Suggested amendment: do not grant the increase from 20 to 35 events without independent cumulative discharge assessment, or impose a phased increase tied to monitoring outputs.</p>	<p>New Zealand Coastal Policy Statement 2010, Policies 22, 23 (discharge of contaminants in the coastal environment).</p> <p>ANZG (2018), Australian and New Zealand Guidelines for Fresh and Marine Water Quality.</p> <p>Resource Management Act 1991, sections 15 and 107 (discharge restrictions).</p> <p>Acknowledged in TIL AEE (Tonkin and Taylor, May 2024): dewatering discharge volumes 75,000 m<sup>3</sup>/day per event, scaling to 35 events per year, used here as the applicant's own data.</p>
<p><b>Cumulative Temporal Effects</b></p> <p><i>Small changes adding up over years</i></p>	<p>Mā te wai e tā, ka pakaru te kōhatu. By water dripping, the stone is broken. The tūpuna knew that what does not show in one season may show in a generation.</p>	<p>No single ship-loading event causes catastrophic harm at Marokopa. But over 35 more years of mining, the cumulative effect of sand removal, contaminant discharge, and dune destabilisation builds. The AEE only assesses current</p>	<p>Substantive Application, request for 35-year consent term.</p> <p>Suggested amendment: limit the consent term to 10 years in the first instance with a formal review at year 10 informed by all monitoring outputs in this submission. Renewal beyond</p>	<p>Ministry for the Environment (2022), Aotearoa New Zealand's first national adaptation plan.</p> <p>IPCC AR6 (2021-2023), Working Group I and Working Group II reports.</p> <p>NIWA (2022), Interim sea-level rise projections for Aotearoa New Zealand.</p>

		conditions. It does not model what the coastline at Marokopa looks like in 2061 under sea level rise and more intense storms.	year 10 conditional on monitoring evidence.	<p>Ministry for the Environment (2017, updated 2022), Coastal Hazards and Climate Change: Guidance for Local Government.</p> <p>Waikato District Council (2020), Coastal Hazards Assessment.</p> <p>New Zealand Coastal Policy Statement 2010, Policies 24-27 (coastal hazards).</p> <p>Resource Management Act 1991, sections 17 and 104 (cumulative effects).</p>
<p><b>Assessment of Environmental Effects (AEE)</b></p> <p><i>The applicant's own report on its environmental effects</i></p>	Ehara i te whakaaro hou. Te kaha o te kupu o te tangata e mōhio ana ki tāna mahi. The voice of the one doing the work is one voice. Other voices are needed to weigh it.	TIL's AEE was prepared by Tonkin and Taylor, engaged and paid by TIL. It is the applicant's own assessment, not an independent one. Key effects on Marokopa, including the sand budget drawdown, aeolian dust southward, Southern Block proximity to the Marokopa catchment, and vanadium in near-shore mahinga kai, are absent.	<p>Whole AEE (Tonkin and Taylor, May 2024).</p> <p>Suggested amendment: do not accept the AEE as a complete assessment until the five identified gaps (sand budget, Southern Block to Marokopa pathway, vanadium in mahinga kai, aeolian dust south, Māui dolphin) are independently addressed.</p>	<p>Resource Management Act 1991, Schedule 4 (information required in an AEE).</p> <p>Fast-track Approvals Act 2024 (AEE requirements under the fast-track process).</p> <p>Ministry for the Environment, Quality Planning: AEE preparation guidance.</p> <p>Tonkin and Taylor (May 2024), TIL AEE, Central and Southern Blocks, cited here as the document under review, not as independent science.</p>
<p><b>Precautionary Principle</b></p> <p><i>When in doubt, the burden of proof is on the proposer</i></p>	Mā te ata, ka mōhio ai te tangata he aha te mea hei mahi. By looking carefully first, the person knows what to do. The tūpuna acted slowly when the tohu were not yet clear.	There is significant scientific uncertainty about cumulative effects of Taharoa mining on Marokopa over 35 years. The precautionary principle requires TIL to provide independent evidence that effects are acceptable before consent issues. That evidence has not been provided.	<p>Fast-track Approvals Act 2024, sections relating to environmental effects assessment and the Panel's decision making.</p> <p>Suggested application: the Panel is asked to apply the precautionary principle, declining the consent in its current form and requiring the independent assessments identified in this submission as preconditions of any future grant.</p>	<p>Rio Declaration on Environment and Development (1992), Principle 15.</p> <p>New Zealand Coastal Policy Statement 2010, Policy 3 (precautionary approach).</p> <p>Resource Management Act 1991, Part 2, and NZ case law: Shirley Primary School v Christchurch City Council [1999] NZRMA 66; McIntyre v Christchurch City Council [1996] NZRMA 289; Environmental Defence Society v New Zealand King Salmon Co Ltd [2014] NZSC 38.</p>

				<p>Fast-track Approvals Act 2024, section 7.</p> <p>Cooney, R. (2004), The Precautionary Principle in Biodiversity Conservation and Natural Resource Management, IUCN.</p>
<p><b>Coastal Geomorphology</b></p> <p><i>The science of how coastlines change shape over time</i></p>	<p>Te mātauranga o te āhua o te takutai. The tūpuna held this mātauranga in their feet, in their eyes, and in the way they sited their kāinga.</p>	<p>A coastal geomorphologist is the appropriate expert to model and assess how 35 more years of sand removal at Taharoa will affect the shape and stability of the coastline at Marokopa. No such independent assessment of the Taharoa to Marokopa sediment pathway has been commissioned.</p>	<p>Substantive Application, expert evidence package.</p> <p>Suggested amendment: require an independent coastal geomorphologist's assessment of the Taharoa to Marokopa sediment pathway, commissioned by the Panel (not by TIL), as a precondition of consent.</p>	<p>Komar, P.D. (1998), Beach Processes and Sedimentation, 2nd ed., Prentice Hall.</p> <p>Bird, E.C.F. (2008), Coastal Geomorphology: An Introduction, 2nd ed., Wiley.</p> <p>Davis, R.A. and FitzGerald, D.M. (2004), Beaches and Coasts, Blackwell.</p> <p>Carter, R.W.G. and Woodroffe, C.D. (eds) (1994), Coastal Evolution: Late Quaternary Shoreline Morphodynamics, Cambridge University Press.</p> <p>NIWA, West Coast coastal change research programme.</p>

## 6. He whakaaro whakamutunga | Closing

The Marokopa and Kiritehere coastline, the river mouth, the dune system, the Mātaitai Reserve, the Rohe Moana, and the mahinga kai of the awa are taonga that we hold kaitiakitanga over. The effects of Taharoa mining on these taonga are real, cumulative, and long-term. They unfold slowly, storm by storm, year by year.

The precautionary principle, te mana o te taiao, the duties created by the Mātaitai Reserve and the Rohe Moana instruments, the Marine and Coastal Area (Takutai Moana) Act 2011, and the protections in place for the Māui

As applicants and Marae trustees we oppose the application as currently lodged. We do not oppose engagement. We are available to meet with the Panel and with the applicant to work through the matters raised in this submission and to find conditions that allow the rohe moana to be protected as the law and our tikanga require.

*Mā te onepu pango ka mōhio ai te tangata ki a ia anō.*

*By the black sand the people come to know themselves.*

## 7. Te tuhi ingoa | Signatures and contact

Filed by us as named applicants and Marae trustees, on behalf of Hapū ki Marokopa me Kiritehere.

Nā,

### **Natasha Willison-Reardon**

Named applicant, Marine and Coastal Area (Takutai Moana) Act 2011 application CIV-2017-419-082-P

Named applicant, Marokopa Mātaitai Reserve (Fisheries Notice 2010 No. F567)

Co-Chair, Mirumiru Pā ki Marokopa

Email: 

### **Te Aroa Pou**

Co-Chair, Mirumiru Pā ki Marokopa

Date filed: 19 May 2026

## 8. Ngā pukapuka | Sources relied on

- TIL Assessment of Environmental Effects, Central and Southern Blocks (Tonkin and Taylor, May 2024)
- TIL Substantive Fast-track Application, Central and Southern Block Mining Project (resubmitted January 2026)
- NIWA Coastal Erosion and Sediment Systems Research, West Coast sand transport studies
- NIWA, Shifting Sands: West Coast ironsand and coastal change
- Coastal Restoration Trust of New Zealand, Difficult Sites 2015 to 2018, Nukuhakari Station
- KASM (Kiwis Against Seabed Mining), West Coast impacts documentation
- Waikato Regional Council, Coastal Erosion Hazard reports
- Waikato District Council, Coastal Hazards Assessment 2020
- Department of Conservation, Māui dolphin (*Cephalorhynchus hectori maui*) abundance estimates
- New Zealand Gazette notice 2004-go4804, Fisheries (Kaimoana Customary Fishing) Notice (No. 16) 2004 (No. F288), 22 July 2004, Marokopa and Kiriterehere area/rohe moana and appointment of Kaitiaki under Regulation 9 of the Fisheries (Kaimoana Customary Fishing) Regulations 1998
- New Zealand Gazette notice 2010-go9620, Fisheries (Declaration and Notification of Marokopa Mataitai Reserve and Appointment of Tangata Kaitiaki/Tiaki) Notice 2010 (No. F567), 16 December 2010 (page 4253, Issue 173), made under Regulations 23 and 25 of the Fisheries (Kaimoana Customary Fishing) Regulations 1998
- Fisheries (Kaimoana Customary Fishing) Notice (No. 10) 2012, Notice No. MPI 87 (Area / Rohe Moana of Marokopa)
- Marine and Coastal Area (Takutai Moana) Act 2011, application CIV-2017-419-082-P
- Fisheries Act 1996, Part 9 and section 186A
- Fisheries (Kaimoana Customary Fishing) Regulations 1998
- Resource Management Act 1991, Part 2
- Marine Mammals Protection Act 1978
- Wildlife Act 1953
- Conservation Act 1987, section 4
- Fast-track Approvals Act 2024, section 7
- Te Tiriti o Waitangi / Treaty of Waitangi

**To the Expert Panel**  
**Central and Southern Blocks Mining Project – FTAA-2512-1153**

**Date: 18 May 2026**

**Letter of Tautoko | Letter of Support**

Tēnā koutou e ngā mema o te Roopu

Te Whare Hauāuru ki Uta, is a cluster of seven Marae in the Waitomo takiwa that make up part of the structure of Te Nehenehenui Trust (TNN), the Ngāti Maniapoto Iwi Authority.

We formally provide our support for the co-submission lodged to the Takutai Moana Application Marokopa me Kiritehere (MACA, CIV-2017-419-082-P) and Mirumiru Pa ki Marokopa.

Mirumiru Pa ki Marokopa is a member marae of Te Whare Hauāuru ki Uta and are part of mana whenua and tangata kaitiaki of the Marokopa rohe and moana. They are also the holders of the Marokopa Mataitai Reserve under the Fisheries Act 1996.

Mirumiru Pa ki Marokopa are co-submitting alongside the Takutai Moana Application, Marokopa me Kiritehere (MACA, CIV-2017-419-082-P), a separate applicant that covers the coastal marine area from Harihari to Tirua Point. These are distinct but connected instruments, both carrying statutory weight that must be taken into account by this Panel.

Te Whare Hauāuru ki Uta stands in full support of the position taken by Mirumiru Pā ki Marokopa and the MACA applicant in their co-submission.

Further to this, the Marokopa Mataitai Reserve is not a discretionary interest. The Fast-track process must not be used to circumvent the protection it provides, nor to dilute the consultation obligations owed to mana whenua under Te Tiriti o Waitangi.

We ask the Expert Panel to give full weight to the co-submission of Mirumiru Pa ki Marokopa and the MACA applicant as the voice of the mana whenua within the Marokopa rohe, moana, and to ensure that any consent granted includes conditions that properly protect the Mataitai Reserve, the rohe moana, and the critical habitat of Maui dolphins.

We appreciate your consideration and acceptance of this request and look forward to a positive outcome for all parties.

Nā mātou noa, nā Te Whare Hauāuru ki Uta



Dawn Magner

Deputy Chairperson - **Te Whare Hauāuru ki Uta**

18 May 2026

**To the Expert Panel Central and Southern Blocks Mining Project  
(FTAA-2512-1153) Letter of Tautoko | Letter of Support**

Tēnā koutou e ngā mema o te Rōpū Tohunga.

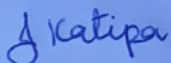
The Ngā Hapū o Te Uru o Tainui Customary Fisheries Forum manages customary non-commercial fishing interests for hapū on the West Coast, spanning from Port Waikato to Waipīngao. The Forum consists of Kaitiaki who have been appointed by the Minister of Fisheries, each Kaitiaki oversees their specific Rohe Moana area out to 200 nautical miles offshore and represents their hapū's customary and Treaty rights within our West Coast rohe in Te Ika-a-Māui.

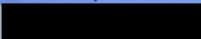
Nga Hapu o te Uru o Tainui Customary Fisheries Forum formally supports the joint co-submission by the MACA Applicant and Mirumiru Pā ki Marokopa for this application.

Mirumiru Pā ki Marokopa is mana whenua and tangata kaitiaki of the Marokopa rohe moana, and holders of the Marokopa Mataitai Reserve under the Fisheries Act 1996. They are co-submitting alongside the MACA Applicant, which is a separate applicant covering the coastal marine area from Harihari to Tirua Point. These are distinct but connected instruments, both carrying statutory weight that must be taken into account by this Panel.

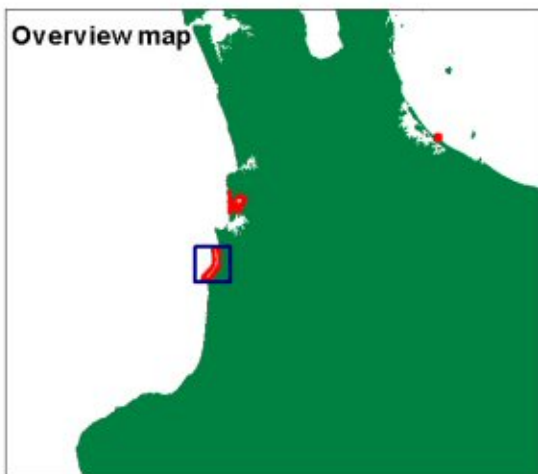
Ngā Hapū o Te Uru stands in tautoko of the position taken by Mirumiru Pā ki Marokopa and the MACA applicant in their joint co-submission. The Marokopa Mataitai is not a discretionary interest. The Fast-track process must not be used to circumvent the protections it provides, nor to dilute the consultation obligations owed to mana whenua under Te Tiriti o Waitangi. The Māui dolphin protections engaged by this application carry an extinction-level risk that cannot be traded against project benefits. We ask the Expert Panel to give full weight to the joint co-submission of Mirumiru Pā ki Marokopa and the MACA applicant as the voice of the mana whenua of the Marokopa rohe moana, and to ensure that any consent granted includes conditions that properly protect the Mataitai Reserve, the rohe moana, and the critical habitat of Māui Dolphins. Included in the support letter is a document that identifies the Mataitai area and gazetted Rohe Moana area for Marokopa.

Nā mātou noa, nā Ngā Hapu o te Uru Customary Fisheries Forum.

Signed: 

Nga Hapu o te Uru o Tainui  
Customary Fisheries Forum  
Joanna Lee Katipa  
Chairperson  


# Marokopa Mātaitai Reserve



## LEGEND

- Mātaitai Reserve Boundary
- Mātaitai Reserve Coordinate

## Coordinates

- A: 38°13.10'S 174°42.90'E
- B: 38°13.10'S 174°40.71'E
- C: 38°23.20'S 174°35.91'E
- D: 38°23.20'S 174°38.10'E



Ref: 100407  
 Projection: NZTM  
 Coordinates stated in  
 Lat/Long WGS84  
 Date: 13 December 2010  
 Produced by: Information  
 Management

This map is intended to be used as a guide only, in conjunction with other data sources and methods, and should only be used for the purpose for which it was developed. Although the information on this map has been prepared with care and in good faith, no guarantee is given that the information is complete, accurate or up-to-date.