BEFORE THE CENTRAL AND SOUTHERN BLOCK MINING PROJECT [FTAA-2512-1153] EXPERT CONSENTING PANEL

In the matter of of the Fast-Track Approvals Act 2024

And approvals sought under the Resource Management Act 1991, the Wildlife Act 1953 and the Heritage New Zealand Pouhere Taonga Act 2014

Record of Decision of the Expert Consenting Panel under Section 87 of the Fast-Track Approvals Act 2024

Decision 1: Approvals relating to Resource Management Act 1991 granted subject to conditions

Decision 2: Approval relating to Wildlife Act 1953 granted subject to conditions

Decision 3: Approval relating to Heritage New Zealand Pouhere Taonga Act 2014 granted subject to conditions

Expert Panel

Dave Serjeant (*Chair*)

Lou Wickham (*Member*)

Martin Williams (*Member*)

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GLOSSARY/ABBREVIATIONS

2020 RMA Application	An application by TIL to replace the existing resource consents in July 2020
ABM	Automated Bat Monitors
ACO	Artificial Cover Objects
Archaeological Authority	The archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014
BCM	Biodiversity Conservation Model – an accounting model developed by Tonkin & Taylor to calculate the area needed to provide an overall net gain in biodiversity values for wetlands destroyed by mining.
BOAM	Biodiversity Offset Accounting Model
CMA	Coastal Marine Area
CSB	Central and Southern Block
CSCP	Conceptual Site Closure Plan
DoC	Department of Conservation
EIANZ	Environmental Institute of Australia and New Zealand
EMP	Environmental Management Plan
FTAA	Fast-track Approvals Act 2024
HAIL	Hazardous Activities and Industries List is a compilation of 53 specific activities and industries that are considered likely to cause land contamination resulting from hazardous substance use, storage or disposal.
HEMP	Harvest and Earthworks Management Plan
HNZPTA	Heritage New Zealand Pouhere Taonga Act 2014
JMA	Joint Management Agreement
JWS	Joint Witness Statement – a document prepared by independent expert witnesses on set topics of relevance to the application. It notes matters that are agreed or not, with reasons for both.
LLWMP	Lake Level and Water Management Plan
MALF	Mean Annual Low Flow
MEMP	Maniapoto Environmental Management Plan
MHWS	Mean High Water Springs

NES-AQ	Resource Management (National Environmental Standards for Air Quality) Regulations 2004
NES-CF	Resource Management (National Environmental Standards for Commercial Forestry) Regulations 2017
NES-CS	Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011
Ngaati Mahuta	Ngaati Mahuta ki te Hauaauru
NIWBMP	Natural Inland Wetland and Buffer Management Plan – a management document proposed by the Applicant to manage the environmental effects of mining on natural inland wetlands.
NMEMP	Ngaati Mahuta Environmental Management Plan
NPS-IB	National Policy Statement for Indigenous Biodiversity 2023
NPS-FM	National Policy Statement for Freshwater Management 2020
NZPCS	New Zealand Coastal Policy Statement 2010
PFC	Panel Facilitated Conference held in July 2026
PM_{10}	Particulate matter less than 10 micrometres in diameter. These particles are too small to be seen by the naked eye and are known to have serious health effects.
Project	Central and Southern Block Mining Project
PSA	Priority Stabilisation Area – area within 100 metres of the Central Block northeastern boundary within which additional stabilisation measures are proposed to reduce discharges of dust to air in the site environmental management plan.
PWRCP	Proposed Waikato Regional Coastal Plan
Q_5	The mean annual low flow that has a 20% chance of occurring in any given year (a 1-in-5-year return period) and the default minimum flow requirement under the Waikato Regional Plan.
RFI	Panel Request for Information
RMA Approvals	Resource consent approvals under the Resource Management Act 1991
RMA Panel	Joint Council Panel convened pursuant to RMA to hear and decide on resource consents for the 2020 RMA Application
Roy Wetini WT	Roy Wetini Whaanau Trust
SAR	Substantive Application Report for the Taharoa Ironsands Mine-Central and Southern Blocks Mining Project, including Appendices
SBM	Single Buoy Mooring

Site or Consent Area	Taharoa C Block
SQEP	Suitably Qualified and Experienced Person
SRP	Site Rehabilitation Plan
TIL	Taharoa Ironsands Ltd
TSP	Total suspended particulate is a mixture of all solid particles and liquid aerosols floating in the air and generally agreed to be less than 50 micrometres (μm) in size.
WA 53	Wildlife Act 1953
Wildlife Approval	The wildlife approval under the Wildlife Act 1953
WRC	Waikato Regional Council
WRCP	Waikato Regional Coastal Plan
WRP	Waikato Regional Plan
WTEP	Waikato-Tainui Environmental Plan
Common units of measure referred to in this decision	
ha	Hectares; a unit of area that equates to 10,000 square metres (100 metres long by 100 metres wide).
RL	Reduced Level – measurement relative to a designated common datum. In the SAR, this is the water level in metres relative to TIL's local datum established for the site. NB There is a 2.38 m offset between the local datum and the Moturiki datum (Mean Sea Level).
μm	Micrometres; a unit of length equivalent to one thousandth of a metre
$\mu g/m^3$	Micrograms per cubic metre; a measure of mass per unit volume (concentration). One microgram is one thousandth of a gram. One cubic metre is the size of a box that is one metre long, one metre high and one metre depth.

PART A: EXECUTIVE SUMMARY

The Project

This is an application by Taharoa Ironsands Limited to continue and expand existing mineral sand extraction, including land preparation works, the taking of water from a water supply reservoir, extracting ironsand material using dry and wet-mining techniques, processing extracted material, and transporting raw and processed material including the shiploading of ironsand via a pipeline and offshore buoy for export.

The mine is located on the west coast of the North Island approximately 8 km south of Kāwhia and 45 km to the northwest of Te Kuiti. The mine has been operating for the past 50 plus years with existing consents granted in 2006. Taharoa C Block, the land on which the mine is located, is Māori freehold land with an overall area of 1328.3ha. The site lies on a remote stretch of coastline exposed to the sea and strong westerly (onshore) winds.

The Application was included as a listed project in Schedule 2 of the Fast-track Approvals Act 2024 (FTAA). The Panel was appointed on 27 March 2026 to determine the Application.

The Project comprises applications under the FTAA for:

a. Resource consents to undertake ironsand mining operations and associated land disturbance, to dam and divert and occupy the bed of the Wainui Stream with a rock and sheet pile weir, fish pass intake and outlet structures, to take water from the Wainui Stream, to discharge stormwater and washdown water into the Wainui Stream, to discharge process water to land and into a dredge pond, to divert groundwater and take water from a dredge pond, to disturb and/or destroy and dewater natural inland wetlands, to undertake earthworks and discharge sediment in relation to forestry harvesting operations, to occupy, operate and maintain pipelines and a buoy in the coastal marine area, to discharge shiploading, stormwater and process water to the coastal marine area, and its ancillary activities under section 42(4)(a) of the FTAA, which would otherwise have been applied for under the Resource Management Act 1991;

b. A wildlife approval under section 42(4)(h) of the FTAA, to authorise acts or omissions that would otherwise have been an offence under the Wildlife Act 1953; and

c. Archaeological authorities under sections 42(4)(i) and 42(9)(b) of the FTAA, being a general authority to modify or destroy archaeological sites and approval of person(s) to carry out activities under that authority, that would otherwise have been applied for under the Heritage New Zealand Pouhere Taonga Act 2014.

The Process

Following an online overview of the application from the Applicant, the Panel received substantive comments from the Proprietors of Taharoa C Block, Ngaati Mahuta ki te Hauaauru comprising mana whenua entities of Te Runaanga o Ngaati Mahuta and Te Kooraha, Aaruka and Maketuu Marae, Te Nehenehenui representing Ngāti Maniapoto, Roy Wetini Whanau Trust, Marokopa Mātaitai Reserve/Area Rohe Moana of Marokopa, Waikato Regional Council and the Department of Conservation, all of these parties having continuing input to the process described below. Te Whakakitenga o Waikato

Incorporated, Waitomo District Council, and three Ministers of the Crown also responded to the invitation to comment, but had no further engagement.

The Panel's review of the substantive comments and its own questions on many aspects of the application required a series of responses by the Applicant. In the course of those responses we conducted a hui at Aaruka Marae, undertook two site visits and engaged expert assistance on hydrology/hydrogeology, air quality and cultural matters. Our enquiry also included two separate rounds of expert conferencing with an independent facilitator on a range of matters, and our own Panel Facilitated Conference which took the form of a workshop with experts focusing on conditions of consent. The process concluded with a written and in-person closing from the Applicant.

The original final decision date of 14 August 2026 was extended by four suspensions to 27 November 2026 to provide for our enquiry and in order for the applicant to respond to the matters raised.

The Panel considered the following issues to be the principal issues in contention:

RMA Consents

Mana whenua engagement

This issue addressed opportunities for mana whenua engagement through the practical expression of kaitiakitanga and the input of mātauranga Māori to site environmental management.

Our main findings in relation to this matter are explicitly set out in under the **blue headings** in the Part E Section Mana Whenua Engagement, providing more proactively for mana whenua/mātauranga expertise and input into management plan preparation along within ongoing cultural monitoring.

The effects of mining operations on the hydrology and ecology of the Site's wetlands, waterbodies and appurtenant riparian areas/habitats.

This issue addressed the complex interrelationship between hydrology, hydrogeology ecology and mātauranga Māori . The interrelated effects included groundwater drawdown, residual flows in the Wainui and Mitiwai Streams, lake and wetland water levels, buffer widths for riparian margins, removal of wetlands and the wetland offset site proposal.

The effects of the mining operations on water/wetland/ecological/taonga resources and species were comprehensively addressed in application material, comments, at the PFC, and in expert conferencing.

We note that, by the time of the Applicant's final response to the Panel's questions, there was significant consensus between the hydrologist, hydrogeologist, ecologist and mātauranga experts on proposed conditions of consent to manage freshwater, wetland and groundwater resources, along with potential effects on ecological habitats/taonga species arising from proposed mining activities generally.

Our main findings in relation to these effects are explicitly set out in under the **blue headings** in the Part E Sections Hydrology, Hydrogeology, Terrestrial Ecology- Wetlands and Vegetation, Freshwater Ecology, and to a lesser extent, Terrestrial Ecology- Fauna. In essence, the Panel has:

a. Adopted the control framework for surface water management agreed in expert conferencing (including relative to the monitoring and management of effects on lake margin wetlands), noting that a 9.0mRL cease take trigger has been set for water extraction as recommended by the ecologists.

b. Set an 'envelope of effects' approach to groundwater drawdown to ensure (in particular) effects on natural inland wetlands remain as assessed in the SAR and associated technical reports, and resolve uncertainties in the groundwater model, alongside the expert agreed framework for monitoring and management of effects on retained natural inland wetlands, and management of flows in the Mitiwai Stream.

c. Adopted the expert agreed conditions framework for the offset/compensation wetland site, with some variations adopting the final version of conditions as proposed by the Applicant for certain matters not agreed by all experts, and ensure mana whenua/mātauranga expertise and input to management plan preparation and ongoing cultural monitoring.

d. Set a 30-metre width for all riparian wetlands, subject to all ecological measures recommended by the experts being set in the conditions/management plan framework to ensure the potential of those riparian margins for aquatic habitat and terrestrial fauna (including taonga species) protection is realised.

e. Imposed a requirement for a 1.5mm fish screen on the Wainui Stream water intake as being necessary to protect juveniles of Threatened and At-Risk fish species from entrainment, with an overall period of 36 months for implementation.

<u>Air quality effects</u>

This issue related to the effects of discharges to air of particulates on the local receiving environment. Matters we addressed were:

f. Adverse (objectionable) effects of dust – we concluded from all of the information before us that dust from existing mining operations is causing objectionable dust effects beyond the site boundary at times, such that an air discharge permit would be required. Acknowledging the objections to the need for an air discharge permit by the Applicant and WRC and, as the proposed and necessary conditions are incorporated into the overall suite of consents, we have not insisted that an air discharge permit needs to be crafted to achieve the same outcome.

g. Actual and potential health effects – our findings were constrained by the failure of the air quality assessment in the SAR, and the failure of subsequent surrogate approaches, to address PM_{10} the primary contaminant of concern. We did not have confidence in available monitoring data (for TSP) due to calibration issues and retained concerns that PM_{10} can travel significant distances (kilometres). We found that there *may* be adverse health effects off site due to PM_{10} emissions from the Site and imposed robust conditions of consent to reduce, monitor and manage PM_{10} going forward.

h. Mitigation – we found that there is a significant deficit of rehabilitation undertaken to date that has resulted in large, exposed areas giving rise to dust discharges to air to a significantly greater degree than would otherwise have occurred. The Applicant has responded to our questions about dust mitigation and addressed some resident's concerns, with amended conditions of consent reinstating ridgelines and proposed end dates for some areas of the Central Block. We have adopted nearly all of these recommendations and have added further conditions of consent to ensure progressive site rehabilitation, in sequence with proposed mining.

Our findings are explicitly set out in under the **blue heading** in the Part E Section Air Quality. We note that this robust approach to the management of air quality has been set in preference to the RMA Hearing Panel decision to impose a blanket 200 set back

around the Site.

Wildlife Approval

There were no principal issues in contention for the Wildlife Approval. While there was some minor disagreement between the Applicant and the Department of Conservation on the contents of the Lizard Management Plan these were subsequently resolved.

Our findings in relation to the Wildlife Approval and final Lizard Management Plan are explicitly set out in under the blue heading in Part F.

Archaeological Authority

Similarly, there were no principal issues in contention for the Archaeological Authority. The Panel made minor amendments to the Archaeological Authority on buffer setbacks and the kaumātua nomination process for accidental discovery protocols.

Our findings in relation to these issues are explicitly set out in under the blue heading in Part G.

Decisions

In evaluating the Application the Panel has carefully reviewed all of the information provided to us through the above processes. We have assessed the Application applying the relevant statutory criteria within the FTAA, and the statutory and regulatory material referenced in the FTAA (for example, through the linked provisions of the RMA, WA53 and HNZPTA) and determined that the application meets the statutory requirements for approval .

The Panel therefore grants the approvals sought subject to the conditions in Appendices A, B and C. Appendix A contains the resource consent conditions, Appendix B the wildlife approval conditions, and the conditions for the archaeological authorities are contained in Appendix C.

This decision is made in accordance with section 87 of the FTAA and covers all of the approvals sought under the Application. This decision document includes:

a. The Panel's findings and decisions – Resource consents (Part E); Wildlife Approvals (Part F with reference to Terrestrial Ecology in Part E); Archaeological Authority (part G with reference to Archaeology in Part E); and associated legal context findings on Treaty settlement obligations and the 'existing environment' in Part D;

b. The Panel's reasons for the decision – throughout Parts D to G and summarised in Part J;

c. The conditions imposed on the grant of the approvals sought – throughout Parts E to G and Appendices 1 to 3; and

d. A statement of the principal issues that were in contention and the Panel's main findings on those issues– Part H with detail in Part E.

PART B: OVERVIEW OF THE APPLICATION

Applicant and Site

Applicant

2 Taharoa Ironsands Limited (**TIL or the Applicant**) is the authorised person for the Central and Southern Block Mining Project (**Project**) for the purpose of Section 42 of the Fast-track Approvals Act (**FTAA** or **Act**). TIL is the operator of the Taharoa Ironsands Mine which was established in the early 1970s and has operated continuously since then. Current activities operate pursuant to a suite of existing resource consents.[1] This application seek the necessary approvals under the FTAA to enable the continued operation of the mine comprising extraction of the ironsand and export of the refined product via an offshore shipping and export operation.

The site

3 The site is legally described as Taharoa C Block (**Site**). The land is Māori freehold land in accordance with section 4 of the Te Ture Whenua Māori Act 1993 which is included as 'identified Māori land' in the FTAA. It has an overall area of 1328.3ha. For mining purposes the site is divided into three blocks – the Northern, Central and Southern Blocks – the dividing boundaries of which are defined by the Mitiwai Stream and Wainui Stream (Figure 1). The resource consent approvals under the Resource Management Act 1991 (**RMA Approvals**), the wildlife approval under the Wildlife Act 1953 (**Wildlife Approval**) and the archaeological authority under the Heritage New Zealand Pouhere Taonga Act 2014 (**Archaeological Authority**) sought for this Project apply to the approximately 911ha comprising the Central and Southern Blocks.

Site and surrounding environment

4 The Applicant provided a detailed description of the Site in the Substantive Application Report (**SAR**) [2],which we summarise as follows:

a. The Taharoa Ironsands Mine is located on the west coast of the North Island approximately 8 km south of Kāwhia and 45 km to the northwest of Te Kuiti. The site lies on a remote stretch of coastline exposed to the sea and strong westerly winds.

b. The site is currently operated as a mine and has been for the past 50 plus years with the existing resource consents granted in 2006. It is currently occupied by mine buildings and ancillary infrastructure (mining machinery, pipelines, ironsand stockpiles).

c. To the east, the Central Block adjoins a former mine area known as the Eastern Block. This is outside of Taharoa C Block and mining on the Eastern Block has already been completed (under separate resource consents)[3] with rehabilitation underway. The Central Block also adjoins the Te Mania Extension which is a small block that is yet to be mined (and will be mined under separate resource consents).[4] The Eastern Block and Te Mania Extension are separately owned.

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[1] More detail is provided at [6] on consent renewal.

[2] Taharoa Ironsands Mine- Central and Southern Blocks Mining Project – Substantive Application at [3.1].

[3] Eastern Bock consent granted 2018, expires 2028.

[4] Te Mania Block consent granted 2022, expires 2029.

d. Tahaaroa Village is also located to the east of the mine and relies on the mine not only for employment, but for the provision of essential services, infrastructure and other support that TIL provides to the community.

e. To the west, the coastline and offshore environment adjacent to the Site are unmodified apart from the permanent presence of the shiploading pipelines, the Single Buoy Mooring (**SBM)** tethering infrastructure on the seafloor, and the presence on the sea surface of the SBM itself. Due to the Site's coastal location it is able to export ironsand product directly via ships, without the need to haul product overland by truck.

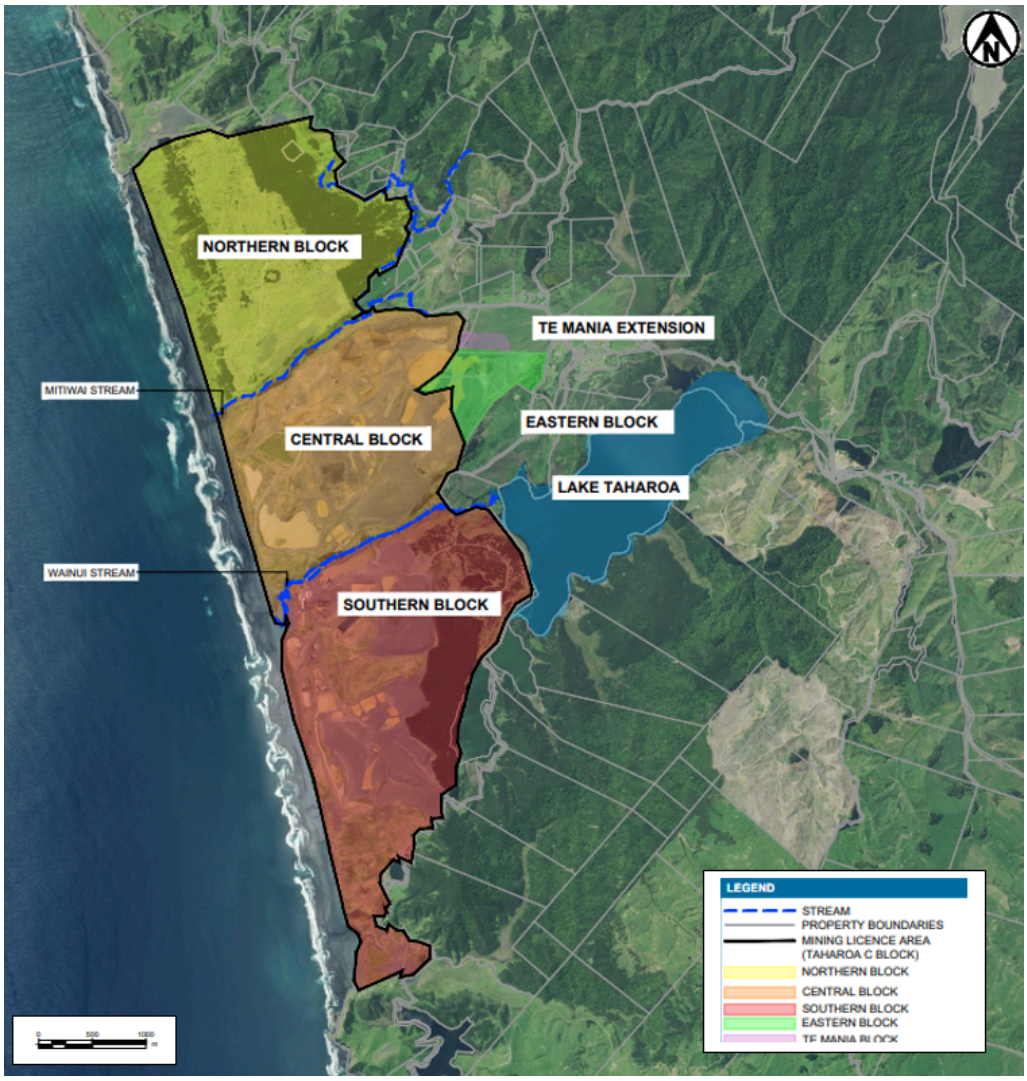


Figure 1: Site Plan

f. To the south-east, the Central and Southern Blocks adjoin a dune lake and wetland system comprising Lake Taharoa, Lake Numiti, and Lake Rotoroa. There are large areas of exotic plantation forestry on the eastern side of Lake Taharoa while the remainder of the lake(s) catchment is steep hill country, predominantly covered in bush with some areas cleared in pasture. The Central and Southern Blocks form only a small part of the catchment of the adjacent lakes, with the Site largely sloping west to the coast.

g. To the north, the Northern Block lies to the north where mining has not occurred to date except in Pit 1 adjacent to the Mitiwai Stream.[5] The Northern Block has a generally more undisturbed and natural character but has previously been subject to forestry plantation and logging activity.

h. To the south, the Waiohipa Stream intersects the southern boundary of the Site.

i. Offshore: The Site has no natural harbour and is subject to oceanic wave conditions. Ship-loading facilities, including ship-loading pipelines and the SBM, are located in the coastal marine area (**CMA**) adjacent to the mine. These facilities are located 3.5km offshore within an area legally defined as Taharoa Port.

5 Further description of the Site as necessary to consider specific environmental effects of the application are located in later parts of this decision. Part E also considers the legal advice that the Panel received from the Applicant and Department of Conservation (**DoC or Department**) on the matter of what constitutes the 'existing environment' from a legal perspective and what that means for the assessment of effects on the environment for the purpose of our consideration of the RMA approvals.

Proposed activities

6 The activities for which resource consents are being sought are described in detail in Section 4 of the Substantive Application report (**SAR**).[6] We summarise these activities as follows:

a. Removal of vegetation and stripping of topsoil for re-use in rehabilitation. Vegetation removal includes the harvest of the pine plantations and any other large trees. Other vegetation is composted.

b. Overburden removal over areas of the Site containing silts, clays and sands with non-economic deposits of titano-magnetite sand. Overburden is stockpiled for use in re-contouring during rehabilitation.

c. Extraction of the upper layers of ironsand with excavators, bulldozers and trucks for processing in a Dry Mining Unit (**DMU**). In a DMU the ironsand is mixed with water to form a slurry which is then pumped to a treatment plant to refine and concentrate the titanomagnetite.

d. Ironsand layers below the groundwater table are collected with a submerged dredge head to cut, fluidise and pump the ironsand slurry through a pipeline to the treatment plant. The dredge is capable of operating at depths of 8 to 15 metres below the pond surface and the size of the waterbody increases with excavation. A long-reach excavator may also be used to extract material from within the pond.

e. The ironsand is refined to meet export specifications. Key steps in the refining process at the central processing plant are initial screening of the slurry to remove oversize particles, gravity separation of the heavier ironsands from lighter silt sands and non-ferrous sands; and magnetic separation. Recirculation can be required to achieve the desired grade for export. Pre-treatment of sand for the refining process may be undertaken using mobile 'rougher' or cleaning plants at, or near, the mining area so as to minimise the volume of material to be transported to the processing plant. No hazardous substances are used in the ironsand

[5] Pit 1 consent granted 2024, expires 2029.

[6] SAR at [Section 4].

concentration process, which uses gravity and magnetic separation.

f. Mining occurs at a rate of approximately 45,000 tonnes per day and continues 24 hours per day, 7 days a week[7] with a 10-hour maintenance shutdown period once a fortnight. The overall production rates are currently approximately 3 million tonnes (export volume) per annum, with an intention to increase this to an export volume of 5 million tonnes per annum within the next 5 years.

g. As noted above, ship loading is undertaken via pipelines and the SBM which is designed to allow a moored vessel to rotate freely around its circumference in various wind and tide conditions. Prior to the ship loading process, the ironsand concentrate is mixed with equal parts of water to form a slurry in a constant density feed tank. The slurry is then pumped to the SBM connection at a maximum of 2,500 dry tonnes per hour via two parallel 318 mm diameter submerged steel pipelines which are secured to the seabed by piles approximately every 50 metres. Marine floating hoses at the SBM are used to connect to the moored bulk carrier. The percentage of concentrate onboard is increased until the designed density (50% by weight) is reached.

h. The ship is fitted with dewatering equipment and the resulting process water, containing residual fine suspended material (inert, inorganic geological material) that is removed from the ironsand slurry, is discharged from the ship to the sea. The current discharge rate is estimated to be 60,000 m^3/day during ship loading which is within the existing consented 75,000 m^3/day limit. The discharge forms a buoyant plume that floats on the seawater surface before dispersal and dilution.

i. The export fleet currently consists of the Taharoa Destiny, Taharoa Eos and Taharoa Providence which have all been purpose built for export of ironsand to China and Japan. TIL currently undertakes up to 20 ship loading events at the offshore port per annum and proposes to gradually increase this to up to 35 ship loading events per annum over the life of the consents that are sought. Although TIL is proposing to undertake a greater number of ship loading events, it is not seeking to increase the volume of ship loading water (or stormwater and process water) that it is already authorised to be discharged under its existing resource consents. The Applicant advised that there are constraints on the maximum number of ship loading events that could occur including limitations on power supply to the Site, constraints associated with the water take limit and the area available for stockpiling of export material, as well as the ability to physically process extracted material at required rates.

j. TIL seeks the necessary consents to mine all of the Central and Southern Block, *excluding* the following areas of each block:

    i. In the demarcated archaeological and cultural reserve areas;[8]

    ii. In the proposed 30m perennial waterbody and wetland buffer areas;

    iii. In the proposed 100m setback from the mean high water springs.

    iv. In the southernmost part of the Southern Block, separated from the remainder of the Block by an escarpment and which intersects with the Waiohipa stream.

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[7] Unless otherwise restricted by operating conditions of resource consent.

[88] We note that the Applicant added a 20m buffer area to demarcated archaeological and cultural reserve areas during the processing of the application.

k. With reference to the activities described above, the generalised mine plans for both the Central and Southern Blocks adopt a successive removal of vegetation, topsoil and overburden, dry mining of the upper sand layers and then the extraction of sand below the groundwater table as shown in Figure 2. The tailings areas are then available for rehabilitation. The mine plans are conceptual only subject to "a number of variables and can change from time to time".

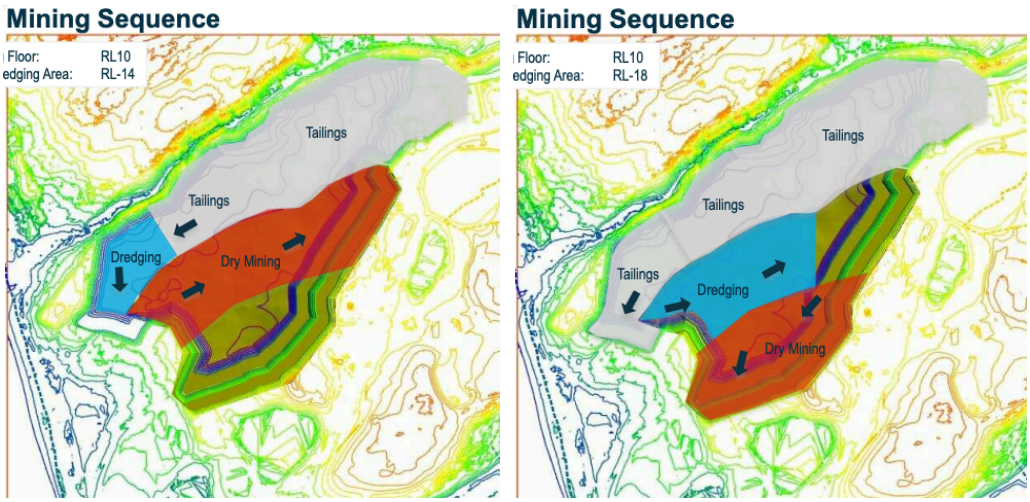


Figure 2: Successive Mine Sequences for Central Block

l. Freshwater is required for both iron sand mining operations and ship loading activities. Water is currently abstracted from the Wainui Stream. Much of the water taken for mining purposes from the Wainui Stream is recovered and recycled with stormwater back into the mining process. Eight water pumps are available to abstract water from the Wainui Stream for use in the refining, ironsand slurry transport and ship loading processes. The pump intakes are enclosed with a mesh screen to avoid the uptake of weeds and fish. The Applicant proposes to retain the existing dam, reservoir and fish pass located in the Wainui Stream for water abstraction purposes.

m. Appendix R of the SAR[9] explains that in terms of a final closure landform the intent is that as areas of the Site are progressively mined out, tailings operations will follow the mining operations and progressively backfill the mined out areas. Following mining, rehabilitation would then be completed with a combination of previously stockpiled tailings and overburden. The result will be the reinstatement of a similar land profile to that which previously existed prior to mining, but at a slightly lower overall elevation (to account for the extracted sand resource).

n. The Applicant anticipates large cut slopes could be expected to remain open for a period of approximately 2-3 years, prior to being substantially backfilled by tailings. The exception to this is the final pit developed at the Site. Once mining ceases there will be no tailings available to backfill the final pit, which may remain below the natural groundwater level. The location of the final pit has not yet been confirmed.

7 The Project defined above has several significantly different components to the application lodged with the Waikato Regional Council (**WRC or Regional Council**)in 2020 (**2020 RMA Application**) referred to in the next section. These components

[9] Appendix R of the SAR at [3]

included resource consents to mine below the water table, mining near and within wetlands, and the harvesting of a pine forest.

RMA Approvals, Wildlife Approval and Archaeological Authority

8 To continue operating the mine, TIL requires new approvals. TIL's operation is currently authorised under a suite of resource consents held by TIL from the WRC granted in 2006. The suite of regional consents expired on the 31 December 2020 and TIL is currently operating pursuant to section 124 of the RMA, under its existing but expired consents.

9 The 2020 RMA Application was determined by an Independent Hearing Panel appointed by WRC in 2024. The decision was to grant the necessary resource consents to enable 'dry mining' (i.e. only mining which does not interact with groundwater) but decline the necessary resource consents for mining that interacted with groundwater on the basis of a scope issue with the application. The Applicant appealed parts of the decision – firstly, to not grant the necessary consents for mining below groundwater, and secondly, the conditions which it considered significantly impeded the ability of the mine to continue operating.

10 The decision on the 2020 RMA Application was provided with the SAR, as was a Summary of Key Issues.[10] The Panel found it informative to have this information included in the application. Nevertheless, we recognise its limitations relating to differences in the consents being sought as part of the current application[11]and more particularly that the decision-making criteria of the FTAA has a different emphasis to the RMA.[12]

11 The Panel has reviewed all the documentation and the further information provided by the Applicant. The necessary approvals which may be sought pursuant to section 42(4)(a),(h) and (i) FTAA include new consents that would otherwise be applied for under the RMA, a Wildlife Approval under the Wildlife Act 1953, and an Archaeological Authority under the Heritage New Zealand Pouhere Taonga Act 2014.

12 The necessary RMA Approvals include those consents potentially required by the Proposed Waitomo District Plan[13], Waikato Regional Plan, Waikato Regional Coastal Plan, Proposed Waikato Regional Coastal Plan, National Environmental Standards (**NES**) for Freshwater 2020, the NES for Commercial Forestry 2017 and the NES for Assessing and Managing Contaminants in Soil to Protect Human Health 2011. The details of the RMA consents are listed in **Appendix 4**.

13 At the commencement of our engagement the issue of land use consents being required from Waitomo District Council was a matter of enquiry identified by the Panel Convener. The Applicant advised that it was in the process of compiling information that would support the establishment of existing use rights pursuant to section 10 of the RMA. This information was subsequently provided to Waitomo District Council and the Council confirmed that it accepted:[14]

- the mining activities were lawfully established prior to the notification and operative status

[10] Appendix F and G respectively of the SAR

[11] For example, specific consents for mining below the groundwater table and the addition of a Wildlife Approval and Archaeological Authority

[12] Clauses 17 -22 of Schedule 5 FTAA

[13] The Proposed Waitomo District Plan is currently at the appeals stage and is largely treated as operative under Section 86F of the RMA.

[14] Letter from Waitomo District Council dated 7 May 2026

of Rule RPROZ-S1.9 of the Proposed Waitomo District Plan (PDP); and

- the character, intensity and scale of the effects associated with the continuation of mining activities are the same or similar to those that existed prior to Rule RPROZ-S1.9 becoming operative.

14 Subject to ongoing compliance with these existing use rights, the Panel accepts that there is no requirement for any resource consents pursuant to the Waitomo District Plan. The reference in the Council response to Rule RPROZ-S1.9 relates to setbacks from the Site boundary required for mining activities in the District Plan.

15 The Panel agrees with the Applicant that, in terms of the Waikato Regional Plan (**WRP**) and its various proposed plan changes, and both the Waikato Regional Coastal Plan (**WRCP**) and Proposed Waikato Regional Coastal Plan (**PWRCP**), overall the application is a discretionary activity.[15] Resource consents required by the National Environmental Standards are either discretionary activities or restricted discretionary activities.[16]

16 The WRC agrees and accepts the assessment of the proposal in relation to the relevant provisions of the WRP and RMA.[17] On the issue of the need for an air permit, neither the Applicant nor WRC consider that this permit is necessary. Notwithstanding this position, an air permit has been provisionally sought by the Applicant.

17 A Wildlife Approval application to capture, temporarily hold, relocate and incidentally kill copper skinks, forest gecko, Pacific gecko and elegant gecko has been assessed by the Department of Conservation pursuant to Schedule 7 FTAA and the Panel received its report and recommended conditions prepared pursuant to section 51 FTAA for our consideration on 6 May 2026.

18 An Archaeological Authority in relation to the potential impacts on archaeological sites from the proposed mining activities has been assessed by Heritage New Zealand Pouhere Taonga and the Māori Heritage Council pursuant to Schedule 8 FTAA and the Panel received their report and recommended conditions prepared pursuant to section 51 FTAA for our consideration on 6 May 2026.

PART C: PROCEDURAL MATTERS

19 The following matters of procedure are relevant for this decision, recorded generally in chronological order.

Panel Convener Steps

20 The Panel Convener conducted a conference with the Applicant, relevant iwi authorities and Treaty settlement entities, relevant administering agencies and relevant local authorities on 19 March 2026 in order to ascertain the parties' views on the appointment of the Expert Panel, the timeframe for a decision and other procedural requirements. At this conference, the Panel Convener suggested a hui may be helpful to give mana whenua an opportunity to speak directly to the Panel about their concerns, this having been effective in other FTAA applications.[18]

21 We were subsequently appointed on 27 March 2026 and commenced work on 7 April

[15] SAR at [Section 1.3.1].

[16] SAR at [Tables 5.1 and 5.2].

[17] Taharoa Ironsands Ltd Central And Southern Blocks Mining Project [FTAA-2512-1153] Waikato Regional Council Section 53 Comments under The Fast-Track Approvals Act 2024 prepared by Mitchell Daysh 20 May 2026 at [4].

[18] Panel Convenor Minute 3 27 March 2026 at [17d]

2026. With the Panel Convener having identified a timeframe of 60 working days following the receipt of comments as being appropriate this decision was originally due on 14 August 2026. This due date was subsequently amended by the suspensions noted below.

Initial Panel Briefing

22 The Panel attended an initial online briefing on the Project with the Applicant on 16 April 2026.

Site Visits

23 The Panel conducted two site visits. Site Visit 1 was conducted on 22 April 2026 and Site Visit 2 was conducted on 21 July 2026. Both site visits were enabled by the Applicant's helicopter from Hamilton Airport providing for Site aerial overview, followed by touring over the Site with four-wheel drive vehicles. Site Visit 1 also included landing on the Taharoa Destiny, the ship engaged in a sand loading operation at the time.

24 The landside visits included inspections of all Site natural features and the mining plant and operations. The Panel thanks the Applicant for enabling an efficient means by which we were able to gain an understanding of the Site environment and mining activity.

Section 53 invitations to comment

25 The Panel invited comments on the Application pursuant to section 53 FTAA to be received by 20 May 2026.[19] A subsequent invitation made a specific request for comments on the Applicant's proposed conditions of consent to be included and invited three additional parties to comment (these being government Ministers/Ministries).

26 Comments were received from the following parties:[20]

a. The Proprietors of Taharoa C Block Incorporated

b. Te Nehenehenui

c. Te Whakakitenga o Waikato Incorporated

d. Te Ruunanga o Ngaati Mahuta ki te Hauaauru Charitable Trust, Maketuu Marae, Te Kooraha Marae, and Aaruka Marae (jointly as Ngaati Mahuta ki te Hauaauru)

e. Co-Submission Marokopa Mātaitai Reserve - Fisheries Notice 2010 (No. F567) and Area/Rohe Moana of Marokopa - Fisheries (Kaimoana Customary Fishing) Notice (No. 10) 2012 (Notice No. MPI 87)

f. Waikato Regional Council

g. Waitomo District Council

h. Department of Conservation

i. Minister for Economic Growth

j. Minister for Māori Development and Minister for Māori Crown Relations

[19] Panel Minute 3 dated 21 April 2026.
[20] The comments from the Department of Conservation were received late but an allowance was made due to a bereavement pursuant to section 81(6) FTAA.

k. Minister for Infrastructure and RMA Reform

27 The Panel would like to thank all parties who commented for their contributions. Comments were received on a wide range of environmental effects, statutory matters, with specific comments being made on the proposed conditions of consent, as requested by the Panel. Each of the subsections in Part E Decision on Resource Consents refers to relevant section 53 comments for that subsection.

28 The Panel confirms that we have read and considered all the commentary provided regardless of whether these comments are explicitly referenced in this decision.

Appointment of Maatanga Ahurea (Cultural Advisor)

29 Following consultation with the parties on the appointment of a maatanga, the Panel appointed Mr Julian Williams (Ngaati Makirangi, Waikato) to this role on 13 May 2026. The scope of work for Mr Williams was to provide advice on tikanga Māori and Treaty settlement frameworks. Within that general scope there was a significant focus on establishing the detailed arrangements for a hui through engagement with mana whenua. This appointment was made under clause 10(3) of Schedule 3 of the FTAA.

Appointment of Peer Reviewer Hydrogeology and Hydrology

30 Following consultation with the parties on the appointment of a peer reviewer for hydrogeology and hydrology matters, the Panel appointed Mr Philip Kelsey to this role on 16 May 2026. The scope of work for Mr Kelsey was to review the information provided on hydrogeology and hydrology and to provide advice on the adequacy of this information in relation to monitoring and mitigation of effects of the Project on the Site's natural water bodies. This appointment was made under clause 10(2) of Schedule 3 of the FTAA. Mr Kelsey's initial peer review comments were received on 29 May 2026. Mr Kelsey provided additional independent technical advice to the Panel at the Panel Facilitated Conference and in relation to expert witness conferencing statements produced following the conference.

Suspensions of process

31 The application timeline incorporated four suspensions of process.

32 As noted above, comments from parties were received on 20 May 2026 and pursuant to section 54 FTAA the Applicant had 5 working days to respond to the comments. By memorandum on 22 May 2026, the Applicant requested the suspension of the application in accordance with section 64 FTAA in order to prepare a robust and complete response to the comments. The Applicant expressed no objection to the Panel and its advisers, or the EPA, continuing to work on the application during the suspension period, but sought the deferral of procedural steps that we had previously indicated the Panel would take during the suspension:

a. The issuance of a Panel Request for Information;

b. The proposed hui to be facilitated by Mr Julian Williams;

c. The Panel Facilitated Conference; and

d. Any expert conferencing.

33 The Panel initially considered that the comments received were relatively succinct and focussed on subject matter that should have been of no surprise to the Applicant such that a 17-working day suspension was neither warranted nor proportionate. However, the Department of Conservation comments arrived 3 days late and contained extensive expert evidence. We therefore concluded that the 17-working day suspension was

appropriate and that a more comprehensive response from the Applicant would assist the Panel in its review of the comments and responses, including what appeared to be a range of relevant and important issues raised in the late comments from the Department of Conservation.

34 Our agreement to this first suspension was however conditional on progressing two procedural matters. Firstly, we considered that it would be efficient for the Applicant to consider the matters identified in Mr Kelsey's initial review findings at the same time as its response to the comments from parties. Secondly, we did not agree with the Applicant's request to defer the hui. We had been advised by Mr Williams that all mana whenua parties and the owners of the land, the Proprietors of Taharoa C Block, had agreed that 8 June 2026 at the Aaruka Marae was an appropriate time and place. The Panel was consequently very reluctant to relinquish this date given the indicated commitment by the parties. The Applicant chose not to attend the hui for reasons explained in a memorandum dated 28 May, but responded to the content of the day's proceedings in writing and during its presentation on 13 October 2026. Further comment is made on this response below in our record of the hui.

35 The second suspension followed the Panel Facilitated Conference (**PFC)** and the Applicant's receipt of the Panel's further Request for Information (**RFI**) as explained below. Upon considering the PFC RFI the Applicant considered that additional time was necessary to prepare an appropriate response to the matters raised, most of which required expert conferencing.

36 The third suspension followed further consideration of the Panel's proposed process for the Applicant and other parties to consider the matters contained in the PFC RFI. Rather than expert conferencing as directed, the Applicant proposed that the response, including proposed conditions and an accompanying rationale was to be prepared by the experts retained by the Applicant's expert team, following which feedback would be sought from the section 53 parties on the Applicant's response. The essential concern of the Applicant behind this revised proposal was that it considered that it needs to be included in the development of conditions given its uniquely informed and deep understanding of the operational and practical elements of the mine, which must be factored in to ensure the conditions are fit for purpose, reasonable and operationally feasible.

37 The Panel sought comments from the section 53 parties in relation to the Applicant's proposal. Comments were received from Te Ruunanga o Ngaati Mahuta ki te Hauaauru (**Ngaati Mahuta**), Te Nehenehenui, Maketuu Marae, Te Kooraha Marae and Aaruka Marae (Marae comments jointly provided), Department of Conservation and Waikato Regional Council. The comments were unanimous in their preference for the process directed by the Panel which was for the experts to confer in relation to a number of further RFI matters and a Joint Witness Statement (JWS) to be provided. The parties were concerned about the revised process being principally driven by the Applicant rather than in a collaborative manner between the respective experts on an equal footing, independently of party positions.

38 However, the responding parties recorded that if the Panel was minded to adopt the Applicant's proposed revised process, their comments should be directly provided to the Panel. The parties considered that this would ensure that the Panel receives the views of all parties directly and transparently, rather than through an Applicant-managed process.

39 Having considered the Applicant's revised proposal and the comments received from the parties, we decided to modify the process in a way that we considered fair and transparent to all parties, maintained the benefits of conferencing between the

respective independent experts, and provided for input from the Applicant directly at both the outset and conclusion of the process, including by way of an in-person presentation to the Panel. The third suspension allowed for this modified procedure to be progressed and completed.

40 A fourth suspension of nine working days (and then a further 5 working days) was sought at the very end of the process in order to enable the Applicant to respond to the Independent Air Quality Report commissioned by the Panel (as referred to below), a final report received from Mr Kelsey (on 13 October) and certain matters raised by the Panel at the Applicant's presentation on 13 October.

41 Following the fourth suspension, the adjusted date for the final decision became 27 November 2026.

Appointment of Expert Conferencing Facilitator

42 In Minute 15 the Panel affirmed its approach of holding a PFC as the most appropriate and efficient procedure to 'grasp the nettle' on the various issues raised by the application and the comments received in order to focus on conditions regarding issues where differences of opinion between experts remained. However, for a first round of expert conferencing we identified one matter that would benefit from expert conferencing prior to the PFC. The Department of Conservation and, to a lesser extent, Waikato Regional Council had raised significant criticisms of the Applicant's methods and approach to calculating wetland offset requirements that in turn created uncertainty for the Panel as to the adequacy of the proposed offset measure for the wetlands proposed to be removed. This uncertainty was further exacerbated by the proposed offset site itself being potentially subject to hydrological impacts.

43 The Panel appointed Mr Steve Mutch to the role of expert conferencing facilitator. Mr Mutch, Ms Caitlin Todd and colleagues from law firm Chancery Green had previously been identified by parties as being appropriate for this role. This appointment was made under clause 10(2) of Schedule 3 of the FTAA. The Panel provided for experts with both western science knowledge and mātauranga Māori to attend this first round of conferencing. Expert conferencing took place on 6-7 July 2026 and the Joint Witness Statement (**JWS**) prepared to record proceedings provided the Panel with useful guidance on the matters of agreement and disagreement in relation to the offset wetland matter. The specific content of the JWS is referred to below in the context of wetland issues.

Second round of expert conferencing

44 Following the PFC RFI a second round of expert conferencing took place between 15-21 September 2026 and the three JWS prepared to record proceedings provided the Panel with useful guidance on the matters of agreement and disagreement in relation to air quality, hydrology and hydrogeology matters and various ecological matters including management of the effects on wetlands and the Mitiwai Stream. The specific content of the JWSs is referred to below in the context of these sections of the evaluation in Part E of this decision.

Hui at Aaruka Marae

45 The Panel attended a hui at Aaruka Marae on 8 June 2026. The hui was conducted according to the tikanga of mana whenua. The Panel was formally welcomed on to the marae and received presentations from the Proprietors of Taharoa C Block Incorporated and all mana whenua groups that provided written section 53 comments, with the exception of Te Whakakitenga o Waikato Incorporated. The presentations

encompassed both whakapapa and the concerns held on the potential effects of the Project by mana whenua. Most presentations were supported by audio/visual displays and spoke to the matters raised in the written s53 comments.

46 The Applicant chose not to attend but provided detailed comments on the hui presentations following a review of the video and transcript recordings[21] and addressed the hui more generally at the presentation to the Panel on 13 October (as referred to further below).

47 The Panel has considered the content of the presentations and the response from the Applicant. The content of the presentations at the hui did not include substantially different information or raise new issues to what had been received in the written section 53 comments, and the Applicant's response enabled the information received at the hui to be considered in a balanced way, with an understanding of why the Applicant chose not to attend the hui itself. Accordingly, the content and the Applicant's response to these issues, including those contained in previous memorandums and in Schedule 1 to the hui response, is addressed in the various sections of Part E.

Panel Request for Information

48 The Panel issued an RFI on 29 June 2026. The RFI took into account our review of the SAR, the initial peer review findings by Mr Kelsey, the written comments by Section 53 parties, and the Applicant's response to comments, along with what the Panel saw on Site Visit 1, and the kōrero shared at the hui at Aaruka Marae.

Panel Facilitated Conference

49 The Panel conducted a PFC on 22-23 July 2026 in Hamilton. While the Applicant and parties were able to attend the conference, the conference adopted an interactive 'workshop' mode and the focus was on direct engagement with the experts on amendments to the Applicant's proposed conditions (as submitted with the SAR) requested in the section 53 comments. We were encouraged to adopt this procedure applying clause 17.5 of the Panel Conveners' Practice and Procedure Guidance document, referring to "other types of quasi-inquisitorial hearing features" including convening a workshop for the Panel and participants to work interactively to resolve the final form of conditions, and section 10 of the Act more generally (i.e. applying timely, efficient and cost-effective processes). Consistent with those processes, the Panel requested that Mr Kelsey also attend the PFC to assist the Panel by asking questions on technical aspects of conditions within his area of expertise. The conference resulted in a limited number of additional requests for information on specific conditions (PFC RFI) as noted above, most of which required conferencing by the experts.

Applicant's Response to Comments and to Panel RFI

50 The Panel has considered the Applicant's responses to section 53 comments, along with the responses to both Panel RFIs, and, as appropriate, refers to those responses within Part E of this report below. This includes the Applicant's detailed PFC RFI response filed on 1 October 2026 including a final proposed form of conditions for the RMA Approvals sought, either adopting the outcomes of the PFC RFI JWS received by

[21] Memorandum of counsel on behalf of Taharoa Ironsands Limited to the Expert Panel with TIL's written response to the hui at Aaruka Marae dated 6 October 2026

the Panel on 22 September 2026 or proposing alternative condition responses to the issues covered in those JWS, as also explained in the relevant sections of Part E of this decision.

Appointment of Independent Air Quality Expert

51 The Applicant declined to respond to some aspects of the Panel's first RFI in relation to discharges to air and Minute 25 recorded the Panel decision to commission independent air quality expert advice. Ms Tracey Freeman was appointed on 9 September 2026, undertook a site visit on 24 September 2026 and provided a report answering Panel questions from Minute 25 on 5 October 2026.

52 Applicant's Reply

53 On 13 October 2026, the Panel attended an in person presentation with the Applicant for it to address matters raised throughout the process, including at the Aaruka Marae hui, the PFC, and matters covered in the JWS received following the PFC RFI. Again, the information received in that presentation has been considered by the Panel and is recorded where relevant to the substantive matters addressed in Parts E-G of this decision. This presentation also provided the Panel with an efficient opportunity to question the Applicant about specific drafting issues with the final form of proposed conditions for the RMA Approvals as filed by the Applicant on 1 October 2026.

54 The Applicant provided a final memorandum on 2 November 2026 which included responses to the Independent Air Quality Report commissioned by the Panel, to the final report received from Mr Kelsey (on 13 October 2026) and to certain matters raised by the Panel at the Applicant's presentation.

Other Panel Meetings

55 The Panel met generally weekly online by Teams to consider actions critical to the timeline, minutes, responses to correspondence, key issues for conferencing and for enquiry, deliberation and the drafting of this decision report as deliberations progressed.

Decision Approach

56 The review of procedural matters above attests to the depth and breadth of the matters the Panel has addressed and the extent of enquiry we have engaged in. In reaching our findings on each of the three approvals we have provided a detailed account of the process of enquiry, including the matters raised and the responses providing by the Applicant and the other parties. For each matter, the Panel has carefully considered the information provided as a result of this process to reach our findings and in making our ultimate decisions.

PART D: LEGAL CONTEXT

Legal Context for a Listed Project under the FTAA

57 In accordance with section 42 an authorised person[22] for a listed project may lodge a substantive application with the EPA. The substantive application is required to follow the process set out in sections 43 and 44. The Applicant lodged the SAR on 26 January 2026.

[22] FTAA, sections 4 and 42

58 The EPA decided that the Application was complete and within scope[23] on 16 February 2026. The Application was deemed not to have any competing applications or existing resource consents for the same activity on 25 February 2026.[24] The EPA then provided the Application to the Panel Convener and at the same time requested a report from the Ministry responsible agency[25] under section 18 FTAA on Treaty settlements and other obligations and with that report received on 11 March 2026.

59 In relation to scope, the Panel records our consideration of the wording in Schedule 2 (Listed projects with significant regional or national benefits) of the FTAA which has the following project description (our emphasis):

> **Continue existing** mineral sand extraction, including land preparation works, constructing a water supply reservoir, extracting ironsand material using dry and wet-mining techniques, processing extracted material, and transporting raw and processed material

60 We consider the continuation of existing activities is not limited to the current activity rate of exporting 3 million tonnes per year but also covered the proposed expanded activity rate of exporting 5 million tonnes per year from the Central and Southern Blocks comprising approximately 911 hectares as described in the SAR. This is because the proposed activities, at a rate of 5 million tonnes per year export, represent both continuation and expansion of existing activities within the existing consented Site which have been appropriately assessed in an integrated way in the SAR, and would proceed generally within the limits of the existing resource consents for water take and discharge to the CMA in particular, despite the expanded rate of activity/increased number of ship loading movements proposed.

Decisions on Approvals: Section 81 and Schedules 5, 7 and 8

61 Section 81 describes the decision-making framework under the FTAA. Relevant to the approvals sought in this instance, that framework comprises:

> **81 Decisions on approvals sought in substantive application**
>
> (1) A panel must, for each approval sought in a substantive application, decide whether to—
> (a) grant the approval and set any conditions to be imposed on the approval; or
> (b) decline the approval.
>
> (2) For the purpose of making the decision, the panel—
> (a) must consider the substantive application and any advice, report, comment, or other information received by the panel under section 51, 52, 53, 55, 58, 67, 68, 69, 70, 72, or 90:
> (b) must apply the applicable clauses set out in subsection (3) (*see* those clauses in relation to the weight to be given to the purpose of this Act when making the decision):
> (c) must comply with section 82, if applicable:
> (d) must comply with section 83 in setting conditions:
> (e) may impose conditions under section 84:
> (f) may decline the approval only in accordance with section 85.
>
> (3) For the purposes of subsection (2)(b), the clauses are as follows:
> (a) for an approval described in section 42(4)(a) (resource consent), clauses 17 to 22 of Schedule 5:….
> (i) for an approval described in section 42(4)(h) (wildlife approval), clauses 5 and 6 of Schedule 7:
> (j) for an approval described in section 42(4)(i) (archaeological authority), clauses 4 and 5 of Schedule 8:….

[23] FTAA, section 43

[24] FTAA, section 47

[25] The Ministry for the Environment is the responsible agency for section 18.

> (4) When taking the purpose of this Act into account under a clause referred to in subsection (3), the panel must consider the extent of the project's regional or national benefits.
>
> ….
>
> (6) Despite subsection (2)(a), the panel—
> (a) is not required to consider any advice, report, comment, or other information it receives under section 51, 53, 55, 67, 69, 70, or 72 after the applicable time frame; but
> (b) may, in its discretion, consider the information as long as the panel has not made its decision under this section on the approval.
>
> (7) To avoid doubt, nothing in this section or section 82 or 85 limits section 7.[26]

62 Section 81(2) directs the Panel to the matters that we must consider, apply and comply with, what we may impose by way of conditions, and identifies the circumstances pursuant to which the application either must or may be declined. Section 81(3) links the Panel to the relevant clauses of the FTAA schedules (for this Project, Schedules 5, 7 and 8). We outline the key parts of Schedules 5, 7 and 8 at the start of the relevant sections of this decision report, being Parts E, F, and G. However, each of the schedule clauses provide three important directions to us:

a. First, they advise the Panel of the matters we must "take into account". These are matters that we must directly consider and give our genuine consideration to.[27]

b. Second, they advise the weight to be given to the purpose of the FTAA in our decision-making. The purpose of the FTAA is "to facilitate the delivery of infrastructure and development projects with significant regional or national benefits", per FTAA section 3. For each of the approvals sought in relation to this Project the FTAA's purpose is to be given the greatest weight.

c. Third, they set out the provisions of the RMA, Wildlife Act 1953 (**WA 53**) and the Heritage New Zealand Pouhere Taonga Act 2014 (**HNZPTA**) that are to be applied (as relevant to the approvals sought).

63 We understand the phrase "take into account" as requiring us to directly consider the matters so identified and give them genuine consideration; rather than mere lip service, such as by listing them and setting them aside: *Royal Forest and Bird Protection Society of New Zealand Inc v New Zealand Transport Agency* [2024] NZSC 26 at [169], [224].[28]

64 In respect of those matters to be taken into account, the greatest weight must be given to the purpose of the FTAA. This 'legislatively directed weighting' has been previously utilised in section 34 of the Housing Accords and Special Housing Areas Act 2013, which was considered by the Court of Appeal in *Enterprise Miramar Peninsula Inc v Wellington City Council* [2018] NZCA 541 (***Enterprise Miramar***).

65 The decision of the Expert Panel for the Bledisloe North Wharf and Fergusson North Berth Extension summarised the guidance provided in the Enterprise Miramar decision, adapted to apply to the FTAA. We agree with that summation and find it appropriate for each of our three decisions as addressed in Parts E, F and G as follows (adapted as

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[26] The relevance of this section (s81(7) and section 7 FTAA in relation to Treaty settlements is addressed below in Part D Treaty Settlement Obligation

[27] See for example *Royal Forest and Bird Protection Society of New Zealand Inc v New Zealand Transport Agency* [2024] NZSC 26.

[28] While the Supreme Court's decision was in the context of a requirement to "have regard to" a relevant consideration, we consider that an equivalent obligation should apply to the phrase "take into account".

it would apply to the Project):

a. While the greatest weight is to be placed on the purpose of the FTAA, we must be careful not to rely solely on that purpose at the expense of due consideration of the other matters listed in the relevant clauses of Schedules 5, 7 and 8[29]: *Enterprise Miramar*, at [41].

b. The matters listed in each of the relevant clauses of Schedules 5, 7, and 8 must be considered on an individual basis, prior to standing back and conducting an overall weighting in accordance with the specified direction: *Enterprise Miramar*, at [52] – [53].

c. The purpose of the FTAA is not logically relevant to the assessments otherwise required under the RMA, WA53 or HNZPTA. For example, assessments of environmental effects (RMA), or matters relating to protected wildlife (WA53), or historical and archaeological value (HNZPTA). However, none of those matters become irrelevant, insignificant, or less than minor simply because of the purpose of the FTAA. What changes is the weight to be placed on them - they may be outweighed by the purpose of facilitating the delivery of infrastructure and development projects with significant regional or national benefit, or they may not: *Enterprise Miramar*, at [55].

Ability to Decline Consent

66 Section 85(1) and (2) sets out the circumstances that apply to a mandatory decline decision. The RMA Approvals are not for an ineligible activity (section 85(1)(a) and none of the other circumstances in these sections apply in this case, with the exception of section 85(1)(b) in relation to breaching section 7 FTAA which we address below (Treaty Settlement Obligations).

67 Section 85(3) describes the circumstances relating to adverse impacts in which an approval may be declined if adverse impacts are sufficiently significant to be out of proportion with the Project's regional or national benefits. This matter is addressed specifically in Part E .

Treaty Settlement Obligations

68 Section 81(2)(c) requires the Panel to"comply with section 82, if applicable."

69 Section 82 sets out these obligations:

> **82 Effect of Treaty settlements and other obligations on decision making**
>
> (1) This section applies if a Treaty settlement, the Marine and Coastal Area (Takutai Moana) Act 2011, or the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 is relevant to an approval.
>
> (2) If the settlement or Act provides for the consideration of any document, the panel must give the document the same or equivalent effect through the panel's decision making as it would have under any relevant specified Act.
>
> (3) The panel must also consider whether granting the approval would comply with section 7.
>
> (4) In this section, **document**—
> (a) means any document, arrangement, or other matter; and
> (b) includes any statutory planning document amended as a result of the settlement or Act referred to in subsection (1).

[29] Being Schedule 5, Clause 17(1), Schedule 7, Clause 5, and Schedule 8, Clause 4.

70 The Ministry for the Environment provided a report under section 18 FTAA which identified the Maniapoto Claims Settlement Act 2002 as being relevant to our decision as provided for by section 7(1)(a) FTAA which provides:

> All persons performing and exercising functions, powers, and duties under this Act must act in a manner that is consistent with—
>
> (a) the obligations arising under existing Treaty settlements ...

71 We understand from the section 18 report and the SAR that the Maniapoto Deed of Settlement signed 11 November 2021 recorded in the Maniapoto Claims Settlement Act 2022 is relevant to the Application. We note that the SAR also identified the Waikato-Tainui Deed of Settlement signed 22 May 1995 recorded in the Waikato Raupatu Claims Settlement Act 1995 as applying to the Site. However, the SAR also included a map (Figure 2.1) that showed the claim area boundary being located to the north of Tahaaroa extending from (Whaingaroa) Raglan Harbour to Pirongia and inland toward Maungatautari. Further, there are no statutory acknowledgements in the Settlement Act that apply to Tahaaroa. Accordingly, there are no direct implications of this settlement for us to observe for the application.

72 In accordance with Clause 5 Schedule FTAA, the SAR provided the following information in relation to the Deed of Settlement recorded in the Maniapoto Claims Settlement Act 2022.[30] The Deed of Settlement identifies that

> …Ngati Maniapoto has a strong historical association with the coast from Waipingao Stream to Kāwhia Harbour. The area contains important pa, kainga and waahi tapu along the coastline, along with fishing grounds. There are historical walking tracks through the Taharoa area.

73 The Maniapoto Deed of Settlement grants Ngāti Maniapoto participation in resource management processes for activities affecting Ngā Wai o Maniapoto including joint management agreements and planning document participation. Te Nehenehenui[31] has a Joint Management Agreement (**JMA**) with Waitomo District Council and Waikato Regional Council. The JMA relates to RMA planning processes, including preparation, review, change or variation of RMA planning documents. The JMA contains general principles pertaining to working in good faith, co-operation and co-management in that context.

74 In relation to such participation, the SAR advised that Te Nehenehenui were invited to consult with the Applicant in respect of this application. While no response was received prior to lodgement, the application noted that such consultation was ongoing. The SAR also provided an assessment of the application against the Ngāti Maniapoto Environmental Management Plan.[32]

75 Te Nehenehenui provided comments on the SAR in response to the section 53 invitation from the Panel.[33] We note that Attachment A to these comments includes the statement:

> The Maniapoto Claims Settlement Act 2022 defines a statutory acknowledgement area which includes the coastal area adjacent to Taharoa C Block and the Mitiwai and Wainui Streams.

76 In response to this definition, the Applicant brought to our notice that this statement

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[30] SAR at [2.6.2]

[31] The post-governance settlement entity for Ngāti Maniapoto.

[32] SAR at [8.3.10]

[33] Te Nehenehenui Comments on Central and Southern Blocks Mining Project Fast-track Application – Substantive application for Taharoa Ironsands Limited (TIL) [FTAA-2512-1153] dated 19 May 2026 Attachment A at [1]

should not be read as including the Wainui Stream in the statutory acknowledgement area.[34] This is because:

(a) the Maniapoto Claims Settlement Act 2022 defines the statutory acknowledgement area as "an area described in Parts 1 and 2 of Schedule 3, the general location of which is indicated on the deed plan for that area";

(b) Part 1 of Schedule 3 refers to the "Coastal statutory acknowledgement area" (as shown on OMC-049-04) and "Ngā Wai o Maniapoto" (as shown on OMCR-049-18);

(c) as shown on OCR-049-04, the "Coastal statutory acknowledgement area" does not include any terrestrial waterbodies – it is limited to the coastal environment; and

(d) the Matauwai Stream (renamed to the Mitiwai Stream in April 2024) is identified on OCR-049-18, "Ngā Wai o Maniapoto". However, the Wainui Stream is not.

77 Te Nehenehenui responded to the Applicant's information, acknowledging that the Wainui Stream was not included in the broad statutory acknowledgement area over Nga Wai o Maniapoto. However, Te Nehenehenui maintained that its statutory acknowledgement permits Maniapoto to comment on activities within, adjacent to, or directly affecting the statutory area.[35] It noted that the mouth of Wainui Stream is clearly within the Coastal Statutory Acknowledgment Area and that activities within Wainui Stream are arguably adjacent to or directly affect the statutory area.

Panel Findings: Treaty Settlement Obligations

78 Ngāti Maniapoto's interests and obligations in its statutory management area were broadly described in the Te Nehenehenui comments as prioritising the quality and integrity of water for present and future generations, along with the duty to restore, protect and enhance Maniapoto waters through active participation in decision-making and recognises Maniapoto as rangatira and kaitiaki in resource management and decision-making.

79 Te Nehenehenui response to the invitation to comment indicated opposition to the application in its current form and its detailed comments in relation to environmental and cultural matters have been included in the assessments conducted in Part E. Te Nehenehenui sought that, where conditions of consent were proposed in order to manage the actual and potential adverse effects of the application, the Panel find preference for more precautionary, stricter conditions.

80 We consider that the approach we have taken to consent conditions overall enables Ngāti Maniapoto to better fulfil its rangatira and kaitiaki status under the Treaty Settlement. In conclusion, we find that granting these approvals, subject to the conditions we have set, is consistent with the obligations arising under the Maniapoto Claims Settlement Act 2002 and would not cause a breach of section 7 FTAA.

Other matters

81 On the matter of the extent of the statutory acknowledgement area identified by the Applicant, we find that the area does not include the terrestrial extent of the Wainui Stream, but where management of the stream results in adverse effects within the CMA, which is part of the statutory management area, then we find that the Treaty obligation is engaged and Te Nehenehenui's comments on the stream management within the relevant sections of Part F have been considered. We find that it is

[34] Memorandum of counsel on behalf of Taharoa Ironsands Limited to the Expert Panel in Response to Comments dated 22 June 2026 at [62]

[35] Maniapoto Claims Settlement Act 2022 at [39]

unrealistic the distinguish one part of the coastal environment, the streams, from the coastal marine area itself.

82 Finally, on the matter of the Ngaati Maniapoto's interests in the Tahaaroa area and our section on mana whenua engagement in Part E we draw attention to a statement made by Te Nehenehenui in its section 53 comments as follows:

> Te Nehenehenui has deliberately refrained from involvement in previous resource consent applications at the mine site, deferring to the authority of mana whenua to manage local outcomes. However, the scale and nature of the potential environmental effects arising from the current proposal necessitate our comments.[our emphasis underlined]

83 The statement made it clear to us that while the Ngāti Maniapoto statutory acknowledgement area extends over the coastal area adjacent to the Taharoa C Block and includes the terrestrial waterbody of the Mitiwai Stream, the iwi does not claim mana whenua status, deferring to Ngaati Mahuta.

Conditions

84 Section 81 provides that the Panel must set any conditions to be imposed on the approval. The statutory requirements on what conditions are set is determined by what approvals are being sought.

85 Section 81(2)(d) requires section 83 be complied with. It provides:

> **83 Conditions must be no more onerous than necessary**
>
> When exercising a discretion to set a condition under this Act, the panel must not set a condition that is more onerous than necessary to address the reason for which it is set in accordance with the provision of this Act that confers the discretion.

86 Section 81(2)(e) empowers the Panel to impose conditions under section 84. It provides:

> **84 Conditions relating to Treaty settlements and recognised customary rights**
>
> (1) For the purposes of section 7, the panel may set conditions to recognise or protect a relevant Treaty settlement and any obligations arising under the Marine and Coastal Area (Takutai Moana) Act 2011 or the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019.
>
> (2) This section applies in addition to, and does not limit, any other powers to set conditions under this Act.

87 How the Panel has complied with these sections is discussed in Part E of this decision in relation to the conditions that have been set on each relevant topic .

88 For each of the three 'approval's the FTAA sets out specific requirements for conditions respectively in Schedule 5, Clause 18 for resource consent, Schedule 7, Clause 6 for the wildlife approval, and Schedule 8, Clause 5 for the archaeological authority.

89 Resource consents also have the following well-established requirements under the RMA. A resource consent condition must:[36]

a. be for a resource management purpose, not an ulterior one;

b. fairly and reasonably relate to the development authorised by the resource consent or designation; and

c. not be so unreasonable that a reasonable planning authority, duly appreciating its statutory duties could not have approved it.

90 The underlying purpose of the conditions of a resource consent is to manage

[36] *Newbury District Council v Secretary of State for the Environment* [1980] 1 All ER 731 (HL), at 739.

environmental effects by setting outcomes, requirements or limits to that activity, and how they are to be achieved.[37]

91 Conditions must also be certain and enforceable.[38]

92 A condition must also not delegate the making of any consenting or other arbitrary decision to any person but may authorise a person to certify that a condition of consent has been met or complied with or otherwise settle a detail of that condition.[39] Such authorisation is subject to the following:

a. The basis for any exercise of a power of certification must be clearly set out with the parameters for certification expressly stated in the relevant conditions.

b. This power of certification does not authorise the making of any waiver or sufferance or departure from a policy statement or plan except as expressly authorised under the Act (s 84 of the RMA).

c. This power of certification does not authorise any change or cancellation of a condition except as expressly authorised under the Act (s 127 of the RMA).

Conditions v Management Plans

93 The Panel's general approach (in line with established case law)[40] is for consent conditions to contain all standards or limits that must be complied with. These standards or limits should not be left to the management plan preparation process, regardless of inclusion of other stakeholders in that process.

94 If a standard or limit condition is deemed to be more appropriately set in a management plan then this decision will confirm that approach and signal the standard or limit condition we consider appropriate to be included in the management plan with the expectation that this will be confirmed as being met by the WRC as part of the certification process.

No Hearing Required

95 The Panel has exercised its discretion not to require a hearing on any issue under section 56 FTAA. The Panel was able to adequately consider all issues based on the information available to us from the actions referred to above.

96 The Panel was mindful of the emphasis on time limited decision-making in the present process, the purpose of the FTAA in section 3, to facilitate the delivery of infrastructure and development projects with significant regional or national benefits, and the procedural principles in section 10 FTAA that require the Panel to take all practicable steps to use timely, efficient, consistent, and cost effective processes that are proportionate to the Panel's functions, duties or powers.

97 For the reasons explained above and rather than a formal hearing, we adopted the PFC procedure to resolve issues raised by the commenting parties regarding proposed conditions for the RMA approvals on the key issues in contention.

Existing Environment

98 An important consideration raised by the Substantive Application relates to determining the appropriate and legally correct "existing environment" as the

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[37] *Summerset Village (Lower Hutt) Ltd v Hutt City Council* [2020] MZEnvC 31 at [156].
[38] *Bitumix Ltd v Mt Wellington Borough Council* [1979] 2 NZLR 57.
[39] *Turner v Allison* (1970) 4 NZTPA 104.
[40] *Woodstock Quarries Limited v Canterbury Regional Council* [2026] NZEnvC 128, at [223], *Remediation (NZ) Limited v Taranaki Regional Council* [2024] NZEnvC 213, at [466].

reference for consideration of the effects of the continuation and proposed expansion of mining activities on that environment, under s 104 of the RMA.[41]

99 On the one hand, the SAR states that the assessment of the "environment" consists of the environment at the time the application is determined including already consented activities that are likely to be implemented, and any non-fanciful permitted activities that might be established in the future.

100 On the other hand, case law is referred to indicating that the ongoing effects of activities authorised by regional consents should be *excluded* for the purpose of considering and evaluating the effects of an application on the environment, except in some limited circumstances. This case law is covered in more detail in Appendix CC to the Substantive Application, as addressed further presently.

101 On that basis, the SAR advises that despite the mine having operated continuously in the environment for many years, the assessment of effects adopts a cautious approach which assumes that the mining of the Site under existing resource consents has ceased. All effects assessments in the technical reports filed with the SAR are said to have been prepared in accordance with that approach, as covered in more detail in Appendix CC.

102 In summary of that approach, the SAR states that for the purposes of the application, the environment against which the project is assessed:

a. Includes the effects of the Applicant's past activities in the environment, including all steps required under the existing resource consents to rehabilitate the Site.

b. Assumes the activities authorised under the existing resource consents do not continue and therefore excludes the future effects of those activities.

103 The SAR then sets out in more detail what this means in practice for the purpose of assessing the environmental impacts of the project, based on the assessment in Appendix CC, as set out below. One notable aspect of that approach is that the Wainui Stream dam and reservoir is assumed to have been removed, but the land and water environment would not have adapted in any way to the new water level regime that results from that removal.

104 In framing this approach, Appendix CC refers to two lines of case law.

105 The first is that established through the Court of Appeal decision in *Queenstown Lakes District Council v Hawthorn Estate Limited,* whereby the "environment" embraces the current state of the environment, and the future state as it might be modified by permitted activities and by resource consents granted where they are likely to be implemented.

106 The second line of case law is that reflected in the High Court's decision in *Ngāti Rangi Trust v Manawatu-Whanganui Regional Council*, whereby the High Court found that the water takes (and associated flow rates) for an existing hydroelectric power scheme should not form part of the environment when assessing replacement resource consents. This was on the basis that the Court did not consider it fanciful or unrealistic to ignore the existing water permits, despite the power scheme having been in place for nearly 100 years and despite recognition of existing takes in the relevant regional

[41] SAR at [8.1.2]

plan.[42]

107 Referring to that decision directly, the Panel notes that the High Court distinguished the line of authorities on the existing environment stemming from *Queenstown Lakes District Council v Hawthorne,* on the basis that the Court of Appeal was referring to activities which the decision maker would have no control over, such as granted resource consents that are likely to be implemented. The context for the renewal of a fixed term consent was found to be different.[43]

108 The High Court also found that applying an approach where the existing environment includes effects which have already occurred risks locking in those existing impacts and preventing them from being avoided or mitigated, which would cut across the sustainable management objectives of the Act.[44] The fact that the water take for the hydroelectricity scheme in question had been in place for nearly 100 years was held to be less relevant when it is appreciated that the resource consents at issue were granted for a fixed period (of five years in that case).[45]

109 The High Court stated as follows:

> [65] I am reinforced in my conclusion by two reasons. First, the learned authors of *Environmental and Resource Management Law* note a principle has emerged in which it should not be assumed that existing consents with finite terms will be renewed or renewed on the same conditions. The text says:[46]
>
> > Accordingly, the existing environment cannot include, in the context of a renewal application, the effects caused by the activities for which the renewal consents are sought, unless it would be fanciful or unrealistic to assess the existing environment as though those structures authorised by the consent being renewed did not exist ...
>
> [68] In my view, the controlled activity rule[47] is more appropriately applied when the effects on the existing environment are considered without weighing the existing consents in the balance. To analyse the existing environment as excluding the scheme as it currently operates in these circumstances is also feasible. The Makotuku River can be assessed immediately upstream of the NZEL take in order to disregard the current scheme. (emphasis added)

110 In light of that summary of the relevant case law, Appendix CC advises that the Panel should not assess the effects of the application on the environment as it was historically (before the mine or humans), because that would be inconsistent with *Hawthorn* and the RMA, as it would not be assessing effects of the application on the environment as it is, including the activities which were previously authorised and have undertaken.[48]

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[42] As recorded in the summary of the *Ngāti Rangi* decision at paragraph 10(c) of Appendix CC.

[43] Refer paragraph [66] of the High Court's decision.

[44] Refer paragraph [63] of the High Court's decision

[45] Refer paragraph [66] of the High Court's decision.

[46] Derek Nolan *Environmental and Resource Management Law* (5th ed, Lexis Nexis, Wellington 2015) at 610.

[47] Noting that consents to renew the scheme were a controlled activity under the regional plan in that case.

[48] Paragraph 12 of Appendix CC

111 Appendix CC however concludes as follows with reference to the case law covered in that document:

> 17. In broad terms the effects of the application should be assessed against an environment that could be described in the following way.
>
> (a) A land form that is heavily modified and affected by past lawful activities for some years (i.e. elevated lake levels and associated wetlands and marginal terrestrial habitats).
>
> (b) No ongoing water take and discharge, but an environment that has acclimated to the presence of such water takes and discharges.
>
> (c) No Dam and related infrastructure present, as it is assumed to have been removed on the date of the decision. Consequently, the water level in the lake would have dropped to approximately pre-dam levels.
>
> (d) A land and water form modified both by the presence of the Dam over the years in reliance on the Expiring Consents and by the subsequent removal of the Dam, but not a land and water environment which has adapted in any way to the new water level regime.
>
> (e) All rehabilitation works required under the Existing Consents would have been completed, including recontouring and planting in accordance with the Land Management and Rehabilitation Plan. Planting would be in a state where it is newly established. The Land Management and Rehabilitation Plan contemplates that some rehabilitation will be undertaken progressively over time, so some areas could be more established.
>
> (emphasis added)

112 As recorded elsewhere in this decision, a number of the technical reports have expressly applied this approach (or some variation of it) for example in relation to Terrestrial Ecology-Wetlands and Vegetation, Terrestrial Ecology-Fauna, as well as Freshwater Ecology.

113 The Department of Conservation's section 53 comments include a legal memorandum challenging some but not all aspects of the approach to the existing environment adopted in the SAR, including the content of Appendix CC.[49]

114 By way of context to that response, the Department's legal memorandum notes the following factual or practical matters:

a. The landform at the Site is heavily modified and has been affected by past lawful activities for some years. While parts of the freshwater environment have been influenced by historic and ongoing mining activities, the area retains freshwater

[49] FTAA-2512-1153–Central and Southern Block Mining, Taharoa–s53 comments from D-G Conservation; Appendix F,

habitats of high ecological significance, particularly where natural inland wetlands, seepage systems and lake margins persist.

b. The level of Lake Taharoa is artificially raised by a dam constructed in the Wainui Stream in the 1970s. Wetland environments on the Taharoa lake margin have established providing habitat for a range of species, and become adapted to the higher lake operating regime.

c. Were the dam to be removed there would be both positive and negative effects. An example of a positive effect is that fish would be able to freely migrate upstream and downstream. An example of a negative effect is that some wetlands may no longer exist (or would be significantly altered).

d. The current resource consent conditions require the Applicant to prepare a Site Rehabilitation and Conceptual Site Closure Plan, with resource consent needed before any of the existing infrastructure could be removed. Such infrastructure including the Wainui Dam would need to be removed in a controlled manner following consideration of positive and negative effects, and community consultation.

115 The memorandum then covers relevant case law including the *Ngāti Rangi* decision, and an earlier Environment Court decision involving reconsenting of the Clutha Dam (*Alexandra Flood Action Society v Otago Regional Council*) in which the Court had described the so called 'Eden' scenario as coined in that case– i.e. imagining the environment as if the electricity scheme in question were not in place as being unrealistic, given the scheme's utmost importance for energy generation. The converse "Armageddon scenario" of the dam's gates being fully open with an uncontrolled release was also rejected as unrealistic on the basis that it might take decades for the lakes and river to recover ecologically and visually from that scenario.

116 Reference is also made to a more recent Environment Court decision (*Remediation NZ v Taranaki Regional Council*) involving re-consenting of discharges from a composting plant whereby, unlike *Ngāti Rangi*, it was not considered feasible to assess the environment without the discharges at issue in the case by simply examining upstream conditions, because the headwaters of the stream in question had been affected by the discharges and a generally highly modified stream environment meant it was difficult to say whether adverse ecological effects on the stream were caused by the discharge activity.

117 The memorandum also refers to a recent Fast-Track decision[50] where the Expert Panel found that existing dam structures should be included as part of the existing environment.

118 The memorandum concludes:

> 26. The existing caselaw under the RMA is relevant to effects assessment under the FTAA. Unfortunately, existing caselaw places the current case in a grey area. Here, it has not been decided whether the dam would be removed were the mining activity to cease. Site Closure Plans anticipate that the dam may stay in place. Neither scenario is 'unrealistic'.

[50] For the Tekapo Power Scheme.

> 27. Further, the experts acknowledge that it is difficult to differentiate 'natural' wetlands from wetlands that were created following construction of the dam, making it more difficult to disentangle the effects on an environment imagined as if the dam was absent (and to identify which wetland values would persist or recover).
>
> 28. For the purpose of ecological assessment, it is my opinion that the environment against which effects should be assessed must include the ecological values of the current lake level and fluctuation regime, and not an unacclimated environment following sudden removal of the dam (following cessation of s124 rights), as is proposed by the Memorandum. First, that is unrealistic - closure plans indicate that the dam structure would not be removed without consents taking into account (and addressing) the ecological effects upstream. Secondly, that approach has similarities to the Armageddon scenario rejected in *Alexandra.* In my opinion, effects should be assessed against an acclimated environment, not an environment under stress due to a sudden change in water levels.

119 In the Applicant's response to section 53 comments, counsel for the Applicant made the following submissions regarding the Department of Conservation's legal memorandum on this issue.[51]

120 Firstly, explaining that the Applicant's conceptualisation of the existing environment intentionally represents a conservative approach consistent with established legal principles, that was intended to ensure that the broadest range of effects would be considered, including the effects of damming the Wainui Stream on fish passage, and the effects of water abstraction and discharges as well as the effects of reintroducing mining in a rehabilitated landscape.

121 Citing *Ngāti Rangi*, the Applicant submitted that it was appropriate, and not fanciful or unrealistic, to ignore the presence of the dam, on the following basis:

a. The dam is not authorised in perpetuity.

b. The existing consents provide for a bond for the removal of the dam (if required) indicating that the Council expects that the dam will not be kept in perpetuity.

c. Contrary to the assessment in the Department's legal memorandum, removal of the dam can be undertaken as a permitted activity subject to compliance with certain standards,[52] subject to careful management of sediment.[53] Otherwise removal of the dam would be a controlled activity, so there is no uncertainty created through the plan provisions with respect to its removal.

122 The Applicant's submissions acknowledged the Fast-Track decision referred to by the Department of Conservation, whereby the Panel in that case found that:

> It is unrealistic in the particular circumstances of the scheme to postulate an alternative environment as the starting point for the existing environment.
>
> …

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[51] Memorandum of counsel on behalf of Taharoa Ironsands Limited to the Expert Panel in Response to Comments dated 22 June 2026 at [97]

[52] Citing Attachment B to the Applicant's response to comments which assesses that removal of the dam would be provided for as a permitted activity under Regional Plan Rule 4.2.20.2.

[53] Refer section 3.2.1 of Attachment B to the Applicant's response to comments.

in the case of the Scheme and this Application that the existing environment includes the consented takes, uses, diversions, banning and discharges.[54]

123 Counsel for the Applicant acknowledged that the same approach could be applied to the Taharoa application, but the result would be a narrower assessment of environmental effects.

124 Counsel then submitted as follows:

> 105. In any event, contrary to the concerns raised in the DOC comments, the Application has considered the values and effects on all existing lakes and wetlands and has not excluded any on the basis that they may not be present in the conceptual existing environment. The Terrestrial Ecology- Fauna and Wetlands Response (Attachment H) submitted with the application acknowledges that *"when considering the 'existing environment' a few of the induced wetlands may not exist or would be significantly changed in the conceptual environment where TIL's existing consents have expired, mining under those consents has ceased and the Site has been rehabilitated.*[55] However, recognising that there is some uncertainty about wetland values in the conceptual post-mine scenario, and also because the conceptual existing environment represents a point in time post closure before existing wetlands would have fully adjusted to the new environment, and because TIL is applying for resource consent to modify or destroy some wetlands, all wetlands have been considered in their current state. This ensures a comprehensive assessment of wetland values which is consistent with Policy 1.6(3)(b) of the NPS-FM in terms of interpreting uncertain information in a manner that is consistent with the NPS-FM.
>
> (emphasis added)

125 In addition to the case law cited by counsel for the Applicant (and in the Department of Conservation's legal memorandum), the Panel has considered the Environment Court's recent decision in *Meridian Energy Limited v Canterbury Regional Council*,[56] dealing with reconsenting of the Waitaki Power Scheme.

126 As with the situation considered by the High Court in *Ngāti Rangi*, the relevant Regional Plan for the Waitaki Power Scheme provided for the consent renewal as a controlled activity.

127 The Environment Court traversed the various case law referred to by counsel in the documents recorded above, but noted in respect of the Environment Court decision in *Alexandra*, that the approach adopted by the Court in that case did not preclude the decision maker from looking at the "past effects" of the former activity, and would still enable conditions to be imposed which "clean up" the effects of past activities by the consent holder, which were not covered before.[57]

128 Counsel for Meridian argued that it would be both fanciful and unrealistic to exclude the Waitaki Power Scheme and its operation from the existing environment which had been extensively modified, resulting in physical and hydrological changes that were permanent and irreversible.

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[54] Decision of Expert Consenting Panel for the Tekapo Power Scheme dated 25 August 2025 at paragraph 102 – which the Panel understands is subject to appeal to the High Court.

[55] Appendix K to the SAR - Wetlands and Vegetation Assessment, SLR, 13 October 2025, page 18.

[56] [2026] NZEnvC 140.

[57] Refer paragraph [66] of the decision

129 Conversely, Forest and Bird argued that a more nuanced approach should be applied which is not to simply look at the current environment, but rather to consider ways in which water could flow through the scheme, as otherwise this treats water permits as carrying existing use rights and would cut across the sustainable management objectives of the RMA (as the Court found in *Ngāti Rangi*).

130 The Council in that case has essentially adopted Meridian's position emphasising a need for a "real world approach".

131 The Environment Court adopted the finding in *Alexandra* whereby each case should turn on its own facts with no invariable principle regarding how to describe the "environment".[58]

132 The Environment Court then found as follows:

> [119] Consistent with the High Court's approach in *Ngāti Rangi*, we have then considered whether it is unrealistic or fanciful to assess the existing environment without the WPS. In that regard, we find that the combination of the permitted activity status for structures, coupled with the controlled activity status for water related activities together with the very limited matters of control reserved to a decision maker (and particularly the prohibition on altering environmental flow and level regimes, minimum lake levels, annual allocations to activities or the provision of flows into the Lower Waitaki River) renders it unrealistic, and indeed unnecessary, to consider anything other than the current environment in most instances, in part because even if an adverse effect was identified by such an assessment, no useful condition could be imposed. That is not, however the case across the board and particularly with respect to flows in the Pūkaki and Lower Ōhau Rivers.

133 In essence the Environment Court found that with respect to the flow of water through the Power Scheme, the reservation of control under the relevant Regional Plan rule would be rendered nugatory unless the assessment was made against the rivers flowing through the Scheme as they were prior to diversion, not as they are now. The purpose of the control was to provide for a review of flows in the relevant rivers at the time of renewal or on a review.[59]

134 In that respect, the Environment Court's decision in *Meridian* is authority for the proposition that where necessary for the purpose of considering relevant effects, an existing consented activity can be included within the existing environment for some purposes, but not others (in that case water flow regime management).

Panel Findings: Existing Environment

135 Both the case law and factual situation presented by the continuation and expansion of mining activities at Tahaaroa raise complex issues and considerations that the Panel finds ultimately have little material bearing on the assessment of relevant effects on the environment.

136 That is, regardless of whether we were to apply a more rigid *Hawthorn* approach, or that favoured by the High Court in *Ngāti Rangi*, (or even a hybrid approach in line with the Environment Court's decision in *Meridian*), the end result of that assessment would for all practical purposes be the same.

137 We acknowledge and accept that the Applicant's approach to the existing environment

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[58] With the Court in *Alexandra* citing the Court of Appeal decision in *Arrigato Investments Limited v Auckland Regional Council* in that respect.

[59] Refer paragraph [120] of the decision.

has been advanced on a responsible and conservative basis to ensure that all relevant effects are live for consideration, rather than being subsumed within an "off limits" existing environment construct.

138 On the other hand, we consider it to be artificial or unrealistic to assume for some purposes that the Tahaaroa environment is in its highly modified state as a result of over 50 years of mining activity, but at the same time carve out the Wainui Dam and assume an altogether different construct with respect to surface water resources; for example a substantially lower lake level than that which the wetlands on the margins of Lake Taharoa have become adapted to since the 1970s, or conversely unimpeded fish passage and migration through the Wainui Stream.

139 In essence we prefer the approach adopted by the Expert Panel in the Tekapo Power Scheme case, and consider that applying that approach would still mean that all relevant effects are factored into our deliberations.

140 The reality is that (again for example) issues and concerns regarding fish passage through the Wainui Dam, residual flows below that dam, and the potential for entrainment of juvenile Threatened or At-Risk fish species in the water intake have been squarely confronted in the technical reports, through expert conferencing, and in the conditions appended to this decision.

141 The effects of the water takes and groundwater drawdown on both groundwater and surface water fed wetlands have also been thoroughly evaluated in the Applicant's technical reports and again through expert conferencing and in conditions.

142 It would be highly artificial to consider those issues (and associated condition frameworks) by imagining or pretending that surface water levels in Lake Taharoa were some 2.5 m lower than the lake margin wetlands had become adapted to since the Wainui Dam was constructed in the 1970s.

143 The description of the existing environment that should be applied by the Panel as advanced in Appendix CC to the Substantive Application also reveals that whichever approach is adopted, does not make a material difference to the outcome- for practical purposes, the assessment is being made against the same or an equivalent environment to that actually in place now, regardless .

144 For example, in terms of rehabilitation, while on the one hand it is stated that the existing environment should assume that all rehabilitation works have been completed, on the other hand planting would be in a state where it is newly established.

145 As acknowledged in the Applicant's response to the Panel's RFI in relation to Terrestrial Fauna (addressed in Part E), the conceptual and actual existing environments are said to be sufficiently similar to enable the existing environment to inform the assessment of the conceptual environment, such that the "actual" existing environment as determined in the field surveys effectively equates with the rehabilitated conceptual environment assumed in Appendix M. In essence the existing environment in terms of the rehabilitated state of the Site is, for practical purposes, what it really is.

146 Similarly, as also noted in Appendix CC, while the construct advanced by the Applicant would assume removal of the dam, it would not include a land and water environment which has adapted in any way to the new water level regime.

147 That is, again, effects in relation to lake margin wetlands would be assessed considering the state that they are currently in with the surface water lake levels being essentially as they currently are,- with the dam in place.

148 In relation to the Wildlife Approval permit, it has been impressed upon the Panel that the mine Site is in a highly modified state such that there is a very low likelihood of

arboreal lizards being present. The highly modified (and disturbed) state of the existing environment from past mining, earthworks and forestry activities is also an essential underpinning of the findings in the archaeological assessment (Appendix O to the Substantive Application).

149 For all of these reasons, our fundamental approach to the existing environment is to adopt a real-world assessment whereby the existing environment is in its current modified state including as a result of past mining activities as at the date of our decision, with the Wainui Dam present with its consequent implications for surface water levels, wetland habitat, fish migration and the like.

150 On the other hand, we have ensured that all relevant effects including past effects are factored into our overall findings and deliberations on the principal issues in contention, such that whichever approach were to be adopted, the overall outcome would in effect be the same.

Written Approvals

151 The Applicant provided written approval for two persons who were occupiers of the dwellings most proximate to the mining activities proposed within the Central Block; these being the Old Kana Homestead and the Waipounamu (New Kana) Homestead.[60]

152 In accordance with s95E of the RMA the Panel has disregarded any actual or potential environmental effects on those occupiers. However, and as noted by Counsel, TIL has not obtained written approval from all owners of the property, and therefore it is not possible to disregard all actual or potential environment effects on the Kana property as a whole.[61]

153 This has bearing on the assessment of air quality and noise effects in Part E of this decision.

PART E: DECISION ON RESOURCE CONSENTS (RMA APPROVALS)

154 Part E addresses all matters relating to RMA Approvals. In doing so, it addresses matters including effects on terrestrial fauna which are relevant to the Wildlife Approval, and archaeology and mana whenua engagement which are relevant to the Archaeological Authority. These sections of Part E are accordingly cross-referenced in Part F Wildlife Approval and Part G Archaeological Authority. Similarly, the assessment of regional and national benefits in Part E is relevant to the matters to be assessed in Parts F and G.

Schedule 5 Requirements

155 The relationship of the FTAA with the RMA is outlined in Schedule 5 which sets out the consent application process that applies instead of the standard RMA consent application process. Schedule 5, Clause 17 states, as relevant to this application:

> **17 Criteria and other matters for assessment of consent application**
>
> (1) For the purposes of section 81, when considering a consent application, including conditions in accordance with clauses 18 and 19, the panel must take into account, giving the greatest weight to paragraph (a),
> (a) the purpose of this Act; and

[60] Memorandum of Counsel for the Applicant dated 2 November 2026.

[61] Ibid, at paragraph [9].

(b) the provisions of Parts 2, 3, 6, and 8 to 10 of the Resource Management Act 1991 that direct decision making on an application for a resource consent (but excluding section 104D of that Act); and
(c) the relevant provisions of any other legislation that directs decision making under the Resource Management Act 1991.

(2) For the purpose of applying any provisions in subclause (1),—
(a) a reference in the Resource Management Act 1991 to Part 2 of that Act must be read as a reference to sections 5, 6, and 7 of that Act; and

[sub-clauses (2)(b)-(c) and (3)-(7) omitted][62]

156 Clause 17(1)(a) requires that we take account of the purpose of the FTAA, being "to facilitate the delivery of infrastructure and development projects with significant regional or national benefits and to give this purpose the greatest weight.

157 In accordance with clause 17(1)(b) we must take into account as relevant to the proposal:

a. Part 2 of the RMA, comprising:
   i. section 5;
   ii. section 6(a) "preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate use and development",
   iii. section 6(c) "the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna,"
   iv. section 6(d) "the maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers,",
   v. section 6(e) "the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga",
   vi. section 6(f) "the protection of historic heritage from inappropriate subdivision, use, and development",
   vii. section 6(g) "the protection of protected customary rights" and
   viii. section 6(h) "the management of significant risks from natural hazards"; and
   ix. section 7(a) "kaitiakitanga",
   x. section 7(b) –"the efficient use and development of natural and physical resources",
   xi. section 7(c) – "the maintenance and enhancement of amenity values",
   xii. section 7(f) – "maintenance and enhancement of the quality of the environment",
   xiii. section 7(g) – "any finite characteristics of natural and physical resources", and
   xiv. section 7(i) – "the effects of climate change".

b. Part 3 of the RMA, and in particular: section 15 (discharges of contaminants); section 16 (duty to avoid unreasonable noise); and section 17 (duty to avoid, remedy or mitigate adverse effects).

c. Part 6 of the RMA, and in particular: section 104 (consideration of applications); section 104B (consideration of applications for discretionary or non-complying applications); and section 108 (conditions of resource consents).

[62] We note that the reference to Part 2 of the RMA excludes section 8 of the RMA.

158 In respect of clause 17, we further record that:

a. Parts 8-10 of the RMA do not apply to the application and have not been considered.[63]

159 No other relevant provisions of any other legislation that directs decision making under the RMA has been drawn to our attention as being relevant to the Application.[64]

Mana Whenua Engagement

160 This part of our decision addresses the engagement of mana whenua groups with the application process, the concerns and matters expressed in their section 53 comments, the proceedings of the hui at Aaruka Marae, the participation of their mātauranga experts in expert conferencing and at the Panel Facilitated Conference and how their concerns could be addressed in the proposed conditions of consent including ongoing opportunities for kaitiaki. Our focus is on the future provisions for engagement that have been offered by the Applicant and the feedback that has been provided by mana whenua on this matter.

161 Ngaati Mahuta ki te Hauaauru are a hapū of the wider Ngaati Mahuta iwi. Mahuta was an ancestor of the occupants of the Tainui canoe. The reference to "ki te Hauaauru" ("of the West") acknowledges the west coast people of the iwi who inhabit the Tahaaroa and Kāwhia area and who have mana whenua status over the area of land and sea encompassing the Project area (Figure 3). The mana whenua status is held through the three Ngaati Mahuta Marae, being Aaruka Marae and Te Kooraha Marae at Tahaaroa and the Maketuu Marae in Kāwhia. This status is not disputed.[65]

162 The lands at Tahaaroa have never been subject to raupatu (confiscation) by the Crown. Ngaati Mahuta have had uninterrupted ownership of the whenua, and ability to exercise customary practices upon it, including the lakes and waterways in the Tahaaroa area, since they originally settled in the wider area, mostly around Kāwhia in 1826. This settlement followed the defeat of Ngāti Toa, under Te Rauparaha, by the combined Waikato and Ngāti Maniapoto forces led by Pootatau Te Wherowhero in 1822.

163 The lakes at Tahaaroa, the Wainui Stream that connects Lake Taharoa to the ocean and the Mitiwai Stream have been and remain an important resource to local people. The lakes were relied upon as a food source, with tuna (eel) and various fish species (including grey mullet) present in the lakes. People still catch eels and other fish in the lakes and waterways. The lakes were also used as a source of fresh water for drinking, bathing and cultural ceremonies.

164 Before iron sand mining began, Tahaaroa was a remote community inaccessible by road and largely accessed by boat (across Lake Taharoa). Sand encroachment across the land created ongoing problems for access, land use, and productivity which was largely comprised of sheep and dry stock. In 1968, roads and infrastructure were constructed. In 1970, Taharoa C Block was formed to protect the economic interests of the constituent landowners and to consolidate their separate titles into a single

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[63] FTAA, Schedule 5, clause 17(1)(b)

[64] FTAA, Schedule 5, clause 17(1)(c)

[65] Statement of Evidence of Hoturoa Barclay-Kerr to the RMA Hearing Panel, 23 January 2024, Appendix II of the SAR at [13]



Figure 3: Ngaati Mahuta Hapu Rohe

governing entity of the landholdings. The consolidated land was then leased for iron sand mining as enabled by the Mining Act 1971. Ngaati Mahuta kaumātua made the decision to work within this system to secure employment and economic opportunities for their people.

165 Ngaati Mahuta through its marae representative parties have been involved in the consenting processes for the mining activity at Tahaaroa throughout the mine history. Most recently this has comprised participation by Te Ruunanga o Ngaati Mahuta and Te Kooraha Marae as submitters in the 2020 RMA Application. The Proprietors of Tahāroa C Block provided evidence in support of the 2020 RMA Application.

166 The expression of different viewpoints by members of the iwi on the re-consenting of the mine activities is a matter that we have had to consider as part of this decision. The distinction between landowner interests and mandated mana whenua authority is central to understanding these viewpoints. While Taharoa C Block acts in its capacity as a landowner entity, cultural mandate and mana whenua representation sit with Ngaati Mahuta. Many members of the iwi have mana whenua status and are also shareholders in Taharoa C Block. In establishing our Panel, the Panel Convener identified the likely need for a hui for mana whenua, and other representative groups, to speak directly to us on the relevant tikanga, mātauranga and land ownership

arrangements, thus exploring these interrelationships.[66]

167 The hui at Aaruka Marae was helpful in our consideration of the application. It was an important part of our engagement with mana whenua and our primary opportunity to hear what they had to say in support of the section 53 comments at a forum of their choosing, in accordance with tikanga. In relation to cultural effects, the content of the presentations received essentially reinforced the written material we had received in the section 53 comments and allowed the Panel to gauge the depth of mana whenua concerns regarding that material.

The Applicant's Mana Whenua Engagement Conditions

168 The Applicant's proposed conditions include a range of opportunities for engagement in environmental management by the various mana whenua representatives. These opportunities comprise:

a. Consultation on all components of the Environmental Management Plan (**EMP**) including the separate chapters on dust management and erosion and sediment control and the component management plans being the Natural Inland Wetland and Buffer Management Plan (**NIWBMP**), Lake Level and Water Management Plan (**LLWMP**), Site Rehabilitation Plan (**SRP**) and Conceptual Site Closure Plan (**CSCP**) (Schedule 1 Condition 15 and 14(g)); consultation on the updating of the Wainui Stream Enhancement Plan in Conditions 4 and 8 of AUTH142035.03.01, (the water permit for occupation of the stream by the dam weir and associated structures). We note that under proposed Condition 14(i) of Schedule 1 in addressing performance measures, actions, methods, trigger levels and monitoring programmes designed to achieve the EMP objectives is to include incorporation of mātauranga Māori and cultural health indicators;

b. The opportunity to attend an annual consultation meeting held by the mine operator to provide feedback and comment on resource management matters relating to operation of the mine, including reporting and monitoring undertaken during the year preceding (Schedule 1 Conditions 36-38); and

c. Receipt of the annual monitoring report for the mine (Schedule 1 Condition 44).

169 We also note that in addition to the information at c. that a range of information is required to be available on a public website, including monthly reports.

Section 53 Comments

170 In relation to the current application, joint section 53 comments were received from Te Ruunanga o Ngaati Mahuta ki te Hauaauru Charitable Trust, Maketuu Marae, Te Kooraha Marae, and Aaruka Marae. Appendix 1 of the comments document provided an assessment of the SAR. Many of the matters addressed in Appendix 1 have been referred to in the environmental effects analysis that we have undertaken in Part E of this decision. The relevant sections of Part E, unless otherwise noted are:

a. Social and economic development benefits, addressed in the section on regional and national benefits;

b. Rehabilitation and site closure, addressed in several sections including terrestrial ecology, air quality and the bond condition;

[66] Minute of the Panel Convener: Central and Southern Block Mining Project [FTAA-2512-1153] 27 March 2026 at [17d]

c. Lake level management and flooding, addressed in hydrology and terrestrial ecology - wetlands;

d. The ecological values of the Wainui and Mitiwai Streams, addressed in freshwater ecology;

e. Mining setbacks to streams, addressed in terrestrial ecology – fauna and freshwater ecology;

f. Loss and degradation of natural inland wetlands, addressed in terrestrial ecology - wetlands;

g. Discharges to land and water from land disturbance and mining operations, addressed in freshwater ecology;

h. Air quality and dust effects; addressed in air quality;

i. Archaeological effects; addressed in archaeology and Part G;

j. Coastal marine area effects; addressed in coastal processes and marine ecology;

k. Effects on terrestrial habitat and fauna, addressed in terrestrial ecology - fauna;

l. Wildlife Approval; addressed in Part F;

m. Consent term; addressed in Part E;

n. The Ngaati Mahuta ki te Hauaauru Environmental Management Plan; addressed in iwi authority planning documents; and

o. Cumulative effects, addressed under the relevant decision parts above.

171 In addition to the above matters, Appendix 1 of the joint section 53 comments refers more generally to 'Cultural effects', which address not just the nature and extent of environmental effects, but how environmental effects are managed and opportunities for kaitiaki are provided for mana whenua.

172 Mr King's evidence for the RMA Hearing Panel summed up how such kaitiaki could be expressed and the outcomes that could be achieved as follows:

> Ultimately, I would like to see TIL take far greater care and attention in protecting the cultural values of the tribe including the Tahaaroa area and its people. This can be achieved by implementing better monitoring of environmental indicators and improving rehabilitation and remediation efforts.
>
> By closely monitoring the environment, TIL can quickly identify and address any negative impacts caused by mining and regularly communicate the findings to mana whenua representatives of the tribe. This proactive approach will help preserve the natural beauty and cultural heritage of the Tahaaroa area, which are deeply important to mana whenua.
>
> In addition, better rehabilitation plans are essential for restoring the land once mining operations are completed. These plans should focus on returning the land to its natural state, which will benefit both the environment and the people of Tahaaroa.
>
> By prioritising these efforts, TIL can ensure that the legacy of mining does not harm the cultural and ecological wealth of the tribal area. This commitment to sustainability and respect for mana whenua values will help build a positive future for Tahaaroa, Ngaati Mahuta ki te hauuru and the people. [67]

173 The joint section 53 comments suggested draft conditions of consent to achieve these outcomes. These suggestions focus on the retention in full of all conditions imposed by

[67] Statement of Evidence of Taituwha King to the RMA Hearing Panel, 17 June 2024, Appendix HH of the SAR at [7.10 to 7.13]

the Hearing Panel in the 2020 RMA Application decision. To give context to what was being sought in this aspect of Ngaati Mahuta's comments we note that key amongst the RMA Hearing Panel conditions that the Applicant has not retained in its proposed conditions for this application are[68]:

i. A consent duration of 20 years, instead seeking the full 35 years provided for under the RMA;
ii. A 200m boundary setback for all of the Site other than adjacent mining areas;
iii. Responsibility for the exclusion of livestock and the construction and maintenance of stock proof fencing;
iv. The maintenance of residual flow levels downstream of the Wainui Dam of 160l/sec;
v. Managing Lake Tahāroa's water levels, as far as reasonably practicable, to not cause or contribute to flooding;
vi. Maintaining a residual flow in the Wainui Dam fish pass of 34l/sec;
vii. The mesh size of the water intake in Wainui Stream to not exceed 1.5mm;
viii. Water quality conditions for discharges to the Wainui Stream;
ix. Underwater noise surveys and monitoring conditions for vessels using Port Tahāroa;
x. Water quality conditions for discharges to the coastal marine area;
xi. Archaeological discovery protocols being included in the general conditions; and
xii. The provision of a monthly monitoring report on various mine activities to the Waikato Regional Council.

174 Other comments on conditions addressed:

a. The location of urupaa and other waahi tapu plus a setback of 50m are to be shown on the Site map to be prepared as a condition of AUTH142035.01.01 (we note that this matter is addressed in the Archaeology section);

b. The establishment of a Marae Led Committee, or the equivalent, to enable Ngaati Mahuta to provide ongoing input into the design, operation, monitoring, and rehabilitation of mining activities. This input would be provided by mandated marae representatives who would facilitate engagement and monitoring and provide input in management plan development relating to adverse cultural effects. The suggested condition also requires cost recovery and the establishment of a fund to assist iwi with capacity building and the practical expression of kaitiakitanga.

<u>Panel Facilitated Conference</u>

175 Mana whenua engagement was a topic for discussion at the PFC and closely connected to both specific environmental concerns and the overall process of managing environmental effects through participation of mana whenua. Ms Nevada Huaki for Ngaati Mahuta addressed these matters together with the need for cost recovery. Ms Huaki considered that the consultation effort of the Applicant to date had not been sufficient to generate meaningful engagement between mana whenua and the Applicant.

[68] The proposed conditions referenced here are those issued as part of the Applicant's response to section 53 comments not as lodged with the SAR.

Applicant Response

176 The Applicant provided responses to mana whenua engagement matters and the general relationship between mana whenua and TIL in a memorandum addressing the hui proceedings[69] and through Messrs Hoturoa Barclay-Kerr and Wayne Coffey during the in-person presentation on 13 October 2026.

177 In relation to the hui proceedings, the memorandum stated that a large proportion of the comments have already been addressed by the application and responses to both the section 53 comments and the RFIs. The memorandum also stated that the hui comments were not supported by expert evidence, were erroneous or lacked context to the application.

178 At the in-person presentation Mr Barclay-Kerr provided an account of the origins of the mine including the circumstances surrounding the acquisition in 2017 when the business was in a state of failure, the entry of Mr Coffey and TIL to the business, the benefits that have been delivered since, and the assurances of support given to the TIL management at that time by Taharoa C. This account was provided in response to comments made at the Hui on ownership matters.

179 A key point of the in-person response in relation to local relationships was that TIL recognised that there are persons and representative groups within the local community that oppose aspects of the mining operation. However, it also observed, as we have already noted above, that while some of these persons express opposition, they are also Taharoa C shareholders and benefit financially from the mining operation. Some persons expressing opposition also own land with ironsand resources are intending to lease land to TIL in exchange for royalties. TIL considered that overall, there is widespread support for the mine.

Panel Findings: Mana Whenua Engagement

180 In considering the requested retention of all of the RMA Hearing Panel conditions, our decision on each of the consents sought has been made in the context of the current application and the evidence that has been presented for our consideration, and a different approach to these conditions has generally been taken in that new context.

181 In considering the matter of mana whenua engagement, the Panel must take into account the statutory framework for the RMA Approvals, which engages Part 2 of the RMA, in particular 6(e) and 7(a) as noted in Part D of this decision. Consistent with these legislative directives are the national policy statement and regional policy statement objectives and policies as these provisions relate to mana whenua engagement and the Ngaati Mahuta ki te Hauaauru Environmental Management Plan.

182 We have examined the Applicant's proposed conditions for ongoing engagement and opportunities for the exercise of kaitiaki and mātauranga input as summarised above. We consider that these conditions provide a suitable framework for such activities to occur. However, we find that the conditions do not go far enough and that amendments to the conditions are required to incorporate the intent of the suggested conditions of Ngaati Mahuta. The key shortcomings of the Applicant's conditions are:

a. That the opportunities for active engagement are limited to a post-design response, whereas the interaction and exchange of ideas on design, operation, monitoring and rehabilitation should be at the front-end of management plan

[69] Memorandum of Counsel for the Applicant dated 6 October 2026 from [12]

formulation; and

b. That in the implementation of new consent conditions, annual interaction for mana whenua groups is too infrequent, particularly during the initial period that encompasses the finalisation of management plans and the bedding in of the new monitoring regime.

183 The consent conditions are enduring, applying to the mine operation irrespective of its ownership or the composition of mana whenua groups.

184 The consent conditions should consequently promote an enduring relationship between the mine operation and mana whenua for the term of the consent until mine closure. The effectiveness of consent conditions are a strong determining factor in the state of the environment following mine closure.

185 We have noted the overlapping relationships between persons who are mana whenua and are also shareholders in the Taharoa C Block. We acknowledge that the shareholders of Taharoa C Block have obligations as landowners to maximise the return on the land and resources. However, where these resources are also part of a wider environment such as the water bodies, or where urupa and waahi tapu are located, then these economic outcomes must take into account the longer term "cultural and ecological wealth of the tribal area". It is evident from the post-PFC outcomes on the matter of the process for nominating kaumatua for responsibilities relating to archaeological management that the shareholders in the Taharoa C Block and mana whenua are able to work together cooperatively on Site environmental management.

186 The Panel has reviewed the input of the mātauranga experts in the preparation of comments and in expert conferencing and consider that a distinct and important contribution can be made by mana whenua in the environmental management of the mine. Accordingly, we find that conditions on the EMP and constituent chapters and plans should incorporate a requirement for mana whenua not just to receive information (on already prepared draft plan(s)) but for mana whenua to be involved in the preparation of these draft plans. Management plan preparation must include the input of suitably qualified and experienced mātauranga experts from within mana whenua engaged by the consent holder. This requirement applies to several of the consents.

187 A similar engagement of mātauranga experts is to be incorporated into the EMP in relation to monitoring responsibilities over the life of the consent with specific responsibility for the identification and incorporation of mātauranga Māori and cultural health indicators, in relation to the offset proposal in particular.

188 In relation to consultation meetings, these meetings shall be held every six months for the first five years of the new consents and thereafter annually. The resource management matters to be discussed shall include the finalisation of the EMP including its component plans prior to lodgement with Waikato Regional Council for certification.

Hydrology

Introduction

189 The SAR was supported by a hydrological assessment of the Tahaaroa lakes and Wainui Stream prepared by Josh Mawer and Jon Williamson of Wiliamson Water & Land Advisory, dated 5 September 2025 (**Appendix I**).

190 Appendix I outlined that the Tahaaroa lakes comprise three interconnected lakes, namely, Lake Tahāroa, Lake Numiti, and Lake Rotoroa that collectively cover a

combined surface area of approximately 2.55 km^2. The natural outlet of the Tahaaroa lakes is the Wainui Stream which runs from the north-western corner of Lake Tahāroa, through the mine Site, and discharges to the coast. Wainui Stream is approximately 2.5 km in length.

191 A dam structure was established on the Wainui Stream in the 1970's to create a water supply reservoir for the mine. The dam features a box weir with twin v-notch low-level bypass and a sharp-crested weir. Discharge over the weir is passively controlled by the water level in Lake Tahāroa. The structure has been upgraded multiple times since the 1970s, with no current as-built drawings available.

192 TIL's current consents allow:

a. water abstraction of 27,200 m^3/day for mine processing with no annual limit;

b. water abstraction of 75,000 m^3/day for ship loading, with an annual limit of 3 million m^3; and

c. water levels in Lake Tahāroa must not fall below 8.53 mRL, with notification required to WRC if levels drop below 9 mRL.

193 Appendix I's review of ten years of operational data from 2013 – 2024 showed that Lake Tahāroa levels have typically remained stable between ~9.6 m and 10.4 m with some seasonal fluctuations. Dam water levels at the Wainui Stream reservoir are typically 0.15 m lower than lake levels. Water abstraction for mine processing averaged 17,500 m^3/day with an annual average take of approximately 6.4 million m^3. Ship loading required an average daily take of 37,000 m^3, maximum of 72,000 m^3 with an average annual take of approximately 3.8 million m^3. Mine processing water was used to supplement ship loading so that the annual 3 million m^3 limit was not exceeded. This was referred to as 'recycled' water.

Lake Modelling

194 Appendix I developed a Reservoir Storage Model (**lake model**) for the Tahaaroa lakes, treated as a single lake, and Wainui Stream.

195 Four scenarios were assessed with the lake model, including one scenario that aligns with the concept of the "existing environment" as outlined in Appendix CC (no water abstractions and no dam) and one "extreme scenario" where the maximum proposed processing water was taken 365 days of the year. The modelling showed:

a. water levels in Lake Tahāroa are approximately 2.5 m higher as a result of the construction of the dam structure, which acts to moderate seasonal fluctuations.

b. lake level fluctuations are seasonal, with lower levels typically occurring in late summer, and higher levels throughout winter.

c. modelling the maximum consented water take would potentially trigger the cease take 8.53 mRL (on 4 occasions over a 34-year period) but not at average consented water take levels.

d. while TIL's water takes lower Lake Tahāroa levels, the reduction in lake level is transitory and temporary only.

196 Appendix I supported existing abstraction rates and recommended adding an instantaneous maximum water take rate of 868 L/s. It further recommended the daily limit for mine processing water be amended to 27,200 m^3 as a 28-day rolling average.

197 Appendix I made a number of recommendations to protect and maintain the hydrological functioning of the Tahaaroa Lakes and downstream receiving

environment. These included four trigger water levels:

a. 8.53 mRL cease take (minimum allowable lake level) at Lake Tahaaroa;

b. 9.6 mRL alert trigger level to indicate lake levels dropping below minimum levels reached in the past 10 years, with management responses proposed to reduce water takes as far as practicable and engagement of a suitable qualified and experienced person (ecologist) (SQEP – ecologist) to monitor and report on extent and health of raupo and flax wetlands on the margins of Lake Tahāroa;

c. 9.36 mRL at the dam requiring temporary manual pumping into the box weir at a rate of at least 10 L/s to maintain residual flow in the Wainui Stream immediately downstream of the dam; and

d. 9.3 mRL at the fish pass requiring temporary manual pumping of water into the fish pass at a rate of at least 24 L/s to maintain residual flow in the Wainui Stream in the fish pass.

198 On the basis of these recommendations Appendix I concluded the potential hydrological effects of TIL's water takes on Tahaaroa lakes and downstream environment are less than minor.

Section 53 Comments

199 Department of Conservation engaged Mr Blyth (Collaborations Ltd) to review the hydrological assessment and draft management plans for consideration of potential effects on drawdown of Lake Tahāroa and wetlands. Mr Blyth also reviewed the groundwater modelling with a focus on wetland hydrology and stream flow considerations. His comments may be summarised as follows:

a. The lake model was appropriate for a water balance and calibration appeared satisfactory based on water level comparison charts. A lack of monitoring data meant the model has residual uncertainties. Generally, it was an appropriate model for scenario testing with the limited data, as long as the limitations are recognised when considering effects.

b. Two concerns that the lake modelling may underestimate actual effects:

    i. Modelled scenarios assume TIL would significantly reduce lake abstraction (by 30-46% for Scenario 4) relying on recycled processed water. If this does not occur, and water demand from the lake increases with increased ship loadings, the lake drawdown amount and frequency is understated, which could result in regular trigger exceedances and/or environmental effects not appropriately assessed.

    ii. Adoption of average rates in Scenario 3 and 4 for ship loading do not simulate maximum demands (75,000 m^3/day);

c. The modelling predicted increased frequency and extent of water level declines in the lake. For example, Scenarios 3 and 4 indicate lake water levels would fall below 9.5 mRL approximately 11% and 4% of the time respectively, with Scenario 3 triggering the proposed cease take level (8.53 mRL) on around three occasions. These effects were unlikely to be 'less than minor'.

d. There is a lack of flow monitoring data for the Wainui Stream to understand its Q5

flow conditions in comparison to the Waikato Regional Plan (**WRP**).[70] The maximum (predicted) drawdown of baseflow to the Wainui Stream is 43.3 L/s and flow augmentation conditions (along the fish pass and through the dam) total 34 L/s. Mr Blyth considered increased flow augmentation of the fish pass would increasingly be needed, should consent be granted.

e. There is a lack of clarity in the Draft Natural Inland Wetland and Buffer Management Plan (**NIWBMP**) and the draft Lake Level and Water Management Plan (**LL-WMP**) on what sites will be monitored and how. Disagreement with proposed trigger levels, recommending instead a two-tier trigger system. Disagreement with proposed mitigation in the NIWBMP noting limitations of augmentation of wetlands and potential risks to hydrological performance and wetland habitat condition. Concerns about unknown quality, quantity and duration of water required to augment wetlands. Concern that monitoring and adaptive management response would be sufficient to adequately protect ecosystems. Insufficient information in the two management plans about what actions would be taken to reduce or mitigate adverse effects on the environment should this occur when the lake is drawn down below 9.6 mRL.

200 Overall, DoC considered there was more risk of adverse effects arising as a result of hydrological changes than the application has provided for. DoC requested a review of the cease take at 8.53 mRL for Lake Tahāroa which may be set too low (based on levels prior to the dam). DoC sought more comprehensive response mechanisms (monitoring, trigger levels, ceasing dewatering and/or recharging via pumping) commenting that the conditions and management plans do not fully reflect recommendations made in the Applicant's technical reports. The management plans are considered incomplete and do not provide for adequate responses if adverse effects are detected. Key recommendations (relating to hydrology) included:

a. Specifying the monitoring regimes within the conditions, including methodologies, frequency, reporting requirements, and provision for independent review by a SQEP on behalf of the Consent Authority;

b. Incorporating wetland-specific indicators capable of detecting the functional decline before irreversible loss occurs, including accounting for lag effects between hydrological change and ecological response;

c. Adopting a two-tier trigger system for retained wetlands, with an alert set at the 10th percentile of the low water level alarms and an alarm set at the 5th percentile; and

d. Providing clearer response mechanisms in the event that drawdown triggers are exceeded, including ceasing or relocating mining near affected wetlands.

201 Waikato Regional Council (Dr Koh)[71] agreed with the use of pumping as a contingency (for low flows in the Wainui Stream) but sought to recalculate triggers to identify the lake levels at which outflows *begin* to drop below the specified minimums (10 Ls at the dam and 24 L/s at the fish pass), rather than waiting for flow to cease entirely.

202 Waikato Regional Council noted Appendix I identified a flooding frequency of approximately once every four years, which Dr Koh considered acceptable. However, to

[70] The Q_5 is the base flow that has a 20% chance of occurring in any given year (a 1-in-5-year return period).

[71] Appendix B WRC Section 53 Comments. Memo from Dr Sung Soo Koh to Mark Chrisp and Sheryl Roa dated 18 May 2026.

assist the panel determine the acceptable severity and duration of flooding the Applicant should estimate the specific depth of flooding over the road and the time taken for floodwaters to subside.

203 Te Nehenehenui were concerned that, given the interconnectedness of the lakes, the dam affects the levels in Lake Numiti and Lake Rotoroa as well as Lake Tahāroa. They noted Appendix I confirms the abstraction effect will propagate through the entire system but there is no baseline data or information about the potential effects of the abstraction on Lake Numiti and Lake Rotoroa and there is no proposed monitoring so that effects can be addressed if they arise.

204 Te Nehenehenui sought to establish an RL trigger level for all lakes, with a 2-yearly review and more detailed monitoring and management conditions. Te Nehenehenui further sought:

a. Re-imposition of the requirement to notify WRC at 9.0 mRL and an additional requirement for notification at 9.6 mRL;

b. specify the required reduction in abstraction volumes at 9.6 mRL and 9.0 mRL; and

c. peer review of the lake modelling for the purpose of setting parameters for more detailed and enforceable consent conditions.

205 Ngaati Mahuta expressed concerns about long-term modification of lake levels and stream flows, considering the interconnected nature of these systems required assessment on a ki uta ki tai (source to sea) basis.

206 Ngaati Mahuta did not consider augmentation adequate for mitigation, expressing concern that it does not replace naturally occurring conditions. Ngaati Mahuta sought:

a. Independent peer review of the hydrological (and hydrogeological) modelling;

b. Larger setback buffers (100 m) to respond to cultural and ecological significance of these systems;

c. Explicit conditions in the rehabilitation plan and bond to address removal of the dam, structural decommissioning and resulting hydrological change, including potential impacts on lake level, stream alignment and on ancestral land and urupaa; and

d. Certainty regarding long-term state of the lakes post-closure through enforceable rehabilitation and bond conditions.

<u>Initial Independent Expert Review</u>

207 Mr Philip Kelsey reviewed Appendix I and he provided an initial review with a request for further information (Earthtech, 2026).[72]

208 This included requests for the Applicant to:

a. Clarify the relationship of the resource consent applications to the water allocation policies of the regional plan;

b. Calibrate the Soil Moisture Water Balance Model (used in Appendix I to simulate catchment inflows to Lake Tahāroa) by undertaking stream gaugings of the Mangatangi Stream;

[72] Earthtech Consulting Ltd, (2026). *Technical Peer Review Report No.1 for Fast Track Application FRAA-2512-1153 Appendix N – Hydrogeology Assessment and Appendix I – Hydrology Assessment*. Prepared by Mr Philip Kelsey. 29 May 2026.

c. Use available dam level records (2020- present) and weir construction information to develop a record of the Wainui Stream flow. This would permit quantification of the Wainui Stream flows and groundwater seepage losses in the Lake Water Balance Model;

d. Verify the Lake Water Balance Model with the results of the stream gaugings conducted in the 2024 and 2025 in the Wainui Stream;

e. Model the maximum requested daily water take scenario of 75,000 m^3/day and consider critical cases for ship loading during (Wainui Stream) low-flow periods;

f. Assess the suitability of the proposed minimum flow level (10 L/s) in the Wainui Stream against the Waikato Regional Plan minimum flow requirement;

g. Consider how a high-flow bypass of the dam structure could alleviate the flooding risk of Taharoa Road during periods of high lake level; and

h. Carry out a flood-risk assessment for Taharoa Road.

Applicant Response to s53 Comments and Expert Review

209 The Applicant's response to comments on hydrology (Attachment F, as prepared by Mr Mawer and Mr Williamson) can be summarised as follows.

a. It is appropriate for the purposes of a daily timestep lake water balance assessment to treat the three lakes as a single combined unit (the model used for our assessment is not a hydraulic model).

b. The weir has been modified and raised with the V-notch plates. Construction details are not available and TIL has not been able to accurately survey the configuration due to difficult access requirements. The focus on lake levels negates the need for understanding of groundwater seepage separate from the Wainui Stream flow.

c. Calibration of the Soil Moisture Water Balance Model used to develop the lake model was not feasible within the timeframe to respond to comments. Whilst acknowledging the high simulated groundwater recharge component (31%) may be why periods of high lake levels (>10.3 mRL) were under-predicted by the model; the specific objective of the assessment was to simulate lake levels (these directly relating to lake storage volume and hence volumes of water available for abstraction), and the lake model was calibrated to measured lake water level data to do so successfully.

d. As with all environmental modelling assessments, some degree of uncertainty is unavoidable due to the complexity of natural systems and limitations in available monitoring data.

e. The baseline/calibration modelling scenario included abstractions at the maximum rate (75,000m^3/day) and did not result in substantial lake drawdown. Data from the summer 2021 period shows higher minimum lake levels despite having higher days of maximum abstraction. This demonstrates lake levels are balanced between catchment inflows and cumulative summer abstractions, rather than periodic larger abstractions.

f. The modelling employed a Monte Carlo (random distribution) approach to distribute ship loading events. This reflected more intensive (up to 18) summer ship loading events and are considered conservative in the absence of active lake level management (which is proposed).

g. Agreement (with WRC) to increase the trigger level to initiate pumping in the Wainiu Stream to 9.45 mRL (at the dam) *before* flows are reduced below the

specified minimum (10L/s).

h. Disagreement with Te Nehenehenui that notification to WRC at 9.0 mRL and 9.6 mRL are necessary as WRC have not requested this. A requirement for additional reductions in abstraction volumes at 9.0 mRL (as also sought by Te Nehenehenui) is not necessary. The proposed condition requires a qualified ecologist to monitor and report on the extent and health of the wetlands on Lake Tahāroa margins triggered by the lake level below 9.6 mRL for a continuous 30-day period (with additional updates to the LL&WMP). Thus an assessment of effects and identification of appropriate response is already initiated by the 9.6 mRL trigger level.

i. The weir itself does not impede flow during high-flows and effectively provides a high-flow bypass because discharge rates increase as lake levels increase (rather than flow overtopping the dam). Mr Mawer and Mr Williamson did not consider a flood risk assessment considering climate change necessary.

j. There were 9 flood events over the 13 years ending 2025 with a maximum depth across the road of approximately 0.45 m. Flooding of the road may occur with or without TIL's operation and activities because the road is located at a topographical low point where upstream catchment floodwaters would cross irrespective of whether Lake Taharoa was present or not.

k. Mr Mawer and Mr Williamson acknowledge a degree of residual uncertainty exists, as is common with all environmental assessments, however the conditions provide a robust contingency and appropriate environmental protection.

210 Mr Eccles further provided a detailed response on the WRP provisions for water allocation/minimum flow policies relevant to the water abstractions sought, based on information included in the s 42A report for the WRC Hearing of the 2020 RMA Application.[73] In summary:

a. Section 3.3.3 of the WRP (Policy 11(s)) requires decision makers:

> "shall have particular regard to… The need to ensure that water bodies are not over-allocated (having regard to the current allocation limits of the water body as indicated by Table 3-5 and to the provisions of Policy 6, Policy 9 and Method 3.3.4.10.k)."

b. The advice of Mr Cameron King (Senior Water Adviser for WRC) is that the Q5 for the Wainui Stream catchment is 95 L/s.[74] Under the policies of the WRP:

   i. Primary Allocable Flow is 4.75 L/s (5% of 95 L/s)
   ii. Secondary Allocable Flow is 23.75 L/s (25% of 95 L/s)
   iii. Combined Primary and Secondary Allocable Flow is 28.5 L/s

c. The application by TIL to take water from the Wainui Stream is for up to 75,000 m^3/day or 868 L/s. At face value this is an overallocation by several orders of magnitude. However, the water is taken from an impounded section of the Wainui Stream, with the impoundment created by the dam that has existed since 1972. This is not a "run of the river" situation where stream flows are entirely controlled by natural factors such as rainfall, infiltration and evaporation but rather like a water harvesting situation (noting that it does not conform exactly to the WRP definition of water harvesting).

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[73] Attachment B. Taharoa Ironsands Mine – Central and Southern Blocks Mining Project. Response to Comments. Prepared for TIL by Mr Grant Eccles, Tonkin & Taylor. 22 June 2026.

[74] Q_5 is the base flow with a 20% chance of occurring in any given year

The existing dam and fish pass are designed to continually pass a minimum flow for operational and ecological purposes which would appear to exceed the allocable flow. This requirement is combined with the proposed conditions that maintain the level of Lake Tahāroa above 8.53 mRL (being the minimum lake level to ensure sufficient flow upstream of the dam while water is being taken for ship loading purposes).

There are no other consented water takes on the Wainui Stream (and none likely in future as the full length of the Wainui Stream is contained within the 300+ ha Taharoa C Block). Technical reports have assessed the actual and potential effects as minor.

d. Mr Eccles considered due weight should be given to the advice of Mr King (for WRC) who advised that "*it is pretty difficult if not impossible to say that there is 'over-allocation' or that the catchment is 'over-allocated' in terms of the NPS-FM*". Mr Eccles considers that while the initial advice from Mr King highlighted policies that seek to limit the grant of consent where allocable flows are sought to be exceeded, equal weight should be given to WRP water allocation policies that provide support for the takes sought, in particular Objective 3.3.2(f), Policy 3.3.3 1(l), Policy 11(l),(k) and (o) and Policy 15(a)(v). It appears Mr King agreed with Mr Eccles.[75]

Panel RFI

211 The Panel's RFI repeated Mr Kelsey's request for an assessment of flooding risk at Taharoa Road including as to why lake levels could not be managed to address flooding risk and queried the temporal differences between climate change projections for seasonal effects and individual flood events (which occur over days).

212 The Panel requested clarification on several measures, including:

a. the calibration approach (and consequences) of the lake model;

b. the overall water balance for the Site, particularly during low flow periods, given the increase in the proposed number of ship leading events, but with no corresponding increase in proposed water abstraction rate for either ship loading or mine processing water;

c. how the Tahaaroa lake level would be managed in practice and what mitigation could be provided to prevent adverse effects (noting proposed conditions only required action *after* monitoring reports identified adverse effects);

d. the reason for a 30-day 'continuous period' before any responses are required for the 9.6 mRL trigger, as proposed in the management plans filed with the SAR ;

213 The Panel further raised the potential introduction of a weekly abstraction limit during periods of low flow, given the maximum annual limit on the water take for ship loading would be exhausted in 40 days (at 75,000m^3/day).

Applicant Response to RFI

214 Mr Mawer's with some assistance from Mr Eccles response to the Panel RFI on behalf of the Applicant may be summarised as follows:

a. The road that is subject to flooding was completed in the early 1970s as part of the

[75] Footnote 4 referencing Mr King's advice is missing so the Panel does not have Mr Kings views directly before it.

establishment of the mine and was in place well before the dam and weir were constructed in 1971. The Road Controlling Authority (Waitomo District Council) has not raised the periodic flooding of the road as an issue. The road may still be flooded due to the low level of the road relative to the area upstream and high catchment inflow conditions during these times.

b. It is not feasible to discharge the massive volumes required to manage lake levels during heavy rain and storms to prevent Taharoa Road from flooding. This would necessitate full replacement of the existing weir structure.

c. Lake levels would need to be maintained below 10.5 mRL (local datum) to avoid backwater flooding onto Taharoa Road. However, the rate of pumping to make a material difference to lake levels is not realistic. It would further result in negative effects downstream of the dam (e.g., erosion, high turbidity / suspended sediments etc) and the road may still flood (as it is low relative to the upper catchment).

d. Whilst annual and seasonal changes in average rainfall due to climate change will be fairly neutral, infrequent, large storms are projected to become more intense. The frequency and number of high lake events and inundation of the road is not anticipated to materially change due to climate change over the duration of consent sought. A comparison of Earth Science NZ's (formerly NIWA) High Intensity Rainfall Design System (**HIRDS**) data for current day and RCP4.5 scenario[76] design storm rainfall suggests rainfall depth will increase by approximately 4-5%.

e. In response to calibration queries, the lake outflow curve is governed by the physical configuration of the weir structure, which over the passage of time has been modified and is poorly documented. However, the primary objective of the assessment was the simulation of lake levels – which were unaffected by the approach used – because these levels dictate the availability of water for abstraction and trigger the consent conditions. The model remains highly accurate for managing the proposed consent limits.

f. The Applicant's total water supply limit of 12.9 million m^3 per year is the sum of the ship loading allowance (3 million m^3 per year) and operational water take for a full year at the daily rate (9.9 million m^3 per year). Historically the maximum ship loading allocation has not been sufficient and the shortfall has been made up from recycled process water and groundwater. No change is proposed to the water take limits. In the future, the additional required water will also be provided from recycled process water and groundwater, within the overall water allocation of 12.9 million m^3 per year.

g. The modelling (scenario 3) assessed the maximum abstraction rate sought in proposed consent conditions but did not include application of the 9.6 mRL for 30 continuous days trigger and management response requirements (as is proposed in consent conditions), and so was conservative. The lake water balance model did explicitly include the 8.53 mRL cease take trigger.

215 In response to the Panel's query about how lake levels would be managed in practice, Mr Eccles responded that any reduction in the lake level would not occur suddenly but rather be a slow and steady reduction that is measurable, with current reporting requirements to WRC providing ample time for mine management to put response

[76] Medium-emissions climate change scenario where global greenhouse gas emissions peak around 2040 and then decline.

mechanisms in place. These could include reducing take volumes to practical minimums, maximising the use of recycled process water and ensuring freshwater storage pond capacity is at maximum capacity.

216 Mr Eccles further clarified that the slow response (in ecological effects) was also the reason for a 30-day continuous period for a trigger level.

217 Mr Eccles did not consider a weekly abstraction rate was necessary given there was no feasible scenario where ship loading could occur continuously for 40 days, with daily back-to-back maximum abstraction and, in any case, recycled mine process water was used to supplement ship loading.

Panel Facilitated Conference and Second RFI

218 Discussion at the PFC focused on conditions that provided for an early warning approach to managing potential adverse effects from water abstraction on the Wainui Stream and Lake Tahāroa. Accordingly, the PFC focussed on how proposed conditions would improve certainty of outcomes.

219 The Panel then issued a second RFI querying (in relation to hydrology) :

a. the appropriate cease take level for Lake Tahāroa;

b. the overall Site water balance in relation to the proposed 12.9 million m^3 per year total surface water take against a projected future use of 17 million m^3 per year (as calculated by the Panel to allow for expansion in operations /increase numbed of ship loading movements) and whether there are implications for water availability during periods of high production and low rainfall.

Applicant Response to Second RFI

220 Mr Mawer, Mr Scherberg, Mr Willamson and Mr Eccles responded for the Applicant as follows:[77]

a. The cease take level of 8.53 mRL in Lake Tahāroa reflects the original consent condition from the dam construction in the mid 1970's. It is considered a final backstop limit, and lake levels are not intended to be held at this level for extended periods of time. The hydrology assessment (Appendix I) indicates lake levels would return to typical levels (~10 mRL) each winter.

b. The authors referenced the other controls in place to prevent and manage effects prior to reaching the 8.53 mRL cease take and concluded that 8.53 mRL cease take level is appropriate from a hydrological and operational perspective.

221 In their final (October) response Mr Mawer, Mr Scherberg, Mr Willamson and Mr Eccles responded for the Applicant as follows:[78]

a. Regarding the Panel's query about the overall water balance for the site, the Applicant reiterated the recycling of water onsite means that once abstracted water can be used many times on site and is not lost to the system after recycling. This means the 9.9 million m^3 per year abstracted from the Wainui Stream for operational use (rather than ship loading) can be used multiple times.

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[77] Memorandum of Counsel for the Applicant dated 8 September at Appendix A – Schedule of Interim RFI Responses.

[78] Memorandum of Counsel for the Applicant dated 1 October at Appendix A – TIL's final written responses to the Panel's Further RFI.

b. There is also perched water, rainfall and other inflows (e.g., storm rainfall) into active mining areas that provide an additional input into the overall site water balance. The site has never had a problem with too little water. To the contrary, issues from too much water (due to high rainfall) can occur – as addressed through stormwater consent discharges to the CMA.

Expert Conferencing: Hydrology

222 Hydrology, hydrogeology, mātauranga Māori and planning experts for the Applicant and other parties conferenced on 18 September 2026 and provided a joint witness statement for the Panel.[79]

223 Mr Blyth (hydrologist for DoC) and Mr Mawer clarified the various trigger levels being discussed:

a. the 9.6 mRL trigger level relates to lake level management and potential wetland ecology effects;

b. the 9.45 mRL trigger level is relevant to the continuation flow in the Wainui Stream downstream of the dam;

c. the 9.3 mRL trigger level is for initiating pumping and augmentation into the fish pass;

d. the 8.53 mRL trigger level is related to flow from Lake Taharoa into Wainui Stream.

224 Mr Williamson and Mr Mawer consider the 8.53 mRL cease take level is appropriate and necessary for ensuring continuation of flow from Lake Tahāroa to the Wainui Stream (and the Dam) because other trigger levels would be encountered well before the 8.53 mRL cease take level is triggered.

225 Mr Blyth considers the 8.53 mRL trigger level represents a historic backdrop that may no longer be appropriate because the proposed activity will increase the frequency of drawdown (to as low as 8.53 mRL potentially for months at a time) and are likely to have an ecological effect if not managed appropriately. The mātauranga experts agree with Mr Blyth.

226 Hydrologists for all parties along with Mr King (mātauranga expert) and Ms O'Callaghan (planner) for Te Nehehenui considered the management responses at 9.6 mRL need to be more robust with different views on how this should be achieved:

a. Mr Williamson suggested immediately implementing the mandatory reduction measures in the LLWMP if the lake level drops below the 9.6 mRL for a continuous 30-day period;

b. Mr Blyth considered the wording of the consent condition for the trigger of 9.6 mRL (a cumulative period of 30 days over any 60-day period) provided too much uncertainty to ensure effects were minimised. He noted this could result in management approaches that draw the lake down numerous times per year, below the lowest recorded minimum level without any monitoring for ecological effect (which would begin after 30 days). Mr Blyth suggested the ecologists advise an annual limit on the number of days below 9.6 mRL. Experts for Te Nehenehenui/Ngaati mahuta agreed with this approach.

c. Mr King noted that from a mātauranga Māori perspective, lake level drops must be considered in relation to the interconnected hydrological and ecological health of

[79] Joint Witness Statement of Expert Witnesses: Hydrology/Hydrogeology. 18 September 2026.

the lake and changes can affect the mauri of the wider system and place stress on its taonga species, including tuna and their habitats. He considered conditions must be staged and able to respond quickly to detected changes, ensuring the balance and health of the lake and its taonga species are maintained. Ms Passau (mātauranga expert) and Ms O'Callaghan agreed.

Final Independent Expert Review

227 The Panel requested Earthtech Consulting Ltd to review the Applicant's responses to our requests for information and the Hydrology JWS. Mr Philip Kelsey and Mr Samuel Kelsey provided a peer review on 12 October 2026 (Earthtech, 2026b).[80]

228 Mr Samuel Kelsey agreed with Mr Williamson and Mr Mawer that the 8.53 mRL cease take level for Lake Tāharoa is appropriate and necessary for ensuring continuation of flow from Lake Tahāroa to the Wainui Stream.

Panel Findings: Hydrological Effects

229 The Panel had questions about the overall site water balance based on the historical onsite water use, coupled with ship loading requirements, exceeding the maximum consented water take. However, we now understand that water abstracted for on-site processing is not lost to the system after a single use only, rather water is recycled and used multiple times on site. There is further perched water and rainwater that were not included in the amounts being discussed. We retain some concerns over the maximum amount of water sought to be taken exceeding the allocable limit for the Wainui Stream under the WRP, this is discussed further below.

230 The Panel accepts the lake water balance model as generally appropriate for scenario testing with the limited data. We have sought to offset residual uncertainty through conditions of consent that provide robust contingency measures and appropriate environmental protection as suggested by the Applicant's experts and other experts. In doing so we note the generally good level of agreement on proposed conditions to achieve this.

231 We consider that in principle, the following four trigger levels with associated consent conditions for management responses, provide appropriate and timely actions to ensure both the hydrological balance and ecological health of the Tahāroa lake and Wainui Stream (along with its taonga species as sought by mana whenua) are maintained:

a. **Wainui Stream continuation flow trigger level** (9.45 mRL trigger level measured at the dam as an instantaneous level) for continuation flow in the Wainui Stream downstream of the dam; and

b. **Fish pass continuation flow trigger level** (9.3 mRL trigger level measured at the dam as an instantaneous level) for initiating pumping;

c. **Lake level management trigger level** (9.6 mRL measured at Lake Tahāroa for a cumulative period of 30 days over any 60-day period) with mandatory reduction measures to be implemented immediately upon notification of exceedance; and

d. **Lake cease-take level** (to be measured at Lake Tahāroa as an instantaneous level) for protection of lake and wetland health;

[80] Earthtech Consulting Ltd, (2026b). *Technical Peer Review of Hydrology/Hydrogeology Joint Witness Statement for FTAA-2512-1153.* Prepared by Mr P. Kelsey & Mr S. Kelsey. 12 October 2026.

232 The first three are agreed by all parties.

233 We note that, with respect to the lake level management trigger level (for lake and wetland ecological health), modelling of historical water use (scenario 1) in Appendix I suggests that lake levels would have fallen beneath the 9.6 mRL trigger level as a 30-day average only once. However, modelling of proposed consented takes (scenario 3) suggests lakes levels would fall below the 9.6 mRL trigger level 11% of the time (Figure 16), and this appears to have occurred for extended periods (more than 30 days) on more than 10 occasions over the term of a 35-year consent (Figure 15).[81] However, we note this modelling does not include the proposed mandatory immediate reductions which, if applied, should ensure this would not occur in practice.

234 With respect to a proposed cease take level for Lake Tahāroa (for lake and wetland health protection), we note Mr Blyth's concerns that the existing cease take level of 8.53 mRL may no longer be appropriate. The Panel notes the ecologists did not recommend an annual limit on the number of days below 9.6 mRL in their expert conference on 21 September 2026, as proposed by Mr Blyth. However, all ecologist experts did reach consensus that a cease take level is required for Lake Tahāroa and that 8.53 m RL is not appropriate from an ecological perspective.[82] The mātauranga experts agreed.

235 The experts stated:[83]

> Dr Catherine Beard, Ms Kaitlin Morrison, Dr Fleur Maseyk, Ms Fleur Passau, Mr Taituwha King, Dr Hannah Mueller and Mr Hamish Dean consider that while they cannot pinpoint the exact lake level that would lead to detrimental effects on wetland values, they have reflected on ecological first principles of response, recovery, time lags cumulative effects, interactions between hydrology and ecological values, alongside first principles of managing scarce resources and are agreed that a precautionary approach should be taken. They are of the view that 9 m RL serves this purpose.
>
> Ms Fleur Passau and Mr Taituwha King consider that a cease-take level should be established to help protect the health, mauri and ecological wellbeing of the lake and its connected ecosystems. This reflects the Mātauranga Māori value of Kaiaua Piritahi, where kaiaua gather together and grow as whānau among the roots of the raupō. Maintaining appropriate lake levels is important for sustaining these habitats and the taonga species that rely on them. If lake levels approach the established cease-take level, abstraction should cease promptly to help protect the ecological balance and allow the lake and its ecosystems to recover.

236 We accept the advice of the ecologist experts, noting the agreement of mātauranga experts, and have included conditions to this effect. The four trigger levels to be conditioned as a package are:

a. **Wainui Stream continuation flow trigger level** (9.45 mRL trigger level measured at the dam as an instantaneous level) for continuation flow in the Wainui Stream downstream of the dam; and

b. **Fish pass continuation flow trigger level** (9.3 mRL trigger level measured at the dam as an instantaneous level) for initiating pumping.

c. **Lake level management trigger level** (9.6 mRL measured at Lake Tahāroa for a cumulative period of 30 days over any 60 day period) with mandatory reduction measures to be implemented immediately upon notification of exceedance;

d. **Lake cease-take level** (9.0 mRL to be measured at Lake Tahāroa as an

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[81] Appendix I Hydrology Assessment for the SAR. At Figure 15 and 16 (Scenario 3).

[82] Ecology Wetlands JWS at [9].

[83] *Ibid at* [11] – [12].

instantaneous level) for back-stop protection of lake and wetland health (not to be exceeded);

Water Allocation

237 The WRP provides that total allocable flow for a stream is 30% of Q5. WRC advised the Wainui Stream Q5 is 95 L/s, thus the total allocable flow is 28.5 L/s. However, the applicant seeks to extract up to 868 L/s, which is around 30 times the allocable flow.

238 Policy 20 of the WRP provides an allocation at higher flows from rivers as a restricted discretionary activity:

a) if the take is not within the Waikato River Catchment upstream of the Karapiro Dam; and

b) in circumstances where water is only taken when the river flow is greater than the median flow, and the total amount of water taken by way of water harvesting does not exceed 10% of the flow in the river at the time of abstraction.

239 This policy is not applicable, given abstraction can, and does, occur at any time, rather than being confined to periods above median flow.

240 As recorded above, Mr Eccles posited:[84]

a. it is not a 'run of river' take situation due to the dam, meaning that the flows are to an extent artificially controlled;

b. the take is more like a high-flow water harvesting situation, noting the dam and fish pass are designed to continually pass a minimum flow of water for both operational and ecological purposes which (taken from the final design report of the dam) which would appear to exceed the allocable flow; and

c. the applicant will maintain Lake Tahāroa levels above 8.53 mRL, which is the minimum lake level required to ensure that sufficient flow is available in the Wainui Stream upstream of the dam while water is being taken for ship loading purposes.

241 We consider (a) could apply to the section of the Wainui Stream upstream of the dam, for which there are cease take levels to manage Lake Tahāroa as outlined in (c). But it does not apply downstream where there are (typical run of river take) minimum flow requirements (10 L/s at the dam and 24 L/s at the fish pass).

242 We agree with (b) that the take is more like a high-flow harvesting situation but the reference to the dam design report only raises further questions (the weir structure has been changed with no subsequent amendments to the design plans) over the Q5.

243 However, this is not a new consent. Rather it is an application for continuance of an existing water take with conditions of consent for the minimum downstream flow requirements, for which we have ecologist and mātauranga expert agreement. They agree on minimum flow requirements for the Wainui Stream and trigger levels, including a cease take level for Lake Tahāroa to ensure no adverse ecological effects on the Wainui Stream.

244 We further note the entire length of the Wainui Stream is within the boundary of the Central Block. There are no other users. We are therefore, comfortable that the maximum take consented will not result in adverse effects on the ecological health of the Wainui Stream.

245 We therefore accept Mr Eccles advice regarding Policy 11 of the WRP (Consent

[84] S3.6.1 of Applicant's Response to Comments dated 22 June 2026 - Attachment B

application assessment criteria – surface water):[85]

> The objective and policies seek the efficient allocation of water and recognise that existing water takes contribute to social and economic wellbeing and significant investment can rely on the continuation of water takes. With suitable conditions regarding minimum lake levels, stream flow, and the monitoring and flow augmentation proposed, the water takes can be achieved without resulting in adverse effects, and the social and economic benefits of the mine can continue. TIL is not seeking to increase the water take limits the site has had in place since 2006.

246 We also note that in addition to the policies Mr Eccles pointed us to that provide support for the takes sought, Policy 1 of the WRP requires us to have particular regard to:

> …
> b) The recognition of the relationship between tangata whenua with water bodies and providing for tangata whenua input in determining their values and interests, and reviewing the allocable and minimum flows for those surface water bodies.
> …
> i) Maintenance and enhancement of tangata whenua uses and values of water, including the ability to exercise kaitiakitanga and measures to protect and enhance the mauri of water bodies.
>
> j) Maintenance of identified recreational and intrinsic values and the natural character of rivers.
> …
> n) The effects of climate change on surface water resources.

247 This supports inclusion of mātauranga experts in the decision making over Wainui Stream and Lake Tahāroa level management and we have imposed conditions accordingly (refer Part E Mana Whenua Engagement above).

Flooding Risk

248 The evidence before us is that the Lake Tahāroa level has risen 2.5 metres as a result of the dam on the Wainui stream. We consider that this has increased the risk of flooding at Taharoa Road, which has occurred on 9 occasions in the last 13 years. The Applicant advises that, due to climate change and increased storm intensity, rainfall levels are likely to increase by 4-5% over the period of consent.

249 We note that Applicant has not provided any evidence for the assertion in the RFI response that Taharoa Road may still flood given its location in a low-lying area in relation to the upper catchment. We note that Lake Tahāroa is situated below Taharoa Road and the upper catchment and, if the dam were not present, Lake Tahāroa would be 2.5 m lower and water from the upper catchment would flow into Lake Tahāroa which is downstream of the upper catchment. We think it is therefore reasonable to conclude that the presence of the dam has at least increased the risk of flooding on Taharoa Road.

250 However, we acknowledge that the road would not exist without the mine, that the dam is a prerequisite for mining, and that the current dam, reservoir and lake levels are part of the existing environment (as addressed in Part D of this decision). We accept the Applicant's point that the Road Controlling Authority (Waitomo District Council) has not raised the periodic flooding of the road as an issue and have not considered this further.

251 Commissioner Wickham retains a dissenting view on this matter, considering the flooding risk to road safety to be a potentially significant adverse effect of the

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[85] SAR Table 8.6 at [130]

application. Whilst accepting it is not feasible to control the lake level to avoid flooding in the event of high rainfall without reinstalling the weir, they query why that is not a reasonable option for consideration, given the weir is now more than 50 years old, and climate change effects will increase flooding risks (albeit these are predicted to increase only a minor degree), and the adverse effects could potentially involve risks to life and limb on Taharoa Road.

Hydrogeology

Introduction

252 The SAR was supported by a Hydrogeology assessment of groundwater effects from the proposal prepared by Asanka Thilakerathne and Jake Scherberg of Wiliamson Water & Land Advisory, dated 17 September 2025 (**Appendix N**).

253 Appendix N developed a three-dimensional groundwater model (**groundwater model**) to quantitatively represent the groundwater conditions within the proposed mining areas and surrounding catchments during mining and after completion of mining when the mine area is restored to approximate original topography.

254 Specifically, Appendix N:

a. developed a conceptual model of hydrological conditions across the site to inform the sub-soil drainage, groundwater recharge and hydrogeological environment;

b. used the conceptual model with a Soil Moisture Water Balance Model (SMWBM), which is a daily catchment water balance accounting tool, to calculate the partitioning of rainfall into key catchment water balance components including interception loss, surface runoff, soil evaporation and groundwater recharge;

c. considered a 44-year transient simulation based on historic climate conditions for 2003 through 2046;

d. assumed an indicative mining sequence to simulate the excavation process through the Central Block for a total 11.8 years as follows:

   i. North Te Ake Ake Pit commenced August 2024, mining at a rate of 15,449 m^3/day with mean excavation depth 56m over 4.5 years ending March 2029;
   ii. Pit 2 commencing March 2029, mining at a rate of 34,909 m^3/day with mean excavation depth 60m over 2.2 years ending May 2031;
   iii. Pit 3 commencing May 2031, mining 48,841 m^3/day with mean excavation depth 58m over 2.5 years ending December 2033; and
   iv. Pit 4 commencing December 2033, mining 15,078 m^3/day with mean excavation depth 52m over 2.6 years ending June 2036.

e. assumed an indicative mining sequence to simulate the excavation process through the Southern Block for a total 11.8 years as follows:

   i. Pit 1 and 2 over 1.8 years;
   ii. Pit 3 over 3.5 years;
   iii. Extension 1 over 1 year;
   iv. Extension 2 over 1.1 years; and
   v. Extension 3 over 1.2 years

f. modelled all of the geological units above the greywacke basement as a single layer described as the "Ironsand" unit;

g. incorporated borehole information from April 2025 investigations:

i. Central Pit (197 ha) – six investigation bores C101 to C106; and
ii. Southern Pit (309 ha) – three investigation bores S101 to S103.

as well as hydrogeological field testing of 17 piezometers to provide a measure of the bulk permeability of subsurface materials;

255 The groundwater model assessed the following potential effects:

a. potential groundwater drawdown effects on wetlands within and adjacent to the proposed mining area including neighbouring bores;

b. impacts on surface water systems including the stream baseflow and wetlands (hydraulically connected to the groundwater system) within and adjacent to the Central and Southern Blocks;

c. saline intrusion in groundwater from reduced pressure during mining; and

d. long-term changes in the hydrogeological regime following mining and land reclamation.

Groundwater Modelling

256 The groundwater model predicted:

a. The maximum extent of groundwater drawdown would primarily be confined to within the Central and Southern block but would extend approximately 1 km east of the C Block boundary at the peak of excavation in the Southern pit. This would cause a maximum of 1.65 m of drawdown at one domestic bore (ID 142329) but would not impede sufficient pump submergence for normal bore operation. Appendix N concluded the effects of drawdown on existing bores would be less than minor.

b. As the mine intersects the water table, groundwater will drain into the mine pit and require dewatering.

c. Peak groundwater drainage into the Central and Southern mine pits would be 83.1 L/s and 131.8 L/s respectively.

d. The maximum base flow reduction in the Mitiwai Stream from mining will be 4.4 L/s, which is less than 10% of the 7-day mean annual low flow (MALF). Appendix N recommended a trigger level for the Mitiwai Stream to be set at 90% of the Q_5. The Q_5 is the base flow that has a 20% chance of occurring in any given year (a 1-in-5-year return period) and is the default minimum flow requirement of the Waikato Regional Plan. Appendix N recommended that if flow in the Mitiwai Stream were to fall below 28 L/s, contingency measures should be implemented such as flow augmentation and/or partial or full cessation of pit dewatering adjacent to the Mitiwai Stream.

e. No change in *overall* flow in the Wainui Stream based on maintenance of a 34 L/s environmental flow below the invert of the v-notch weir (dam) as required by existing consents. Some reduction in baseflow of Wainui Stream was predicted during the peak of excavation in the South Pit but minimum flows will be sustained by management of the lake outlet and flow augmentation if needed .

f. That during the peak of excavation in the Southern Block there would be a temporary reversal in natural groundwater flow between the ocean and the shallow aquifer. Saline intrusion was not anticipated, but if it did, the effects would be confined to the pit area which is uninhabited and not used for water supply.

g. That following restoration of the mine to approximately the original topography

that groundwater and stream baseflow conditions will rebound to their original state within approximately 2 years.

257 Appendix N identified 88 wetlands within the entire Mitiwai Stream Catchment, the Wainui Catchment below Lake Tahāroa and the portion of the Wainui Catchment that lies north of the lake. Over half of these wetlands are either groundwater fed or potentially groundwater fed, however, detailed investigations of the retained wetlands within the drawdown area determined these were primarily surface water fed.

258 Appendix N therefore concluded there would be negligible effects on these wetlands except Wetland #80,[86] which may have a partial connection to groundwater. Appendix N recommended conditions for monitoring for the proposed offset wetland (#72)[87] and wetland #80 to manage groundwater effects in these and other wetlands.

259 Appendix N concluded that considering the proposed mitigation and compensation packages, groundwater effects of the proposal would be less than minor.

Section 53 Comments

260 Department of Conservation had reviews undertaken of groundwater hydrogeology by Ms Calder-Steele and Mr Jones (Aqualinc Research Ltd) who considered:

a. Environmental data has significant limitations – groundwater monitoring covered only 44 days in April and May 2025 which is unlikely to capture annual highs or lows. Stream flow rating curves are based on few observations in potentially unstable channels. Because the rating curves are poorly constrained, we do not have confidence in flow estimates, especially low flow estimates.

b. The groundwater model is limited by the environmental data and modelling assumptions. As groundwater levels were unlikely high or low, we don't know how well the model can predict these levels, nor how well it can predict the effects of dewatering on these levels. Repeating historic climate data for forecasting is inappropriate. Available climate data was ignored.

c. The constant head boundary for Lake Tahāroa was inappropriate as it is known to fluctuate and would mean that impacts of dewatering were muted/under-predicted, especially on lake-margin wetlands.

d. The conceptual hydrology of wetlands to be flawed – where wetlands were identified as being predominantly surface water fed, they were not identified as being at significant risk from dewatering. However:

    i. Groundwater and surface water can be highly connected and so reducing groundwater levels may impact wetlands even if they are primarily surface water fed.

    ii. Being predominantly surface fed is not the same as being disconnected from groundwater.

    iii. Ignores natural flux in relationship between groundwater and surface water.

e. There is no acknowledgement of the potential for wetlands to be contaminated by groundwater inflows.

f. That post-mining conditions were not appropriately modelled, not least because the

[86] Wetland 15 in SAR Appendix K

[87] Site 27 in SAR Appendix K

hydraulic properties in the post-mining scenario will be different to the (model assumed) current conditions.

g. Potential dewatering effects for groundwater connected wetlands could occur and grouping wetlands has the potential to mask effects on individual wetlands that may be particularly vulnerable or suffer a disproportionate effect based on their location relative to mining activities.

h. That it was likely there would be effects beyond those outlined in the application with significant risks of further impacts arising as a result of hydrological changes.

261 DoC sought effective monitoring environmental triggers and responses to breaches of triggers to prevent effects being greater than anticipated. This included requiring all freshwater monitoring sites be installed, operated and maintained consistent with National Environmental Monitoring Standards (NEMS).

262 WRC (Dr Koh) considered that overall the technical rigour of the modelling work to be high, providing a reliable basis for assessing potential hydrogeological impacts. However, Dr Koh expressed concerns that the groundwater model underestimated seawater intrusion and queried the lack of response of the deep hydrogeological layer. WRC flagged a requirement for monitoring and management plan conditions to address the risk of saline intrusion.

Mitiwai Stream

263 Mr Blyth's (hydrological) review for DoC also considered potential effects on the Mitiwai Stream. He agreed that the potential drawdown risk to the Mitiwai Stream was likely to be minor at ~10% of the 7-day mean annual low flow (**MALF**) and the trigger level system would be appropriate to mitigate larger effects during dry periods.

264 WRC (Dr KoH) also agreed to the proposed trigger levels and augmentation plan for the Mitiwai Stream but suggested extending the active monitoring and augmentation window to include late summer and autumn to address low flow.

265 Te Nehenehenui were concerned the reduction in baseflows has the potential to remove the connection between the Mitiwai Stream and the CMA and result in adverse effects on freshwater values. This could impact instream habitat, water quality, fish passage and saltwater intrusion.

266 Te Nehenehenui expressed concerns that mine water used to augment the Mitiwai Stream may reduce water quality, noting identified risks to water clarity, temperature, dissolved oxygen or the introduction of other contaminants. It noted a management plan required a '*notable reduction'* in water quality to review augmentation source water or flow rates. The effects may occur over summer periods for between 4 – 5 years which is not short term, with cumulative seasonal stress on the Mitiwai Stream environment.

267 Te Nehenehenui was also concerned that augmentation altered stream flows, failing to replicate naturally occurring conditions and disrupts ki uta ki tai connectivity.

268 Te Nehenehenui sought peer review of the Applicant's reports for the purpose of setting a minimum flow level for the Mitiwai Stream with a buffer to be maintained at all times and appropriate water quality limits that are monitored and regularly reported.

Initial Independent Expert Review

269 Mr Philip Kelsey to reviewed Appendix N for the Panel (Earthtech, 2026). Mr Kelsey considered:

a. The conceptual model was insufficiently defined and ignored previous drilling data. It improperly grouped all geological units above the basement rock into a single "Ironsand" layer, rather than a layered sequence of aquifers and aquitards. This oversimplification meant predicted groundwater effects could be understated;

b. The assignment of permeability using statistical pilot points, rather than actual soil types, has not demonstrated that the hydraulic conductivity settings represent actual groundwater conditions. (Figure 1 from Geotechnics (2014) shows the Mitiwai Stream channel incised into moderately permeable black sand deposits. However, Appendix N's calibrated hydraulic conductivity plot (Figure 10, Appendix A) shows the Mitiwai Stream directly underlain by a low permeability zone, which limits predicted stream depletion effects).

c. The model predicts full recovery by assuming that the mine tailings have the same hydraulic conductivity as the in-situ ironsand, despite tailings being expected to have higher silt content and lower permeability.

270 Mr Kelsey queried a significant amount of detail, including requests for the Applicant to:

a. Revise the conceptual groundwater model, refine the groundwater modelling and provide bore logs;

b. Provide further information and verification on hydraulic conductivity (permeability), particularly with respect to Mitiwai Stream which has been modelled with low underlying permeability which conflicts with the drilling information;

c. Verify the high (relative to typical dune environments) groundwater recharge rate and assess groundwater availability in terms of the maximum modelled groundwater abstraction rate of 131.8 L/s (4,156,400 m^3/year);

d. Assess potential saline intrusion in more detail;

e. Test the calibration of the groundwater model against a likely interseasonal range, re-calibrate the groundwater model using 2026 low summer levels and reconsider groundwater model predictions;

f. Assess potential groundwater drawdown effects on lakes, including interseasonal background groundwater and lake level variability (the groundwater model has set all four lakes as constant head boundaries which is appropriate for determining maximum pit pumping rates but the constant rate setting does not allow drawdown effects on lakes to be assessed);

g. Provide maximum drawdown plots (in terms of mRL) for each of the Central and Southern Mine pits that can be adopted for the maximum consented drawdown limits;

h. Perform sensitivity analyses for groundwater model drawdown predictions, including for 1:10 year and 1:50 year drought conditions and climate change impacts of the next 50 years; and

i. Provide a Site water balance in terms of groundwater and surface water take, including mine water use for the slurry pipeline and processing needs.

Applicant Response to s53 Comments & Expert Review

271 The Applicant's response to comments on hydrogeology including the Earthtech review (Attachment G, as prepared by Mr Scherberg and Mr Williamson) is summarised below by topic:

a. Concerns over model accuracy;

b. Whether saline intrusion was predicted and, if so, potential impacts;

c. Concerns over depletion of Mitiwai Stream and Wainui Stream;

d. Potential effects of groundwater drawdown on wetlands; and

e. Climate change effects.

Accuracy of Model

272 Attachment G advised that the authors did not consider it necessary to revise and refine the groundwater model on the basis that it was "fit-for-purpose" considering that "the proffered consent conditions are designed to manage the uncertainty related to the analysis of potential environmental effects".

273 Mr Scherberg and Mr Williamson considered Mr Kelsey's recommended, more detailed, approach would not improve the accuracy of the model or the level of uncertainty. This is because of complex stratigraphy from the wind-blown depositional environment which the mining itself blends (it all being economically viable to process) so it is appropriate to assign a weighted average to bulk hydrogeological properties. They noted the calibration introduced variability in the hydraulic conductivity ranging from $1x10^{-7}$ m/s to $5x10^{-5}$ m/s, which represents the heterogeneity of the multi-layered system.

274 Attachment G acknowledged the limited dataset (44 days) for model calibration, with more recent data extending the data set (to 195 days for most sites), stating this generally showed water levels to be stable with typical seasonal variation. Attachment G considered the 41% groundwater recharge reasonable for this type of environment in comparison with other aquifers in coastal sand environments.

275 Attachment G clarified that they used the upper and lower limits of hydraulic testing to calculate the calibrated conductivities of the ironsand so that it represented realistic groundwater conditions.

276 Whilst acknowledging the drilling information indicated that part of the Mitiwai Stream bed crosses 'free flowing black sand', the same report also noted lower permeability materials in the same area (Geotechnics, 2014).[88] The Mitiwai Stream was assigned a lower conductivity, however, this was consistent with the surrounding material in the portion of the stream channel that traverses most of the mining Site and only varies by approximately 1.5 orders of magnitude.

277 Attachment G acknowledges that it is a simplification to incorporate Lake Taharoa as a constant head boundary, however this does not impact the outcome of the model from an effects perspective because the effects analysis is focused on drawdown (the change in groundwater level) related to mining. Other relevant points to note are the (consent condition) trigger levels for minimum Lake Tahāroa levels and the 1.5 m

[88] Geotechnics (2014). *Revised Geological Model. Taharoa Ironsand Deposit*. Report prepared for NZ Steel/Bluescope Steel Limited. June 2014.

increase in overall lake level in the early 1970s when the dam was installed.[89]

278 Attachment G acknowledged DoC's concerns over uncertainty due to a lack of sufficient monitoring data for calibration of groundwater recharge and estimated low flow statistics for the Mitiwai and Wainui Streams. The authors pointed to consent conditions requiring monitoring of streamflow in both the Mitiwai and Wainui Streams, noting Condition 45(g) of Schedule 1 provides:

> If necessary, recommend alterations to the monitoring required, including review of the monitoring site locations and recommended changes (if any) that would result in improved environmental performance.

279 Attachment G responded to the concerns of DoC and Mr Kelsey over the inappropriateness of post-mining modelling assuming the same conditions as currently present. Mr Scherberg and Mr Williamson considered it reasonable to assume the same hydraulic properties for post-mining assessment as the tailings have had the fines removed. This means the hydraulic conductivity will not be reduced which makes the assessment conservative for potential wetland effects and stream depletion (as a lower conductivity would support an increased water table elevation).

Saline Intrusion

280 Mr Scherberg and Mr Williamson reconsidered the modelling in response to queries over potential saline intrusion from DoC, WRC, Te Nehenehenui and Mr Kelsey. They determined that saline intrusion would not occur at the time of the deepest mine excavation as previously suggested, but rather when excavation is closest to the ocean; corresponding to Extension 2 excavation area of the Southern Block.

281 Attachment G advised that saline intrusion is predicted to occur over 13 months around early January 2038 ranging from 2 m^3/day to a maximum of 372 m^3/day (average 161 m^3/day) which is small compared with the simulated 7,018 m^3/day groundwater discharge offshore.

282 The saline intrusion would be driven by the steep, mechanically imposed hydraulic gradient between the ocean and the pit (with climatic factors such as seasonal precipitation and recharge) playing a secondary role. Given its transience and lack of any risk to streams or wetlands, the authors considered it was not necessary to assess saline intrusion under 10-year and 50-year drought conditions. However, to provide assurance Attachment G recommended a backup condition requiring that all water used for flow augmentation be freshwater (i.e. with electrical conductivity below 1,000 µS/cm).[90]

283 In response to the WRC's concerns about the lack of response of the deep hydrogeological layer in the model, Attachment G conservatively estimated the maximum discharge of saline water into the pit would amount to 12% of the groundwater inflow to the pit being sea water. The electrical conductivity of sea water is approximately 42,950 µS/cm and fresh water is 200 µS/cm, so the conductivity of

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[89] The Panel notes the Hydrology assessment (Appendix I to SAR) reports a 2.5 m increase in lake level from the dam.

[90] µS/cm: microSiemens per centimetre. A Siemen (S) is the unit of electrical conductance. It measures how easily electricity flows through a material. It is the direct opposite of an Ohm (Ω), which measures electrical resistance.

the mixture would be approximately 5,356 µS/cm (i.e. brackish).

284 Available deep aquifer piezometers from April to October 2025 at two locations indicate freshwater conditions. The authors remained confident that no additional consent conditions are necessary (beyond those requiring any augmentation water used in the Mitiwai Stream or wetlands does not increase salinity to environmentally adverse levels).

Stream Depletion Due to Reduced Baseflow

285 Attachment G considered there to be no indication that the baseflow reduction in the Mitiwai Stream could sever the connection between the stream and its outlet at the coast as raised by Te Nehenehenui and Ngaati Mahuta in their comments. The model predicted a maximum flow reduction of only 5% of stream flow during low-flow conditions, and this would be a temporary effect abating after mining advances away from the Mitiwai Stream. For reference, the applicable allocation limit for the Mitiwai Stream in the WRP is 10% of the Q5 flow rate, indicating that the maximum baseflow depletion is within the limit of what could be allocated from the stream for consumptive use. Mr Scherberg and Mr Williamson considered monitoring conditions with trigger levels for augmentation would address outstanding uncertainties.

286 Mr Scherberg and Mr Williamson considered the Wainui Stream would not be impacted by mining, already being controlled by the dam with minimum flow conditions and trigger levels for augmentation as conditions of consent to maintain those flows.

Groundwater Effects on Wetlands

287 In response to Mr Kelsey's query about wetland connectivity to groundwater, or lack thereof, and DoC's concerns over grouping of wetland masking effects on individual wetlands that may be particularly vulnerable or suffer disproportionate effects based on their location relative to mining activities, Attachment G noted:

a. The groupings have been agreed upon by both the ecological and hydrological experts undertaking these assessments, and the (groundwater) monitoring locations are proposed for the most vulnerable wetlands within each group.

b. WRC are comfortable that the wetland loss has been fairly assessed and that the offsetting, monitoring and seasonal trigger levels proposed in the draft NIWBMP are appropriate. This is a pragmatic approach based on recognising risk and connection to groundwater and has been supported by the project ecologists;

c. Surface water fed wetlands would be managed through surface flow monitoring (noting existing wetlands have persisted through 50 years of mining); and

d. Wetlands at the edge of Lake Tahāroa are hydraulically connected to the lake, which is managed through minimum trigger levels (that have never been breached) with management responses if adverse effects become apparent (Condition 10 AUTH142035.05.01).

288 Attachment G noted all wetlands are above sea level and not at risk of saline intrusion via groundwater.

Climate Change Effects

289 In response to queries from DoC and Mr Kelsey, Mr Scherberg and Mr Williamson referenced NIWA's "Our Future Climate New Zealand" to explore projected climate

data, specifically RCP8.5 (Representative Concentration Pathway for greenhouse gases) scenario to determine that annual precipitation and summer rainfall in the Tahaaroa area is projected to increase by 5-10%, with the number of summer wet days decreasing by 0-5 days.

290 Based on NIWA's predictions, the authors considered climate change projections would not affect their original conclusions.

291 Mr Scherberg and Mr Williams concluded the hydrogeology assessment, its groundwater model, and the associated conditions and management plans provided a scientifically sound, fit-for-purpose framework to safely manage, monitor and mitigate the hydrogeological effects of the TIL Central and Southern Blocks mining project over the life of the consent.

Panel RFI

292 The Panel's RFI queried how cumulative effects from groundwater drawdown and surface water abstraction had been considered in the effects assessment. The Panel further queried:

a. The feasibility of augmenting Wainui Stream with respect to mine staging, if there were an overall constraint on water availability;

b. Potential risks of ignoring low measured permeability (hydraulic conductivity) values in subsurface materials;

c. Does the groundwater model reflect current mining, and are the assumptions about backfilling reflected in consent conditions;

d. Given the significance of the mining plan for modelling and effects, is there any reason the Panel should not impose a condition requiring the timing and sequencing in the SAR to be followed;

e. Does a 22-year period for the baseline model applied in Appendix N go back far enough to account for climate change in projecting forward, and does the modelling factor in 1:10 year and 1:50 year drought conditions;

f. Will the existing and proposed monitoring address potential errors in the groundwater modelling?

g. What is the significance of the 0.2 m drawdown contour threshold applied in Appendix N?

293 The Panel discussed the option of consenting a maximum envelope of effects approach whereby consent conditions would ensure that all effects remain within the defined envelope of predicted groundwater drawdown in Appendix N. To assess this option, the Panel queried:

a. maximum groundwater drawdown from all mine stages;

b. maximum dewatering levels (in terms of mRL) for the Central and Southern Blocks;

c. maximum groundwater abstraction rates (understood to be 131.8 L/s); and

d. maximum salinity of discharge water as measured by electrical conductivity (understood to be <1,000 microSiemens per centimetre µS/cm).

Applicant Response to RFI

294 Mr Scherberg and Mr Williamson prepared the RFI response on behalf of the Applicant.

This noted that drawdown effects from mining are fundamentally separated from the surface water takes meaning they do not combine so there is no cumulative effect. Their response may be summarised as follows:

a. If dewatering effects were to manifest on Wainui Stream, all or most of the augmentation could be sourced from pit dewatering. In any case, additional requirements for augmentation can be met by pumping from Lake Tahāroa;

b. Ignoring extremely low permeability values is reasonable because these materials are typically only thin localised lenses and are homogenised during the mining process with sandy materials with much higher permeability;

c. The model reflects the current topography of the Site (i.e. current mining) and predicts changes from the proposed activities;

d. The assumption of backfilling with tailings within 15 months (after which time baseflows to adjacent streams will have returned to normal) is based on the backfilling process as implemented throughout the history of mining at the Site.

295 Mr Eccles noted that there are no conditions proposed that require the mine plan sequence to be followed. The sequence, as set out in the SAR, is indicative for the purposes of assessing hydrogeological effects. Mr Eccles considered the spatial sequence and timing of mining is not important, rather it is the depth that mining occurs that is most relevant.

296 Mr Scherberg and Mr Williamson noted the timing of mine operations was subject to environmental and economic conditions that are inherently unpredictable. Any condition requiring adherence to specific timing and sequencing for mining would therefore be impracticable and would not reflect the practical realities of mining operations. They suggested the Panel could consider maximum depth constraints overall, and maximum depth and duration constraints within certain buffer distance of wetlands and the coast. However, a condition requiring that the mine plan that was applied in the modelling assessment dictate the mining sequence over the coming decades would not be realistic or pragmatic.

297 Mr Scherberg and Mr Williamson further noted:

a. Climate change is expected to contribute a fairly benign annual and seasonal increase in rainfall. This makes the groundwater model conservative because groundwater recharge will be slightly greater than modelled. The modelling included years representative of 1:10 year and 1:50 year drought.

b. Wetland monitoring is proposed for the most vulnerable wetlands. Any errors in the modelling would manifest first in these wetlands and the response and contingency measures (in the draft NIWBMP) would apply, which would by proxy mitigate any adverse effects on all wetlands in the affected group.

c. A 0.2 m predicted groundwater drawdown is a widely accepted screening threshold for de minimis or negligible effects.[91] This translates to a water level change of 0.02 – 0.06 m (which is hydrologically unmeasurable) and is supported by natural seasonal water table fluctuations (0.3 – 1.0 m) typically experienced in palustrine and fen wetlands in New Zealand.

298 Mr Scherberg and Mr Williamson confirmed the maximum drawdown effects of the proposed mining occurred as presented in Figures A1-A6 to the RFI response and at

[91] Aupōuri Aquifer Precedent (Environment Court and Expert Consensus)

the:

a. deepest operational pit in the Central Block (model time July 2011)

b. deepest operational pit in the Southern Block (model time March 2016)

c. operational pit closest to the ocean (model time June 2018)

d. operational pit closest to the Lake Tahāroa area wetlands (model time June 2016)

e. operational pit closest to the wetlands south of Southern Block (model time May 2024).

299 These represent the peak of effects in different areas deemed to be potentially sensitive. The maximum groundwater abstraction rate is also shown for each pit in Figure 29 of the Hydrogeology Assessment (Appendix N to SAR).

Panel Facilitated Conference and PFC RFI

300 At the Applicant's request, Mr Modher Barakat, Technical Services Mining Consultant to the Applicant, made a short presentation to the Panel at the PFC on his experience of nearly 50 years of mining at the Site. He emphasised to the Panel that mining within 30 metres of a waterway does not affect surface waters, outlining his recent experience mining near the Wainui Stream in 2024 during which no seepage (from Wainui Stream) was visible. Mr Barakat further stated that during current mining south of (the) Mitiwai (stream) he 'never noticed any seepage coming from the Mitiwai side', with 'most of the seepage' coming from groundwater from the layers being tailed. Mr Greg Martin, project manager for TIL, added that daily visual monitoring was undertaken to ensure this was the case during mining in this area.

301 Discussion at the PFC indicated a preference for not augmenting Mitiwai Stream on the basis that the hydrogeological modelling (discussed next) predicted the drawdown effects would be less than 10% of MALF, which is less than minor under the WRP.

302 The PFC focussed on ways to design an effective 'envelope of effects' for maximum drawdown as a consenting framework for all other effects. There was general support for this approach by the experts present on the day of the PFC.

303 The Panel then issued a second RFI querying:

a. conditions to verify or revise the estimated MALF and trigger levels for the Mitiwai Stream;

b. a condition to determine the minimum environmental flow for lower Mitiwai Stream;

c. limit conditions for Central Pit management (specifically maximum groundwater drawdown limits in terms of mRL for stages 1-4 of Central Mine pit);

d. revised trigger levels and responses if Central Pit depletion effects on Mitiwai Stream are greater than predicted;

e. proposed maximum groundwater drawdown limit conditions for Central and Southern Mine Pit management;

f. a condition on electrical conductivity for pit water to control potential saline intrusion.

Applicant's Interim Response to PFC RFI

304 In response to proposed limit conditions for Central Pit management (specifically maximum groundwater drawdown limits) to protect depletion of the Mitiwai Stream, Mr

Scherberg, Mr Willamson and Mr Eccles responded for the Applicant as follows:[92]

a. Whilst groundwater drawdown is largely controlled by excavation depth, it is not in and of itself, an effect. Rather the primary effect to be managed is depletion of the Mitiwai Stream. Given the (conservative) modelling indicated there was an extremely low potential for, and magnitude of, adverse effects TIL's proposed conditions focus on monitoring and management rather than to what depth mining can occur. The "paired catchment" method for verification of the MALF is not feasible. The best approach to verify and revise (if necessary) the current estimates of MALF and Q5 would be to undertake an addition 12 months of baseline streamflow monitoring and calibrate the SMWBM to avoid the influence of mining. The continuous streamflow monitoring can be continued, with additional spot gaugings, to improve the site rating curves. The difference in flow can then be used as an indicator of any potential dewatering effect.

b. Augmentation is already required in the Mitiwai Stream based on trigger levels, acknowledging this may generate an adverse cultural impact if terms of mixing the wai (from different catchments). However, this is unlikely to ever be required and if so, will be for a short duration and extremely minor in scale.

c. Conditions for salinity in pit water are not considered necessary as dredge pond water is only used onsite (and/or recycled numerous times through the mine process water system) or permitted to percolate back into the groundwater through the base of the pond and would have no effects on surface water bodies within the vicinity of the Site. The risk of saline intrusion is confined to Pit 1 & 2 in the Southern Block. Mr Scherberg, Mr Willamson and Mr Eccles did not agree to a limit of 1,000 µS/cm in pit water noting the naturally increased salinity of groundwater within parts of the Site due to the proximity to the coast.

<u>Expert Conferencing: Hydrogeology</u>

305 Hydrogeology, (hydrology), mātauranga Māori and planning experts for the Applicant and other parties conferenced on 18 September 2026 and provided a joint witness statement for the Panel.[93]

306 The hydrogeologist (and hydrologist) experts agreed with the Applicant's recommended amendments to verify or revise the MALF and Q5 for Mitiwai Stream (Condition 2 of AUTH142035.14.01). They recommended the relevant threshold for water loss between the upstream and downstream flow measurement points should be 5% of Q5 before augmentation is implemented.[94]

307 Mātauranga experts for Te Nehenehenui and Ngaati Mahuta did not support augmentation as a management response on grounds of significant cultural effects arising from transfer of waters between catchments. However, the mātauranga experts agreed that augmentation water from the same catchment was preferable, dependent on the quality of the augmented water.

308 Mātauranga experts requested an appropriate standard for monitoring. There was general agreement to reference National Environmental Monitoring Standards (acknowledging the limited applicability of NEMS to sandy coastal streams) and to

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[92] Memorandum of Counsel for the Applicant dated 8September at Appendix A – Schedule of Interim RFI Responses.

[93] Joint Witness Statement of Expert Witnesses: Hydrology/Hydrogeology. 18 September 2026.

[94] Hydrology /Hydrogeology JWS at [10].

undertake manual flow gauging at the start of December, annually with additional rating gauging if that diverges from the current rating curve +/- 10%.

309 Mr Eccles noted potential compliance difficulties requiring consistency with NEMS in consent conditions.

310 There was general agreement that defining an environmental minimum flow was a significant undertaking, and the practical approach of adopting (regional) plan limits (95% of Q5) is appropriate.

311 The planners, mātauranga experts and Dr Koh (hydrologist for WRC) supported including a timeframe for implementing the monitoring and management response measures in the event of a decline in (augmented) Mitiwai Stream water quality (Condition 6 of AUTH142035.14.01) – and preferably within the consent condition to provide certainty and facilitate compliance monitoring.[95]

312 In response to the Panel's request for consideration of an 'envelope of effects' approach to consent conditions, Mr Williamson considered the existing suite of consent conditions suitably robust with respect to monitoring and contingencies with a focus on groundwater dewatering effects (stream depletion, wetland water level depletion, saline intrusion) so as to render additional RL controls in the mine pit superfluous. For example, if the mine at the maximum depth that was modelled was not causing effects anywhere near the level accepted under the consent, then there should be no reason not to continue deeper. The experts for the Applicant and Dr Koh agreed.

313 Ms O'Callaghan did not oppose an effects-based approach in principle, provided the proposed monitoring and trigger level regime was robust and enforceable. Mr King and Ms Passau agreed.

314 Dr Koh agreed with Mr Williamson on the basis that augmentation was proposed in the event of any depletion effects. Dr Koh was concerned about potential salinity effects of augmentation on surface water bodies or wetland area. He considered any water from the pit must be returned to the mine pits or the stormwater discharge to the CMA.

315 Ms Nicole Calder-Steele, hydrogeologist for DoC, considered there should be a clear connection between resource consent conditions and the modelled scenario. This is because the assessment of effects is based on a model that assumed particular excavation depths. If mining exceeds this, the assessment is no longer relevant. Confirmation that the model is performing well under current conditions does not necessarily demonstrate that the model remains valid for deeper excavations. As impacts have been assessed to a maximum excavation depth, a limit tied to that depth (or the equivalent induced drawdown) is appropriate. Ms Calder-Steele considers the Panel's suggested conditions are appropriate with respect to WWLA Figures A1-A6.

316 Mr Williamson agreed with Ms Calder-Steele that the connection between resource consent conditions should relate to the magnitude of effects consented, not the model scenario or model setup per se. Mr Scherberg agreed.

317 Ms Passau noted that from a mātauranga Māori perspective the more appropriate question is whether the activity remains with the limits that the taiao can sustain, while managing its mauri, whakapapa relationships, and ecological functioning. The absence of measured effects (at a particular excavation depth) does not, in itself, justify deeper mining as mauri ecological integrity and hydrological resilience may be affected cumulatively and may not be immediately apparent through conventional

[95] Applicant's RFI (final) response dated 1 October. Appendix C Updated set of proposed conditions prepared by Grant Eccles (T+T).

monitoring. Mr King agreed.

318 Mr Eccles reiterated his view that salinity conditions were not required for dredge pond water, noting:

a. any saline water dredged from a pond is diluted through recirculation in the mine water system or disposed of through tailings; and

b. excess saline water can be discharged to the CMA, via the export pipeline.

319 Mr Williamson and Dr Koh agreed.

Applicant's Final Response to PFC RFI

320 In the Applicant's final response Mr Eccles responded for the Applicant as follows:[96]

a. TIL's current on-site work demonstrates there are no (visual) signs of seepage from the Mitiwai Stream into the mining pits, referencing a letter from Mr Modher Barakat, on behalf of TIL dated 17 September 2026.

b. All hydrology and hydrogeologists agree the best approach to amending Condition 2 of AUTH142035.14.01 as follows:

(a) Changing the relevant threshold for water loss between the upstream and downstream measurement points to 5% of Q5;

(b) Adding reference to NEMS as a guide acknowledging the limited applicability of NEMS to sandy coastal streams.

(c) Requiring manual flow gauging to be undertaken at the start of December annually, with additional gauging to update the rating curve if manual flow diverges from the current rating curve by +/-10%.

c. Determining site-specific minimum environmental flow requires comprehensive flow monitoring and ecological assessment and is not considered necessary or proportionate given potential effects of dewatering of the Mitiwai Stream are less than minor.

321 Mr Eccles provided updated consent conditions to reflect the expert's agreement including timeframes for monitoring and management response measures in the event of a decline in (augmented) Mitiwai Stream water quality.

Final Independent Expert Review

322 The Panel requested Earthtech Consulting Ltd to review the Applicant's responses to our requests for information and the hydrology/hydrogeology JWS. Mr Philp Kelsey and Mr Samuel Kelsey provided a peer review on 12 October 2026 (Earthtech, 2026b).[97]

323 Mr Samuel Kelsey agreed with the hydrologist (and hydrogeologist) experts for 95% Q5 trigger thresholds for augmentation for the Mitiwai Stream . However, Mr Samuel Kelsey recommended requiring at least three years of baseline low-flow monitoring to provide clarity for the determination of Q_5.

324 Mr Samuel Kelsey also agreed with all experts that:

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[96] Memorandum of Counsel for the Applicant dated 1 October at Appendix A – Schedule of Final RFI Responses.

[97] Earthtech Consulting Ltd, (2026b). *Technical Peer Review of Hydrology/Hydrogeology Joint Witness Statement for FTAA-2512-1153.* Prepared by Mr P. Kelsey & Mr S. Kelsey. 12 October 2026.

a. The minimum environmental flow need not be determined, provided Q5 is adopted as the augmentation trigger;

b. a 8.53 mRL cease take for Lake Tahāroa was necessary and appropriate (to ensure a continuation of flow to the Wainui Stream and to the dam).

325 Mr Philip Kelsey and Mr Samuel Kelsey disagreed with the experts that the proposed monitoring and contingency conditions are sufficient to address groundwater dewatering, preferring a maximum drawdown envelope of effects approach.

326 Mr Samuel Kelsey agreed with the experts on their recommendations to monitor and manage wetland water levels, noting that baseline monitoring would be carried out within the proposed maximum drawdown envelope of effects approach.

327 Mr Philip Kelsey explained his proposal for a maximum drawdown envelope of effects approach at the PFC on 22 July 2026 was to address his concerns about model uncertainty for prediction of groundwater effects, which remained with insufficient information having been provided by the Applicant to address the specific matters he raised. Under this approach the consenting assessment and associated compliance monitoring would adopt the maximum extent of predicted effects. Mr Kelsey noted there was general support for this approach by the TIL groundwater experts at the PFC in terms of:

a. Mine pit dewatering levels;

b. Maximum extent of mining and dewatering as presented in WWLA Figures A1 to A6 dated 15 July 2026;

c. Maximum groundwater electrical conductivity of 1,000 µS/cm for mine water discharged to any freshwater environment.

328 Mr Kelsey considered the views expressed in the JWS represented a departure from the general agreement at the PFC. He agreed with Ms Calder-Steele that there should be a clear connection between groundwater model predictions and resource consent conditions, noting the determination of consent relies on the groundwater effects presented in the SAR.

329 Mr Philip Kelsey noted:

> WWLA Figures A1 to A6 dated 15 July 2026 show that the proposed mine pits will result in up to 30m of groundwater level drawdown associated with mining to up to 40m below mean sea level (TIL RFI 48 response dated 17 July 2026). The primary driver of groundwater drawdown effects is the proposed pit groundwater levels. Therefore, the above proposed condition should be adopted as a primary control of the extent of predicted groundwater drawdown effects.

330 Mr Philip Kelsey proposed groundwater monitoring bores to demonstrate compliance as follows:

a. Central Pit: Two monitoring bores located on western and eastern margins of mine extent; and

b. Southern Pit: Three monitoring bores located on western, eastern and southern margins of mine extent.

331 He further recommended continuous monitoring of groundwater with level loggers to ensure mine dewatering stays within the maximum consented drawdown envelope.

332 With respect to potential saline intrusion, Mr Philip Kelsey noted WWLA Figure A4 dated 15 July 2023 indicates dewatered groundwater levels up to 6 m below mean sea level in close proximity to the coastline (western edge of Extension 2, Southern Block) indicating a potential saline intrusion risk. At the PFC TIL groundwater experts

confirmed the drawdown predictions included significant transient (time-dependent) effects. Mr Kelsey noted in such cases, if the duration of mine excavation was longer than modelled, the saline intrusion could be greater.

333 On this basis Mr Philip Kelsey proposed the following draft conditions:

i. The consent holder should take all practical measures to maintain the electrical conductivity of pit water at less than or equal to 1,000µS/cm to control potential saline intrusion into the sand aquifer.

ii. If mine pit water exceeds an electrical conductivity of 1,000µS/cm, no discharge of such water should be allowed into any lake, stream or aquifer freshwater environments.

Applicant's Response to Final Peer Review

334 The Applicant provided a response to the EarthTech peer review on 2 November 2026.[98]

335 Mr Williamson had conferred with Mr Samuel Kelsey and agreed on proposed amendments for conditions requiring monitoring and augmentation of Mitiwai Stream to incorporate his preference of a review of Q5 for 3-years, with a focus on the management response.

336 Mr Williamson did not, however, agree with Mr P. Kelsey's recommendation for drawdown triggers within the mining pit on the basis that all sensitive receptors such as the streams, wetlands and the lake, are all outside the active mining pits, and are potentially unaffected by mining at or below the drawdown triggers. Managing potential effects does not require monitoring of groundwater levels within the pits, and without such a constraint, greater flexibility is provided for mining deeper should high grade ore persist, and effects are still within the anticipated envelope.

337 Mr Williamson proposed a framework and draft consent conditions to use groundwater monitoring as an early warning indicator of when groundwater drawdown may extend outside the mining pits and *potentially* affect sensitive receptors. Specifically, Mr Williamson proposed continuous groundwater monitoring in Wetland 75 and Wetland 80 (as labelled in Appendix N of the SAR) with automatic telemetered pressure sensor to a cloud database for comparison with "pre-development" groundwater levels and annual reporting to WRC. Mr Williamson proposed two-tier trigger levels at 25% (TL1) and 75% (TL2) of maximum drawdown. TL1 would require notification to TIL management and TL2 would initiate TL1 of the wetland water level management regime (refer Part E Terrestrial Ecology – Wetlands and Vegetation) which requires notification to WRC.

338 With respect to saline intrusion, Mr Williamson recommended avoiding a salinity limit in the pit but accepted a condition to not discharge any saline water into freshwater environments. He considered salinity increasing in the pit represented 'an internal operational condition rather than an off-site environmental effect'. Because the pit acts as a hydrological sink during active dewatering, elevated salinity would remain hydraulically contained, with no exposure pathway to human receptors, neighbouring surface water bodies, or connected aquatic ecosystems.

Panel Findings: Hydrogeological Effects

339 This section presents our findings on the hydrological and hydrogeological effects on

[98] Memorandum of Counsel for the Applicant dated 2 November 2026. Appendix E Memorandum of Jon Williamson dated 2 November 2026.

Mitiwai Stream and potential hydrogeological effects of mining in the Central and Southern Blocks, including potential saline intrusion. Potential hydrogeological effects on the Wainui Stream and wetlands are addressed in the Freshwater Ecology section of Part E.

340 The Panel has concerns about the accuracy of the groundwater model for the reasons provided in DoC's section 53 submissions and in the Earthtech peer review report.

341 From a simplistic point of view, we note that only 195 days of groundwater data (April to October 2025) are available for a site that has been operating for 50 years. This is a very limited data foundation for groundwater assessment.

Mitiwai Stream Level Management

342 The Panel's concerns about the limitations of the groundwater modelling means we are not as confident as the Applicant that dewatering effects on the Mitiwai Stream will be as infrequent or as low magnitude as predicted. We have therefore, sought to impose robust conditions of consent for monitoring and management.

343 We accept the hydrologist and hydrogeologist expert consensus view that:

a. defining an environmental minimum flow for the Mitiwai Stream would be a significant undertaking, and the practical approach of adopting (Regional) plan limits (95% of Q5) is appropriate;

b. the Applicant's recommended approach to verify and/or revise the MALF and Q5 for Mitiwai Stream (Condition 2 of AUTH142035.14.01) is appropriate; and

c. the relevant threshold for water loss between the upstream and downstream flow measurement points on the Mitiwai Stream should be 5% of Q_5 (before augmentation is implemented).[99]

344 We remain alert to the lack of baseline data for the Mitiwai Stream and have also accepted the advice of Mr Samuel Kelsey that additional baseline flow monitoring is necessary. We understand this to be addressed by Mr Williamson's revised conditions in the Applicant's final response; however, we include two amendments of our own.

a. We consider the requirement to augment the Mitiwai should not be conditional upon the time of year (i.e. only between summer months). Rather augmentation should be required if and when the agreed threshold for stream depletion (5% of Q5) is reached.

b. We accept the mātauranga expert advice that augmentation would give rise to significant cultural effects if transferring waters between catchments. We have imposed a condition requiring this be avoided if at all practicable.

Envelope of Effects Approach

345 The Panel agrees with Ms Nicole Calder-Steele and Mr Philip Kelsey that there should be a clear connection between groundwater model predictions and resource consent conditions because the determination of consent relies on the groundwater effects presented in the SAR.

346 The Applicant's final response proposed conditions for continuous groundwater monitoring of two wetlands and the introduction of a two-tiered approach for 25% and

[99] Hydrology /Hydrogeology JWS at [10].

75% of maximum drawdown to provide an early warning for potential effects offsite. Other than notification, however, the proposed groundwater conditions do not require any management response, relying instead on the wetland water level management regime (refer Part E Terrestrial Ecology – Wetlands and Vegetation).

347 This does not provide a robust management response to allay our concerns over the accuracy of the groundwater modelling, which is the basis upon which effects have been assessed in the application, both directly in relation to groundwater drawdown effect generally (Appendix N to the SAR) and on retained natural inland wetlands within the Site specifically (Appendix K to the SAR). It further does not provide the clear connection between groundwater model predictions and resource consent conditions.

348 The Panel accepts that conditions should only be imposed as necessary to manage or mitigate adverse effects of the activity, leaving the Applicant free to efficiently and economically mine the available resource. The effect in question, from a hydrogeological perspective, is groundwater drawdown. This is the most relevant parameter for providing an envelope of effects within which the mine can be effectively managed to ensure effects remain within the scope assessed in the SAR and associated technical reports.

349 Our understanding throughout has been that the mitigation approach for effects of groundwater drawdown on retained natural inland wetlands within the Site, including within Appendix K from the outset, in comments from other parties, the Applicant's response to those comments, and expert conferencing regarding the proposed mitigation framework, is predicated on the modelled level of drawdown effects potentially arising, not something materially greater or different.

350 We have therefore, settled on the approach proposed by Mr Kelsey & agreed to by Ms Calder-Steele namely, the adoption of maximum groundwater drawdown levels and spatial extent of hydrogeological modelling in Figures A1 to A5 as a consent envelope for management of mining activities to operate within, and included conditions to this effect.

351 To support these, and consistent with the consent approach for hydrology, we have included conditions requiring careful oversight and a management response in the event of any exceedance of the modelled drawdown envelope, namely:

a. A review of any necessary or appropriate changes to consent conditions regarding groundwater management resulting from any reports (or annual monitoring) to WRC in relation to situations where the groundwater drawdown contours are exceeded; and

b. If the monitoring reveals an exceedance of the drawdown envelope, a SQEP must be commissioned to recommend management responses that must be implemented within a reasonable timeframe with reporting to WRC (similar to Condition 10 of AUTH 05.01 for management responses to lake levels).

352 In accordance with the Applicant's submissions, we have not imposed any operational constraints such as conditions requiring timeframes for mine sequencing, despite the groundwater modelling being predicated on assumptions for mine sequencing (e.g., duration for backfilling of tailings), or conditions on the pit depth itself.

353 We find that, subject to the consent envelope approach applied in this way and as supported by robust monitoring and management of effects, there will be no significant adverse hydrogeological effects from the proposal.

Saline Intrusion

354 We accept the Applicant's revised modelling that predicts saline intrusion at the time excavation is closest to the ocean (corresponding to Extension 2 excavation area of the Southern Block). This predicts saline intrusion will occur for around 13 months, with a conservative estimate of the maximum discharge of saline water into the pit of 12% of the groundwater inflow to the pit being sea water. An inflow comprising 12% appears to be more than minor to us because:

a. it is more than 5%; and

b. it will make the water brackish disqualifying the groundwater for discharge to freshwater environments including wetlands.

355 We note that this prediction is based on the existing mine sequencing plan which assumes a mining duration of 13 months in Extension 2. If mining were to be undertaken for an extended duration in this area, then saline intrusion would likely similarly be extended. Therefore, it appears to us that the duration of mining in this location is an important parameter for control of saline intrusion. We are, however, mindful of the Applicant's objection to constraints on the mining plan.

356 Turning to the issue to be managed, salinity, we have accepted the Applicant's proposed backup condition requiring that all water used for flow augmentation be freshwater (i.e. with electrical conductivity below 1,000 µS/cm). However, there remains disagreement on the necessity of this limit being applied to dredge pond (pit) water itself;

a. Mr Williamson noted the limited extent of intrusion and the lack of any water bodies (streams or wetlands), or water users that face any increased risk. Dredge pond water would be pumped to settling ponds where it will be diluted and ultimately percolate to the underlying saline coastal environment.

b. Mr Kelsey considered greater control was required for the salinity of dredge pond water to ensure saline intrusion was as transient and limited as assessed (by Mr Williamson).

357 We accept Mr Eccles point that excess saline water could be discharged to the CMA through the export pipeline, but note no condition has been proposed to achieve this.

358 We also accept the advice of Mr Williamson that it will not be necessary to monitor or control the salinity of pit water. However, we wish to ensure that pit water does demonstrate compliance with Mr Williamson's proposed electrical conductivity limit and have included a condition requiring monitoring of any pit water discharged to any lake, stream or other natural surface freshwater body (wetland).

359 On this basis, the Panel finds that saline intrusion from mining in the southern block will not have any adverse effects that are more than minor.

Geotechnical

360 As noted in the SAR, the pit walls proposed for mining operations are up to 60 metres in height and pose risks for stability and/or erosion. The SAR was supported by a geotechnical assessment prepared by Cameron Lines of Baseline Geotechnical Limited dated 1 October 2025 (Appendix R).

<u>Introduction</u>

361 Appendix R explained that the focus of assessment was on the risk that large slope failures, at the limits of the mining areas, could regress back beyond the mining limit

and potentially affect water bodies within and adjacent to the Site, adjacent properties or other land areas with particularly high ecological or cultural values. It noted that rehabilitation at the Site typically comprises backfilling of mined areas with tailings and reinstatement of a dune profile, which stabilises the previous mined out areas. The critical case for stability was therefore, during operations at the maximum cut height, which is expected to be when mining occurs below the water table. This is because this is when the ground is most vulnerable to instability.

362 Appendix R was based on a site visit on 1 July 2025 to overview previously mined areas and proposed mining areas. The geotechnical assessment relied on a review of previous mining documentation for mining below the water table, current designs and collated geotechnical data. It further considered the hydrogeological assessment provided in Appendix N. It provided a slope stability analysis of representative previously mined areas and representative future mine areas (four design sections).

363 Appendix R stated that large cut slopes could "be expected to remain open for a period of approximately 2-3 years, prior to be substantially backfilled by tailings". The exception to this is the final pit developed at the Site, for which some localised shaping of pit slopes and floor levels will be required to achieve long term stability.

Geotechnical Assessment

364 Appendix R described the existing Site and briefly explained the Site geology. Site observations of slope stability in existing mined areas noted some localised areas of shallow instability and groundwater seepage flow at the contact between the in-situ Te Ake Ake sands and overlying oversize disposal materials where there is a permeability contrast.

365 Appendix R considers two design cases for slope stability assessment:

a. The operational case where mining has been completed, but backfilling has not yet occurred. This is considered critical as large, temporary cut slopes up to 60 metres deep are expected during dredging operations; and

b. The long-term case where mined out areas have been rehabilitated by backfilling with tailings and stockpiled overburden. The authors anticipate a moist, sand rich dune with relatively gentle gradients as the former cut slopes are expected to be largely buttressed by tailings sand backfill.

366 Appendix R then assessed stability using an equilibrium software package (**stability model**) that compares driving forces and resisting forces as a ratio, called the Factor of Safety at four cross sections of Site. The stability modelling predicted that proposed pit slopes up to 60 metres high are expected to perform acceptably provided that:

a. Slopes developed primarily with Te Ake Ake sands are limited to 33°;

b. Slopes developed primarily with Mitiwai sands are limited to 30°C;

367 To assist in reducing the risk of instability, Appendix R recommended buffers between the crest of the pit slopes and:

a. Perennial watercourses; a 30-metre buffer;

b. Cultural/archaeological reserves; a 20-metre buffer; and

c. Adjacent property boundaries; a 20-metre buffer.

368 Appendix R goes on to note that mining will be taken over a large area and that both ground and groundwater conditions may change locally which presents a degree of uncertainty for interpretation of the modelling. Accordingly, Appendix R recommended

an annual review of pit slope performance in proximity to property boundaries, waterways and cultural/archaeological reserves.

369 Appendix R further recommended a number of geotechnical design options for the final pit design to provide acceptable levels of long-term stability.

Section 53 Comments

370 Roy Wetini Whaanau Trust (**Roy Wetini WT**) raised issues of erosion and sand migration occurring below the mined ridgeline providing photos showing increased sand migration on their boundary adjoining the Central Block. They expressed concerns about potential impacts on the Mitiwai Stream and wetlands in this area.[100]

371 The trust sought a 100-metre setback from all natural inland wetlands within the Consent Area (as previously approved by the RMA Hearing Panel).

372 The Trust further sought 'make-up' rehabilitation, which they state had not occurred progressively.

Applicant Response to s53 Comments

373 Mr Eccles reported that, based on TIL's calculations, a 100-metre setback from Mitiwai Stream would have a disproportionate adverse impact on future export revenue "as the most, highest grade, resource is located in the relevant setback areas, particularly the 100 m setback area adjacent to the Mitiwai Stream".

Panel Request for Further Information

374 The Panel queried the absence of any explicit conditions to address the recommendations of Appendix R. Mr Eccles responded that existing (general) conditions of consent identified by the Panel were considered sufficient, noting they had been in place and effective for at least 20 years. These conditions were:

a. Condition 4 of AUTH142035.08.01 requiring no land slippage, erosion or destabilization of land in properties beyond the boundary of the consent area; and

b. Condition 9 of Schedule 1 requiring structural integrity of sand mining areas, batters, overburden disposal areas, stockpiles, earthworks, tracking and any associated works within the site.

Panel Findings: Geotechnical Effects

375 The Panel accepts Mr Lines' modelling that indicates acceptable levels of stability can be achieved. We note Mr Lines' degree of uncertainty over the application of the model for all parts of the Site and accept his recommendations to require:

a. An annual review of pit slope performance in proximity to property boundaries, waterways and cultural/ archaeological reserves;[101]

b. Contingency options in the event of more adverse ground conditions; and

[100] Roy Wetini WT Comments on Fast-Track Application under Section 53 & 54 RMA 1991 prepared by Teina Malone, dated 20 May 2026. Photograph 16 dated 5 April 2026 on digital page 19, Photograph (undated but appears to be April 2026) on digital pages 209 and 211.

[101] Noting this is currently undertaken independently

c. Maximum slope angles and minimum buffers.

376 We consider that, provided Mr Lines recommendations are adopted, there would be no adverse effects from slope instability beyond the boundary or affecting waterways or cultural/ archaeological reserves. The Panel has drafted conditions to implement Mr Lines' recommendations accordingly, with two exceptions:

a. The Panel has not accepted a reduced setback of less than 20 metre buffer from cultural reserve sites following preparation of a local specific geotechnical assessment. This is because a lesser distance would be inconsistent with our findings of minimum buffers required to manage these reserves (refer Part E Archaeology).

b. The Panel has accepted, but not actioned, Mr Lines' recommendation for a condition deferring the final pit excavation design. This is because the final pit excavations (Pit 4 in the Central Block and Pit 3 in the Southern Block) are outside the recommended buffers for Site boundaries, waterways and cultural/archaeological reserves.[102] As such, we consider a condition on pit design would be beyond the scope of managing effects on these areas.

377 Notwithstanding the above, the Panel also notes the photographic evidence provided by the Roy Wetini WT showing sand erosion of the slope adjacent to their property. In doing so, the Panel further notes the slope stability assessment was based on a site visit undertaken on 1 July 2025 (at which time mining activity was not underway on the northeastern boundary) and appeared to consider only activity within the mining pits. However, given the presence of this erosion on the boundary, the Panel does not accept the advice of Mr Eccles that the existing conditions have been effective to date hence our drafting of conditions to adopt Mr Lines' recommendations.

378 The Panel further notes Appendix R indicated that "large cut slopes could "be expected to remain open for a period of approximately 2-3 years, prior to being substantially backfilled by tailings." This appears extraordinarily long. Rehabilitation is considered in more detail in the findings with respect to air quality below.

Site Investigation

379 The SAR included by a preliminary site investigation prepared by Enviser Ltd (author(s) not stated) dated September 2025 (**Appendix P**). Appendix P states that the (unknown author) Enviser Environmental Consultant did not do a Site walkover inspection but was familiar with the Site having visited several times over the last two years.

Preliminary Site Assessment

380 Appendix P reviews site setting information using available geological, hydrological and hydrogeological details. Appendix P outlines the Site history based on WRC Land Use Register Information, historical aerial photographs and the archaeological assessment prepared for the SAR (**Appendix O**).

381 Appendix P then assesses the proposed activities against the permitted activity requirements in the Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations

[102] Based on location of Pit 4 (Central Block) in Figure 4.2 and Pit 3 (Southern Block) in Figure 4.4 of SAR.

2011 (**NES-CS**) in general accordance with good practice guidance (MfE, 2021).[103]

382 Of note, Appendix P identified the following potential hazardous activities and industries list (**HAIL**) activities that are considered likely to cause land contamination resulting from hazardous substance use, storage or disposal:

a. An historic landfill in the northeastern corner of the Site (separate from active mining and rehabilitation areas) that included municipal waste from Tahaaroa village for approximately 50 years that was closed in 2017 and is now used as a waste transfer station.

b. Above-ground fuel storage located east of the Central Block.

c. A helicopter pad and associated fuel storage in the southwest of the Central Block.

d. Two disposal fields for the Site's above ground septic tanks and Tahaaroa Village wastewater treatment plant in the west of the Central Block.

e. Pump house, fuel storage, laboratory, workshops, dangerous goods store and above ground storage tanks and Pump Hall and electrical substation (currently being upgraded).

f. An area for stockpiling and storing old materials (steel, pipes, treated timber pallets and poles, empty IBCs[104], appliances including washing machines and fridges, vehicle engines).

g. Three structures (occasional accommodation) in the south of the Site with several ancillary buildings that may have asbestos containing materials and lead-based paints.

383 Overall, Appendix P identified 18 areas used for HAIL activities but none of these will be subject to soil disturbance from proposed mining. It concluded that site investigations and appropriate management may need to be undertaken if these identified areas are disturbed.

Section 53 Comments

384 There were no section 53 comments in relation to the preliminary site investigation.

Panel Request for Further Information

385 The Panel queried the activity described as waste being disposed to land in Appendix P,[105] asking if consent was being sought and if this was addressed explicitly in the Site Rehabilitation Plan.

Applicant Response to RFI

386 The Applicant (author unstated) responded that the activity was identified as waste disposal to land due to partial soil cover of stockpiled waste material, however, this *may* be taken offsite and recycled so it *may not be* permanently retained onsite (our emphasis). Further, 'no actual disposal of waste is occurring' and whilst stockpiled

[103] Ministry for the Environment, (2021). *Contaminated Land Management Guidelines No 1: Reporting on Contaminated Sites in New Zealand*. Revised.

[104] Intermediate Bulk Containers are heavy-duty reusable 1,000 litre (1 cubic metre) vessels made of high density polyethylene plastic inside a galvanised steel mesh cage.

[105] Appendix P to SAR. At Table 3 and Figure 2a in Appendix A.

waste is not explicitly covered in the Site Rehabilitation Plan it is addressed in the Site Closure Plan, noting all materials (plant and infrastructure) will be progressively removed.

387 The Applicant noted (again) a need for a future site investigation to inform soil management procedures (and remediation and suitable disposal facilities if required) for any HAIL activity areas that are disturbed in the future.

Panel Findings: Contaminated Land Effects

388 We find that Appendix P raises several issues;

a. The identified presence and unidentified effects on land and groundwater of an historic municipal landfill located in the north-eastern corner of the Site, that has operated as a waste transfer station since 2017. Historical municipal landfills are vulnerable to erosion and extreme weather events, posing risks of uncontrolled discharges to land and water.

b. The identified presence and unidentified effects on land and groundwater of waste materials stockpiled on Site for potentially up to 35 years with unintentional covering by windblown sand; and

c. Identified HAIL activities onsite that may be disturbed during site activities (including rehabilitation and closure).

389 We have reviewed the proposed conditions and:

a. There are no conditions of consent relating to waste materials stockpiled onsite; and

b. There are no conditions of consent requiring a future site investigation in the event that identified HAIL sites are disturbed.[106]

390 Similarly, the EMP and Conceptual Site Closure Plan have no relevant provisions. There are further no relevant provisions apparent in the Waikato Regional Plan.

391 We have included some straightforward conditions of consent and amendments to the EMP to ensure:

a. That stockpiling of waste materials is only undertaken in marked areas, with windbreaks to avoid partial or full covering by sand over the full term of consent;

b. Hazardous substances such as oils and lubricants in used appliances or vehicles are removed prior to waste material stockpiling;

c. Stockpiled waste materials are documented when stockpiled and all waste materials are removed from Site prior to site closure; and

d. Identified HAIL activities are clearly located on the annual mine map and addressed within the EMP, Site Rehabilitation and Conceptual Site Closure Plans.

392 With these provisions in place we consider there will be no adverse effects on soil or groundwater from stockpiled waste materials and identified HAIL activity areas.

Terrestial Ecology – Wetlands and Vegetation

393 The SAR included two assessment reports relating to terrestrial ecology prepared by SLR Consulting New Zealand namely:

[106] Conditions for storage of hazardous substances and the fate of mining infrastructure not being relevant.

a. Appendix K – Terrestrial Ecology – Wetlands and Vegetation Assessment (prepared by Hamish Dean); and

b. Appendix M – Terrestrial Ecology – Fauna Assessment (prepared by Daniel Ahern).

394 This section addresses the first of these ecological assessments and notes where the Panel asked for further information.

395 Appendix K assessed the potential effects of continuation and proposed expansion of the mining activities within the Central and Southern blocks on terrestrial vegetation and wetlands habitats, including direct impacts from vegetation and wetland removal through mining activities within the Site, and effects of potential groundwater drawdown on wetlands as a result of mining activities.

396 The vegetation and wetlands were mapped for the entire Site using aerial photography and walkthrough surveys over multiple visits.

397 Aerial photography used for this process included Google Earth imagery from March 2021 and 2025 as well as earlier rural aerial photography from 2016-2019.

398 Vegetation was described and classified according to the dominant or characteristic species. Wetland extent was determined employing a Rapid Test based on the clear dominance of hydrophylic plant species, and, where it was not clear whether a wetland would qualify as a Natural Inland Wetland (as defined in the National Policy Statement for Freshwater Management 2020 (**NPS-FM**)), wetland plots were established following wetland delineation protocols.

399 Ecological values and effects were assessed in accordance with the Environmental Institute of Australia and New Zealand (**EIANZ**) Impact Assessment Guidelines whereby values are assessed on a scale of Low, Moderate, High or Very High, with the magnitude of effect assessed on a more graduated scale including 'No effect' and 'Negligible'.

400 The overall level of effect was determined using a matrix based on both ecological values and the magnitude of effects on those values, prior to any mitigation.

401 Ecological values were assessed in accordance with established criteria of representativeness, rarity/distinctiveness, diversity and pattern, along with ecological context.

402 The "existing environment" for the purpose of the assessment is consistent with the general approach in the SAR (set out in more detail in Appendix CC to the SAR).

403 Appendix K records that the existing environment includes the impacts of past mining activities (vegetation removal, landform change and alteration of hydrology). Of particular relevance to terrestrial vegetation and wetland assessment, the existing environment against which effects were assessed:

a. Includes lake margin wetlands said to be as extensive now as they were prior to mining (such that it can be assumed they would remain similar if mining were discontinued).

b. Has the dam removed, but the vegetation and habitats on the lake margins are as adapted to the higher levels with the dam in place.

c. Includes steps towards progressive implementation of the Site Rehabilitation and Site Closure Plan.

Terrestrial Vegetation and Habitats

404 The majority of the Site is recorded as having sparse vegetation or bare sand covering just over 380 ha of the Site (at the time of survey) including all the active mine areas and tailing cells, which are mostly devoid of vegetation.

405 A total of 39 vegetation types were however recorded, mapped and described in the report including vegetation types within three "Naturally Uncommon" ecosystems (Active sand dune, Stable sand dune and Lake margins). No Threatened or At-Risk plant species were recorded at the Site.

406 The incidence of pest plants (as listed in the Waikato Regional Pest Management Plan) is said to be relatively low, with the report noting a range of species requiring management in certain locations including marram grass (considered a weed on sand dunes).

407 A total of 17.54 ha of Natural Inland Wetlands were identified on the Site. The report records that many of the wetlands within the Site have been induced as a result of mining activity over the years, particularly the seepage wetlands which have formed in depressions or seepage areas that are a result of previous and current mining activities or are fed by seepage water from overburden dewatering activities. Other wetlands are said to be modified natural wetlands.

408 The report contains detailed tables describing the type, area, characteristics and values of each wetland as well as maps showing their location within the Site. Similar tables and maps are included for terrestrial vegetation types and habitats.

409 The report records that the terrestrial habitat on the Site holds at least Moderate ecological value, with the exception of the most recently mined areas. This value arises in part because the Site supports a range of Threatened and At-Risk bird species and Critically Threatened long-tailed bats. Notably, the pine forest (terrestrial vegetation) habitat grouping is said to have Moderate ecological value in the report, while Appendix M (Fauna Assessment) records that the pine plantation forest habitat has Very High value for supporting a local population of long tailed bats. The Stable and Active dune system habitats within the Site are said to have High and Very High ecological values respectively.

410 The ecological value of the wetlands was assessed across five wetland groupings (Lakes and Wainui Stream, Southern wetlands, Eastern wetlands, Wetland 21 and East Wainui Stream wetlands), ranging from Very High to Low ecological value.

Actual and Potential Effects

411 Appendix K records that a total of 463 ha of terrestrial vegetation having Negligible habitat value would be removed as part of the application, along with 344 ha of habitat having Moderate value.

412 The report states that there are At-Risk and Threatened faunal species in the Moderate value habitat areas, which are otherwise of low value and generally dominated by exotic species. The magnitude of this effect is therefore considered Moderate, noting progressive restoration through rehabilitation .

413 The Active and Stable dune areas would be protected by a clearly marked 100 m buffer.

414 Several Natural Inland Wetlands within the Site are proposed to be completely removed namely wetlands 5, 6, 7, 17, 20, 23 and 25 as numbered in Appendix K, with these wetlands located towards the southern end of the southern block. A total of 4.25

ha of moderate value wetland habitat would be removed, described in the report as being a Very High magnitude of effect, on a group of wetlands assessed as having Moderate ecological value (Table 14 of Appendix K).

415 Appendix K then goes on to describe the effects associated with groundwater drawdown as a result of mining activities on retained wetlands in other areas of the Site.

416 There is an important interface in this respect between Appendix K and Appendix N to the SAR (Hydrogeology Assessment - groundwater effects), with potential groundwater drawdown effects on wetlands being one of the key issues raised by the Substantive Application which the Panel has needed to consider, alongside wetland removal.

417 Table 12 to Appendix K assorts wetlands across the Site into 3 categories according to their degree of groundwater connection in the same way as applied in Appendix N, namely:

a. Groundwater fed wetlands;

b. Potentially groundwater fed wetlands; and

c. Surface fed wetlands (no groundwater connection).

418 Given the significance of potential groundwater effects on wetlands to our deliberations, the Panel requested further information better enabling the Panel to compare and correlate the information in these two assessment reports on that topic , because they adopted different numbering systems. Appendix N refers to there being some 88 wetlands across the Site (including within the Northern block), of which 13 would be removed. By contrast, Appendix K referred to just 29 wetlands, of which seven would be removed through mining activities.

419 Table 12 of Appendix K enables some degree of comparison between the two reports, having a column identifying which wetlands fall within each category (as to the degree of groundwater connection set out above) and according to the numbering system in each respective report, but further information was needed to enable the Panel to better understand, evaluate and correlate the information on groundwater drawdown effects on wetlands across both reports.

420 Appendix K describes the level of the groundwater drawdown impacts on groundwater fed wetlands as substantial, with a High magnitude of adverse effect, particularly on wetlands 12, 13, 14 and 21 located west of Lake Taharoa during mining in the Southern Block. These wetlands could see a 1-3 m drop in groundwater over a period of six months or more.

421 The report states that all of the wetlands potentially affected by drawdown are dominated by obligate hydrophyte species, making them more susceptible to drying. If there is even a moderate level of drying in these wetlands such that they lose their current standing water regime, or are dry for extended periods, this would lead to a change to at least a different vegetation composition; complete loss of wetland habitat in marginal areas, loss or reduction of some functions such as nutrient cycling, carbon sequestration and primary production and reduced habitat value for indigenous fauna.

422 For the wetlands described as "Lake margin wetlands", the level of effect recorded in Appendix K appears to be less significant (albeit they are included within the 'groundwater fed' row of Table 12 in Appendix K, alongside wetlands 12, 13, 14 and 21).

423 The report states that the Lake margin wetlands within the Site have adapted to an operating regime where there is already a significant level of fluctuation in water levels

throughout the year, with a maximum level of lake fluctuation of approximately 700 mm over the course of several months. The report then states that the proposal would result in "slightly larger" fluctuations in water levels because a greater number of ship loading events are proposed, and also that there will be slightly longer periods of sustained low water in summer when extraction exceeds summer flows into the lake (citing the Hydrology Report, Appendix I) .

424 The Panel requested further information on this assumption of "slightly larger fluctuations" and "slightly longer periods", having regard to the information in Appendix I, which made assumptions as to the use of recycled water for the purpose of ship loading, to ensure that the proposed expansion in operations would not lead to more significant increases in either the level of fluctuation or periods of sustained low water flow in summer, than assumed in these reports. This issue is addressed in the previous (hydrology) section of this decision.

425 Appendix K also notes the potential for pest plants to affect the wetlands being retained on the Site, with dune vegetation and wetland areas said to be particularly sensitive to pest plant species which have the potential to alter the structure and composition of the vegetation by excluding native species.

Mitigation of Adverse Effects

426 The report summarises the magnitude and overall level of unmitigated effects before explaining the proposed mitigation and assessing the level of effects after mitigation in turn.

427 The adverse effects on terrestrial habitats (before mitigation) are assessed as ranging from Moderate to Low for removal of vegetation within the mining footprint, and High to Negligible for pest plant invasion (the High rating being for the dune systems).

428 The potential damage to dune vegetation was assessed to be Negligible to Low as a result of the 100 m exclusion area or setback proposed from Mean High Water Springs, albeit with some potential for mining operations to affect dune vegetation where it extends beyond the 100 m buffer.

429 The adverse effects on wetland habitats (before mitigation) are assessed as ranging between Very High (for the southern wetlands being removed) to Negligible or Very Low, with the hydrological changes to wetlands ranging from High in magnitude (Moderate to Low in level), depending on the degree of groundwater connection for the wetlands concerned.

430 The Panel requested further information on this assessment given what appeared to be discrepancies between the level and magnitude of impact described in Table 14 of Appendix K, and the degree of groundwater connection for the wetlands as identified in Table 12.

431 Appendix K then sets out a summary of the recommended mitigation measures for the magnitude and level of effects on terrestrial vegetation and wetlands as assessed in the report including:

a. The 100 m dune buffer which would either continue to be fenced, or clearly delineated and communicated to staff and contractors.

b. The various measures set out in the proposed Natural Inland Wetland and Buffer Management Plan (**NIWBMP**) including:

   i. Mapping of all retained wetlands, perennial water bodies and their proposed (30 m) buffers to ensure staff and machines avoid those areas.
   ii. Planting, weed and pest control for the riparian, wetland buffer, and wetland

areas, including as recommended in Appendix M.

iii. Baseline monitoring of the extent and health of the raupō and flax wetlands on the margins of Lake Taharoa within the months of February and March following the commencement of the consents, with repeat monitoring every five years.

iv. The proposed 9.6 mRL trigger for mine management responses including reductions in water take, further monitoring, reporting and response measures regarding the extent and health of the raupō and flax wetlands on these lake margins if the level of Lake Taharoa is less than 9.6 mRL *for more than a 30 continuous day period*, including review of the Lake Level and Water Management Plan (**LLWMP**) to address any adverse effects arising.

v. Monitoring to establish trigger levels for the seasonal lowest natural water levels recorded for groundwater connected wetlands, along with management responses if monitoring detects that groundwater levels in future drop below those seasonal lows for more than 14 days, including release of supplementary 'augmentation' water to maintain levels within the natural seasonal range.

vi. Weed pest management throughout the Site.

432 The Panel requested further information on a number of aspects of the assessment of groundwater drawdown effects and the recommended mitigation of those effects in particular, with this also being a substantial focus of many of the comments received on the SAR, as summarised below.

433 This included questions to ensure that potential groundwater drawdown effects on all retained wetlands were accurately monitored and detected in a timely way, and that all recommended response measures were captured in the consent condition wording. The Panel also sought to better understand the interaction between surface water and groundwater and ongoing wetland monitoring, effects and mitigation.

434 Appendix K assesses the level of effects on terrestrial vegetation and wetlands after mitigation as ranging from Very Low to Low (for terrestrial vegetation), and Very Low to Low for all impacts on wetlands (including hydrological changes), other than for loss of the wetlands in the Southern wetlands group, which is assessed as High.

435 To address the High level of effect on those wetlands, an offsetting proposal is outlined in the report for artificial pond site 27 (as described and numbered in Appendix K), which is described as being a large pond left after previous mining, and now used as water storage for mining operations (refer Table 9). Pond site 27 is located outside an anticipated mining pit and itself subject to groundwater drawdown from mining activities.

436 The report explains the application of the Tonkin & Taylor Biodiversity Compensation Model (**BCM**) to arrive at a wetland offset area of 8.3 ha surrounding and utilising existing site 27, to achieve an assessed net gain of 10.2% over the biodiversity value of the 4.25 ha of wetlands being removed.

437 Again, the Panel asked various questions testing the assumptions and parameters applied in the BCM offset calculations, including as to why the more detailed Department of Conservation Biodiversity Offset Accounting Model (**BOAM**) has not been utilised. This topic was also the subject of direct expert conferencing between the Appendix K report authors, and the experts producing evidence for the commenting parties, as discussed further below.

438 The various weed and pest management measures included in the NIWBMP are intended to be applied to the offset site, including monitoring to determine future

impacts of groundwater drawdown.

439 The Panel notes that the mitigation proposed in the NIWBMP as lodged with the SAR includes fencing of the wetland and stream riparian/buffer areas, to exclude livestock and feral animals such as pigs. However, in the Applicant's response to comments this was revised to fencing of the just the offset site. The Panel requested further information on that specific issue as well.

440 Animal pest control measures for the riparian and offset areas remain as detailed in the NIWBMP included within the SAR.

Section 53 comments

441 As noted earlier in this section of the decision, there is an important interface between the findings of the Hydrogeology assessment regarding the predicted level and spatial extent of drawdown effects on groundwater fed wetlands (in Appendix N of the SAR) and the ecological effects on the wetlands of that drawdown as assessed in Appendix K. The same applies as between the predicted effects of the surface water takes for ship loading and processing operations on lake levels in Appendix I, and the assessment of effects on lake margin wetlands in Appendix K.

442 The comments received reflect this overlap, with comments from a range of parties concerned about potential impacts on wetlands, covering points made in all three assessments.

443 This section of the decision focuses on those aspects of these overlapping comments directed towards the ecological effects of groundwater drawdown and the water takes on wetlands specifically, along with comments relating to terrestrial vegetation.

444 Key aspects of the comments received on these topics can be summarised as follows.

Waikato Regional Council

a. Uncertainty over whether a 30m buffer width for wetlands is adequate for ecology (avifauna) in particular; buffers need to be around all retained wetlands and the offset site fenced to exclude stock/grazing animal incursion.

b. A full 12 months of baseline monitoring is required to obtain baseline values for water level monitoring triggers (i.e. for water level management response), including for the proposed offset site.

c. Wetland monitoring needs to cover all potentially affected sites, not just raupō and flax wetlands on the margins of Lake Taharoa and be more frequent (annually). The grouping approach for monitoring of groundwater fed wetlands as identified in Appendix N is not adequate.[107] The level of adverse effects triggering a response needs better definition.

d. In addition to monitoring water levels, there needs to be ongoing ecological monitoring for vegetation, fauna and ecology with appropriate triggers for response.

e. Concern regarding potential drawdown effects on the proposed offset site, with more certainty needed that the offset site will be maintained over the longer term/ in perpetuity.

[107] Refer NIWMP section 2, condition 10 of AUTHORITY 142035.05.01 and condition 5 of AUTHORITY 142035.16.01

Waikato Regional Council's comments on this topic were made in and supported by a technical report from Ms Kaitlin Morrison (Wetland Scientist at the Council).

Department of Conservation

a. A more robust method is needed to determine trigger levels for response to potential effects of groundwater drawdown involving long term calibrated water balance modelling; if the proposed seasonal lows for groundwater fed wetlands are set during a drought period, allowing 14 days for any response may come too late for any plant species which are under stress prior to the trigger.

b. A clearer response is needed in the event triggers are exceeded, including ceasing or relocating mining near affected wetlands, as pumping of water is not guaranteed to be effective and raises potential contamination issues (including siltation).

c. There is a discrepancy between the "30 continuous working days" period before any response is required under the management plans, and the wording of condition 10 of proposed Permit AUTHORITY 142035.05.01 (with no period stated before such responses are required, if lake levels fall below 9.6 mRL). The response to any identified effects on lake shore wetlands is unclear and left to further management plan review.

d. It is unclear where augmentation water would come from if water from the Wainui Stream is not available, due to minimum flow compliance.

e. Wetland mapping is not comprehensive and wetland characterisation in groups is inconsistent (between Appendix K and Appendix N). Monitoring and surveying should be of every wetland rather than the grouping approach to monitoring of trigger levels for wetlands potentially affected by groundwater drawdown.

f. The proposal would result in the loss of naturally uncommon groundwater-dependent seepage wetlands that are effectively irreplaceable, and exposes retained wetlands and lake-margin ecosystems to ongoing risk from groundwater and lake-level drawdown.

g. While a 30 m buffer may represent a reasonable minimum baseline for maintaining ecological integrity in some contexts, a generic "one size fits all" approach is not optimal for this development and does not recognise the variability in freshwater habitat types, hydrological settings and ecological processes across the Site – buffers should be designed to respond to site-specific conditions, perform clearly defined ecological functions, meet measurable performance standards and remain effective under future climate pressures.

h. The draft NIWBMP does not include enforceable, outcome-focused performance requirements that would demonstrate buffer effectiveness or wetland protection over time, including measurable targets for buffer vegetation structure, canopy development, species composition, or acceptable levels of exotic dominance, nor does it define timeframes within which such outcomes must be achieved.

i. Ecological degradation may occur before changes are detectable through water level monitoring alone. Consent conditions should require wetland-specific ecological indicators capable of detecting early functional decline, including changes in wetland extent, loss of obligate wetland vegetation, and degradation of permanently saturated soil zones, to ensure ecological change is identified before irreversible loss occurs.

j. Rewatering as a contingency measure does not replicate natural groundwater fed processes; rewatering should not be assumed to be functionally equivalent to maintaining natural hydrological regimes particularly where wetlands rely on diffuse, lateral subsurface flows rather than ponded water or episodic surface inflows.

k. Repeated drawdown, even if individually short lived, may cumulatively erode wetland resilience by limiting recovery between stress periods; cumulative ecological effects may arise from repeated or prolonged drawdown across the consent duration, including changes that may not be apparent in assessments focussed on individual events or short-term compliance.

l. Even modest or short-term reductions in water availability can have disproportionate effects including replacement of obligate wetland vegetation, weed invasion and loss of fine scale heterogeneity (supporting wetland biodiversity and ecological function).

m. Several avifauna species are dependent on the lake fringe wetlands. Regular surveys of bittern population should be required in all wetlands within the Site and hydrologically connected to Lake Taharoa before any increase in water abstraction occurs, and be repeated every five years for the duration of consent. The proposal to pump silty water into wetlands through ground soakage will have a high and long term consequence for wetland avifauna and their habitat, should anything go wrong.

n. While the assessment of terrestrial and wetland values is mostly accurate, the assessment of effects on identified values is incomplete, particularly as to the hydrological implications of the proposed activity on ecological values, and the actual and potential adverse effects of the activity on wetland ecological and biodiversity values has been understated.

o. The effects management response has been inadequately and inappropriately designed and uses indefensible modelling (with inappropriate aggregation) for the proposed offset; the proposed offset site will be subject to drawdown effects, and the proposed consent conditions for the offset do not adequately describe the required outcome (type, condition) of the created wetland, nor include time-bound targets and actions to bring about required gains and described outcomes, performance targets to track progress and trigger subsequent actions, and monitoring and reporting coupled with time bound contingency measures when progress is not tracking as anticipated.

The Department of Conservation's comments on this topic were made and supported by statements of evidence prepared by Mr James Blyth (hydrology/ecology), Ms Nicole Calder-Steel and Mr Matthew Jones (hydrology), Dr Catherine Beard (Senior Science Advisor at the Department), Dr Rhys Burns (Senior Technical Advisor (Fauna) at the Department), and Dr Fleur Maseyk (Conservation Scientist at The Catalyst Group).

Te Nehenehenui

a. The details in the NIWBMP for trigger level setting, monitoring and response in relation to groundwater connected wetlands need to be specifically referenced in consent conditions, or if management plans are to be relied on, a more precautionary approach is required with larger setback buffers to increase certainty that hydrological effects on wetlands and water bodies will be minimised.

b. No timeframe is specified for the ecologist to be engaged to determine whether the lake level being below the trigger of 9.6 mRL is having adverse effects on the extent and health of raupō and flax wetlands on the margins of Lake Taharoa.

Ngaati Mahuta

a. Terrestrial habitat protection through buffer planting and stock exclusion fencing must be imposed to ensure effective habitat protection and restoration.

b. A precautionary and avoidance based approach including a minimum 100 m setback from existing and restored wetland areas is required to align with the protections and obligations of clause 3.2.2 of the NPS-FM and the NES-F regulations.

c. Compensation wetland packages do not replace the ecological and cultural function of existing systems; wetlands are taonga to Ngaati Mahuta, their mauri cannot be reduced to technical assessments or buffer diagrams.

Roy Wetini Whaanau Trust

a. The Trust's comments request a 100 m setback from all Natural Inland Wetlands within the Site, stock exclusion from the Site at all times, and retention of all pine plantations as a buffer for adjoining land and water and to provide habitat for pekapeka (bats).

Applicant's Response to Comments

445 The Applicant's response to comments on this topic (Attachment H, as prepared by Dr Mueller and Mr Dean) can be summarised as follows.

a. The conditions framework already provides for 12 months of baseline monitoring of water levels at wetlands across the sites (e.g. in determining seasonal water level triggers), and will be ongoing until dewatering of pits is completed and groundwater levels have returned to background conditions.

b. Monitoring of lake edge wetland condition and vegetation change is also proposed at 5 yearly intervals, which is considered appropriate to detect changes in wetland extent and functioning when used alongside lake level monitoring. Additional fauna or ecology monitoring is not considered necessary, and fauna monitoring for highly mobile species such as bittern may not be an indicator of wetland health, because other factors such as predation and landscape habitat loss also impact wetland fauna.

c. Acknowledging that baseline and ongoing wetland monitoring currently focusses on the lake edge wetlands, it is recommended that this be extended to include a representative sample of other potentially affected wetlands (proposing a new condition 5A and amended condition 6 for permit AUTH142035.16.01).

d. There is no clear scientific evidence available in a New Zealand context for any particular buffer width that would be sufficient to manage adverse effects on avifauna, other fauna species, or wetland systems. The 30 m mining setback has been carried over from the existing (now expired) resource consents. Together with buffer planting, broader fauna management measures, habitat restoration and a comprehensive predator control programme, the 30 m buffer setback is considered appropriate to manage the adverse effects of mining activities on wetland birds.

e. The offset site is expected to remain viable in the long term because once mining in the southern pits is complete, groundwater levels are expected to return to normal such that no supplementation would be needed beyond the term of consent. An amendment is also proposed to condition 4 of Permit AUTH142035.16.01 to refer to the types of measures that could be implemented to maintain the new wetland habitat at the offset site, and ensure no net loss of wetland habitat and ecological function is achieved.

f. Acknowledging the risk of increased sedimentation in wetlands if sediment laden or contaminated water were to be introduced artificially or via groundwater, a proposed new condition 7 for Permit AUTH142035.16.01 is recommended requiring baseline temperature, pH, turbidity and electrical conductivity measurements; that augmentation of the wetlands be with freshwater, and setting limits on the raising of temperature, for any increase in turbidity, and to maintain pH between 6 and 9 in wetlands following augmentation.

g. While seepage wetlands generally are a naturally uncommon and endangered ecosystem type, given the dominance of exotic plants, low representativeness, and only moderate diversity, the overall Moderate value assigned to these wetland sites (i.e. in Appendix K) remains valid. Of the three "true" seepages i.e. wetlands 5, 6 and 15 in Appendix K, two have formed as a result of large scale topographical change during previous mining and are likely fed by water percolating through from the adjacent tailings dam.

h. The concern about augmentation water not replicating natural groundwater and hydrological processes is somewhat overstated. Only wetland 15 relies on seepage flow percolating from the adjacent tailings dam in the mine Site, and other high value wetlands are upslope of the mine whereby seepage inflows to those wetlands would be unaffected, regardless of groundwater drawdown.

i. Buffers are not intended to help with maintaining wetland hydrology during mining, but instead focussed on limiting physical disturbance runoff, weed invasion and fauna disturbance.

j. A number of measures are proposed that will minimise the risk of cumulative effects on wetlands including baseline and ongoing monitoring, with management responses including changes to water abstraction or water supplementation which collectively will detect changes and prevent cumulative effects from occurring.

k. The trigger level monitoring and response requirements of consent conditions are precautionary, whereby should water levels drop below seasonal lows, dewatering in the nearby pits must cease and/or supplemental water must be supplied to maintain water levels above the seasonal low, which will minimise changes in wetland habitats due to hydrological variability.

l. To access the iron sand to the south of the southern block, several moderate value wetlands will be "unavoidably" lost, noting that these wetlands are located within a highly modified landscape and have been subject to mining in the past. The wetland offset package will be informed by hydrological baseline monitoring and result in almost double the area of wetland lost, with extensive enhancement and buffer planting intended to ultimately result in a wetland habitat with higher biodiversity values and improved habitat diversity for wetland birds and aquatic fauna.

m. Once the wetland formation and associated wetland buffer planting is completed and establishes, the wetland can reasonably be expected to provide additional habitat for aquatic fauna and bird species that are known from the area.

n. Acknowledging that there is currently no timeframe set in condition 10(b) of Permit AUTH142035.05.01 and so proposing an amended condition to require that the ecologist be retained within 10 working days of becoming aware that the lake level of Lake Taharoa has dropped below 9.6 mRL, for a continuous 30 working day period.

o. While in principle stock exclusion and buffer planting are an effective management tool for protecting and enabling restoration of habitats, there are practical and economic issues with installing and maintaining fencing on the Site. There are currently no specific conditions requiring fencing of wetland or stream buffers, however fencing of the wetland offsetting areas is intended (unless livestock can be kept out of that area by the consent holder).

446 An additional point of relevance to this topic was made in Attachment F to the Applicant's response to comments, advising that the discrepancy between the NIWBMP/LLWMP and proposed condition 10 of Permit AUTH142035.05.01, reflected an error in the condition drafting. The Applicant's response to comments proposed to insert the words "for a continuous 30 working day period" into condition 10 to address that apparent error. The significance of this point is addressed further below.

447 In addition to the response to comments in Attachment H, in Attachment B, Mr Eccles advised that the cost of annual monitoring and reporting of the condition of all the wetlands on the Site as sought by the Regional Council would be over $1 million annually, equating to a total of more than $35 million over the course of a 35 year term. This is said to be an onerous cost imposition when the informational value of the monitoring is questionable, with the majority of the "wetlands" that would be monitored not meeting the definition of a "natural inland wetland" under the NPS-FM.

448 Attachment B also advised that the "continuous 30-day period" wording had been included in the conditions proposed by the Applicant at the conclusion of the WRC hearing and was included in the RMA Panel's decision conditions.

449 Finally, Attachment B referred to the economic implications of a 200 m third party boundary setback and the 100 m Mitiwai setback sought in aspects of the s 53 comments, having been quantified as a $1.8 billion loss of export revenue with a flow on impact to Taharoa C of $68 million in lost royalties. Attachment B advises that the impact would actually be more significant than this as the most valuable highest grade resource is located in the relevant setback areas, particularly the 100 m setback adjacent to the Mitiwai Stream, albeit that 19% of the impact includes an area along the northern side of the Mitiwai Stream in the Northern Block.

450 This information reflected a more detailed breakdown of implications of the 100 m buffer around the Site and a 30-100 m buffer around perennial water bodies in the Applicant's RFI response on the topic of economic benefits, responding to a question from the Panel regarding a statement in the SAR that a 100 m buffer around the Site would reduce the mine's potential revenues by over $1.5 billion over 35 years, equating to 11% of the projected overall revenue of $13.5 billion.

<u>RFI Response</u>

451 As noted above in the outline of Appendix K, the Panel requested a range of information on various topics covered in that assessment report. The information requests in this part of the RFI were refined having regard to the comments received and the Applicant's response to those comments, as summarised above.

452 The Applicant's responses to the RFI relating to wetlands and terrestrial ecology was prepared by Mr Dean and Mr Eccles, and can be summarised as follows:

a. Updated mapping and a revised Table 12 of Appendix K was produced which applies the wetland naming and numbering conventions of both Appendix K and Appendix N and also identified exactly which wetlands are "Lake Margin" or "Wainui Stream" wetlands as referred to in the original Table 12.

b. Confirming that other than wetland 42 (as referred to in Appendix N), none of the wetlands to the north of the Mitiwai Stream would be affected by groundwater drawdown – with wetland 42 being an established site for continuous groundwater monitoring (as would continue under the NIWBMP).

c. Clarifying that wetlands referred to as "induced" in Appendix K are nevertheless Natural Inland Wetlands for the purpose of the NPS-FM because they have not been "deliberately constructed" but were instead formed as a result of other activity e.g. depressions being left after earthworks, or earthworks intersecting a groundwater layer.

d. Advising that a revised NIWBMP setting out proposed pest plant control measures as referred to in Appendix K would be submitted after the PFC.

e. Advising that, despite being an introduced species, marram grass is effective for site stabilisation and rehabilitation but proposing an amended condition 20(b) (Schedule 1) to also refer to native grass species being employed for site rehabilitation.

f. Explaining that the 30 m buffer width for wetlands and riparian margins had been carried over from the existing consents and again advising (as with the response to comments) that along with the other mitigation measures secured through consent conditions and the NIWBMP, is expected to be sufficient to protect wetlands from the adverse effects of adjacent activities.

g. Setting out a literature review summary of buffer widths and noting that in New Zealand most buffer work has been associated with streams, but a review conducted by NIWA concluded that a buffer of greater than 10 m would achieve most aquatic functions, and advising there is no evidence to suggest that a 30m buffer width is ineffective.

h. Clarifying that of the wetlands to be removed, wetlands 5, 6, 23 and 25 are on previously mined landforms, and wetland 20 may also have been affected or induced by previous mining activities.

i. Better quantifying and clarifying the range and extent of groundwater drawdown on specific wetlands and explaining that the wetland groupings applied in Appendix N (for future water level monitoring purposes) highlight the most vulnerable wetland for each group, which is where the recommended monitoring sites are located.

j. Advising that 5 yearly monitoring for wetland extent and health (for lake shore wetlands as required under proposed condition 8 of Permit AUTH0142035.05.01) is appropriate because there is expected to be little change in hydrological stressors under normal circumstances, and vegetation change is usually very slow to manifest. Change due to significant changes in hydrology is intended to be picked up by the low water trigger level and subsequent monitoring.

k. Advising that proposed water level monitoring will cover ground and surface water inputs to those wetlands influenced by both surface and groundwater systems, enabling contingency measures to be engaged if water levels (generically) fall below the trigger points.

l. Clarifying that water for wetland augmentation would be taken from the Wainui

Stream and provided it does not affect water quality in the receiving water body, no discharge consent would be needed for that augmentation.

m. Further advising that in light of proposed new condition 7 for Permit AUTH142035.16.01 (addressing augmentation water quality, in response to comments), no specific condition is required to confine the taking of augmentation water to the Wainui Stream reservoir (or that it otherwise be clean water from mining operations), but recommending a further new condition 8 for Permit AUTH142035.16.01 to require monitoring from within one week of the commencement of any wetland augmentation, to demonstrate compliance with the limits in condition 7.

n. Somewhat contrary to the Applicant's response to comments as set out above (regarding the need for precautionary management of groundwater drawdown effects as raised by the Department of Conservation), also advising that (on reflection) ceasing of dewatering in nearby pits may not be the most practical management response given the time it would take for wetland levels to recover, such that the primary and most reliable management response is augmentation in affected wetlands.

o. In response to the Panel's testing of the assumption of only "slightly larger fluctuations" and "slightly longer periods" of sustained low water in summer associated with the expansion in ship loading activity in Appendix K, advising that additional water for ship loading would come from recycling process water and otherwise be taken within the allocation limits for ship loading, which remain the same as under the current consent. Further, that if lake levels fall below what is being modelled this would be detected by the monitoring requirements, triggering management responses if needed.

p. Confirming that none of the Active Dune habitat type extends beyond the protected 100 m buffer from MHWS.

q. Clarifying the assessment of potential groundwater drawdown effects on the range of wetlands said to be groundwater fed, potentially groundwater fed or surface water fed (within Table 12 of Appendix K), relative to their degree of groundwater connection and the influence of surface water, better reconciling what otherwise appeared to be discrepancies between Table 12 and Table 14 of Appendix K.

r. Advising that a total of 9.08 ha of wetland could be affected by groundwater drawdown.

s. Responding to the Panel's various questions regarding the offset modelling applied by the Applicant (through the BCM offset calculations), including advising that while this situation is not "complex", the Department of Conservation's more detailed BOAM model had now been applied, and that Mr Dean was liaising with Department of Conservation experts to finalise that updated model (refer to the outcomes of expert conferencing on the offset proposal, as summarised below).

t. Providing further explanation as to why it is considered necessary (and there is a functional or operational need) to remove the southern wetlands for the purpose of clause 3.2.2 of the NPS-FM, particularly having regard to the high-grade raw material in that location of the overall mine Site, relative to the quality of the sand resource found elsewhere.

u. In relation to the fencing issue, advising that all wetlands, streams, buffer plantings and offset areas should be protected "in some way from livestock", with

the ecologists' recommendation being to use a fence as the traditional and most functionally simple way to achieve that protection. However, if equivalent livestock and feral ungulate exclusion can be achieved in some other way without the need for fencing, that would be acceptable from an ecological perspective, given the practical challenges for fencing within the Site (as also addressed in the Applicant's response to comments more generally, for example in Attachment B).

Offset Proposal – Expert Conferencing

453 As summarised above, the Panel received a range of comments including expert opinion challenging the reliability of the Applicant's BCM model applied to define the (site 27) offset proposal, and the adequacy of proposed conditions to ensure the benefits of that offset were secured over the longer term/ in perpetuity, especially given the offset wetland site itself may be affected by groundwater drawdown from future mining activities.

454 With these concerns in mind, as well as the degree of reliance placed on the offset proposal to address the effects of wetland removal in the southern area of the Site, the Panel directed expert conferencing on this topic, covering the following matters:

a. The relative suitability of the BCM v BOAM models.

b. The extent and nature of the offset required for the loss of wetlands being removed by mining activities to meet the principles outlined in the NPS-IB and NPS-FM.

c. Measures to ensure that the offset site is adequately and appropriately established, protected from mining activities, remains in perpetuity, and that potential effects from groundwater drawdown are adequately avoided.

d. Associated monitoring and reporting requirements.

455 Independently facilitated expert conferencing on this topic took place from 6-7 July, and was attended by experts engaged by the Applicant, Waikato Regional Council, the Department of Conservation, Te Nehenehenui and Ngaati Mahuta.

456 A JWS was completed by these experts and received by the Panel on 8 July.[108]

457 In addition to addressing the specific matters recorded above, the JWS commences with the following overarching comments which the Panel considers warrant setting out in full.[109]

> 9. TK and FP consider that, from a mātauranga Māori perspective, restoration is a process for restoring balance, strengthening mauri, and supporting the continuation of cultural relationships for future generations. Wetlands should be understood as a living system connected through whakapapa, and within whakapapa this is not just genealogy, but a wider connection with all things (the land, taonga species, and people are interconnected).
>
> 10. All experts agree that seepage wetlands are not offsetable, and their loss will need to be considered separate to the wetland offset proposal as compensation measures. All experts agree that while seepage wetland is naturally uncommon and a threatened ecosystem type and has high ecological value, the seepage wetlands proposed to be removed here are degraded habitat and, in some cases, have modified hydrology.

[108] JWS Adequacy of Proposed Effects Management Measures for Wetlands dated 6 & 7 July 2026

[109] "TK" is a reference to Taituwha King (engaged by Te Nehenehenui) and "FP" refers to Fleur Passau (engaged by Ngaati Mahuta).

11. All experts agree that the offset and compensation site must be confirmed prior to a decision and codified within consent conditions to reduce uncertainty of the offset and compensation being achieved.

12. All experts agree that ecological value of a wetland is not just based on vegetation composition but should consider functional and habitat value. TK further considers that consideration should be given to culturally significant species and resources, such as tuna (eel), inanga (white bait), and mokomoko (lizards), mahinga kai (food gathering), rongoā (medicine), raranga (craft and other traditional practices).

458 These overarching statements of expert opinion underscore the following points of significance to the Panel's deliberations on both the offsetting issue specifically, and as to the scale and nature of adverse effects associated with removal of the seepage wetlands in the southern area of the Site:

a. The cultural significance of wetlands and water bodies extends beyond western science/ biophysical dimensions.

b. Seepage wetlands generally are not considered offsetable ("cannot be offset")[110] such that what is described as an offset is actually more in the nature of a compensation or enhancement proposal.[111]

c. However, the specific seepage wetlands being removed in this case are of degraded habitat value, or with modified hydrology (presumably reflecting their induced rather than natural provenance).

459 Other key statements of opinion recorded in the JWS of particular significance to the Panel's deliberations are as follows (paraphrased):

a. As noted above, the Applicant's ecologist (Mr Dean) had commenced assessment of the offset applying the Department of Conservation's BOAM model and intended further discussion with the Department of Conservation's expert (Dr Maseyk) in relation to that revised assessment approach. On that basis, Dr Maseyk records that provided the seepage wetlands are acknowledged as permanently lost, the implementation of the offset and compensation actions commences six years prior to the destruction of the wetlands, and the consent conditions recommended elsewhere in the JWS are adopted, she is more comfortable with the offset and compensation design.[112]

b. Te Nehenehenui's and Ngaati Mahuta's experts (Mr King and Ms Passau) consider that the loss of a natural wetland is the permanent loss of a living ancestor with its own whakapapa, mauri and relationship to the whenua and waterways, which cannot be recreated or transferred elsewhere. Although a replacement wetland cannot restore what has been lost, tikanga can provide a means to respectfully acknowledge that loss, while establishing the cultural identity and mauri of the new wetland. To that end, mātauranga Māori knowledge holders within Ngaati Mahuta need to be involved in the process including cultural ceremonies involving the naming of the new wetland, recognising its place within the wider landscape and ensuring it carries it own identity and relationship with the generations who will care for it.[113]

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[110] Paragraph 26 of the JWS.

[111] Paragraph 19 of the JWS records that the offset site should be referred to as a "offset and compensation site" accordingly.

[112] Paragraph 18 of the JWS.

[113] Paragraphs 21 and 30 of the JWS.

c. All experts appeared to agree there was some uncertainty as to the effectiveness and feasibility of the proposed mitigation measure (water supplementation) to address the degradation of the remaining wetlands from the proposed activity, with recommended conditions set out in the JWS considered necessary to respond to that uncertainty and provide for contingency in event of failures.[114]

d. All experts agree that because seepage wetlands cannot be offset, the proposal needs to include additional management actions to compensate for that loss.[115]

e. The Applicant's experts along with Mr King consider that Site 27 (as proposed) is the most suitable option onsite because it is close to the loss, has very good ecological connectivity with the Tahaaroa lakes and is close to known habitat for threatened fauna.[116]

f. The experts retained by the commenting parties consider that the feasibility of the offset and compensation proposal is predicated on stipulating in consent conditions, specifications including time bound actions, outcome targets, performance measures and contingency measures where monitoring indicates deviation from anticipated offset gains or unanticipated outcomes that compromise the offset requirements.[117]

g. All experts agree that livestock, nuisance animals, and pest plants that degrade the ecological condition of the offset site must be managed and/or controlled to ensure that the offset and compensation gains are achieved and sustained.[118]

h. All experts agree that various matters must be included in consent conditions to ensure the success of the offset and compensation, including commencement of implementation of the offset occur no later than six years prior to any direct loss of wetland habitat, the need to describe and map the spatial extent of the offset and compensation site, measurable offset and compensation outcomes, time bound actions to achieve outcomes, triggers thresholds and performance measures as informed by the offset and compensation design, contingency measures and a legal protection mechanism in perpetuity.[119] A range of opinion was expressed as to how wide the planted buffer surrounding the offset site (and any area of unplanted buffer alongside it) would need to be.[120]

i. All experts also agree that a range of monitoring and reporting requirements need to be included in proposed consent conditions including revised trigger levels for seasonal water levels to align with natural fluctuations, with Mr King and Ms Passau considering that a cultural monitoring plan should be prepared to include mātauranga Māori indicators and provide for ongoing cultural monitoring, marae participation and governance involvement throughout implementation and long term management of the offset site.[121]

460 As noted further below, following the PFC, these experts were directed to confer over

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[114] Paragraph 24 of the JWS.

[115] Paragraph 31 of the JWS.

[116] Paragraph 32 of the JWS.

[117] Paragraph 35 of the JWS.

[118] Paragraph 38 of the JWS.

[119] Paragraph 40 of the JWS.

[120] Ibid.

[121] Paragraph 44 of the JWS.

the specific drafting of conditions based on the agreements recorded at paragraphs 40 and 44 of the JWS, and provide revised drafting covering these matters for the Panel to consider.

PFC

461 The substantial focus of day 1 of the PFC was on the range of amended conditions proposed by the commenting parties to better address the issues they had raised in their comments regarding potential effects of mining activities on wetlands, lakes and streams, including adverse effects on both the groundwater fed wetlands, and those surface fed wetlands on the lake shore and Wainui stream margins.

462 The key information received by the Panel addressing these issues through discussion with the relevant experts at the PFC is recorded within the summary of the Panel's deliberations and findings on this topic as set out below, including as to the level of effects arising and required conditions to manage or address those effects.

463 At the conclusion of the PFC, the Panel requested specific further information and conferencing between the experts to resolve a range of issues addressed at that conference, and covering in relation to this topic under the PFC RFI:

a. As just noted above, specific conditions of consent as recommended at paragraphs 40 and 44 of the JWS.

b. To revise the trigger levels for management of groundwater drawdown effects on wetlands for the purpose of Permit AUTH142035.16.01, condition 5(a) (for example, as sought by the Department of Conservation).

c. To confirm the specific groundwater fed wetlands that would potentially require water augmentation if these water trigger levels are exceeded.

d. Alongside water level triggers, a conditions framework to provide for ecology driven indicator species monitoring, enabling an "early warning" approach to managing potential adverse effects from groundwater drawdown on wetlands.

e. Similarly, to provide revised condition wording for the coverage (wetland types, locations, indicator species) and frequency of baseline monitoring of the extent and health of surface water fed wetlands (proposed to be just raupō and flax wetlands on the margins of Lake Taharoa under the Applicant's conditions filed with the application).

f. To advise whether the 8.53 mRL cease take restriction in proposed condition 7 of Permit AUTHORITY 14142035.01 is needed or set at an appropriate level.

g. As to the water balance modelling assumptions made in Appendix I to enable the proposed expanded level of mining activity and ship loading events to proceed within the maximum water take restrictions of proposed Permit AUTH142035.05.01 (as addressed in more detail in the previous section of this decision).

464 The information received by the Panel in response to the PFC RFI is also recorded within the summary of the Panel's deliberations and findings on this topic, as set out below.

Interface with Hydrology/Hydrogeology

465 The effects of continued and proposed expanded mining operations on ground and surface water resources within and surrounding the Site have a substantial bearing on many of the key issues raised by the application, and in the section 53 comments, on

the Wetlands and Terrestrial Vegetation topic.

466 The information, expert evidence, peer review advice and Panel findings on the hydrology and hydrogeology implications of the application as addressed in the previous section of this decision, therefore closely underpin our assessment and findings on this topic.

467 In particular, we refer to our findings and proposed conditions of consent:

a. Addressing concerns and limitations raised and recorded by Mr Kelsey and other experts about the accuracy and reliability of the hydrogeological modelling in Appendix N, through conditions that would (in the manner proposed by Mr Kelsey) set a maximum "envelope" of groundwater drawdown effects over the full duration of the mining operation with associated monitoring triggers, to ensure potential effects on groundwater fed/ connected wetlands are no greater or different than predicted in that modelling.

b. Regarding potential effects on surface water resources (Wainui Stream/ Lake Taharoa levels in particular) as affect Lake Shore/Margin and Wainui Stream wetlands in turn, being the range of wetlands identified in Appendix N which are primarily surface water fed.[122] This includes our findings on assumptions made regarding the use of "recycled" water to enable expanded operations (and the proposed increased number of ship loading events per year) to remain within the maximum water take and "cease take" conditions provided for in Permit AUTH142035.05.01.

468 On the basis of those findings and conditions, we now summarise the information generated at the PFC, as well as through subsequent expert conferencing and the PFC RFI in relation to the overall topic of Terrestrial Ecology- Wetlands and Vegetation for each of the following subtopics and briefly record our findings on each of those subtopics with reference to the framework of conditions ultimately determined by the Panel.

Groundwater Drawdown Effects – Groundwater Fed/ Connected Wetlands

469 Discussion with and between the experts at the PFC on this specific issue focused on the efficacy (nature and extent) of the monitoring proposed in the application to manage and respond to potential groundwater drawdown effects on wetlands.

470 As evident from the summary of section 53 comments set out above, key concerns raised on that specific issue were in relation to the location and number of sites where trigger levels for augmentation of wetlands potentially affected by groundwater drawdown would be applied, how those triggers would be determined, and the need for specific wetland specific ecological indicator species to provide an 'early warning' before significant or irreversible effects occur.

471 After a brief discussion of these issues, it was agreed that the relevant experts would confer on the various questions set out above on this specific issue.

472 As part of the PFC RFI, the Panel therefore directed that Mr Blyth and Mr Williamson confer and advise on how baseline monitoring and trigger levels should be determined for water level management for groundwater connected wetlands for the purpose of Condition 5(a) of Permit AUTH16.01.

[122] Notably regardless of the degree of groundwater connection, refer Table 13 on page 39 of Appendix N.

473 In its interim response to that PFC RFI topic filed on 8 September, Mr Williamson and Mr Sherberg outlined a revised proposal whereby 12 months of baseline monitoring data would be collected at the location of the most vulnerable wetland in each of the groups of wetlands potentially affected by drawdown, as identified in Appendix N (namely Groups 1, 3 and 4).

474 That data would then be used to calibrate a water balance model to project a longer term data set of at least 20 years that includes historic wet and dry periods. The simulated data would then be used to set trigger levels using a three tiered approach (TL1 – TL3) as follows:

a. TL1 being to raise awareness of a potential issue approaching, set at the 5 percentile lowest of natural baseline water level.

b. TL2 would be set at the 1 percentile lowest of natural baseline water level, and require the commissioning of a review of the most likely causes of the water level decline, considering seasonal climate, the rate of decline and its timing having regard to mining progression. This review must be completed within one month.

c. TL3 would require augmentation if the TL2 review outcome is that the effect is likely induced by mining and likely to continue.

475 If triggered, augmentation would be required to sustain the water level above the 5th percentile as determined from baseline monitoring, and continue until that is no longer needed.

476 These requirements would be set out in a revised Condition 5 of Permit AUTH16.01 including a table detailing the requirements for each trigger level as just summarised, but also requiring that:

a. augmentation water meet the water quality standards (as had been proposed by the Applicant in revised conditions in its initial RFI responses and responses to comments as summarised above), and

b. each other potentially groundwater connected wetland in the Group be augmented at an equivalent rate to the monitoring site/trigger level wetland for that group.

477 This approach would replace and supersede that summarised in Appendix K (as also set out above), whereby seasonal lows would be determined for each group of groundwater connected wetlands, with cessation of dewatering or augmentation triggered if groundwater levels dropped below the seasonal lows for more than 14 days.

478 The Hydrology JWS addressing this aspect of the PFC RFI confirms that Mr Blyth and Mr Williamson agree with the Applicant's response including proposed changes to conditions, subject to certain further amendments.

479 In the Applicant's final response on this PFC RFI topic (Appendix A, as filed on 1 October), these further amendments are incorporated within revised Condition 5, including expressly recording that:

a. the purpose of the baseline monitoring is to provide 12 months of data to enable calibration of a model to simulate longer term historical water levels over a 20-30 year period, with that simulated water level data set for each group of wetlands being used to define the trigger levels at each group in accordance with the methodology set out in Table 2 of the revised condition.

b. the purpose of the tiered trigger level system is to implement progressive management responses at times where water levels recede towards - but prior to - historical lows.

c. telemetered monitoring equipment or continuous monitoring data must be used to inform the consent holder of wetland water levels approaching and reaching trigger level TL1 as set out in Table 2.

d. the review needing to be completed under trigger TL2 must be provided to the Regional Council within the one month period for that review, including the review outcomes.

e. within three months of augmentation ceasing, the consent holder must provide a report to the Regional Council setting out the methods that were used to undertake the augmentation, and the wetland ecological outcomes that were achieved through it.

480 Further details regarding the proposed revised approach for the monitoring and response to groundwater drawdown effects were included in the revised NIWBMP also filed by the Applicant with its interim response to the PFC RFI on this topic, on 8 September.

481 Under the amended NIWBMP, the previous contingency measures (referred to at paragraph 430 above) were deleted, including any provision for cessation of dewatering in pits in proximity to the wetlands during dry periods. This revised approach presumably reflects the Applicant's response to the Panel's first RFI whereby it was considered (on reflection) that ceasing of dewatering in nearby pits may not be the most practicable management response. In essence, the Applicant is now relying on water augmentation to address potential groundwater drawdown effects on wetlands, albeit in the context of the revised baseline monitoring, simulation and three-tiered trigger level response structure as agreed to by Mr Williamson and Mr Blyth.

482 As also requested under the Panel's PFC RFI on this topic, Mr Scherberg advised that there are nine wetlands that are at least partially groundwater-fed within the area where drawdown is expected at some point during the mining sequence. Those nine wetlands are now all listed in Table 3 of the revised NIWBMP filed on 8 September. They include the wetland offset site (Site 27).

483 The third dimension of the Panel's PFC RFI in relation to groundwater drawdown effects on wetlands was a direction for the ecologists and mātauranga experts to confer and advise on representative sites for ecology based wetland monitoring along with appropriate indicator (including taonga) species, to provide for an "early warning" approach to managing potential adverse ecological effects from groundwater drawdown, as had been sought by the Department of Conservation in its comments.

484 In the Applicant's response filed on 8 September regarding this topic, Mr Dean and Mr Eccles advised as follows:

a. Ecological health monitoring is now proposed for all of the nine wetlands identified within Table 3 of the NIWBMP (being those potentially affected by groundwater drawdown) rather than a representative sample, and whereby each of the wetlands would have one monitoring plot per vegetation type and monitoring would apply a standard methodology, as detailed in the revised NIWBMP.

b. To facilitate the "early warning" approach sought by the Department of Conservation, monitoring would include use of the Prevalence Index. The Prevalence Index uses the wetland indicator status of each plant species to measure how wet a wetland is - sites with a higher proportion of obligate and facultative wetland species are more likely to be permanently wet. The Prevalence Index can be used alongside vegetation cover and other parameters to monitor if

wetlands are drying out or becoming too stressed for wetland species.

485 These new proposed requirements for wetland ecological monitoring were as set out in a revised Condition 5A for Permit AUTH142035.16.01, which specifically references section 3.2 of the revised NIWBMP (dealing with monitoring of retained wetlands). The Panel notes that 3.2.3 of the revised version of the NIWBMP filed on 8 September in turn references monitoring in accordance with section 2.2.3, which contains further detail about the Prevalence Index monitoring approach, albeit for lake margin wetlands.

486 The Ecology JWS on this PFC RFI topic records that the ecology experts consider adoption of the Prevalence Index, with the associated detail as to which wetlands are monitored and the monitoring frequency as included in the NIWBMP, is appropriate in terms of wetland condition and function.[123]

487 All of the ecologists and the mātauranga experts also advise that they consider ecological monitoring of individual wetlands under the Applicant's proposals is appropriate.[124]

488 Revised wording was however agreed for the Applicant's proposed new Condition 5A to refer to the "growing season" rather than "February and March" period for the requisite baseline monitoring. The ecologists and mātauranga experts also agreed on a revised approach to monitoring frequency compared with that outlined in condition 5A, whereby monitoring of wetland extent and health would be within the first February and March period following consents commencing, and every 5 years thereafter.

489 Monitoring frequency under the experts' agreed revised approach depends on whether or not adverse effects have been detected, i.e. monitoring would proceed annually in each growing season for the first three years, and then if adverse effects have not been detected, every two years for the next six years, and then if adverse effects have not been detected every five years after that.[125]

490 As to taonga species, Ms Passau and Mr King recommended a list of taonga species to be included in the wetland monitoring conditions, being those set out in Appendix 2 to the Ngaati Mahuta EMP.[126]

491 The ecologists and mātauranga experts also agreed that Condition 43 in Schedule 1 (annual works plan) should be amended to require that the annual plan specify the areas to be mined over the next 24 months, to allow for monitoring to commence in wetlands likely to be affected by drawdown, and provide a 12 month monitoring period ahead of when effects on the given wetlands might arise.[127]

492 In the Applicant's final response on this topic (filed on 1 October), Condition 5A had been amended as agreed by the ecologists/mātauranga experts in the following respects:

a. Reference to "growing season" rather than the February to March period for baseline monitoring.

b. Frequency of ongoing monitoring (annually, two yearly, then every five years as

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[123] Ecology JWS dated 21 September at [65]

[124] Ecology JWS dated 21 September at [53]

[125] Ecology JWS dated 21 September at [57-59]

[126] Ecology JWS dated 21 September at [63]

[127] Ecology JWS dated 21 September at [56]

summarised above).

c. The inclusion of reference to the taonga species set out in Appendix 2 of the Ngaati Mahuta EMP in the monitoring required by this condition.

493 Condition 43 was also proposed to be amended by adding an additional requirement for the annual works plan to specify any wetland monitoring to be undertaken including monitoring that may be required in advance of mining planned for later than (i.e. beyond) the following 12 month period.

494 This revised condition approach leaves two matters outstanding for the Panel to determine with reference to the content of the Ecology JWS on this topic.

495 The first relates to a proposal advanced by the Department of Conservation (through Dr Maseyk) for a specific Water Augmentation Management and Monitoring Plan to be required in line with a conditions framework for water augmentation appended as Annexure A to the JWS.

496 The Ecology JWS records that the Department of Conservation, Regional Council and mātauranga experts consider the purpose of those proposed new conditions is to deal with the uncertainty regarding augmentation conditions, with Mr Dean recorded as agreeing that there is a need for greater certainty regarding water augmentation measures. The experts (other than Mr Dean) record that additional detail is needed including specifications for the infrastructure for the water augmentation and contingency for infrastructure failure, including the likes of pump or power failure, pipe blockages, source water availability, clear response procedures, telemetry, alarm systems, back-up pumps and the like.

497 The Panel understands that this dimension of the Ecology JWS reflects the Department of Conservation's concern as recorded in its section 53 comments, that rewatering does not replicate natural groundwater fed processes and may not be functionally equivalent to maintaining natural hydrological regimes. The concern further refers to the discussion at the PFC with the Department of Conservation's experts recording uncertainty over the details as to how augmentation would be carried out, and how effective it would be.

498 In counsel's memorandum filed with the Applicant's 1 October response, the Applicant recorded concern that Dr Maseyk's new suite of proposed conditions had not been shared with the Applicant's experts prior to conferencing, meaning that neither the Applicant nor its experts had had the chance to review, consider or provide comment on that conditions framework ahead of time (unlike the Applicant's proposed conditions which were provided in advance of conferencing).

499 Counsel submits that the need to engage with these conditions likely deflected the experts from a range of other matters that were to be addressed by the ecologists/mātauranga experts as directed by the Panel. In that respect, the Panel notes that a number of specific topics regarding the wetland offset and compensation provisions are recorded as not having been directly addressed, because the experts did not have time to cover those agenda items.

500 This point aside, in Appendix A (to the Applicant's response on 1 October), Mr Eccles advises that the provisions in Dr Maseyk's Annexure A are not necessary as the majority of the matters noted are covered in the Applicant's proposed revised conditions in any event.

501 Having considered Mr Eccles response in this respect, and the overall revised set of conditions for Permit AUTH142035.16.01 as proposed by the Applicant on 1 October, the Panel largely agrees with Mr Eccles, noting as follows:

a. The qualitative requirements for augmentation water set out in Annexure A to the Ecology JWS are almost all covered in (now) proposed Condition 9[128], including additional reference to 'biological contaminants' and aquatic pest organisms - such that it is not necessary to duplicate these requirements in a new management plan.

b. All of the wetlands that may need to receive augmentation are identified in Condition 5A through reference to Table 3 of the NIWBMP, along with details for the augmentation target (sustaining water levels above the 5th percentile TL1 trigger level), along with monitoring of augmentation water quality (as now required by proposed new Condition 8 filed with the Applicant's first RFI response) and a requirement to advise on the wetland ecological outcomes achieved through augmentation.

502 At the 13 October presentation, the Panel asked what was intended by the new reference to "biological contaminants" within the augmentation water quality requirements, and we were advised that this relates to what might loosely be described as biosecurity concerns, i.e. aquatic pest organisms that might affect fish, shellfish, plants and algae utilising the wetlands as habitat. In the version of conditions filed with the Applicant's final reply on 2 November, the term "biological contaminant" is defined to provide clarity on that point.

503 The Panel notes that the augmentation water quality requirements proposed by the Applicant do not include nutrients (as had been sought in Annexure A), however the Applicant's advisors at the 13 October presentation advised that mining does not add nutrients into the groundwater system. Nutrients within augmentation water would therefore remain at levels which the wetlands currently experience in terms of their existing groundwater connection.

504 Annexure A would also have required water augmentation to cease if monitoring showed the presence of pest organisms or that it breached the water quality parameters (for an unspecified period recorded in that annexure).

505 As Mr Eccles' response notes, there are nevertheless contingency measures including monitoring the quality of augmentation water, and requirements of (then) proposed Condition 9 to initiate management measures including a change to the source of augmentation water if augmentation to that point had led to a reduction in water quality parameters.

506 Again, the Panel considers that this is sufficient to address this concern as identified in Annexure A to the Ecology JWS.

507 The Panel considers that the conditions adequately set the performance requirement or standard which augmentation must achieve in a quantitative sense (being as noted earlier, to sustain water levels above the 5th percentile as determined from baseline monitoring).

508 Acknowledging the Department of Conservation's practical concern about whether the supply of augmentation water would be effective, the Panel considers that this is a matter that should be addressed through the NIWBMP being expressly required to meet the quantitative performance standard, and has amended condition 16 of Schedule 1 to expressly require that.

509 The second matter that was unresolved on this topic in the Ecology JWS involves Dr

[128] As numbered under the conditions version appended to this decision.

Maseyk's proposal for an Expert Review Panel for the purposes of expert oversight and assessment of monitoring reporting for the life of the consents sought. The Review Panel would provide feedback on draft management plans prior to submission to Council along with recommendations to the consent holder in respect of monitoring findings.[129]

510 In the Applicant's 1 October response (Annexure A), Mr Eccles advises that a panel of this nature is not necessary for a working mine that has been operating for over 50 years, and that it is the Regional Council's role to monitor compliance with the consents. If conditions are not sufficient to manage effects, then a review of conditions could be initiated.

511 Again, the Panel largely agrees that the Expert Review Panel proposal (while having some potential merit given the complexity of the issues raised by this dimension of the Application), is not necessary.

512 Conversely, the Panel sees real benefit in the expertise which the Department of Conservation and mātauranga experts appointed by mana whenua can lend towards preparation of the NIWBMP content that will flesh out the detail of the proposed revised conditions structure for wetland monitoring and groundwater drawdown response.

513 The Panel has therefore amended Condition 15 of Schedule 1 to ensure (for the avoidance of doubt) the input of these parties into the NIWBMP section of the overall EMP.

514 The Panel also notes that under Condition 44 of Schedule 1, a copy of the Annual Monitoring Report must be provided to the Department of Conservation, the proprietors of Taharoa C Block, and other mana whenua commenting parties including Taharoa Lakes Trustees, Ngaati Mahuta, Te Kooraha Marae and Aaruka Marae (along with the Regional Council), so there is adequate provision for monitoring and accountability as well as input from these parties at the outset of the management plan process - essentially achieving the purpose of the requested advisory expert review panel.

515 The Panel has nevertheless made the following minor changes to the revised conditions proposed by the Applicant on this subtopic (including in response to the expert conferencing, and as filed by the Applicant on 1 October) which it considers to be necessary, being as follows:

a. To specifically require that a suitably qualified and experienced hydrologist be retained for the purpose of determining the trigger levels in Table 2 of Condition 5.

b. To include references to the (Appendix N) wetland groups within the first table in Condition 5 (identifying the baseline monitoring locations).

c. To amend Table 2 to expressly require that, where required under trigger TL3, augmentation be provided to all wetlands (in Table 3 of the NIWBMP), meeting the water quality standards and sustaining water levels above the 5th percentile (not just for the monitored wetland in each group).

d. To refer to baseline monitoring for electrical conductivity in (now) Condition 9 (as originally proposed in Annexure H to the Applicant's response to s 53 comments when that condition was first advanced)

[129] Ecology JWS dated 21 September at [60]

e. To require baseline monitoring for biological contaminants /aquatic pest organisms for the offset/compensation wetland and that augmentation not introduce such contaminants into this wetland.

f. To more clearly state the purpose of the 12 month monitoring requirement introduced into condition 43 of Schedule 1 (i.e. to ensure monitoring ahead of when groundwater drawdown effects might arise) .

g. To specifically reference the date/version of the NIWBMP version produced by the Applicant in support of its information and responses on this topic (but now further revised in the Applicant's final reply filed on 2 November) , to ensure that the content of that revised management plan as relied on by the Applicant in the revised conditions framework is secured through those conditions.

Panel Finding: Groundwater Drawdown Effects on Wetlands

516 With that revised condition framework in place, the Panel finds that provided the maximum extent and level of groundwater drawdown is no greater than predicted under the hydrogeological model produced through Appendix N, as would be secured through conditions of consent as discussed in the Hydrogeology section of this decision, potential groundwater drawdown effects on groundwater fed/ connected wetlands would not be significant and can be adequately managed and responded to, to ensure that is the case.

Lake Shore / Margin and Wainui Stream (primarily surface fed) wetlands

517 A different set of issues arises in relation to the management of surface water levels as driven by the water takes required for ship loading and on-site processing activities, which potentially affect Lake Shore/ Margin and Wainui Stream wetlands in turn.[130]

518 We note in this respect, the assessment in Appendix K that these wetlands are said to have Very High ecological value (Table 14 of Appendix K), as can be compared with (for example) the Moderate value wetlands in the southern area which are to be removed.

519 The key issues raised by the application and addressed in the section 53 comments on this specific topic are:

a. The efficacy and appropriateness of the 'cease take' and Taharoa Lake lake level monitoring and response triggers proposed under conditions 7 to 10 of Permit AUTH142035.05.01 (8.53 mRL and 9.6 mRL respectively), and the proposal for the latter that it would only be where Lake Taharoa levels drop below 9.6 mRL for a continuous 30 day period that management responses are required (noting the Applicant's response to comments including that wording into a revised condition 10, as mentioned above).

b. The timeframe and mechanisms for that management response if required under condition 10; and

c. The extent and range of Lake Shore/Margin or other wetlands that would need to be covered by the 'extent and health' baseline monitoring required by proposed

[130] Our findings in relation to the surface water take and groundwater drawdown effects on the Mitiwai and Wainui Streams, are addressed in a later section of this decision.

condition 8 of Permit AUTH142035.05.01 and under condition 10 if lake levels fall below 9.6 mRL, as well as the frequency of repeat monitoring that should be required under condition 8 (5 yearly as proposed by the Applicant) .

520 Again, sitting underneath that set of issues are the concerns and issues addressed in the previous section of this decision relating to the overall water balance model including the assumptions and predictions of that modelling as to whether and how frequently the 9.6 mRL trigger level might be exceeded, if mining operations and the number of ship loading events are expanded and increased as proposed by the SAR.

521 These matters were also canvassed at the PFC including through the PFC RFI question as to whether the 8.53 mRL cease take trigger is needed or at an appropriate level.

522 As noted in the preceding section of this decision, the Panel's understanding is that the 9.6 mRL level has never been exceeded in the past, and certainly not since 2013 according to the available measured lake water level information presented in Appendix I (section 3.4, Figure 5).

523 However, under the most conservative water take scenario modelled in Appendix I (scenario 3, maximum consented and proposed processing water take rate and 35 ship loading events per year), that level may be exceeded in future, with the cease take trigger level of 8.53 mRL encountered on three occasions throughout the simulation period (Figure 15).

524 The essential issue raised in section 53 comments in that context is whether condition 10 (and the 9.6 mRL trigger level in particular) would ensure a sufficiently timely and robust management response in the event that lake levels do now drop below the natural range which the Lake Shore/ Margin and Wainui Stream wetlands have become adapted to, at least since the Wainui dam reservoir was established in the 1970s.

525 This issue was canvassed reasonably extensively at the PFC.

526 Mr Mawer (one of the report authors for Appendix I) explained that the 9.6 mRL trigger was itself inherently conservative and provided for an "early warning" response, well before potential effects on lake shore/ Wainui Stream wetlands would arise.

527 This point reflects Mr Mawer's opinion as stated in the Applicant's RFI response (to questions regarding lake level management) that the Lake Margin wetlands are acclimatised to lake operating levels that have been in place for over 50 years; there is very little evidence to suggest that adverse effects will occur if lake levels drop below 9.6 mRL, and recording advice from Mr Dean that if adverse effects do occur they will be gradual, not sudden or irreversible.[131]

528 It was also explained that the 9.6 mRL trigger along with continuous lake level monitoring and telemetry reporting to the Regional Council (including 15-minute values of the Lake Taharoa water level[132]) effectively superseded the previous 9 mRL reporting trigger sought to be reinstated by Te Nehenehenui. By contrast, the 8.53 mRL cease take trigger had been carried over from the existing consents, and reflected lake levels before construction of the dam in the Wainui Stream.

529 Mr Mawer also advised that he did not consider that the "as far as practicable" water take reduction requirement of proposed condition 10(a) needed to be replaced with a volumetric reduction requirement as sought by Te Nehenehenui, given the proactive

[131] RFI response page 30.

[132] As proposed under condition 14 of Permit AUTHORITY 142035.05.01.

nature of the 9.6 mRL trigger itself.

530 By contrast, Dr Blyth (retained by the Department of Conservation) produced information (sourced from Appendix I) demonstrating that there was a non-linear impact of any water level reduction in terms of the area of the Lake Taharoa bed exposed for any given water level reduction.

531 For example, if lake levels reduced from 9.6 mRL to 9 mRL, Mr Blyth advised that this would represent an 11 ha reduction in surface area of the lake, and if the water level reduced to the "cease take" level of 8.53 mRL, some 17 ha of lake surface area would be exposed. Mr Blyth also pointed to information noted in the Department of Conservation's comments that under the S3 scenario in the hydrology modelling, there could be 40 days per year where lake levels are below 9.6 mRL, or 1406 days over the 35 year consent duration.

532 Mr Williamson noted that the lake margin wetlands had adapted to fluctuations in lake levels over time, that any reduction below 9.6 mRL would not happen immediately, lake levels had not reduced below 9.6 mRL in the past and would only do so very infrequently according to the hydrology modelling (as referred to above).

533 Two issues emerged during the questions and responses from the Panel to the relevant experts in this context, namely:

a. Is the cease take trigger at 8.53 mRL either necessary or (assuming so) set at the appropriate level – with that matter also referred for further expert conferencing under the PFC RFI, as noted above; and

b. Is the "continuous 30 working day period" referenced in condition 10 before any management response is required, appropriate?

534 As to the former, and as recorded under the Hydrology topic, the hydrologists (other than Mr Blyth) have generally agreed that the 8.53 mRL (cease take) trigger should be retained and is appropriate.

535 By contrast, the Ecology JWS on this PFC RFI topic records that, while a cease take is needed, the 8.53 mRL level is not appropriate. The ecologists are of the view that an 9 mRL trigger for the cease take should be set having reflected on ecological first principles of response, recovery, time lags, cumulative effects and interactions between hydrology and ecological values.[133]

536 In the Applicant's 1 October response on this topic, Mr Eccles notes his view that the ecologists have not substantiated their "assertion" that an 9 mRL trigger would serve the various ecological purposes recorded in that statement. In the absence of ecological evidence to the contrary, Mr Eccles has relied on the hydrological evidence as to the appropriateness of the 8.53 mRL trigger, as endorsed by the hydrologists.

537 Mr Eccles then acknowledges the concerns raised by the ecologists, but advises that they are best addressed through the agreement of the hydrologists that more robust responses are needed to the 9.6 mRL trigger being exceeded.[134]

538 As also recorded in the Hydrology section of this part of the decision, in the Hydrology JWS the hydrology experts had discussed various alternative approaches and wording for the 9.6 mRL trigger/management response framework, as provided for in proposed Condition 10 of Permit AUTH142035.05.01

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[133] Ecology JWS dated 21 September at [9-11]

[134] Hydrology JWS dated 18 September at [30]

539 In that regard, discussion at the PFC had focussed on whether the 30 *continuous* working day reference should be changed to a 30 day *rolling* average, so that even very short periods of the lake level being higher than 9.6 mRL do not effectively "reset" the clock, meaning no management response is needed despite lake levels actually being below 9.6 mRL for potentially extended periods.

540 For his part, Mr Williamson had suggested in the Hydrology JWS that if lake levels dropped below 9.6 mRL for a continuous 30 working day period, there should be immediate implementation of the reduction measures specified in the Lake Level and Water Management Plan.

541 Conversely Mr Blyth stated that he had considered revised wording advanced by the Applicant whereby management responses would be triggered if the water levels fell below 9.6 mRL for a cumulative period of 30 days over any 60-day period. Mr Blyth recorded that he considered an annual limit on the number of days below 9.6 mRL would also need to be included, with this number of days to be advised by the ecologists. The mātauranga experts recorded that they agreed with Mr Blyth.[135]

542 In Appendix C to the Applicant's 1 October response to these issues, Condition 10 of Permit AUTH142035.05.01 had been redrafted to apply the "cumulative period of 30 days over any 60 day period" approach to the trigger, but without any annual limit as suggested by Mr Blyth in the Hydrology JWS.

543 Alongside that however, and reflecting Mr Williamson's opinion as recorded in the JWS, Condition 10(b), was amended as follows:

a. To require that the ecologist engaged where water levels fall below 9.6 mRL, must provide recommendations on measures to be implemented to manage any identified adverse effects; and

b. Those measures must be implemented within five working days.

544 At the PFC, the Panel had proposed that condition 10(c) of Permit AUTH 142035.05.01 be amended to require that, if the ecologist retained under condition 10 (b)[136] concludes that there had been adverse effects on the extent and health of Lake Margin wetlands, any measures recommended by that ecologist to address those effects be implemented immediately, rather than waiting for revision to the LLWMPP before any such response measures are applied in turn.

545 The revised approach set out in Appendix C to the Applicant's 1 October response substantially adopts the Panel's proposal at the PFC of more immediate implementation of the necessary management response, if the 9.6 mRL trigger is engaged.

546 The Panel adopts revised Condition 10 (including the cumulative 30 day over any 60 day period trigger) accordingly but amending purposed condition 10 (b) to delete the words "where necessary" (such that if adverse effects are identified by the ecologist, recommendations to manage the adverse effects must be provided) and adopt consistent wording regarding the 30-day period involved before a management response is required. However, as also recorded in the Hydrology section of this decision, the Panel has adopted (alongside that) the 9 mRL cease take trigger for condition 7.

547 A related issue raised by the Department of Conservation and the Waikato Regional

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[135] Hydrology JWS dated 18 September at [31-32]

[136] As noted above, now within 10 working days of becoming aware that the RL9.6m trigger had been exceeded for 30 days, see Applicant's response to the comment on that issue from Te Nehenehenui.

Council in comments involves the coverage and frequency of monitoring of wetland extent and health required by the Applicant's proposed condition 8 of proposed Permit AUTH1420.35.05.01 (setting a baseline survey requirement, with five yearly monitoring thereafter), against which further monitoring triggered by condition 10 could be compared, to determine whether water levels below the RL9.6 m trigger are having an impact, and the range of wetland types that should be covered by this monitoring.

548 As noted above, in its comments, the Regional Council requested that monitoring of wetland extent and health should be annual rather than five yearly, and cover all wetlands, not just raupō and flax wetlands on the margins of Lake Taharoa.

549 The Regional Council also sought greater clarity within condition 10(c) as to what would comprise an adverse effect that needed to be addressed if identified through the ecological survey triggered under condition 10(b).

550 At the PFC, Mr Dean advised that any change in vegetation structure would take a considerable period of time to be detected, within a system that has adapted to natural fluctuations in lake levels.

551 Ms Morrison and Dr Beard both considered more frequent monitoring was nevertheless required, with Dr Beard considering even annual monitoring could be too far apart, and Ms Morrison referring to the need to ensure obligate species are covered in the wetland monitoring to better signal whether an adverse effect has occurred. Mr King noted that there is a range of taonga species that could be included in such monitoring, including tuna, kāeo (freshwater mussels) and kōkopu.

552 Mr Dean responded that raupō and flax are the main wetland types potentially affected but agreed with a potential revised focus on obligate wetland vegetation species more generally. He seemed open to more frequent monitoring but remained of the view that annual monitoring would be unreasonable.

553 As noted above, the Panel also directed that the experts confer on this specific point in the PFC RFI, by proposing revised conditions for the coverage and frequency of baseline monitoring of the extent and health of surface water fed wetlands under condition 8 of Permit AUTH1420.35.05.01.

554 In its initial response filed on 8 September, the Applicant proposed a revised Condition 8 (AUTH 142035.05.01) that would increase both the frequency and range of lake margin wetland monitoring including by deleting the reference to "raupō and flax".

555 Under that revised Condition 8, the monitoring would include baseline monitoring within the first year following commencement of consent, then annually for the first three years following the baseline monitoring, then every two years for the next six years, then (if adverse effects had not been detected), every five years thereafter (in place of the original baseline plus five yearly approach under Condition 8 as first proposed).

556 In that respect, this revised condition structure adopts the same approach as set out above for the monitoring of groundwater drawdown effects under Condition 5A of Permit AUTH142035.16.01.

557 In the Ecology JWS, all of the ecology experts along with the mātauranga experts appeared to support and endorse this revised condition (subject to minor amendments), albeit with Mr King, Ms Passau and Ms O'Callaghan recording that a mandated mātauranga expert endorsed by Ngaati Mahuta should be engaged alongside

the suitably qualified and experienced ecologist referred to in the condition.[137]

558 In Appendix A to the Applicant's response of 1 October, Mr Eccles advises that Condition 8 had been updated to reflect this agreement by the ecologists, but also to respond to the matters at paragraph 63 of the Ecology JWS (which as noted above, refers to the taonga species which the mātauranga experts considered should be included for wetland monitoring).

559 The Panel notes that there is no reference to those taonga species in the version of conditions included within Appendix C to the Applicant's 1 October response. The Applicant's representatives were asked about that at the 13 October presentation, and advised that this omission was intentional – albeit no reasons were given as to why taonga species would be included within the groundwater drawdown wetland monitoring framework, but not for surface water monitoring of lake margin wetlands.

560 However, in the conditions version filed with the Applicant's final reply, condition 8 had been amended to include an equivalent reference.

Panel Finding: Lake margin - Surface Water Fed Wetlands

561 The Panel adopts the PFC RFI conferencing outcomes on this subtopic in the revised conditions appended to this decision, essentially being on the basis proposed by the Applicant' final reply, but with the amendments noted above, including to the cease take trigger in condition 7 of Permit AUTH142035.05.01.

562 Having regard to the information in the application, the points raised in the section 53 comments, the evidence from the hydrologists at the PFC and the RFI PFC conferencing outcomes on the specific issue, the Panel finds that provided Conditions 7 to 10 of Permit AUTH142035.05.01 are amended in these various respects, the 9.6 mRL trigger level and response management approach would adequately safeguard and protect surface water fed Lake Margin/ Wainui Stream wetlands from the potential effects of the future surface water takes (including to cater for an expanded level of operations), and ensure a sufficiently timely and effective response to lake levels dropping below those to which these wetlands had become adapted, since the Wainui dam and reservoir was established in the 1970s.

Removal of Wetlands – Offset Proposal

563 The more direct impact on Natural Inland Wetlands raised by the application is that caused by removal of 4.25 ha of what Appendix K assesses to be moderate value wetland habitat, resulting in what that report advises to be a Very High magnitude, and High level, of effect.

564 As explained above, the wetlands to be removed include a number of seepage and other wetlands most of which (as the RFI response confirms) have been affected or induced by previous mining activities. The Panel refers back to paragraph 10 of the JWS regarding the offset proposal as set out above, in this respect.

565 That offset proposal was included in the application on the basis that the effects of complete loss of these wetlands (located in the southern area of the overall Site) cannot be avoided, minimised or remedied, and represents a residual effect for which ecological offsetting or compensation needs to be considered (refer section 8.1.11.3 of

[137] Ecology JWS dated 21 September at [67-69]

the SAR and section 6.5 of Appendix K).

566 In this context, and as noted in the Panel's RFI, before we consider the appropriateness and effectiveness of the offset proposal in our deliberations (with reference to the outcomes of the expert conferencing in the JWS), we first need to consider and reach a finding on whether the 4.25 ha wetlands, said to be irreplaceable by a number of the experts, should be removed in the first place.

567 Clause 3.22 of the NPS-FM is central to that assessment. As noted in the SAR, Policy 6 of the NPS-FM requires that there be no further loss of extent of Natural Inland Wetlands; that their values are protected, and their restoration is promoted.

568 However clause 3.22(e) of the NPS-FM provides an exception to the directive requirements of Policy 6, where the Expert Panel[138] is satisfied that:

a. The activity is necessary for the purpose of the extraction of minerals and ancillary activity; and

b. The extraction of the mineral will provide significant national or regional benefits; and

c. There is a functional need or operational need for the activity to be done *in that location*; and

d. The effects of the activity will be managed through applying the effects management hierarchy. [Panel emphasis]

569 The SAR states that these tests are met because the activity (i.e. removal of the wetlands) is necessary for the extraction of ironsand minerals, the extraction of the ironsand will provide significant national and regional benefits, and there is a functional need for the activity to be in this location because:[139]

> The project can only occur in this environment.
> The mine is already located in the environment, as such alternative sites are not an option.
> The mine is located where the resource is located.
> The effects management hierarchy has been applied (offsetting the effects of removal of the wetlands, and protection of remaining wetlands through the 30m buffer requirements and other measures traversed above to manage wetland hydrology)).

570 The Panel tested that assessment in the RFI, asking why it is considered necessary and that there is a functional and operational need within an approximate 900 ha site, to remove wetlands within the southern area specifically, in order to carry out mineral extraction activities in that location. Further, in terms of the effects management hierarchy set under the NPS-FM, as to why it would not be practicable to avoid the impact arising from removal of these wetlands.

571 The advice received in the Applicant's response to this aspect of the RFI was as follows:[140]

a. Clause 3.22 of the NPS-FM refers to functional or operational need, and the definition of operational need is less restrictive than the definition of functional need -recognising that while an activity could technically occur elsewhere, there may be logistical or business reasons why it needs to occur in a particular

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[138] As if the Panel were a regional council for the purpose of this clause, refer clause 17(6) of Schedule 5 to the Act.

[139] SAR at [8.3.2]

[140] Taharoa Ironsands Limited Response to the Panel's RFI dated 23 July 2026 at page 57

location.

b. In this case, inherent in the function and operation of the mine is the need to efficiently maximise extraction of the available resource, which is recognised as regionally significant in the proposed Waitomo District Plan.

c. Additionally, the iron sand resource on the Site in raw form is differentiated by quality or grade, and the area of the Site containing the wetlands contains high grade raw material not found everywhere throughout the Site.

d. Operationally, the mining activity needs to access high grade material because it is more efficient to process high grade material into exportable product, and the ratio of exportable product recovered from high grade material is greater than for lower grade material.

e. Operationally, there is no alternative mining method available to access the iron sand resource other than "top down" mining beginning at the ground surface.

f. While from a purely academic/technical point of view it might be possible to avoid the wetlands in question by not mining in that part of the Site, the reality is that the wetlands that are sought to be destroyed/ disturbed are underlain by ironsand resource and have in some instances been induced by the adjacent presence of tailings material produced by mining.

572 At the PFC, the Panel asked what drilling or testing of the sand resource in the southern area had been completed to support this assessment, and we were advised by the Applicant that indicative drilling shows that the sand beneath the wetlands being removed is of good quality with further drilling currently being commissioned to confirm the quality of that resource. Further, that an updated geological model incorporating 2015 drilling data shows high grade resource in the tailing deposits in this area.

573 The Applicant's RFI response regarding the extent to which buffer widths (greater than proposed by the Applicant) would reduce potential revenue from the mine, advised that the Applicant is currently undertaking a comprehensive drilling programme in the Central and Southern blocks, including independent laboratory analysis of drilling samples. The data previously available measured the Southern Block resource to limited depths only, not to the basement, and relied on straight-line assumptions that do not reflect the actual distribution of the resource.

574 The information in the RFI response (regarding NPS-FM clause 3.22) that the area of the Site containing the wetlands contains high grade raw material, must necessarily be qualified to that extent. That said, additional information quantifying the loss in yield associated with a loss of access to the sand resource across a range of potential buffer areas was supplied in graphic form in Appendix F to the Applicant's PFC RFI response filed on 1 October.

575 The Panel therefore finds that the requirements of clause 3.22 are met on the basis of the information that is available to it. In particular, the Panel is satisfied that:

a. Wetland removal ('the activity" for the purpose of clause 3.22) is necessary to enable extraction of minerals (sand) located underneath those wetlands;

b. The extraction of sand in the southern area will at least contribute to the significant regional or national benefits of the overall mining operation, particularly given the (currently assessed) high grade quality of the sand in this specific location;

c. There is a functional or operational need for the activity to be done in the location

of the wetlands (noting the Panel's further reasoning and findings below in this respect); and

d. The effects of the activity will be managed through applying the effects management hierarchy.

576 In terms of point (c) above, the Panel is aware of case law confirming with reference to the definitions of both functional and operational need in the NPS-FM, that an "environment" centred assessment (rather than a more forensic specific location enquiry) is intended.

577 Specifically, as the High Court stated in *Poutama Kaitiaki Charitable Trust v Taranaki Regional Council* [2022] NZHC 629:

> [52] In both the Ministry for the Environment recommendations report and *Te Rūnanga o Ngāti Awa*, the focus was on the location of a particular activity. In the case of cl 3.22(1)(b)(iii) of the Policy Statement, it is of course correct that the functional need for the specified infrastructure can only be "in that location". But what is meant by "that location"?
>
> [53] One answer might be to say that the "location" contemplated by cl 3.22(1)(b)(iii) is the "natural inland wetland", reflecting the opening words of cl 3.22(1). *But this view overlooks the broader focus in the definition of "functional need". That focus is not on a particular location, but the need for an activity to locate in a "particular environment*".

578 In line with that decision, our understanding is that the Panel need not necessarily be satisfied that there is a functional or operational need for mining of sand to take place in the southern area of the overall Site specifically, but instead more broadly within the environment within which the overall Site (and proven mineral resource) is located.

579 This "particular environment" (rather than specific location) approach of the High Court in *Poutama* was cited and seemingly adopted by the Environment Court in *CJ Industries Limited v Tasman District Council ([2025] NZEnvC 213)* dealing with an aggregates quarry, in finding that there was a functional and operational need for the proposed activity to occur at the Site, as that is where the aggregate is located.

580 As to the effects management hierarchy, we refer back to the advice in the 6-7 July JWS regarding the offset proposal that, given the irreplaceable nature of seepage wetlands, the proposal should be considered more in the nature of a compensation, rather than offset initiative. For the reasons just outlined, we do not consider it to be "practicable" to avoid the adverse effects of wetland removal, so we now consider the proposed measures to remedy, mitigate, offset or compensate for the effects involved.

581 In the PFC RFI, the Panel directed the ecology and mātauranga experts to confer and propose specific conditions based on the agreements recorded at paragraphs 40 and 44 of the JWS dated 6-7 July 2026, being as summarised at paragraph [458(h) and (i)] above.

582 In its interim response filed on 8 September, the Applicant proposed a substantially revised conditions framework for the offset wetland to be included within Conditions 3 and 4 of Permit AUTH142035.16.01, along with further amendments to the NIWBMP as referred to in those revised conditions.

583 The Applicant's interim response (Appendix A) includes a detailed assessment from Mr Dean and Mr Eccles of how this revised condition framework (alongside the NIWBMP amendments) addresses each aspect of paragraphs 40 and 44 of the 6-7 July Ecology JWS, or where not responded to directly, gives reasons for that.

584 The basic structure of revised Conditions 3 and 4 (for Permit AUTH142035.16.01) as proposed by the Applicant on 8 September, is as follows:

a. A new Table 1 that sets the specific offset /compensation area requirements for each type of wetland being removed (shallow water, raup≈ç and seepage wetland) that must be achieved through the offset, summing to the original 8.3 ha proposal for the 4.25 ha of wetland being removed.

b. Progress targets in the table for each of the specific offset areas for each wetland type being removed, including the degree of indigenous/vegetation cover that must be achieved within specific periods of wetland removal.

c. An express requirement for the 30 m buffer around the offset and compensation site for 90% indigenous cover to be achieved within five years of any wetland destruction.

585 The interim response also advises that the proposed offset and compensation area has been verified applying the BOAM model, which confirms that it will achieve the desired outcomes for those wetlands being offset/compensated for.

586 The principal issue where revised conditions were not proposed by the Applicant in response to the 6-7 July Ecology JWS relates to parts of paragraph 44 of that JWS, advising that the mātauranga experts considered a Cultural Monitoring Plan was required incorporating mātauranga Māori indicators and providing for ongoing cultural monitoring, Marae participation and governance involvement throughout implementation, rehabilitation and long-term management to recognise and respond to effects on cultural values and relationships with wetlands.[141]

587 The interim response records that the proposed conditions of consent already provide for ongoing engagement with mana whenua in the development of the EMP including the NIWBMP, along with a range of other opportunities in the consent conditions for mana whenua participation and involvement including receipt of annual monitoring reports.

588 In the Ecology JWS prepared in response to the Panel's PFC RFI on this topic, the ecologists record that they agree that the revised Conditions (3 and 4 of AUTH142035.16.01) provide the necessary detail of the wetland offset and compensation that had been agreed in the earlier conferencing and JWS, including detail of interim targets that must be achieved under those conditions.

589 They nevertheless proposed revision to include a dominance of wetland plant species as opposed to simply indigenous vegetation for the interim targets, for the compensation of loss of seepage wetlands.[142]

590 The Ecology JWS notes that the Applicant's proposed revised conditions refer to contingency measures by reference to the revised NIWBMP (which sets out those contingency measures in the version received on 8 September), but advise that they consider that these specific measures should be specified in the consent conditions themselves.[143]

591 The JWS further records that all of the ecology and mātauranga experts are agreed that three additional clauses (as set out in Annexure C to the JWS) need to be included

[141] Ecology JWS dated 6-7 July at [44 d-e]

[142] Ecology JWS dated 21 September at [29 and 32]

[143] Ecology JWS dated 21 September at [33]

to condition timing and offset and compensation design.[144]

592 In its final response (Appendix A as received on 1 October), Mr Eccles records that it is unclear why the content of Annexure C to the PFC RFI JWS on this topic had been included given the Applicant's proposed conditions already provide the necessary detail, particularly as to the area and type of each wetland being removed, and the spatial requirements for the offset in relation to that wetland type. Having compared the proposed revised conditions put forward by the Applicant on this issue with Annexure C, the Panel agrees with that assessment by Mr Eccles.

593 However, Mr Eccles acknowledges that further amendments are needed to reflect the Ecology JWS, namely:

a. As noted above to refer to "wetland plant species" rather than just indigenous vegetation within the progress targets.

b. To set the contingency measures (as had been included within the revised NIWBMP) directly within revised Condition 4.

594 Appendix A to the 1 October response also records a further amendment to respond to paragraph 31 of the Ecology JWS involving the earthworks specifications required to create the necessary contours for the offset and compensation site, and the need for 12 months of baseline hydrology monitoring post-earthworks, again directly within the consent conditions (rather than under the NIWBMP).

595 The Applicant's final proposed revised Conditions 3 and 4 (for Permit AUTH142035.16.01) address these additional points raised in the Ecology JWS.

596 In addition, that version of conditions requires works to establish the new wetland habitat to commence no later than six years prior to the destruction of any wetland that is being removed (consistent with paragraph 40(b) of the 6-7 July JWS).

597 Overall, the Panel finds that the Applicant's response substantially addresses the range of concerns originally raised regarding the offset proposal in the s 53 comments in the manner agreed in the initial round of conferencing on that proposal, including for the reasons set out in Appendix A to the Applicant's 1 October response and Appendix A to its 8 September response.

598 The one exception to that relates to the mana whenua commenting parties request (through the mātauranga experts) for a specific Cultural Monitoring Plan.

599 The Panel considers that a further amendment to Condition 16 of Schedule 1 is necessary to address that aspect of the JWS, whereby the NIWBMP must include mātauranga Māori and cultural health indicators and provide for ongoing cultural monitoring for the offset/compensation site, with this section of the NIWBMP to be prepared through retaining independent expert advice from an appropriately qualified and experienced mātauranga expert in those matters.

600 The Panel considers that this would adopt the advice from Ms Passau and Mr King as recorded in the Ecology JWS on this PFC RFI topic, that a suitability qualified and mandated mātauranga expert should be involved in the development, implementation, interpretation and review of the monitoring programmes, for the offset wetland in

[144] Ecology JWS dated 21 September at [30]

particular.[145]

601 Finally, the Panel has made a consequential amendment to proposed Condition 16(c) to refer to the management actions for the offset wetland being in accordance with Condition 3-5 of Permit AUTH142035.16.01 (rather than simply referring to the original 8.3 ha requirement of that permit), and to delete the words "as far as reasonably practicable" from condition 3 so that wetlands establishment works commerce at least 6 years prior to wetland removal, as agreed in conferencing.

602 One further contingency matter recorded within paragraph 40 of the 6-7 July Ecology JWS that the Panel notes at this point relates to the need to address the situation where lake levels might be too low for augmentation water to be taken.

603 Appendix A to the Applicant's 1 October response (and 8 September response) notes that the issue of water availability for augmentation is responded to separately within that Appendix on a different RFI topic (relating to the water balance model as addressed previously under the Hydrology topic in this part of the decision).

604 As noted in the Panel's findings on that topic, the Panel does not consider there to be a serious prospect of a lack of availability of water for augmentation of potentially groundwater affected wetlands (nor indeed for the Mitiwai Stream), noting the advice in Appendix A on the water balance model topic that, an augmentation requirement of 10 mm per day (approximately twice the peak summer evaporation demand) would result in a daily augmentation requirement equivalent to 4.9% of the Applicant's maximum operating use water take daily limit, considered to be a conservative estimate whereby all 13.42 ha of potentially affected wetlands would require augmentation supply at the same time.

605 Having found the exception in clause 3.22 applies (including with reference to this conditions framework for the offset/compensation wetland) , we now turn to the merits (or otherwise) of the proposed wetland removal.

606 First, we bear in mind the context whereby that of the seven wetlands being removed, at least five of them are on previously mined landforms and have been affected or induced by previous mining activities.[146] Further, as recorded in the Applicant's response to comments, of the three "true" seepages i.e. wetlands 5, 6 and 15 in Appendix K, two have formed as a result of large scale topographical change during previous mining and are likely fed by water percolating through from the adjacent tailings dam, with the JWS recording a consensus of expert opinion that the wetlands proposed to be removed are degraded habitat with modified hydrology (as also set out above) .

607 We are also conscious of the fact that there is a reasonably wide range of higher value wetlands types including those on the edges of Lake Taharoa and the Wainui Stream that would be retained on the Site (alongside the offset site), and protected (with adverse effects managed) in the various ways described previously in this part of the decision.

608 While the magnitude and level of effects involved is assessed as Very High/High in Appendix K, having regard to the consensus of expert opinion in the JWS (and from subsequent conferencing after the PFC), we find that subject to the range of conditions the experts recommend for our approval, the offset and compensation proposal has merit and would deliver tangible and meaningful benefits, with a reasonable degree of

[145] Ecology JWS dated 21 September at [47]

[146] Applicant's RFI response, page 45, as noted above in this decision.

certainty that those benefits would be achieved and secured in perpetuity.

609 Finally, at the PFC, all experts confirmed that they continue to see merit in the "offset" proposal despite their agreement that the loss of seepage wetlands cannot be offset, such that this measure to address the effects of removal of the southern wetlands should be considered more in the nature of a compensation proposal.

Panel Finding: Removal of Wetlands- Offset Proposal

610 For all of these reasons, the Panel finds that the proposed removal of 4.25 ha of moderate value wetlands can (in terms of clause 3.22 of the NPS-FM) and should be approved, subject to the conditions for the offset and compensation proposal as recommended to us by the consensus of expert opinion expressed in the JWS on this topic, and through the Applicant's response as filed on 1 October, subject to the amendments to the conditions as summarised above.

Buffer Width – Riparian Margins

611 The next issue we consider within this overall topic of wetland and terrestrial ecology relates to buffer width, noting the range of comments on this issue as summarised above regarding the Applicant's proposal that a 30 m buffer width be applied for all riparian margins, ie for both wetlands and streams.

612 Given that the buffer width issue relates to both wetlands and streams we address the issue in both contexts here, with Freshwater Ecology as relates to streams more generally addressed later in this decision.

613 The Panel has received and considered a range of expert opinion in support of both the Applicant's position that a 30 m riparian buffer width is appropriate and effective, and in support of requests in the section 53 comments for a wider buffer for wetlands and streams to serve a range of functions (ecological and hydrological), as summarised above in this part of the decision.

614 In addition to those comments, Te Nehenehenui, the Roy Wetini WT and Ngaati Mahuta sought a minimum 100 m setback from the Mitiwai Stream specifically, which we address now under this topic (rather than Freshwater Ecology, as otherwise covered later in this decision). The Roy Wetini WT did however acknowledge that as significant works have already taken place within this area, this condition would no longer achieve the same degree of protection to the stream. Their comments sought reinstatement of the ridgeline as addressed later in this decision (Part E - Air Quality).

615 There was also a range of expert opinion as to the appropriate setback for the offset/compensation wetland site expressed in the JWS of 6 July.

616 This issue was canvassed at the PFC.

617 The Panel understood all of the experts (i.e. for both the Applicant and all commenting parties) to be of the view that "more is better" when it comes to buffers, with (for example) Ms Morrison preferring a 100 m setback ("if she had to put a number on it"), while Dr Beard advised that she could not say what width would be the minimum necessary for the range of purposes served by riparian buffers. This opinion is consistent with the Department of Conservation's comments as set out above, that a 'one size fits all' approach is not appropriate for the Site.

618 Mr Burns explained that buffers are important for bittern especially in terms of protecting breeding habitat (addressing issues of noise, lighting and vibration), as potentially provided by the raupō wetlands (such as the Rototapu and Lake Piopio

wetland areas).

619 Mr Dean acknowledged that "bigger is better" but considered that a 30 m setback would provide benefits in terms of sediment and nutrient management and providing habitats for aquatic insects etc, but also noting that a 10-20 m setback is usual for protecting ecological functioning. It was pointed out that a number of the buffer areas in the north eastern segment of the Southern Block are adjacent to cultural reserves which serve an additional buffer function in practical terms (referring to Figure 5 in Appendix K to illustrate this). In terms of protecting fauna species, Mr Dean stated that buffer *planting* including attention to the range of species (height/density) with performance requirements on canopy cover, can be as or more important than buffer *width*. We return to that point later in this decision in dealing with effects on bats specifically.

620 Mr King and Ms Passau explained that, from a mātauranga perspective, buffers were important for protecting both vegetation and taonga fish and bird species. Ms Passau raised concerns about the effects of lighting at night on taonga species, particularly (the Panel understood) pekapeka (bats) predating on moths and insects, and on the navigation of those moths and insects themselves. Noise impacts on taonga species were also said to be of concern.

621 We are also conscious of the information presented in the Applicant's RFI response (as touched on above in relation to the wetland removal issue) advising that sand material around perennial water bodies and Natural Inland Wetlands contains significant deposits of high-grade sands. The greater return from this high-grade material offsets fixed costs (including the need to strip overburden to access the sand at greater depth). In essence, access to the higher-grade sand is important to overall mine viability and delivery of the economic and social benefits enabled by those activities.

622 Discussing that issue further at the PFC, representatives for the Applicant explained that much of the high-grade sand had previously been mined and so continued mining operations rely on removal of a clay layer to get to the remaining deposit. Also, that drilling to the south of the Mitiwai Stream in 2020 confirmed that some of the best sand is located next to that stream.

623 The Applicant's representatives did not know why, in geological terms, higher grade sand is located next to streams.

624 Further conferencing on the buffer issue took place in response to the PFC RFI, noting that in relation to the offset wetland site, and as summarised above, a range of opinion had been expressed as to how wide the planted buffer needed to be for the offset site.[147]

625 This range included the 30 m planted buffer requirement advanced by the Applicant's ecologists, a 100 m planted buffer preferred by the mātauranga experts, and a "hybrid" approach involving a 30 m planted buffer with an additional unplanted 70 m setback which appeared to be accepted by Dr Beard, Dr Maseyk, Ms Morrison and the mātauranga experts.[148]

626 In the JWS responding to the PFC RFI on this topic, the following positions are

[147] Ecology JWS dated 6-7 July at [40c]

[148] Ecology JWS dated 6-7 July at [40c ii and iii]

recorded:[149]

a. All of the experts (ecology and mātauranga) agree that a proposed conditions framework set out in Annexure B to that document for wetland and riparian planted buffers should be captured in conditions, with the experts noting that those aspects may already be captured in the latest version provided by the Applicant.

b. Dr Maseyk, Dr Beard, Ms Morrison and the Applicant's ecologists agree that 30 m for the planted buffer would be appropriate, while the mātauranga experts (and Ms Morrison) are recorded as agreeing with the 30 m planted buffer, provided that a 70 m unplanted setback is also provided for.

c. Alongside that, Dr Beard, Dr Maseyk, Ms Morrison and the mātauranga experts agreed that an unplanted setback of 70 m adjacent to the planted buffer would be appropriate, with Mr King and Ms Passau previously having noted that a 100 m planted buffer would be preferrable - but now agree to a 70 m unplanted setback.

627 In its final response on this topic (Appendix A as filed on 1 October) Mr Eccles reiterates the Applicant's position that a 30 m planted buffer is sufficient to manage the adverse ecological effects of mining operations on freshwater bodies and wetlands. It is further noted that no evidence has been presented by the ecologists for other parties to suggest that a larger buffer or additional setback is necessary or appropriate, or that the 30 m setback already required under the Applicant's existing resource consents is ineffective.

628 The response also notes that each of the matters covered in Annexure B to the JWS on this PFC RFI topic is already provided for in proposed conditions, aspects of which go further than as set out in Annexure B, in terms of the specific requirements for planted riparian buffers.

629 Dealing with the requested 100 m buffer for the Mitiwai Stream specifically, this had been requested by Te Nehenehenui and Ngaati Mahuta in comments addressing hydrology related effects on the stream, albeit referring to the ecological and cultural significance of the stream. However, at the PFC it became clear that the principal concern stemmed from the profound cultural significance of the Mitiwai Stream to mana whenua, referred to by Ms Passau as Ngaati Mahuta’s whakapapa taonga wai. Ms Passau advised that the Mitiwai Stream is now “paru” and cannot be sourced for kai, affecting the mana of mana whenua, and the basis of mana whenua identity.

630 Conversely the Applicant’s representatives advised (as recorded in the RFI response) that no seepage of groundwater from the Mitiwai Stream had been observed including through recent operations at the northern edge of the central block and pointed to the minor reduction in flow in the Mitiwai Stream from groundwater drawdown, as predicted in the modelling. The Applicant’s letter dated 17 September 2026 filed with its PFC RFI response (Appendix D) underscores this point.

631 Indeed, as a general point we understand that the buffers are not intended to serve hydrology related functions . As the Applicant’s response to comments (as set out above) explains, buffers are not intended to help with maintaining wetland hydrology during mining, but instead focussed on limiting physical disturbance runoff, weed invasion and fauna disturbance.

632 Other evidence, information and factors informing our findings on this issue include

[149] Ecology JWS dated 21 September at [22-27]

that, as the Applicant also explained at the PFC, mining activities do not necessarily occur right next to the edge of the buffer (however wide), given the safe face angle of the mining pit that needs to be maintained (eg <30°), such that as mining progresses to greater depths, the activity actually takes place further away from the waterbody than the setback requires. Appendix F to the Applicant's PFC RFI response filed on 1 October contained information presented with cross sections across the pit area currently being mined (to the south of the Mitiwai Stream), showing just how much of the high value sand resource would be effectively "sterilised" (or lost from production) as a result of a 100 m setback from the Mitiwai Stream, in combination with this requirement for a safe face angle in the mine pit. The impact is quantified in terms of resource lost and the yield at stake, as summarised in Appendix A to the 1 October response.

633 Furthermore, as the information in the Applicant's response to comments set out above records, the issue is not just buffer width but the range of requirements and management measures needing to be established and maintained within the buffer including planting, weed and predator pest control programmes. The overall conditions framework for planting, pest and weed control in the riparian buffer areas, as supplemented by the NIWBMP and the specific measures for the offset/compensation site as recommended by the experts, is considered to be robust in that respect, subject to the revised conditions included with this decision, as addressed under the following topic -Terrestrial Ecology-Fauna.

634 Finally, we bear in mind (and accept) the Applicant's submissions (including in reply) to the effect that conditions must be reasonable, and no more onerous than necessary (as required by section 83 of the Act).

635 We are less convinced regarding the Applicant's submissions that issues of viability/ workability should inform our deliberations and findings on the necessary buffer width to serve ecological and cultural functions and purposes. We invited further submissions from the Applicant on this specific point in the context of the water intake fish screen mesh size, as addressed in the following section of this decision. Simply put, if a given buffer width is found to be necessary for these purposes, a condition requiring that buffer width would not be "more onerous than necessary". The Applicant's submissions conflate that issue with broader considerations regarding benefits and the overall purpose of the Act, as addressed below in response to these submissions on the fish screening issue, in relation to Freshwater Ecology topic.

636 On the other hand, we accept that a greater buffer width would have an impact on the extent to which the overall mining activities sought to be approved under the application can deliver significant regional and national benefits, or even be viable (for example, having regard to the information in Attachment B to the Applicant's response to comments, which emphasise (and quantify) the specific impact in terms of lost revenue and royalties of a 100m buffer on the Mitiwai Stream, albeit with 19% of that impact on an assumed loss of access to the area to the north of the Mitiwai Stream) .

637 In short, while "more" might always be preferrable or better (as the experts agreed), we must therefore arrive at a buffer width that is considered necessary (and no more onerous than necessary) to address the reasons for which the proposed buffers are being established, protected and maintained. In doing so, the purpose of the Act is better achieved, by minimising the impact of the condition requirement on delivery of regional and national benefits from proposed mining activities.

Panel Findings: Buffer Width - Riparian Margins

638 In this context, having regard to the range of expert opinions and other information

presented on this topic, and in the absence of definitive evidence that a wider buffer of specific dimensions is needed to serve its specific functions, we find that a 30 m buffer width for all riparian area (wetlands and streams) should be imposed including for the offset site, subject to the other requirements of conditions and the proposed management plans relating to the establishment of planting, weed pest and predator control.

639 We note in this respect that the specific case for a 70 m unplanted buffer adjacent to the 30 m planted buffer (as supported in the opinion of some of the experts as recorded in the PFC RFI JWS on this topic) is largely unsubstantiated - that is the Panel has not been provided with any definitive ecological or empirical evidence to substantiate the case for an additional 70 m unplanted buffer as providing any specific additionality or benefit in overall ecological terms.

640 There may be a "cultural" case for that in mātauranga terms having regard to the information that Mr King and Ms Passau shared at the PFC. However, the Panel finds that the issues of concern to Mr King and Ms Passau in that context (for example about the effects of lighting at night on taonga species, or on bats predating on moths and insects) can be addressed through ensuring the specific management plan requirements for the planted buffer areas themselves are robust.

641 As addressed further below in the Terrestrial Ecology - Fauna section of this part of the decision, additional condition wording has been included to supplement those proposed by the Applicant to ensure that the buffer planting and overall ecological management requirements capture all aspects of mitigation on taonga fauna species as recommended in Appendices K and M.

642 The Panel otherwise agrees that the proposed consent conditions cover the requirements of Annexure B to the Ecology JWS, at least with reference to the content of the revised NIWBMP submitted on 8 September (and since updated in the Applicant's final reply of 2 November), whereby specific details are set out for planting mixes, plant monitoring and targets for percentage plant cover in riparian margins. This is another reason why this specific version of the NIWBMP must be referenced in the consent conditions, again as noted above.

643 We also record that, were it not for the fact that mining activities are already taking place within 100 m of the Mitiwai Stream (as observed during our site visits), we may well have found it to be necessary to impose a 100 m setback from the southern boundary of the Mitiwai Stream from a cultural perspective (i.e. to recognise and provide for the significant cultural relationships of mana whenua with that stream under section 6(e) of the RMA).

644 On the other hand, as noted above for riparian margins more generally, it is unclear to the Panel that an additional 70 metres of buffer in the lower reaches of the Mitiwai Stream (only) would be practicable or provide significant relief for cultural impact. We consider that a 30-metre buffer on the southern side of all reaches of the Mitiwai Stream, with managed planting and removal of livestock, will significantly improve the health and mauri of the wai.

645 Beyond that, the reality is that that horse has essentially bolted, as acknowledged by the Roy Wetini Whaanau Trust's comments noted above. The ridgeline to the south of the Mitiwai Stream is progressively being removed and works within 100m of the

stream will be completed in the current stage of mining activity.[150] . Our focus is therefore on the reinstatement of the ridgeline removed by mining activities in that location, and on the width and requirements for the Priority Stabilisation Area as addressed in a later section of this decision (dealing with rehabilitation and air quality).

646 To some or even a large extent, effective reinstatement, stabilisation and ultimately rehabilitation within the PSA following completion of mining in this location, would serve a similar purpose as the 100 m setback sought by Te Nehenehenui and Ngaati Mahuta, albeit for future rather than current purposes.

Fencing/ Feral Pest Animals/ Fencing of Riparian Buffers

647 This leads us to the related issue of whether a specific requirement that all riparian buffers areas (streams and wetlands) be fenced should be imposed, to exclude any potential stock or grazing animals (cattle, pigs, deer, horses), for example as sought by WRC.

648 In this context, the Panel sets out its rationale for a question in the RFI regarding fencing and pest control which frames the issues of relevance on this point.

> The recommended mitigation in Appendix K (Table 15) includes a plan to plant buffers around retained wetlands, along with a maintenance and weed control programme and "*other measures as outlined in the fauna report*".
>
> The fauna report in Appendix M recommends animal pest management for protection of bats and avifauna, including within riparian margins and wetlands (sections 5.1 and 5.2). The draft Natural Inland Wetland and Buffer Management Plan (NIWBMP) as lodged with the Substantive Application refers to fencing of wetland and stream buffers to exclude livestock and feral animals such as pigs (section 5.2) and contains detailed pest animal control measures (section 7).
>
> However, in Attachment B to the Applicant's response to comments in relation to planning, it is stated that fencing of wetlands and planted riparian setback areas against wandering third party stock would generate substantial upfront cost, and that it is not uncommon for fences at the site to be overwhelmed by windblown sand within 12-24 months of establishment (refer page 6).
>
> On the other hand, Attachment H of the Applicant's response to comments in relation to Fauna and Wetlands (page 8) advises that in principle, stock exclusion and buffer planting are an effective management tool for protecting and enabling restoration of habitats (noting the issue and questions above about the adequacy of the 30 m setback, said in part by the authors of Attachment H to be appropriate given proposed restoration and predator control).
>
> The Panel notes that the amended NIWBMP (Attachment Q to the applicant's response to comments) no longer proposes fencing including for wetlands, streams generally, instead just for the proposed offsetting area.
>
> Section 5.2 of the revised NIWBMP states that "plantings and natural wetlands cannot thrive in the presence of grazing animals".

649 In essence, the conundrum the Panel is presented with is that, on the one hand, fencing is an effective measure to ensure that the benefits of the 30 m buffers are delivered (with riparian plantings otherwise damaged or even destroyed by grazing animals), but, on the other hand, fencing has previously proven unworkable, particularly in parts of the Site that are most exposed to wind, such that the fences become overwhelmed by sand within 12-24 months of being constructed. In future the mass movement of surface sand should be significantly reduced by stabilisation and

[150] Refer Mine Staging Plan included with Appendix N of the Substantive Application, NTAA Pit shown as current.

rehabilitation measures imposed to address offsite dust (refer Part E Air Quality).

650 As recorded in the immediately previous section of this decision regarding buffer width, the Panel's findings on the width necessary (and no more so) to serve ecological and related functions are predicated on effective establishment and maintenance of the riparian plantings and other measures required by consent conditions, to ensure the benefits of those riparian buffer areas are delivered.

651 Indeed, the Applicant's response to comments on this issue (as set out above) is equally predicated on the point that together with buffer planting, broader fauna management measures, habitat restoration and a comprehensive predator control programme, the 30 m buffer setback is considered appropriate to manage the adverse effects of mining activities on wetland birds.

652 Those measures (buffer planting in particular) would be undermined if grazing animals are able to access the riparian areas, and all of the experts at the PFC appeared to be agreed on that point. Both Dr Beard and Mr Dean referred to keeping stock out of the riparian buffers as being essential to their effective functioning.

653 That said, the impression gained by the Panel at the PFC on this issue is that the key performance requirement is not necessarily that the riparian areas be fenced, but that grazing animals be excluded from them.

654 The Applicant's representatives at the PFC explained the significant problem caused by trespassing animals (horses and cows). It was also explained that there had been various attempts over the years to try and address this issue including fencing of urupaa sites, mustering of animals, liaison with adjacent property owners, and consideration of culling of trespassing or feral animals still found on the Site despite all of these measures. The Panel notes that we observed quite a large number of horses and cattle present on the Site during our site visits.

655 Ms Edwards (representing Taharoa C) also noted that there had been many efforts made over the years of this kind, but the problem remains.

656 In response to questions, both the Applicant and Mr King advised that culling of *trespassing or feral animals on the Site should be a last resort.*

Panel Finding: Fencing/Exclusion Feral Animals from Riparian Buffers

657 Based on this information, including the expert opinion that exclusion of grazing animals from the riparian areas is necessary if they are to serve their intended ecological functions, the Panel finds that rather than requiring fencing specifically, a performance requirement should be set that grazing animals (including cattle, pigs, deer and horses) must be excluded from the riparian areas, with the measures for implementing that requirement to be addressed in the NIWBMP as certified by WRC.

658 The Panel has amended condition 16 of Schedule 1 to set that performance requirement. The Panel notes that fencing of the wetland offset/compensation site is expressly required in the draft NIWBMP (version submitted as Attachment Q to the Applicant's response to comments).

Effects on Terrestrial Ecology (other than Fauna)

659 Finally on this broader topic (wetland and terrestrial vegetation), we turn to the extent and management of effects of proposed mining activities on terrestrial vegetation more generally (i.e. outside of wetlands and riparian areas).

660 Effects on terrestrial fauna are addressed in the following section of this decision.

661 As noted earlier in this part of the decision, the majority of the Site is sparsely vegetated or bare sand (referred to as type 17 in Appendix K), with that 'vegetation' category covering some 380 ha of the Site.

662 The ecological value of terrestrial habitats is assessed in Appendix K as ranging from Moderate to Low (refer Table 10), with the exception of the Active and Stable Dune systems (rated as Very High and High respectively).

663 As also noted above, Appendix K records that a total of 463 ha of terrestrial vegetation having Negligible habitat value would be removed along with 344 ha of habitat having Moderate value (section 6.2.1).

664 The Active and Stable Dune areas would be protected by the proposed 100 m buffer from MHWS, with the Applicant confirming in response to a question put in the Panel's RFI, that none of the Active Dune system extends beyond the 100 m buffer.

665 The Panel received no section 53 comments on terrestrial vegetation specifically (comments on faunal species for which that vegetation provide habitat are addressed in the following section of this decision).

666 We accept the opinion expressed in Appendix K that the overall magnitude effect of removal of terrestrial vegetation (excluding wetlands) is Moderate, noting that upon closure the mine would be progressively rehabilitated into a mix of indigenous land cover and productive land use, which would result in a long-term net benefit (section 6.2.1).

Terrestrial Ecology – Fauna

667 Appendix M addresses the potential effects of the continuation and proposed expansion of the mining activities within the Central and Southern blocks on the faunal values of bats, avifauna, herpetofauna (lizards) and terrestrial arthropods (katipō spiders in particular).

668 This includes effects associated with vegetation and habitat (including wetland) removal or clearance including harvesting of areas of pine forest; lighting, noise and vibration effects on birds and bats in particular, and alterations to the hydrology of wetland bird habitat areas.

669 Appendix M also assesses ecological values and effects in accordance with the EIANZ Guidelines, adopting the same basic methodology and rating approach as Appendix K.

670 As with the Wetlands and Vegetation assessment in Appendix K , the assessment in this report was informed by a combination of both field surveys and review of aerial imagery.

671 The field surveys were all undertaken in 2021, and included:

a. A bioacoustics survey for bats over the summer period using Automated Bat Monitors (**ABM**) deployed at 10 locations across the Site.

b. A combination of 5 minute bird count and 'dawn and dusk' call backs covering a range of habitats on the Site such as wetlands, grasslands and the coastal margin.

c. Deployment of Artificial Cover Objects (**ACO**) at 20 locations across the Site considered suitable for native skinks including pine slash piles, back dune vegetation and forest edges, with the Panel noting however that the ACO sites were principally located in and around the perimeter of the Central and northern part of the Southern blocks.

d. Manual hand searches of areas potentially offering suitable habitat for native

katipō spiders (in similar locations to the lizard ACOs).

672 Appendix M notes that no new surveys had been conducted since 2021, but that recent aerial imagery had been reviewed through which it was determined that the overall character of the Site and ecological features had not changed since the survey work was completed.

673 The Panel requested further information on whether the existing environment as it is now might be different to that in the 2021 surveys, and (given the cryptic nature of the faunal species involved) whether increases or decreases in the surveyed species might have occurred, but this would not be detectable on the aerial imagery.

674 Questions were also asked about the 'existing environment' assumptions in the report, particularly the assumption that rehabilitated areas would be similar to unmined or previously rehabilitated areas, but nevertheless likely to provide habitats as determined in the ecological surveys completed in 2021 (i.e. prior to such rehabilitation).

Survey Results

675 Long tailed bats were located at six of the 10 ABM sites, with recordings (ie bat detections) being most frequent at sites located adjacent to remnant stands of pine trees.

676 A total of 46 bird species were identified through the avifauna surveys of which two species are Nationally Critical (Australian bittern and Grey duck), one species is Nationally Vulnerable (Caspian tern), five are At-Risk Declining (including Fernbird and New Zealand pipit) and three are At-Risk Recovering.

677 No native or invasive skinks were identified nor any katipō.

678 Appendix M states that although it is impossible to be certain of the absence of either katipō of lizards at the Site, the findings *indicate* they are likely to be only present in low densities.

679 The report advises that given several of the surveyed habitats namely wetlands, lake margins, stream margins and pine plantation forest support a local population of bats that frequently utilise these areas within the Site boundary, the ecological value of those parts of the Site was assessed as being Very High.

680 Similarly, the dune, wetland and grassland areas providing habitat for (and including) Australian bittern, New Zealand pipit and New Zealand dotterel were assessed as having Very High ecological value.

Adverse Effects on Fauna

681 Appendix M assessed the level of potential effects on bats associated with habitat loss and disturbance, lighting, noise and vibration as being High, prior to mitigation.

682 While noting the proposed removal of plantation pines on the eastern edge of the Southern block, the report states that pines likely only form part of the foraging habitat available to bats, with the nearby wetlands, lake margins, streams and native forest edges all providing suitable habitat. The report nevertheless advises that there may be effective bat foraging and roosting habitat within the stand of pine forest that is proposed to be harvested.

683 The report therefore recommends that pine forest is removed in stages rather than felled in one harvest, or a buffer of pine forest is retained to maintain foraging habitats as long as possible. In addition, because indigenous tree species can take a long time

to become potential roost trees, replanting of fast-growing exotic species in adjacent areas not to be mined is also recommended, to shorten the time lag between habitat loss and new foraging and roosting habitat becoming available.

684 In its request for information, the Panel noted that these recommendations did not all appear to be adopted in the draft NIWBMP or the Applicant's proposed conditions and requested that this be remedied.

685 Appendix K advised that established Bat Roost Protocols should be adopted during removal of the plantation pine forest, to minimise the risk to any roosting bats during tree felling. A requirement to adhere to the Department of Conservation Bat Roost Protocols is included within condition 14 of the proposed conditions for the harvesting consent (AUTH142035.17.01). The conditions of this permit as proposed by the Applicant also adopt the further mitigation recommended in Appendix M to reduce light pollution effects on bats.

686 To mitigate for effects of dust, light and other disturbance to bats more generally, Appendix M recommends an indigenous, fully vegetated buffer within the setbacks around the perimeter of water bodies/wetlands including the planting of large trees such as kahikatea, to provide both foraging and roosting habitat for bats as the restoration area becomes harvested.

687 In its request for information, the Panel noted that while planting of a range of species was proposed within the NIWBMP, there was no mention of kahikatea in the buffer areas and it was unclear to the Panel whether any of the other species would rapidly grow to a significant height as recommended in this section of the fauna assessment report.

688 Animal pest control across the Site is also recommended in Appendix M for bats, including along the edges of neighbouring native forest, riparian margins and wetlands to reduce pressure from mammalian predators, noting that the benefits of pest management would also apply to avifauna and any herpetofauna that may be present. Detailed requirements for animal pest management are included in the draft NIWBMP included with the SAR.

689 The report advises that if these recommended mitigations are implemented, the overall ecological effects on bats would be Low.

690 The level of adverse effects on avifauna associated with grassland/vegetation clearance and wetland removal, along with noise, vibration, and dust, was also assessed as High, prior to mitigation.

691 Appendix M records that the alteration of wetland hydrology could result in additional functional loss in wetland habitat, needing to be managed as recommended in Appendix K, as summarised above.

692 Recommended mitigation measures for avifauna recommended in Appendix M include ensuring the 100 m setback from MHWS and the 30 m setbacks around perennial water bodies are clearly and permanently marked, planted, and subject of comprehensive predator control (presumably as proposed under the conditions of permit AUTH142035.01.01 and the NIWBMP).

693 Additional mitigation is recommended to protect nesting New Zealand dotterels within the coastal dune areas including a prohibition on planned maintenance works inside the CMA between the months of September to January, along with protocols and "best endeavours" to ensure that no nesting birds are present within wetland, grassland and shrubland vegetation to be cleared during peak breeding seasons (of September to January).

694 Again these measures are provided for in proposed consent conditions (for example conditions 31-35 of Schedule 1).

695 However, in its request for further information, the Panel sought clarification and revisions to conditions to better align the recommended mitigation on avifauna in Appendix M with the proposed conditions.

696 The report advises that if the recommended mitigation measures for avifauna are implemented the overall ecological effects on wetland birds, the effects on New Zealand Dotterel, and the effects on grassland birds are all expected to be Low.

697 Adverse effects on herpetofauna and katipō were assessed as being Low and Very Low respectively. No mitigation was proposed for either herpetofauna or katipō.

698 In this part of the decision the Panel focuses on issues raised in comments and in the Panel's RFI in relation to terrestrial fauna, which have not been addressed under the previous topic (Wetlands and Terrestrial Vegetation). This includes terrestrial fauna values and effects for species that utilise wetland habitats generally, grassland bird species (such as New Zealand Pipit), dune habitat species (such as New Zealand Dotterel), bats, lizards and invertebrates.

Section 53 Comments

Waikato Regional Council

699 Waikato Regional Council sought that any works directly within wetlands (including their removal) should only occur outside of the peak wetland bird breeding season, with searches by qualified ecologists undertaken to detect the presence of any wetland birds before works commence at other times (i.e. either side of the peak breeding season).

700 This was sought in preference to proposed condition 31 of Schedule 1 whereby a survey would be undertaken by an experienced ecologist prior to any vegetation clearance within wetland, grassland or shrubland habitats between 1 September and 31 January (understood by the Panel to encompass the breeding season) and if a wetland bird, New Zealand Dotterel or New Zealand Pipit nest containing eggs or chicks is discovered, vegetation clearance would be prohibited within 30 m of the nest until fledgling occurs.

701 In short, the Regional Council sought an effective ban on wetland vegetation removal or disturbance during the peak breeding season, rather than a survey and discovery response approach as proposed by the Applicant.

702 The Regional Council also sought that the proposed 30 m buffer be increased for activities in wetlands outside of the breeding season, particularly for sensitive species such as bittern and crakes.

703 Finally, the Regional Council sought that accidental discovery protocol training for staff be extended beyond just New Zealand Dotterel and Pipit and include all native wetland bird species.

Department of Conservation

704 The Department of Conservation commented on the wetland habitat requirements and preferences of bittern species including the need for clear water in feeding habitats, their mobile foraging habits, and use of reed lands for breeding. Maintaining wetland habitat in high condition- i.e. clear water, dense reed land vegetation with plentiful

food (fish and eels) and relatively stable water levels, is said to be critical for sustaining bittern and allowing reproductive success. These matters have been addressed in the previous section of this decision.

705 As to lizards, the Department commented on the details of the ACO lizard survey method employed by the Applicant's ecologists but agreed with the Applicant that as no lizards were detected, there appears to be a low level of lizards present at the sites that were surveyed. However, it was noted that large areas of the proposed mining Site, particularly at the southern part of the block, were not surveyed for lizards and other methods such as pitfall traps or minnow traps were not used. It was stated that vegetation in the southern area has the potential to harbour lizards, being well connected to more extensive native vegetation and exotic-dominated dune vegetation immediately outside the proposed mining area, potentially allowing lizards to disperse into the proposed mining area.

706 In relation to bats, the comments noted that bats had mainly been recorded in the pine forest and wetland margin areas (based on the Applicant's ecologist's survey results), while no roosts had been found and there is little to no habitat available on the mining Site that would provide suitable bat roost habitat.

707 The Applicant's Bat Roost protocols during harvesting were supported, while noting that bats are particularly sensitive to blue-rich or white LED lights and recommending that stationary lighting be shielded from above so all light is trained downwards, and have a colour temperature of 2,700 K or below.

708 Ngaati Mahuta commented that long tailed bats are a significant taonga and cultural indicator species, and that preservation of the pine plantation and planted buffers is required to maintain habitats for bats and other terrestrial species.

Applicant's Response to Comments

709 The Applicant's response to comments on this topic (Attachment H, as prepared by Dr Mueller and Mr Dean) addressed the Regional Council's comments that works in wetlands should only occur outside the wetland bird breeding season, by advising that the approach of undertaking pre-clearance nest searches during the peak breeding season and retaining a 30 m buffer around any discovered nests (per proposed condition 31 of Schedule 1) is broadly consistent with fauna management practices used across a range of infrastructure projects.

710 The use of accidental discovery protocols outside the breeding season as provided for under condition 32 of Schedule 1 is also said to be a common management practice, and based on the authors' previous project experience, on-Site teams and environmental managers have been successful in detecting active nests of various avifauna species using these methods.

711 A revision to condition 32 was nevertheless recommended to refer to other wetland bird species, as also sought by the Regional Council.

712 No other responses to comments made regarding terrestrial fauna were received by the Panel.

Applicant's Response to RFI

713 The Applicant's responses to the Panel's RFI relating to Terrestrial Ecology – Fauna, including on the points noted above in the outline of Appendix M were principally prepared by Ms Mueller, principal ecologist and co-author of Appendix M, and can be summarised as follows.

714 The Applicant gave specific details (as requested) of the total areas of habitat for both birds and bats that would be permanently lost as a result of mining activities, as follows:

a. Wetland habitat- 4.25 ha (addressed in the previous section of this decision)

b. Pine forest – 85.5 ha.

c. Grassland (including pasture, areas of exotic shrubland and rushland) – 260 ha.

715 The response advises that the open grassland provides Moderate value habitat for bats since foraging can take place in those areas, but that the pine forest and wetland habitats are likely to be the key foraging and roosting areas for that species.

716 These two areas (pine forest and grassland) roughly equate to the 344 ha of Moderate value habitat that would be removed, as recorded in Appendix K.

717 Regarding the 'existing environment' assumptions applied in Appendix M, the response advises that it is not expected that the range and extent of faunal species would have either improved or degraded over the past 5 years of mining activity since the field surveys were completed (in 2021), as the overall characteristics of the relevant habitats are likely to be have remained the same since that time, including the use of areas for roosting or nesting.

718 The Applicant is said to have adopted a conservative conceptualisation of the existing environment by assuming that activities authorised by the existing consents have ceased and rehabilitation works required by the existing consents have been completed. However at the date the application before the Panel is determined, and on that assumption rehabilitation would generally be in a state that is newly established, there would not be a substantial change in terrestrial ecosystem values within recently worked and rehabilitated areas.

719 In essence, while the conceptual and actual existing environment would not be exactly the same, the Panel was advised that they are sufficiently similar to enable the existing environment to inform the assessment of the conceptual environment. The Panel takes this response to mean that the 'actual' existing environment as determined in the field surveys in 2021 effectively equates with the rehabilitated (conceptual) existing environment assumed in Appendix M.

720 The response clarified differences in habitat value ratings as between Appendix K and Appendix M, noting that the 'Very High' ecological value for the pine forest areas reported in Appendix M was based on the faunal (bat) habitat value which the pine forest provides, while the botanical value (assessed as Moderate for the pine forest in Appendix K), is lower.

721 The response advises that while most bats were recorded amongst the pine plantations and the monitoring does not suggest particularly high activity around wetlands, monitoring equipment was not placed in many of the wetland areas due to technical challenges in deployment of equipment within wetlands, especially in the presence of stock. However, it had been assumed that bats present on the Site would utilise wetland areas for foraging due to the presence of aquatic insects in these habitats. This information was provided in response to the Panel's question about the statement in Appendix M that nearby wetlands, lake margins, streams and native forest edges would all provide suitable habitat for bats following the harvesting of the pine plantations, as proposed under the application.

722 The response advised that no surveys for lizards and katipō were undertaken in the central and southern zones of the Southern Block on the basis that the Southern Block overall presents a largely modified area of present or historic mining with stock

present, such that potential lizard habitat would be absent or highly degraded. The monitoring was focused on the most high value areas for lizards accordingly. The response advises that it is unlikely that additional monitoring efforts in the southern and central areas would have detected lizards, given their complete absence in the higher value habitats that were surveyed.

723 Further details were provided including (revised) mapping clarifying exactly where the 5 minute bird count and "dawn and dusk" surveys were carried out across the Site and confirmation that bittern were only detected at one survey site corresponding to wetland 21 (as numbered in Appendix K). The response comments on the conditions framework that will be of benefit to bittern, generally being as addressed earlier in this decision under the previous topic (planted buffers, predator control, maintaining hydrological conditions and stock exclusion).

724 In terms of the recommendation in Appendix M that large trees such as kahikatea be planted in buffer areas to provide both foraging and roosting habitat for bats (which the Panel noted in its RFI did not appear to have been reflected in the draft NIWBMP), the response advises that the NIWBMP would be updated to include kahikatea in suitable zones alongside kanuka and matai that are cavity forming indigenous species, suitable to the restoration area.

725 In terms of the recommendations in Appendix M that pine forest be removed in stages or a buffer of pine forest be retained to maintain foraging habitat as long as possible, and that replanting of fast growing exotic species be carried out in adjacent areas not to be mined, the response advises that staged harvesting will only be undertaken if confirmed to be required by the project ecologist as set out in section 4 of the draft Harvest Plan and Forestry Earthworks Management Plan (**HEMP**), to be determined closer to the commencement of harvesting.

726 The exact location and width of buffer of retained pine trees (to be left to maintain foraging habitat for as long as possible) would also be determined at that time, but these measures must be in place prior to harvesting (referring to section 4 of the draft HEMP). No response was made regarding the recommendation to replant fast growing exotic species in adjacent areas not to be mined.

727 Regarding pest and predator control, the response advises (as stated in Appendix M) that this should be undertaken in the offset site, planted buffers, riparian margins and wetlands, with this being specifically provided for in section 7 of the draft NIWBMP and condition 16(b) of Schedule 1. While pest control over the whole site would be preferrable from an ecological perspective, focussing on the key habitat areas as proposed would be effective, provided key performance targets are met.

Panel Findings: Terrestrial Ecology – Fauna

728 Having regard to all of the information in Appendix M, the section 53 comments received on this topic and the Applicant's response to those comments, along with the Applicant's response to the Panel's RFI in relation to Terrestrial Fauna, the Panel essentially adopts the overall findings in Appendix M that subject to effective implementation of the recommended mitigation measures, the level of effects on terrestrial faunal species would be Low.

729 Consistent with our general approach however, we consider that the proposed conditions of the relevant consents need to be amended in the following respects to more directly record the recommended mitigation measures for avifauna and bats in particular and require them as specific performance standards in conditions, rather than leaving those details to the management plans.

730 Specifically:

a. Amending to condition 16(f) of Schedule 1 to specifically require the planting of large native trees including kahikatea alongside kanuka and matai within the buffer areas as referred to in the RFI response.

b. Amending the conditions of Permit AUTH142035.17.01 to include the following performance standards to be addressed in the HEMP :

i. More definitive requirements reflecting the recommendations of Appendix M that harvesting of the pine forest proceed in stages (rather than this being determined by the ecologist); and
ii. Require the planting of fast-growing exotic species in adjacent areas not to be mined (with those areas to be identified under the management plan).

c. To amend condition 16(b) of Schedule 1 to expressly require the management of plant pests within all riparian buffers and the offset area, again in line with the Applicant's RFI response

d. To set the specific performance requirements for lighting to protect bats as recommended by the Department of Conservation i.e. that blue-rich or white LED lights be avoided, that lighting be shielded from above/ trained downwards and have a colour temperature of less than 2,700 K (noting the comments made by Ngaati Mahuta at the PFC about effects of lighting on this taonga species).

731 We adopt the recommended revision to condition 32 of Schedule 1 as proposed by the Applicant in its response to comments, to include reference to other wetland bird species.

732 We accept the Applicant's response that the breeding season does not need to be entirely avoided for works in wetlands and consider that the 30 m buffer from any nesting birds is sufficient to protect eggs and chicks pending fledging.

Freshwater Ecology

733 The SAR also includes a further assessment report prepared by Keren Bennett at SLR Consulting New Zealand namely Appendix L - Freshwater Ecology Assessment.

734 The primary focus of the assessment report is on the ecological values of the lower Wainui and Mitiwai Streams, and the potential effects of continued and expanded mining operations on those lower reaches.

735 For the lower Wainui Stream, Appendix L focusses specifically on the effects of the dam structure creating the reservoir from which water is taken for ship loading and mining operations, which is located some 250m upstream of the stream outlet to the Tasman Sea.

736 This includes discussion of the effectiveness of the fish pass installed in the 1970s (and upgraded in 2010) to facilitate upstream and downstream passage of native fish species, along with residual flows between the dam and the stream outlet. Effects on the Wainui Stream from the discharge of stormwater from roof water and compacted surfaces around the administration building are also briefly covered.

737 For the Mitiwai Stream, the focus of Appendix L is on the potential for dewatering effects associated with groundwater drawdown from proposed mining below the water table, and the effects of planned flow augmentation if certain trigger levels are reached.

738 The assessment in Appendix L relies on a range of desktop information and site surveys, including a Tonkin & Taylor freshwater Ecological Impact Assessment report

completed in 2020 and additional on-site surveys and assessment work completed by SLR in support of the 2020 RMA Application to continue mining activities within the Site (as now superseded by the SAR before the Panel).

739 As with the wetland assessment in Appendix K, Appendix L relies on the hydrology and groundwater modelling and associated reports filed with the SAR (Appendices I and N).

740 Appendix L also records the approach to the existing environment taken by the SAR, i.e. as including the effects of past mining activities and notably:

a. Excludes the water take and discharge authorised by the existing consents but includes an environment that has acclimatised to the presence of such water takes and discharges; and

b. Excludes the dam and related infrastructure (which is assumed to have been removed on the expiry of the existing consents), but includes a land and water form modified by the presence of the dam over the years, and the removal of the dam. The point made in Appendix L in this respect is that the ecological features and values would not have adapted to the new water levels, as there is no time gap between the date the Panel's decision is made, and the date the activities recommence.

Wainui Stream

741 Appendix L states that prior to the dam installation, the Wainui Stream flowed for about 2,300 m from Lake Taharoa before discharging to the sea, with historic aerial imagery indicating the presence of extensive wetland habitats at the junction of the stream and Lake Taharoa, and the stream meandering through active sand dunes.

742 A similar observation is made in relation to the lower reaches of the Mitiwai Stream, with the morphology of that stream having changed over time as a result of human activities in the wider catchment; previously having a broader, braided channel through mobile dunes, whereas it is now narrow and incised.

743 Appendix L notes that the dam structure on the Wainui Stream creates a ponded area for the Mine's water take with stream habitats upstream of the dam to Lake Taharoa comprising slow-flowing run habitat, fringed in most places by raupō. The dam itself impedes upstream fish passage for migratory freshwater species, so a fish passage was constructed to remedy that in the 1970s, and upgraded in 2010 with an associated monitoring programme developed by Tonkin & Taylor at the time.

744 The report records the key outcomes and observations of various surveys for fish species upstream and downstream of the fish pass between 2010 and 2015, including for īnanga, eels/tuna, grey mullet, smelt and a number of "non target" species.

745 This information was supplemented by surveys undertaken by SLR during the spring and summer of 2021/2022, including environmental DNA (eDNA) sampling and in-stream surveys by trapping and electric fishing.

746 Drawing on the results of this survey effort, Appendix L states that a diverse range of native fish species have been recorded in the Tahaaroa lakes including short fin eel, long fin eel, common bully, snout, īnanga and grey mullet.

747 The fish communities present above and below the dam are said to be generally indicative of the natural range of fish that could be expected from the catchment in the absence of the dam, such that the overall ecological value of the Wainui Stream is assessed as High. The report states that monitoring of the fish passage following its upgrade in 2010 demonstrated the effectiveness of the fish pass for target species and for a small range of other native fish species, as concluded by Tonkin & Taylor in 2015.

Notably, all the fish species recorded downstream of the dam were also recorded upstream of the dam.

748 Appendix L states that overall the results of surveys undertaken since the fish pass was upgraded and in recent years indicate that the fish pass is effective in enabling connectivity past the dam and that this connectivity is supporting recruitment for a diverse range of native fish species within the lake and its wider catchment.

749 The report nevertheless recommends monitoring of target migratory native fish species īnanga, long fin eels, shortfin eel, smelt and grey mullet) to demonstrate the ongoing effectiveness of the fish pass in future. Specific monitoring for mullet is recommended as a proposed condition of consent to add to the understanding of mullet movements, age and population size within the Lakes, noting that small schools of adult mullet had been observed in the Tahaaroa lakes over time.

750 The report also recommends regular maintenance and monitoring of the integrity of the fish pass as a condition of consent, focussing on clearing of excessive aquatic weed growths, debris blockages and structural integrity checks, including at the inlet and outlet of the fish pass.

751 The report advises that provided the fish pass is well maintained, it can be expected to continue to be effective and to maintain upstream fish migration past the dam.

752 The Panel requested further information to ensure that the proposed conditions of consent referred to in this section of the report covered all aspects of the recommended maintenance and monitoring programme, including for grey mullet within the Tahaaroa lakes specifically, and both the inlet and outlet of the fish pass.

753 Appendix L also briefly discusses utilisation of the fish pass as a means of downstream migratory access, in particular by larger fish such as adult eels and mullet. The report notes the requirement in the consent conditions for a pool or sump to be installed at the base of the dam weir overflow chamber at a minimum depth of 0.5 m to provide a safe option for downstream migration by adult eels, mullet and other native fish that drop over the dam overflow weir rather than utilising the fish pass (refer proposed condition 2(e) of Permit AUTH142035.03.01).

754 A key issue in contention before the Panel (as recorded in Appendix G of the SAR) relates to the mesh size for the water intake pumps within the reservoir. Appendix L advises that the current 12 mm mesh/screen size is not best practice, and that the larvae of a range of galaxiid species (including banded kokopu and potentially īnanga) as well as juvenile galaxiids (whitebait) and eels (elvers)) could be at risk of entrainment when the pumps are on.

755 This is despite the location of the fish pass inlet within the reservoir being positioned away from the pump inlets and dam spillway, and a requirement to ensure that the maximum intake velocity at the screen area remains less than 0.3 m/s.

756 The report advises as follows:

> Potential adverse ecological effects of the large screen size include disruption of migratory cycles and reduced recruitment success for diadromous species. Although the fish pass inlet is strategically located to reduce risks to upstream migrants, the lack of fine screening remains a concern for small or larger fish moving downstream. Operational constraints are acknowledged, but it is recommended that alternative mitigation measures or retrofitting be considered to better align with ecological and regulatory expectations.

757 Noting the Applicant's observations in Appendix G that retrofitting the screen with a smaller mesh size would be unworkable, the Panel requested further information on what specific alternative mitigation measures including retrofitting/design options had been considered in response to this recommendation in Appendix L.

758 The issue of residual flows in the lower Wainui Stream is also addressed in Appendix L, noting the requirement to ensure a minimum flow of at least 24 L/s through the fish pass when the reservoir drops below 9.3 mRL (as required by proposed condition 7 of AUTH142035.03.01). In addition, the report refers to a requirement that a minimum residual flow of 10 L/s be maintained downstream of the dam weir, whereby dam overflow (through the v notch in the outlet weir) ceases at 9.36 mRL.

759 The report notes as follows:

> An augmentation flow at a minimum of 10 l/s is proposed to be maintained downstream of the dam weir. Provided low flow conditions are not maintained for extended periods, the addition of even a small residual flow will avoid the potential for this section of the water course to become stagnant and help maintain dissolved oxygen levels and water temperatures.

760 In its request for further information, the Panel tested the respective experts (stream ecology and hydrology) regarding the basis of this residual flow requirement, which is well below Waikato Regional Plan standards (requiring a minimum low flow of 160 L/s for the Wainui Stream). This is a further issue in contention as recorded in Appendix G of the SAR.

Mitiwai Stream

761 The habitat values of the lower Mitiwai Stream are recorded as being "marginal to suboptimal", with macro invertebrate community index scores from monitoring in 2023 indicating a 'good' to 'fair' habitat quality. Six native fish species were identified including two At-Risk Declining species namely the whitebait species, īnanga and endemic long fin eel, along with a number of native but Not Threatened species. Fish survey data indicated an "excellent" habitat quality or connectivity for fish migrations.

762 The report finds that despite the human induced changes to the lower stream (as noted above), and the sand dominated substrates of the coastal reaches of that stream, it supports a relatively diverse community of native fish species. Overall, the ecological value of the lower Mitiwai Stream is assessed as Moderate to High.

763 The report then goes on to consider effects associated with groundwater drawdown from proposed mining below the water table (as assessed in Appendix N of the SAR), whereby based on the proposed mining staging plan, dewatering effects on the Mitiwai Stream could occur over summer periods for between 4 to 5 years. The report also refers to the modelling in Appendix N indicating that once mining in the Central Block is complete, base flows in the Mitiwai stream would quickly return to near pre-mining levels and would be fully recovered within 1.5 years.

764 The Panel notes that Appendix N also records that the maximum drawdown effect on the Mitiwai Stream would be 4.4 L/s amounting to a 5% reduction in total stream flow under summer low-flow conditions. Mr Kelsey advised the Panel that this represents a minor effect.

765 The report notes that the Applicant is proposing that the Mitiwai Stream be supplemented with clean water from mining operations to retain the existing flow rate in the Mitiwai Stream. Baseline monitoring has been undertaken to determine the baseline flow, instream habitat conditions and aquatic values, with ongoing monitoring recommended to ensure adverse effects on instream habitat quality and values and changes to water quality can be identified and minimised through management measures.

766 The report advises that the reduction in base flows and subsequent requirement for augmentation during mining operations is expected to be short lived, and that natural flow conditions would be quickly reinstated once mining below the water table is

complete.

767 Again, the Panel requested further information as to the basis upon which the timing and expected duration of groundwater drawdown effects had been determined, and regarding the framework of proposed conditions that would trigger augmentation flows and monitor the quality of water discharged into the Mitiwai Stream for that purpose.

768 In relation to the Wainui Stream, the regime for addressing any dewatering effects is said to be that associated with maintaining minimum residual flows past the dam to the lower Wainui Stream as summarised above, with water levels above the dam controlled through conditions requiring water takes to cease when Lake Taharoa is below certain levels, and requiring that minimum residual flows be maintained through the fish passage and below the dam.

769 The theoretical maximum groundwater drawdown effect for the Wainui Steam as assessed in Appendix N is greater (43 l/s), but as recorded in both Appendix L and Appendix N, minimum flows are maintained in the lower Wainui Stream through the 'cease take' and residual flow requirements of the conditions referred to above.

Section 53 Comments

Waikato Regional Council

770 Waikato Regional Council raised the following issues in its comments regarding freshwater ecology supported by technical reports prepared by Dr Sung Soo Koh (Groundwater and Hydrology Scientist at the Council) and Mr Josh Smith (Water Scientist at the Council):

a. The pumping of water through the fish pass over the weir overflow to maintain the required minimum/ residual flows of 24 L/s and 10 L/s respectively should be triggered at a higher RL level relative to the lake levels at which outflows begin to drop below the thresholds, rather than waiting for flows to cease entirely.

b. All three triggers for Mitiwai Stream augmentation (as recommended in Appendix N) should be set in conditions, not just the 28 L/s trigger as proposed under condition 2 of Permit AUTH142035.14.01, and potential salinity impacts of groundwater dewatering and augmentation need to be addressed (including for the Wainui and Mitiwai Streams).

c. The conditions for Mitiwai Stream augmentation need to more clearly record the physical location of the augmentation discharge point and extend the period for active monitoring and augmentation from 1 December through to 1 May (given that annual low flows frequently lag behind the low rainfall season).

d. Given the known and documented vulnerability of early fish life stages to entrainment and the limited sensitivity of population level monitoring metrics to those effects, specific assessment of entrainment risk would be required to substantiate claims that the intake does not adversely affect aquatic life.

e. The Waikato Regional Plan Fish Screening Standard (1.5 mm screen mesh) provides an important reference point against which the effects of the proposal must be assessed, and against which appropriate consent conditions must be determined.

f. Modern fish screens are self-cleaning with solutions available including rotating screens/ drum screens which can come with other benefits including improved mechanical reliability, hydraulic efficiency, water quality consistency and system resilience.

g. The current system is located at the lake outlet – the key exit and entry point for native fish migrations, whereby weak swimming, small-bodied juvenile fish both moving in and out of the lake are bottlenecked. One fish species present (īnanga) is classified as Threatened and an additional five species present are classified as "At Risk". As a result, the current system will be impacting both Threatened and At Risk native fish species.

h. Fish screens at various infrastructure facilities in the Waikato Region have been designed to avoid fish entrainment and are based on current best practice, including WaterCare Services Limited's Water Treatment Plants (Hamilton and Auckland water takes) and the New Zealand Steel water intake.

i. Proposing amended conditions whereby a water intake fish screen would need to be replaced with a compliant mesh size (1.5mm in diameter), allowing 3 months from commencement of the consent for certification of upgrade plans, and 12 months for that upgrade to be implemented.

Department of Conservation

a. Water abstraction and flow augmentation to Mitiwai Stream is an ecological risk with the potential to impact habitat quality by introducing contaminants from unknown water quality and sources, directly or via seepage.

b. The Wainui Stream fish pass is failing to provide for fish passage due to low flows, structural corrosion, blockages and inadequate maintenance.

c. The water intake fish screen should have a maximum screen size of 1.5 mm.

d. The Tier 3 (28l/s) trigger for Mitiwai Stream flow augmentations needs to be adjusted to 95% of the Q5 flow (ie 29.5l/s), however at 4.4 L/s reduction in base flow, the effect is likely to be minor and the trigger level system would be appropriate to mitigate larger effects during dry periods (for the Mitiwai Stream).

e. Conversely, the proposed minimum flows of 34 L/s for the Wainui Stream (including 24 L/s through the fish pass) are not based on hydrological or ecological recommendations but instead operational requirements, and should be reassessed relative to the Waikato Regional Plan requirements.

f. It is not clear where augmentation water for the Mitiwai Stream would come from if water from the Wainui stream was not available, and it must be able to be demonstrated that any augmentation water would not cause adverse effects through contaminant loading, with this needing to be provided for and managed under consent conditions.

Te Nehenehenui

a. The mesh screen size on the water intake system needs to be set at 1.5 mm to comply with the Waikato Regional Plan.

b. Mine water proposed to augment instream flows will reduce the instream water quality in the lower Mitiwai Stream, and the existing level of upstream fish passage may not be properly maintained for the duration of mining below the water table near the Mitiwai Stream.

c. Appendix L identifies the risks of augmenting the Mitiwai stream with treated mine water as being potential changes to water clarity, temperature, dissolved oxygen or the introduction of other contaminants, and recommends monitoring

for which a management plan is proposed. More certainty is required including a peer review to set minimum flows for the Stream which include a buffer to be maintained at all times and to establish appropriate water quality limits that are monitored and regularly reported on. A four to five year impact on the Mitiwai Stream, as predicted in the modelling, is not short term, and creates cumulative seasonal stress on the Mitiwai Stream environment.

d. As covered earlier under the Wetlands and Terrestrial ecology topic, seeking a 100m buffer for the Mitiwai Stream.

Ngaati Mahuta

a. Ngaati Mahuta deem that the proposal in its current form adversely affects water systems and taonga species. Proposed conditions must require effective fish passage performance standards (not limited to installation), monitoring that directly assesses passage success and migration timing for tuna and other species, with enforceable triggers that can reduce or cease take or operations where ecological thresholds are not met.

b. The manipulation of freshwater systems through proposed management in the SAR for operational purposes directly engages the Te Mana o Te Wai hierarchy in the NPS-FM, with the Panel urged to consider how the health and mauri of the water systems are prioritised in the assessment of effects.

c. Fish passage and life cycle connectivity are central matters especially for tuna and other migratory species. Entrainment risk, altered flows and changes in habitat quality can have cumulative effects over time, especially when combined with water take, dam operations, groundwater activities and stormwater discharges.

d. The fish pass has been described as structurally poor and non-functional. Fish passage, particularly for tuna and other migratory species is central to ecological integrity. Entrainment risk of taonga species cannot be treated as minor effects.

e. Ngaati Mahuta remain concerned about long term modification of lake levels and stream flows. Lower levels may affect connected wetlands, hydrology and downstream habitat. The interconnected nature of these systems must be assessed on a 'ki uta ki tai' basis recognising the link between the Tahaaroa lakes, the Wainui and Mitiwai Streams, and the coastal receiving environment and kaimoana.

f. Ngaati Mahuta do not consider augmentation to be adequate mitigation for altered flows. Augmentation does not replicate naturally occurring conditions particularly given the significance of wai to Ngaati Mahuta.

g. As covered under the Wetlands and Terrestrial ecology topic, seeking a 100m buffer for the Mitiwai Stream.

Taharoa C

a. It is important to Taharoa C that the wetlands, awa, and waterways (including groundwater) are protected or restored practicably, in the context of the long-term legacy and vision for the whenua.

b. The fish pass installed in the early 2000s allows for juvenile grey mullet and other species to be able to navigate upstream past the dam, and has proven to be effective – it should be kept and appropriately maintained.

c. The minimum lake operating level conditions currently in place should remain. Conditions requiring mining setbacks from the lake and Wainui Stream and natural wetland habitats are supported to mitigate effects on the mauri and wairua of these resources.[151]

Applicant's Response to Comments

771 The Applicant's response to comments on freshwater ecology was prepared by Ms Bennett (Attachment I to the Applicant's section 53 response).

772 The content of that response can be summarised as follows:

a. Agreeing that it would be appropriate to consider alternative intake design options that reduce the intake mesh screen size and therefore the risk of entrainment of downstream migrating larval fish that rely on stream flows to progress migration to the coast, but recommending a revised timeframe for plans for the upgraded intake structure to be provided to the Council for certification (12 months) and for new structures to be installed within 12-24 months of that certification – to allow for option investigations, site specific design, and any seasonal constraints that may affect installation.

b. Supporting the extension of the augmentation period for the Mitiwai Stream to 1 May given low rainfall/ low flow conditions can persist into mid-autumn (i.e. agreeing with the Regional Council's requested change to proposed condition 2 of Permit AUTHORITY 142035.14.01 to provide for this).

c. Supporting the recommended change to the LLWMP (in Attachment F of the Applicant's response to section 53 comments, to refer to a trigger level of 9.45 mRL rather than 9.36 mRL to reflect initiation of pumping before flows would decrease to less than the required 10 L/s in the lower Wainui Stream), rather than an amendment to condition 4 of Permit AUTH142035.02.01 which already specifies a minimum flow of 10 L/s and requires that it be maintained.

d. Noting that an equivalent limit on electrical conductivity to that proposed for augmentation water for wetlands (as discussed above) to manage potential salinity impacts would be included in condition 3 of the consent providing for augmentation of the Mitiwai Stream (requiring that water to be freshwater with the conductivity of less than 1,000 µS/cm).

e. Agreeing that maintaining the water quality of the Mitiwai Stream is important should flow augmentation be triggered and stating that water used to augment flows in the Mitiwai Stream would come from the Wainui Stream reservoir or be clean water from mining operations, as well as referring to the conditions of Permit AUTH142035.14.01 that set limits on changes in temperature, turbidity and pH from augmentation of the Mitiwai Stream (and now to control salinity through the limit on electrical conductivity for augmentation water).

f. Agreeing that the regular and ongoing maintenance (including structural maintenance) of the fish pass is important to ensure its ongoing functionality, as well as regular removal of debris and excessive aquatic plant growth (as required by the proposed conditions of Permit AUTH142035.03.01) and advising that these conditions put in place sufficient measures to ensure the fish pass is maintained and to demonstrate its effectiveness for providing fish passage past the dam.

[151] The Panel noting that these comments are also of relevance under the Wetlands and Terrestrial Ecology topic as covered previously in this decision.

g. Referring to the monitoring outlined in Appendix L since the 2010 design upgrade to the fish pass as demonstrating that the fish pass functions well and provides passage for a diverse range of native fish.

h. Noting the comments from Taharoa C and advising that the points made are addressed in the various conditions of the relevant permits.

i. Responding that augmentation of base flows in the Mitiwai Stream is intended as a temporary measure to account for potential stream flow reductions during summer low flow periods when mining below the water table is occurring close to the stream, and whereby once mining below the water table is complete and dredge pits are refilled, natural flow conditions within the stream will be quickly reinstated. The proposed conditions for augmentation also require that quality and access for migratory fish are maintained in the Mitiwai Stream.

j. Similarly, that implementation of the augmentation flows over the dam and into the fish pass, as triggered, will ensure flows are maintained through the lower Wainui Stream, and the potential for adverse effects on aquatic biota are minimised.

k. Advising that a 30 m buffer would be appropriate to address adverse effects on the on-site streams (including the Mitiwai Stream), with planting of the riparian buffer proposed, and whereby planted riparian buffers of even 15-20 m wide can be expected to provide a full suite of beneficial aquatic functions (water temperature control, bank stability, food resources for aquatic and terrestrial fauna, cover for fish, filtering sediment).

l. Referring to the range of conditions proposed as part of the application to protect, manage and enhance ecological features of the Site in relation to freshwater values, as addressing the interconnectedness of the lakes, streams and wetlands and the Te Mana o Te Wai hierarchy, but also noting that following amendment to the RMA, the Te Mana o Te Wai hierarchy does not have to be met for consent applications.

773 In Appendix B, Mr Eccles advised in relation to the water intake fish screen issue that the upfront establishment cost of installing 1.5 mm fish screens on the freshwater intake pumps in the Wainui Stream would be approximately $1-1.5 million and likely require a period of mine shutdown to implement (which may be a period of days).

RFI Response

774 The Applicant's response to the Panel's RFI relating to freshwater ecology, including on the points noted above in the outline of Appendix L were prepared by the Applicant directly, Ms Bennett, and Mr Eccles, and can be summarised as follows.

a. Clarifying and giving further detail on the management of weeds within the Wainui Stream reservoir which had been carried out to maintain the fish passage; advising that this included spraying to control hornwort and removal of dead weed material (along with raupō) that had migrated downstream, and that these weed control measures had been effective.

b. Giving additional details of observations (including through eDNA sampling) of mullet in Lake Taharoa and the Wainui Stream upstream of the reservoir.

c. Advising that it is not necessary to include express reference within consent conditions to monitoring the presence of migratory fish species within the Tahaaroa lakes specifically, because the management plan required by proposed condition 4 of the Permit AUTH142035.03.01 would be prepared in consultation

with a range of stakeholders, which could include the lake or anywhere else in the catchment as raised during that process.

d. Confirming that the wording of the consent conditions as proposed by the Applicant to ensure the ongoing monitoring and effectiveness of the fish pass includes the key locations at the inlet and outlet of the fish pass, as recommended in Appendix L.

e. Advising that some preliminary concept and costing work had been completed in response to the recommendation in Appendix L to review design options for the mesh screen size on the water intake pumps within the reservoir, but that this had not progressed further pending the Panel's decision on consent conditions.

f. Advising that the 12 months (for certification) and further 24 months (for installation) as recommended in Attachment I (to the Applicant's response to comments), were based on Ms Bennett's experience as an ecologist working on multidisciplinary infrastructure projects alongside design engineers through optioneering and final design, and whereby construction of infrastructure in waterways can be affected by flow conditions, best practice timing to avoid key fish spawning and migration periods, as well as operational requirements including annual budgeting.

g. Clarifying the timing and duration of potential groundwater drawdown effects on the Mitiwai Stream based on the modelling reported in Appendix N, i.e. the impact would commence after approximately 1 year of mining in the Central pit, peak at 2 years and continue for approximately 5 years, at which point the impact would dissipate to the point of being undetectable.

h. Explaining why only one of the three triggers recommended in Appendix N for augmentation of the Mitiwai Stream had been included in consent conditions (at 28 L/s), with the higher triggers of 45 L/s and 31L/s intended as an early warning and to trigger an internal review of water use, rather than needing to involve the regulator.

i. Explaining the proposed conditions (including as revised in response to section 53 comments as noted above, to include control over salinity/electrical conductivity) to ensure that water quality and instream ecology was not affected by the discharge of augmentation water into the Mitiwai Stream; advising that the range of parameters controlled under the conditions did not need to be further expanded to include other potential contaminants such as nutrients, but recommending the inclusion of further conditions to be included in Permit AUTHORITY 142035.14.01 to require explicit monitoring of the augmentation water, and a management response if the instream water quality limits were exceeded.

j. Clarifying that the proposed conditions of Permit AUTH142035.14.01 should refer to Pit 1 (rather than Pit 3) as being the only pit where potential effects on the Mitiwai Stream are modelled to occur, i.e. with the modelling not showing any potential effect on the Mitiwai Stream from mining occurring in other areas of the Central Block.

k. Also noting that the Applicant intends to re-create a ridge form through tailings deposition once mining is completed in the current mining areas in the north of the Central Block adjacent to the Mitiwai Stream which will be beneficial for base flow in the Stream (the Panel noting this point is also relevant to the buffer issue addressed above, and rehabilitation as covered later in this decision).

l. Further advising that the culverts beneath the access track over the Mitiwai Stream were identified as a partial barrier to upstream fish passage, however, provided the potential effects of mining below or near the stream are managed through seasonal flow augmentation and water quality monitoring as proposed, habitats for fish communities within the Mitiwai Stream will be maintained.

m. Clarifying that any change in the RL level (as sought by the Regional Council), for the triggers that apply in relation to maintaining minimum residual flows should be set in the context of condition 4 of Permit AUTH142035.02.01, rather than the change to Condition 7 of permit AUTH142035.03.01 (to 9.45 mRL) included with the Applicant's response to comments, which was erroneous (the Applicant's view nevertheless being that it is adequate to revise this trigger level to 9.45 mRL in the LLWMP).

n. Setting out further justification for the 10 L/s minimum residual flow requirement of condition 4 of Permit AUTH142035.02.01, including that such low flow conditions would be rarely encountered, are intended to maintain water movement and prevent the potential for stagnant conditions to develop, and provided they are not maintained for 'extended periods', the risk to aquatic biota is expected to be low.

PFC – Freshwater Ecology

775 While the comments, Applicant's responses, and RFI requests/ responses raised a number of freshwater ecology related issues, at the PFC, the questioning of and discussion between the relevant experts centred on the condition frameworks addressing the following four issues:

a. The minimum RL trigger for condition 4 of Permit AUTH142035.02.01 (requiring maintenance of a minimum flow below the Wainui Stream dam at 10 l/s);

b. Mitiwai Stream low flow triggers and augmentation requirements;

c. The management response to any extended periods of minimum residual flows in the lower Wainui Stream;

d. The mesh screen size on the water intake pumps within Wainui Stream reservoir.

776 As to the first issue, Mr Williamson maintained the preference recorded in the Applicant's response to comments that any increased trigger level be recorded within the LLWMP rather than conditions. Consistent with the Applicant's RFI response however, none of the experts appeared opposed to including that revised RL trigger within condition 4 of Permit AUTH142035.02.01 itself, if the Panel were minded to do so.

777 The Panel finds accordingly for the purpose of certainty regarding this trigger level, noting that in the conditions version filed with the Applicant's 1 October PFC RFI response (Appendix C), Condition 4 had been amended to include the 9.45 mRL trigger in any event.

778 Regarding Mitiwai Stream augmentation (and associated triggers) to address the predicted groundwater drawdown effects on that stream, the discussion between the experts evolved considerably, and moved away from augmentation altogether towards a response involving the management of mining operations within (in particular), Pit 1 within the Central Block.

779 Initial discussion between the hydrologists and hydrogeologists present at the PFC focussed on the specific trigger levels for augmentation as recommended in Appendix N (relative to various flow parameters measured within the stream, eg 28l/s, 31l/s,

45 L/s as noted above), along with the concerns raised in comments and proposed revised conditions advanced by the Applicant to address the potential effects of augmentation on stream water quality and instream ecology in turn.

780 However, in response to the opinions expressed by the mātauranga experts called by Te Nehenehenui and Ngaati Mahuta as to how the mixing of waters from different catchments (Mitiwai and Wainui) might (*inter alia*) affect the navigation of tuna species returning to those streams, the focus of the discussion then changed. It was agreed by all experts (hydrology, hydrogeology, ecology and mātauranga Māori) that given the minor quantitative reduction in flow involved (even from dewatering in Pit 1), augmentation could be abandoned in favour of a management response in Pit 1 (in particular), set alongside appropriate instream trigger flows for that management response to be initiated.

781 Te Nehenehenui's expert's strong preference was not to mix waters but instead to monitor the flows within the stream and respond to ensure that no ecological (or related cultural) concerns arise.

782 The experts were directed to confer on these matters though the PFC RFI, including advising on an appropriate minimum environmental flow condition for the lower Mitiwai Stream, along with limit conditions for Central Pit mine management to maintain that flow through appropriate trigger level criteria and responses if Central Pit depletion effects on the Mitiwai Stream are greater than 10% of MALF (or appropriate alternative criteria, such as a minimum environmental flow).

783 These conditions would have replaced those proposed by the Applicant as trigger levels for augmentation in the Mitiwai Stream and removed the need for any controls on augmentation water to maintain instream water quality in Permit AUTH142035.14.01 (including as amended in the Applicant's response to comments and response to the RFI, as set out above).

784 As addressed under the Hydrogeology topic in this part of the decision, the experts have essentially agreed on a revised condition structure for the determination of triggers for any augmentation of the Mitiwai Stream (and now in the form proposed in the Applicant's final reply filed on 2 November with our amendments as discussed above refer Part E Hydrogeology).

785 However, and as with wetlands potentially affected by groundwater drawdown, the Applicant now proposes to rely solely on augmentation rather than central pit mine management in response to any groundwater drawdown impacts on the Mitiwai Stream, should the need for that be identified under the new conditions framework for the purpose as agreed by the hydrologists.

786 As such the potential for a "mixing of waters" concern remains (along with the need for controls on augmentation water quality) albeit with the Applicant advising in Appendix A of its interim response filed on 8 September, that augmentation of the flow in the stream is very unlikely to ever be required, would be of short duration and extremely minor in scale.

787 While, as noted in the hydrogeology section of this part of the decision, the Panel takes a different view as to the potential extent and need for augmentation of the Mitiwai Stream, the Panel has accepted the hydrologists view that augmentation is the preferred approach (to central pit management). The Panel has therefore imposed a condition requiring that augmentation water be supplied from within the Mitiwai catchment, if practicable, in line with the mātauranga experts' preference as recorded

in the Hydrology JWS.[152]

788 The Panel also notes under the Applicant's final version of conditions (1 October), additional reference has been included for the qualitative controls on augmentation water such that they may not include biological contaminants or aquatic pest organisms not already present in the Mitiwai Stream. Now that the Applicant has proposed to revert back to the augmentation (rather than central pit management approach) for Mitiwai Stream drawdown effects, the Panel considers that this overall range of parameters to be covered in both baseline and ongoing monitoring (following augmentation, if any) is necessary and appropriate.[153]

789 Turning to the proposed minimum residual flow of 10 L/s for the lower Wainui Stream, the freshwater ecologists for the Applicant and commenting parties were asked questions about the appropriateness and efficacy of that residual flow requirement, relative to the 160 L/s minimum flow requirement for the Wainui Stream as set under the Regional Plan.

790 Ms Bennett advised that provided the minimum residual flow of 10 L/s were not experienced for periods of longer than two weeks, habitat values would be protected. Ms Bennett advised that the key parameters in that respect were to maintain dissolved oxygen levels and temperature within an acceptable range, and to ensure that more water was pumped over the weir as a management response if those parameters fell outside that acceptable range.

791 Mr Smith for the Regional Council advised that the Council was now satisfied with this minimum residual flow requirement, given the short timeframes involved and whereby it is really only the short 80 m stretch of the lower Wainui Stream below the fish pass (through which a minimum flow of 24 L/s would be maintained), that is really at stake.

792 The need for a more timely and effective response to sustained periods of low flows was also raised by the Panel, noting the RFI response (set out above) that 10 L/s was adequate provided that was not maintained for 'extended periods', and Ms Bennet's advice at the PFC that provided the minimum residual flow of 10 L/s were not experienced for periods of longer than two weeks, habitat values would be protected.

793 Under the proposed condition structure (conditions 4-6 of Permit AUTH142035.02.01), an ecologist would be retained if flow at 10 L/s were sustained for a period exceeding 14 days, to monitor and report on instream ecological values and recommend response measures if adverse effects on those values were identified, which measures must then be implemented "as soon as practicable"; being an overall process which could take considerably longer than two weeks to complete.

794 A proposal was put by the Panel to these experts requiring monitoring for dissolved oxygen and temperature specifically (being the key parameters of concern as advised by Ms Bennett), with the pumping of more water over the weir if those parameters fell outside the stipulated acceptable range as referred to by Ms Bennett. This would considerably simplify and speed up the management approach to this concern.

795 Through the PFC RFI, the Panel directed that Ms Bennett advise on appropriate triggers for pumping more water over the weir for both temperature and dissolved oxygen, which could be adopted in revised conditions for this permit.

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[152] Hydrology JWS dated 18 September, at [13]

[153] Refer proposed conditions 3-6 of Permit AUTHORITY 142035.14.01 as included with Appendix C to the Applicant's PFC RFI response dated 1 October 2026.

796 In its final response (Appendix A) as received on 1 October, Ms Bennett advised that upon reflection she did not consider that fixed trigger levels linked to an automatic requirement for increased flow augmentation would provide an appropriate or robust basis for managing ecological effects in the Wainui Stream system.

797 This is in part on the basis that the ecological significance of water temperature and dissolved oxygen depends on the magnitude of any change, the prevailing upstream water quality, diurnal variation and the presence of aquatic macrophytes, which are common in the Wainui Stream and can substantially influence diurnal dissolved oxygen dynamics. Ms Bennett advises that as a result, reliance on maximum temperature or minimum dissolved oxygen values risks oversimplifying the assessment of ecological effects.

798 Ms Bennett recorded that her concern in this respect particularly applied if low flow conditions persisted for more than 14 days.

799 For that reason, Ms Bennett (having proposed provisional thresholds for each parameter, i.e. temperature and dissolved oxygen), stated that she preferred the original approach, requiring an assessment by an independent ecologist to report on adverse effects on instream ecological values if the minimum residual flow condition of 10 L/swere to persist for a period exceeding 14 days.

800 Ms Bennett further noted in Appendix A:

> As noted at the PFC, and reiterated by Mr Smith on behalf of WRC, the approximately 80 m section of stream between the weir and the fish-pass confluence was not intended to function as fish habitat. The fish-pass design incorporates a low weir with an overhanging lip intended to prevent fish entering this section and instead direct them into the fish-pass. Nevertheless, larger eels and mullet do utilise this area, which is part of the reason why the residual flow was proposed. This context is relevant when considering the significance of any temporary water quality changes within this reach.

801 The Panel accepts Ms Bennett's reasoning in this aspect of the PFC RFI response however has amended Conditions 5 and 6 of Permit AUTH142035.02.01 in a similar way to that now proposed for Condition 10 of Permit AUTH142035.05.01, ie to specifically require that the ecologist retained under Condition 5 must recommend any measures considered appropriate to address any identified adverse effects on instream ecological values, and those measures must be implemented within five days of the consent holder receiving the ecologist's report.

802 That would better respond to the Panel's substantive concern raised at the PFC about the time taken under the existing drafting for any necessary measures identified by the ecologist to be implemented (currently "as soon as practicable" under the Applicant's proposed wording for Condition 6 of this permit).

803 Dealing with the fish screen issue, at the PFC, Mr Smith firstly clarified the Regional Plan requirement for a 1.5 mm fish screen, which applies to all water intake structures at locations less than 100 m above mean sea level, within what is classified as a "Significant Indigenous Fisheries and Fish Habitat" water body, as applied to the Wainui Stream under the Regional Plan. Mr Smith confirmed that he would be happy for the time period for installation of a compliant fish screen to be extended as had been proposed by the Applicant in its response to comments - he just wanted to see the required fish screen size put in.

804 Te Nehenehenui supported a 1.5mm mesh screen requirement but largely deferred to the experts on this issue, noting that it wasn't too rigid on timeframes for implementation, provided that wasn't too extensive.

805 Ms Bennett for her part acknowledged that the mesh screen size is larger than industry best practice and confirmed her opinion that it would be good if the screen size could be reduced to minimise risk to larval fish in particular.

806 The Applicant's representatives, Mr Eccles and Mr Petterson where then asked to address issues regarding the practicability of installing a 1.5 mm fish screen at the water intake. Specifically they were asked whether it was impossible or unworkable to do so, and as to the likely timeframes that would be involved.

807 Mr Petterson stated that some feasibility work had been done as to how you could implement such a requirement. Mr Petterson advised that the process would not be simple because the screen would need to be self-cleaning (e.g. a rotating travelling screen), and the mine operates 24/7 such that the water supply cannot be interrupted. A parallel system would need to be established for the changeover period requiring significant civil works to design, procure, construct and install a new fish screen through a staged changeover process. Mr Petterson commented that from the Applicant's point of view a reduction in mesh screen size is acceptable, at which point Mr Coffey intervened to say that it would not be viable.

808 An interchange then followed between Commissioner Williams and Ms de Groot (counsel for the Applicant) as to whether a reduced fish screen size was necessary. Ms de Groot submitted that there had been no history of issues with the existing screen mesh size and noted the practical issues for future maintenance (eg clogging with weeds) along with the engineering considerations which Mr Petterson spoke to.

809 Ms de Groot submitted that a condition requiring the mesh screen be reduced to 1.5 mm would be more onerous than necessary because the risk and level of effect on the fish species in question is low. Ms de Groot also noted that a 1.5 mm fish screen is not a requirement for a discretionary activity application, but instead a controlled activity standard.

810 At that point Commissioner Williams asked Mr Smith and Ms Bennett for their view as to whether they considered a reduced fish screen size to be necessary for ecological protection of the life cycle of the species involved. Mr Smith answered "yes", that in his view a reduced fish screen size was necessary as we would otherwise be losing native fish that are endangered or Threatened species through the current pump system. Ms Bennett similarly replied "yes" advising that the current screen size means that mostly small larval fish and juvenile fish could be entrained within the pump.

811 Ms Bennett was then asked whether this comprises a threat to the species involved. Ms Bennett advised that the impact was more likely to be seasonal when the larval fish are floating down stream (at a point in their life cycle where they cannot swim), or potentially when migrating upstream with a risk of entrainment at the exit to the fish pass. Ms Bennett advised that the level of the effect is unknown and would depend on how many individuals are sucked into the pump system.

812 Commissioner Williams then noted that the existing 12mm fish screen had been in place for several decades but the extent of the impact seemed unclear, at which point Ms Bennett responded that the stream downstream of the pumps was literally ‘humming” with fish i.e. well populated with species such as bullies whose larvae are at risk of entrainment in the fish screen as it stands.

813 Ms Bennett could not say whether there was a population scale effect, with uncertainty raised by the fact that the fish species in question go out to sea to develop for a period of their life cycle, but she commented that there are definitely still a lot of fish making their way past the water intake.

814 Following a further interchange between Commissioner Williams with Ms de Groot submitting a reduced fish screen size would raise real practicability/viability issues for the Applicant both at the installation phase and for future ongoing operation of the mine, counsel was invited to prepare legal submissions on how issues of viability and practicability inform whether a consent condition is reasonable under the RMA, and whether any different approach is required under the Act, with this recorded in the PFC RFI.

815 Counsel's submissions addressing that issue in the Applicant's 1 October response made the following points.

816 On the issue of viability more generally under the RMA, counsel submitted as follows:

a. Firstly, acknowledging the line of case law commencing with *New Zealand Rail v Marlborough District Council* whereby financial viability including the profitability or otherwise of a venture is not relevant under the RMA.

b. Conversely citing *Kiwi Property Management Limited v Hamilton City Council* to the effect that a condition which takes away a substantial part of the benefit of a consent could be invalid, with this being a question of fact and degree.

c. Citing *S & M Property Holdings Limited v Wellington City Council*, in which the High Court upheld a Council's finding that a consent condition that would have removed a substantial part of the benefit of the consent at issue in that case (by requiring a complete design of the development) could not be imposed, because it would thwart the benefit of the consent. Counsel cited the estimated $1.8 billion losses resulting from the buffers sought by commenting parties as an example of conditions effectively frustrating the exercise of the consent to that extent.

817 Addressing the relevance of viability and practicality under the Act, counsel submitted as follows:

a. While the RMA limits the extent to which economic impacts can be taken into account in respect of conditions, considerations of economic viability and practicality have a much more important role under the Act.

b. A decision maker needs to give the greatest weight to the purpose of the Act (facilitating delivery of projects with significant regional or national benefits) when making decisions in accordance with s 85 and clause 17 of Schedule 5, citing the Fast-track Panel's decision in *Maitahi Village* whereby the Panel found that a degree of adverse impact is "hard baked" in the legislative regime (citing s 85(3) and s 85(4) of the Act) accordingly.

c. While the Panel has the same broad discretion as under the RMA and the same principles apply regarding lawful conditions, the purpose and permissible outcomes anticipated by the Act are significantly different to the RMA, and decision making about conditions needs to be consistent with the Act's purpose.

d. Under s 83 of the Act, the Panel must not set a condition that is "more onerous than necessary to address the reason for which it is set", requiring the decision maker to assess the effect that the condition was intended to address, involving an at least partly subjective assessment as to what level of effects is acceptable, informed by the evidence and the planning framework.

e. The assessment of what is necessary also needs to be informed by consideration of the Act's purpose and the scheme of the Act which (as observed by the Panel in Maitahi Village), hard bakes a degree of adverse effect into the legislative regime.

f. Viability and practicality are matters that are relevant in this context - if it is not

viable or practicable for an applicant to implement a proposed condition, then the approval is unlikely to facilitate the delivery of projects with national and regional benefits in accordance with the purpose of the Act.

g. In the result, the Panel must take particular care to ensure that conditions are proportionate - excessively complex or restrictive consent conditions, particularly those that significantly undermine the delivery of economic or other benefits, or which excessively burden an applicant for little/no environmental benefit, are unlikely to be consistent with s 83.

818 Those submissions were then applied to the issue of setbacks as addressed earlier in this part of the decision.

819 As to the fish screen issue, Counsel submitted that the current system had proven effective in supporting aquatic life while maintaining functional integrity. Counsel submitted that freshwater ecology assessments indicate that fish numbers have increased significantly since the Applicant took over the mine in 2017. The various points made in Appendix G as to why a 1.5 mm fish screen requirement is not practical where then reiterated, including a need to permanently employ divers to remove weeds which is said to be neither realistic, sustainable or practical.

820 At the 13 October presentation, Mr Eccles reiterated that a 1.5 mm fish screen requirement would have very significant adverse operational and commercial implications. Mr Coffey referred to this requirement as being a "game stopper". He stated that a reduced mesh size would be extremely disruptive as you would not be able to get water through the intake, and Mr Coffey saw no need for the requirement with large populations of mullet now present in the lakes.

821 Mr Coffey was asked whether the real issue was the estimated $1.5 million cost of installing the fish screen and the associated engineering challenges, or whether the mine simply could not be operated if this requirement was imposed. Similarly as to why a $1.5 million cost for the installation in the context of a $300 million annual spend (as estimated by the Applicant in asserting the regional benefits of the mine), was such a challenge for viability.

822 Mr Coffey's response was that $1.5 million of expenditure was a lot to be imposed if it was not producing any value, with Mr Coffey reiterating that unnecessary conditions should not be imposed under the Act.

823 The Panel has carefully considered counsel for the Applicant's submissions on this issue as filed with the 1 October response. The Panel finds that counsel has essentially conflated the requirement to give the greatest weight to the purpose of the Act under clause 17 of Schedule 5 with application of the test for imposing conditions under s 83.

824 As put to Ms de Groot at the PFC, the Panel finds that if a condition is necessary to address the reason for which it is set, then it can be imposed. This is a step within the assessment and deliberations process that precedes overall evaluation giving greatest weight to the purpose of the Act as required by clause 17, including for the purpose of setting conditions (as expressly referred to in clause 17(1)).

825 The Panel refers back to the Court of Appeal's decision in *Enterprise Miramar* as referred to in Part D of this decision in this respect.

826 As there noted, s 34 of the Housing Accords and Special Housing Areas Act similarly required that in considering an application for a resource consent, the decision maker give the greatest weight to the purpose of that Act, followed by the purpose of the RMA, and other relevant s 104 matters in turn.

827 The Court of Appeal found as follows in that context:

> [52] We accept the submissions for Enterprise that, properly interpreted, s 34(1) required the decision-maker to assess the matters listed in subs (1)(b)-(e) uninfluenced by the purpose of HASHAA before standing back and conducting an overall balancing.
>
> [53] Section 34(1) instructs the decision-maker to "have regard to" the listed matters "giving weight to them (greater or lesser) in the order listed". The scheme and plain text of s 34(1) requires individual assessment of the listed matters prior to the exercise of weighing them in accordance with the prescribed hierarchy. The matters listed in subs (1)(b)-(e) cannot properly be weighed alongside the purpose of HASHAA under subs (1)(a) if that purpose has first been used to effectively neutralise the matters listed in subs (1)(b)-(e).
>
> (emphasis added)

828 With respect to the Panel in *Maitahi Village* therefore, while a degree of adverse effect may be baked into the legislative regime for the purpose of substantive evaluation as to whether or not to grant or refuse consent (or indeed, conditions should ultimately be imposed) , neither the purpose of the Act, nor any other provision that the Panel is aware of, sets any specific threshold for the level of effect which must be exceeded before the Panel can find that a consent condition *is necessary to address the reason for which it is set* under s 83.

829 That assessment is, in line with the Court of Appeal's decision in *Enterprise Miramar*, a separate stage of the overall decision making and deliberations process before turning to questions of weighting "in accordance with the prescribed hierarchy".

830 As counsel acknowledged in the submissions filed on 1 October, this assessment will be at least partly subjective, informed by the evidence and relevant planning framework, which in this case includes the classification of the Wainui Stream as a Significant Indigenous Fisheries and Fish Habitat under the Regional Plan.

831 Accepting that a 1.5 mm fish screen size is not a specific standard for a discretionary activity, is nevertheless as put in the Regional Council's comments, an important reference point against which the effects of the proposal must be assessed, and against which appropriate consent conditions must be determined.

832 The Panel further notes that the s 85(3) assessment of whether effects are sufficiently significant to be out of proportion to the project's benefits is to be made after taking into account any conditions that the Panel may set in relation to the adverse impacts in question. This is a further indicator within the statute that the Act's purpose applies at a different stage of deliberations and decision making under the Act than in making the s 83 assessment itself.

833 On the question of viability more generally, the Panel sees this issue and situation to be quite different to that addressed by the High Court in *S & M Property Holdings Limited*.

834 The information presented to the Panel at the PFC and during the 13 October presentation does not demonstrate that a 1.5 mm fish screen requirement would be impossible or unworkable to implement, effectively thwarting the benefit of the RMA approvals being sought. Mr Petterson specifically advised that achieving the reduction is both possible and acceptable in engineering terms. The real issue for Mr Coffey was a concern that the $1.5 million cost involved was not necessary and would not produce any value in ecological terms. The Panel disagrees having regard to the independent expert opinion of both Mr Smith and Ms Bennett that the 1.5 mm fish screen size is necessary to avoid entrainment of larval/juvenile Threatened and At Risk fish species.

835 There is also evidence before the Panel from the Regional Council's comments that ongoing maintenance will not be unworkable either with self-cleaning screens and

potentially greater efficiencies achieved through application of available modern systems for this purpose, which was not disputed through contrary expert opinion in the Applicant's response to those comments.

836 The more complex issue factually is determining the population scale implications of that entrainment given Ms Bennett's evidence that larval fish (bullies in particular) are clearly making their way past the intake under the current mesh screen size.

837 The additional information produced by the Applicant in its final reply of 2 November (as requested at the 13 October presentation) demonstrates that the *fish pass* has been effective in maintaining (or even increasing) fish populations either side of the Wainui dam but does not appear to address the issue of entrainment in the *intake mesh screen* specifically. Aspects of the information also appear equivocal as to the suggested increases in fish population size referred to in counsel's submissions. For example, while Ms Bennett's report (Appendix B to the 2 November response) states that an increase in stocking rates of native fish can be *inferred* from the fish survey data, the most recent of the reports received (August 2015) states (in relation to īnanga) that catchment monitoring does not show a clear increase that can be attributed to the fish pass.

838 Given Ms Bennett's uncertainty as to the level and extent of population scale impacts on the Threatened and At Risk fish species at issue, the Panel finds it appropriate to apply Policy 3 of the NZCPS, being to adopt a precautionary approach towards activities whose effects on the coastal environment are uncertain, unknown or little understood but potentially significantly adverse.

Panel Findings: Freshwater Ecology

839 In essence, the Panel finds that provided the revised approach in conditions as arrived at during the PFC (and though subsequent conferencing) for maintaining minimum/ residual flows in the lower Wainui and Mitiwai Streams is adopted, the ecological and aquatic habitat values of those streams as assessed in Appendix L will be adequately protected. This structure and approach would not address the "mixing of waters" cultural concern raised by Te Nehenehenui/ Ngaati Mahuta at the PFC under this topic, given augmentation water, however the Panel has added a requirement whereby augmentation water from outside the catchment would not be introduced to the Mitiwai Stream, if practicable.

840 Having regard to all of the evidence and information presented on this topic, the Panel considers that the range of conditions providing for maintenance monitoring and operation of the fish pass are appropriate and as concluded in Appendix L, the fish pass can be expected to continue to be effective and to maintain fish migration past the dam. This would be confirmed through the ongoing monitoring programme required by condition 4 of Permit AUTH142035.03.01, with that monitoring programme to assess and report on the effectiveness of the fish pass and to be prepared in consultation with a wide range of stakeholders including the Department of Conservation, Taharoa Lakes Trust, Ngaati Mahuta, and be certified by the Regional Council.

841 Having regard to what appears to be the consensus of ecological opinion, a 1.5 mm mesh screen size on the water intake pumps within the reservoir is necessary (and no more onerous than necessary), to avoid adverse entrainment effects for the downstream migration of juvenile Threatened and At Risk native fish species. The Panel also finds based on the information before us that there are practicable, established and utilised mesh screen installation and operation techniques that can be applied to water intake infrastructure of this kind, provided a reasonable period of time

is set for their implementation. Further that there may be longer term benefits for fish screen maintenance and operation, as noted in the Regional Council's comments.

842 The Panel has carefully considered counsel for the Applicant's submissions regarding issues of workability/ viability but does not find that those factors overcome the necessity for the condition requiring a 1.5 mm mesh screen size to protect Threatened and At Risk native fish species. We also consider a condition to that effect to be reasonable to serve a legitimate resource management purpose, and do not consider there to be any other reason why the condition should not be imposed in relation to this issue under the FTAA.

843 We find that RMA case law confirming that viability is not a relevant consideration remains applicable under the Act, accepting (as noted above in relation to the buffer width issue) that conditions imposed can have an impact on the extent of national or regional benefits a project is able to deliver, as relevant to the Act's purpose.

844 Regardless, in the context of a $300 million annual expenditure, the Panel does not consider that the estimated $1 to 1.5million cost of installing the new fish screen presents a viability issue on the first place, certainly not to the level of thwarting the benefit of the consent. This can be distinguished with the estimated $1.8 Billion in lost revenue arising from the buffer extents imposed by the Hearings Panel and sought to be upheld in some of the s 53 comments, which would have a viability impact at that scale, had we determined to impose such buffers.[154]

845 We agree therefore that some flexibility and an allowance of time is needed for the Applicant to prepare appropriate plans, consider a workable transition regime, have those plans certified by the Council and then implement them, to ensure continuity of operations are not affected.

846 The Panel's revised conditions for Permits AUTH142035.02.01, .03.01 and .05.01 in relation to these issues have been determined accordingly.

Coastal Processes

847 The SAR included a Coastal Processes Assessment report (Appendix Q) prepared by Dr Eddie Beetham at Tonkin & Taylor, with reference to a "Discharge Dispersion Modelling Assessment" report prepared by MetOcean Solutions (Appendix FF of the SAR).

848 Appendix Q addresses potential effects associated with the discharge of ship loading water (to a maximum of 7.5 million m^3 per year), stormwater and process wastewater (to a maximum of 32,600 m^3 per day), as sought to be provided for under proposed Permits AUTH142035.12.01 and AUTH142035.13.01.

849 Appendix Q also addresses the effects on coastal processes associated with the occupation and maintenance of the existing pipelines and mooring buoy infrastructure comprising Taharoa Port, as utilised for the loading of the iron sand concentrate produced through onsite processing described in the SAR.

850 As noted in Part B, the ship loading process involves the pumping of a turbid slurry of processed sand from the Site to the SBM and thence to the ship.

851 Before the sand slurry is pumped through the pipeline, the vessel hold is partially filled with water to prevent abrasion. During the loading process, the vessel hold is de-watered using a decanting system. This releases a mix of water and very fine sediment to the coastal marine area and creates a visible plume during loading

[154] Refer section 2.3 of Appendix B to the Applicant's response to comments dated xxx.

operations (as observed by the Panel on Site Visit 1). Appendix Q advises that the sediment discharged through vessel hold dewatering is primarily silts that leak out through decanting.

852 The plume has a distinct brown colour unlike the predominant colour of sand found on the foreshore or within the mine generally at Tahaaroa.

853 Based on the maximum annual volume of ship loading water that would be provided for under permit AUTH1421035.12.01 and the suspended sediment concentration of the dewatering fluid (as assessed in the MetOcean report), i.e. 1 kg/m^3 discharged, Appendix Q assesses that some 7,500 tonnes of sediment would be discharged through ship loading annually, having a volume of 5,250 m^3.

854 Applying that same concentration, the report conservatively assumes that some 32,600 kg (or 23 m^3) of sediment could be discharged in stormwater/process wastewater per day, under permit AUTH142035.13.01. The report notes however that the stormwater discharge is infrequent with daily totals (as assessed in 2020) of 7,615 kg (rather than 32,600 kg).

855 The report further notes that the level of suspended sediment in the pond that the ship loading water typically comes from is at a much lower level than the conservatively assumed 1kg/m^3 in the discharge of stormwater, i.e. only 0.008-0.05 kg/m^3, based on seven months of sampling in 2025. The stormwater and process wastewater is discharged to the CMA at the SBM i.e. at essentially the same location as the ship loading water, in order to manage stormwater levels on site by preventing pond overflow.

856 A basic thrust of Appendix Q is to place the amount of sediment discharged through these processes into the natural context of the coastal environment and in particular the volumes of sediment transported along shore by wave action and delivered to the coastal marine area from the four main rivers and three major harbours within 100 km of the Site (Mokau, Awakino, Marokopa and Waikato Rivers, Kāwhia, Aotea and Raglan Harbours).

857 The report describes the west coast of the Waikato region as being an energetic and dynamic coastal environment characterised by large waves, storms and frequently changing coastal landforms. The coastal morphology and wave climate are described in the report, including a general long-term trend of dune accretion at the coastline, periodically interrupted by storm events that can cause temporary erosion of the dune.

858 Appendix Q refers to previous assessments including by MetOcean indicating that waves transport approximately 620,000 m^3 of sand to the north per year and around 440,000 m^3 of sand to the south, resulting in a gross annual alongshore transport of approximately 1 million m^3 per year in the surf zone by wave action. Sediment delivery to the coast from the four major rivers and three harbours referred to above has been assessed at approximately 1.3 million tonnes per year.

859 In this context, Appendix Q records that the discharge up to 7,500 tonnes of sediment per year from the dewatering plume is several orders of magnitude below the combined sediment yield from nearby rivers and harbours. In volumetric terms, the inputting of 5,250 m^3 of sediment by the ship dewatering plume is also several orders of magnitude below the estimate of gross alongshore sediment transport attributed to waves at Tahaaroa (1 million m^3 per year).

860 As the report notes however, the sediment plume is visible during calm conditions including from satellite imagery. This raised a question in the Panel's mind as to whether the type of sediment being discharged (essentially silt or clay) is of the same

characteristics (including grain size) to that referred to in the volumes and weights recorded for alongshore transport and delivery from river mouths and the estuaries. In its request for information, the Panel asked whether it is valid to use the terms "sediment", "silt" and "sand" interchangeably, and for an explanation of any differences in characteristics between the type of sediment naturally transported into and along the coast, and sediment discharged during ship loading.

861 The significance of that issue from an ecological point of view is addressed in the Marine Ecology section of this decision below.

862 For the assessment of effects of sediment discharged in the ship dewatering plume, Appendix Q draws on numerical modelling of plume dispersion and settlement in the coastal environment undertaken by MetOcean (Appendix FF). That report modelled sediment dispersion and settlement on the following basis:

a. Representative three-month periods during winter conditions with 12.5 dewatering events (each event being 150,000 m^3 over 48 hours) per three-month period totalling 1.875 Mm^3 of turbid water into the CMA per quarter (i.e. a quarter of the 7.5 Mm^3 of ship loading water that would be allowed under proposed permit AUTH142035.12.01)

b. The same for a representative three-month summer period.

863 The Panel also requested further information on these modelling assumptions, which did not appear to be consistent with the proposed expanded level of ship loading activities as recorded in the SAR, i.e. 35 events per year, each over 4 days (being 35 days of ship loading per quarter, not the 25 days (12.5 events each over 48 hours) assumed in Appendix FF.

864 Based on the dispersion modelling in Appendix FF, Appendix Q advises that sediment deposition of up to 0.01 mm (1 grain of 10-micron sediment) could occur in 40% of the Kāwhia Harbour and 13% of the Aotea Harbour. Sediment deposition above 0.05 mm (in the order of 5 grains high) is limited to less than 1% of the harbour areas, and deposition over 0.1 mm per year is localised to very small areas (0.01% of Kāwhia Harbour).

865 No deposition was modelled on the open coast at Tahaaroa except at Albatross Point (at <0.01mm), though this was said to comprise a numerical artefact of the dispersion model, rather than representing actual deposition on the complex coast in the location.

866 The Panel understands that these are annual deposition rates rather than total deposition rates over the 35-year duration of consent sought by the Applicant.

867 To put those deposition rates into context however, it is noted that Appendix V (Marine Ecology Assessment) records Australia New Zealand Guidelines (**ANZG**) (2018) provide a Default Guideline Value (**DGV**) of 2 mm of sediment accumulation per year above the natural annual sedimentation rate for the specific estuary or part of the estuary, being well above the 0.01-0.1 mm / year deposition rates determined through the numeric modelling.

868 Appendix Q concludes that from a coastal process perspective the release of fine sediment from the discharge plume has a negligible effect on coastal processes and landforms for the open coast and adjacent harbour environment, based on the undiscernible magnitude of deposition when compared to the natural baseline of sediment yield and alongshore transport.

869 Appendix FF also reports on modelling of the concentration of sediment discharged from ship loading activities in the water column, with the 90th percentile summer period concentrations (above background levels) being at a maximum of 0.62 mg/l at

the surface and 0.39 mg/l at the seabed, and with those concentrations reducing both over time (from the date of discharge) and distance from the SBM. The sediment concentration is stated to be higher during the two days of discharge, and then quickly dissipates.

870 Modelled sediment concentrations in the winter period from the modelling were lower than in the summer period (both in the water column and at the seabed), but with the plume footprint being more spread than in summer. Again the concentration is higher during the two days of discharge, but then quickly dissipates with the plume almost totally dissipated after six days.

871 This appears to be consistent with the satellite imagery referred to in Appendix Q, whereby the vessel plume is not visible five days after the discharge event.

872 In terms of the discharge of stormwater and process wastewater, Appendix Q advises that the finer grains would likely disperse in a similar pattern to the dewatering plume model results from MetOcean, likely drifting in a north dominant direction and dispersing below background concentration levels. Given the combination of low occurrence and the capacity of sediment to be mobilised by alongshore transport, the effect of the discharge is assessed as negligible on coastal processes and landforms.

873 The potential cumulative effect of the ship dewatering and stormwater/process wastewater discharge is also stated to be negligible, based on the small magnitude of deposition from both processes.

874 Turning to the effects of occupation of the coastal marine area by the SBM and associated anchoring (along with the pipelines), Appendix Q assesses that the mooring system would have no discernible influence on waves, currents or sediment transport processes because these structures are relatively small compared to the scale of physical processes at the Site, and the structures are not obtrusive to the flow of waves, currents and the movement of sediment.

875 The pipelines themselves are assessed as having negligible effect on hydrodynamic and sediment transport processes due to the small diameter of the pipes (318 mm) and the dynamic nature of the seabed. The pipelines are buried under the beach and surf zone and so would not influence coastal processes where buried, apart from small areas of localised scour on the down-drift side and deposition on the up-drift side for any section of pipe exposed on the beach.

876 Assuming for consenting purposes that the pipelines, mooring anchors and buoy were reinstalled with like for like infrastructure, the occupation effect on coastal processes would be as assessed for those structures as already in place, and negligible.

877 Overall, the report concludes that the structures, ship loading dewatering and the discharge of stormwater and process wastewater would have negligible effects on coastal processes and landforms, due to the small magnitude of deposition from plumes and low impact footprint of the coastal marine structures, within a dynamic high energy and turbid coastal environment.

<u>Section 53 Comments</u>

878 The only comments received on the coastal processes topic were from Marokopa Mātaitai Reserve (Mirumiru Pā ki Marokopa) (**Marokopa**).

879 Marakopa made a number of comments regarding the potential for sand mining activities to affect coastal processes at Marokopa, as relevant to the rohe/ takiwā defined by the Marokopa Mātaitai Reserve (No. F567), and Marakopa's status as a named applicant for a recognition order under the Marine and Coastal Area (Takutai

Moana) Act 2011 (rohe moana to Tirua Point), and noting that Marakopa's comments were also filed in "co-submission" with the co-chair of Mirumiru Pā at Marokopa.

880 Marakopa's comments included concerns that (in summary):

a. Extraction of up to 4 million tonnes of sand per year at Tahaaroa would create a deficit which would "pull sand" from updrift (Marokopa), accelerating erosion at Marokopa as a result.

b. A reduction in sand supply at the Marokopa River mouth would affect the sandbar and spit system meaning the river mouth becomes more vulnerable to storm breaching and salt water pushes further upstream, affecting taonga species in the estuary and īnanga spawning at Marokopa.

c. Tahaaroa and Marokopa are inside the same littoral cell with sand moving northward through Marokopa's coastline toward Tahaaroa. When mining removes that sand permanently Marokopa is the updrift area that supplies the replacement. This gradually depletes the sand available to Marokopa's dune and beach system.

d. Under storm conditions, coastal currents on the west coast can rotate or reverse. Southerly or southeasterly swells could carry discharge southward from Tahaaroa towards Marokopa, but this had not been modelled.

e. The Applicant's modelling also does not cover cumulative effects of over 35 years of mining and what the coastline at Marokopa would look like in 2061 under sea level rise and more intense storms.

881 Marakopa requested an independent coastal geomorphologist's assessment of the Tahaaroa to Marokopa sediment pathway to be commissioned by the Panel, as a precondition of consent.

Applicant's Response to Section 53 Comments

882 The Applicant's response to these comments was prepared by Dr Eddie Beetham, Senior Coastal Geomorphologist at Tonkin & Taylor (Attachment C to the Applicant's response to section 53 comments).

883 Attachment C responds to Marokopa's comments as follows (in summary):

a. While agreeing that the west coast sand system (including Marokopa) operates as one connected littoral cell with the primary source in the Taranaki volcanic zone with a north drift through Waikato and Auckland to Northland, further investigation of the sand transport system is not necessary because the Applicant exports sand from land-based deposits that are not part of the active littoral cell, and so would not have an effect on sediment budgets.

b. Monitoring of beach profiles at Marokopa is not necessary or appropriate because the proposed mining activity has negligible effect on the active dune system, as presented in Appendix Q of the SAR.

c. A requirement for independent verification of longshore transport modelling is also not necessary because the activities requiring consent in the CMA have negligible effect on the coast.

d. In general, the shoreline along the Marokopa coast appears to be trending more towards erosion than accretion, which is more likely to be a "lee-side" erosion effect as a result of the promontory to the south of Marokopa (deflecting littoral drift to more seaward parts of the zone in this area). Conversely the Tahaaroa coast is accreting meaning it is storing increasing volumes of sand each year.

The export of sand from land-based deposits behind the beach and dune system would have no effect on the littoral sand budget between Tahaaroa and Marokopa.

e. Tahaaroa is located 13km north of Marokopa. The net littoral drift along the coast is northward, with sand passing Marokopa then travelling north towards Tahaaroa. Even if there were activities that affected the sand budget at Tahaaroa, this would affect the shorelines to the north, rather than those to the south of Tahaaroa.

f. Modelling of the dewatering plume does show some fine sediment has the potential to drift south to Marokopa in the summer months but with concentrations less than 0.3 mg/l above background levels. The suspended sediment concentration and total volume is very small, being orders of magnitude below the sediment yield assessed for the Marokopa river catchment and from alongshore littoral sediment transport.

g. The Applicant's export of land-based sand deposits would have no material effect on the littoral drift sediment budget between Marokopa to Kāwhia, so it is not necessary to assess whether there is a cumulative sediment deficit as this is not an impact of the proposed mining activity. Similarly, the effect of the proposed sand mining activities would be negligible on the Marokopa River mouth.

Applicant's Response to RFI

884 The Applicants responses to the Panel's RFI relating to coastal processes, including on the points noted above in the outline of Appendices Q and FF of the SAR were also largely prepared by Dr Beetham, and can be summarised as follows.

(a) Standard terminology has been used in reference to sand and sediment with some interchangeability, for example alongshore sediment transport calculations were based on sand size material, but the standard term for this is still alongshore 'sediment' transport. Calculations of alongshore sediment naturally transported as presented in Appendix Q were based on fine sand grains. If a smaller grain size were used in these calculations, the alongshore transport rates would be higher.

(b) Because the sediment being released by the dewatering plume and stormwater management is finer (i.e. more silt fraction), the comparisons made to the capacity of the natural process environment to transport the released sediments is conservative. There is little information on the composition of grain sizes in terms of sediment delivery to the coast (from river mouths and estuaries), but this would likely be a mix of sand and silts.

(c) Clarifying that the discharge point for process water is from the SBM, at sea surface level.

(d) Clarifying the basis upon which the plume deposition rates as summarised in Appendix Q had been derived, i.e. with reference to Figure 4.2 of Appendix Q which was created using the same data presented in Figure 3.17 of Appendix FF, with the two figures showing the same data but using different colour scales.

(e) Explaining the modelling assumptions in Appendix FF in terms of the number of days of discharge per quarterly period to account for the planned expansion in the number of ship loading events per year, and advising that the total annual sediment discharge volume and predicted annual patterns of seabed deposition would not change if a different number of days of discharge per quarter were assumed for the same total discharge volume per event.

(f) Confirming that there is no mechanism by which a land-based sand mining activity at the scale proposed could have an impact on the active dune system/ beach profile at either Tahaaroa or Marokopa over the 35 year consent period, because the mining Site is setback sufficiently from the active coastal environment.

Panel Findings: Coastal Processes

885 The Panel has considered the information in Appendices Q and FF, the section 53 comments received, the Applicant's response to those comments, and the Applicant's RFI responses on coastal process related issues.

886 The Panel adopts the findings in the assessment reports and concludes that overall effects on coastal processes in terms of both discharges to the CMA (ship loading, stormwater and process wastewater), and through the occupation or replacement of the pipelines, mooring anchors and other structures on the seabed, would be negligible. This includes at Marokopa, for the reasons addressed in the Applicant's response to comments and the RFI.

Marine Ecology

887 The SAR included a report on marine ecology prepared by Dr Peter Wilson at SLR Consulting New Zealand, being the Marine Ecology Assessment (Appendix V).

888 This assessment report was prepared based on a desktop assessment and one off field survey involving sampling of marine sediments analysed for their chemical and physical characteristics (i.e. mud and metal content), and benthic macrofaunal community composition at two locations approximately 250 m from the SBM site (**Mooring Sites**) and two suitable reference sites approximately 2 km away from the mooring (**Reference Sites**).

889 The report states that the Reference Sites are considered to be a sufficient distance from the dewatering activity to represent background seabed conditions and environmental influences, and that the maps presented in the MetOcean report (Appendix FF) show that the Mooring Sites are located within the highest likely depositional area near the mooring. The Panel requested further information from the report author as to which maps in the MetOcean report were relied on in making that statement.

890 Appendix V describes the sampling method as involving the use of 10 cm diameter and 30cm long tubes for sediment core sampling, which is typically collected by inserting the hollow tube perpendicular to the sediment surface. The report records practical difficulties encountered in completing the sampling such that the cores had to be pushed in at an angle to acquire sufficient sediment, and whereby only 6 out of 8 intended core samples for each site were able to be collected within the constraints of limited bottom time for the divers and "technical difficulties".

891 The Panel requested further information as to whether these limitations would have any impact on the reliability of the data obtained from the sampling.

892 Appendix V sets out and discusses the results of the sampling in terms of both sediment physiochemical characterisation (metals and grain size) and benthic macroinvertebrates, along with the laboratory and statistical analyses completed in evaluating the results of that sampling.

893 Sediment metal concentrations were all found to be well below ANZG DGVs (where available for the metal concerned), indicating a low level of risk to aquatic organisms with regard to metal contaminants. That said, DGVs were not available for aluminium, iron and manganese and mean concentrations of manganese, nickel and zinc were

slightly elevated at the Mooring Sites relative to the Reference Sites, but not to a statistically significant degree.

894 Iron was the only metal to have a statistically significant higher concentration near the Mooring than the northern Reference Site. The report notes that iron is a commonly occurring metal and although elevated near the Mooring Sites compared with the northern Reference Site, the concentrations are unlikely to cause adverse effects on the environment, notably in sands that are known for their naturally high iron concentrations.

895 In terms of sediment grain size, the mud content of sediments near the mooring was elevated relative to the Reference Sites, with a statistically significant difference within that sediment size class at the southern Mooring Site as compared with the southern Reference Site.

896 In terms of benthic macroinvertebrates a broad range of common species were identified including amphipods, bivalves, shrimp, nematodes and polychaete worms.

897 The two Mooring Sites generally had a lower number of individuals and lower species richness than the northern Reference Site (but not to a statistically significant degree) and both Mooring Sites had very similar descriptive statistics to the southern Reference Site.

898 The greatest differences between the Reference and Mooring Sites were recorded for three groups of species, with the report advising that it is plausible that these species are present at the Reference Sites but not the Mooring Sites due to some sensitivity of the species to sediment mud content and/or metal concentrations.

899 Overall, the report records that there are species present at all sites that are typical of slightly muddy sand substrates, but which have known sensitivities to highly elevated mud and metal concentrations. Some species are absent from the Mooring Sites that are at the Reference Sites, but there are no descriptions of their habitat preferences or tolerances and none of the species identified are listed as Threatened or At Risk.

900 Appendix V goes on to address the outputs of the MetOcean modelling (Appendix FF) noting that very low concentrations of suspended sediment were predicted within the water column, and similarly that the levels of sediment deposition predicted by the model are much less than the ANZG (2018) DGV limit of 2 mm per year (as referred to above). On that basis, the dewatering discharge is considered to have no adverse effects on the nearby estuarine benthic habitats, nor for activities such as marine farming.

901 Appendix V states that the mud content of sediments near the mooring was 27% compared with 18% at the Reference Sites, but given the mud content at the Reference Sites, it can be inferred that the communities in the general area are likely to be relatively mud tolerant.

902 Based on the low predicted levels of suspended sediment and sediment deposition and low levels of effects associated with that deposition, the report advises that further monitoring of the plume or benthic environment around the mooring buoy is not considered necessary. This is a specific issue in contention, as addressed further below.

903 Appendix V states that the quality of the process wastewater and stormwater discharge is potentially similar to that of the dewatering discharge (i.e. not containing any additives or hazardous substances), with the volumes being much less than the dewatering discharge, and occurring over shorter periods, as well as being infrequent.

904 The adverse effects resulting from an intermittent discharge occurring during heavy

rainfall events are assessed very low, such that there are unlikely to be adverse cumulative effects on water quality or benthic habitats from the discharge of ship loading water and of process water and stormwater.

905 Appendix V also discusses effects on fisheries and shellfish with reference to the levels of sediment deposition and sediment in the water column, and advises that the overall effect for shellfish in the Kāwhia and Aotea Harbours would be Very Low at most. Adverse effects on benthic fauna more generally near the mooring are considered to be a minor shift from baseline conditions, resulting in a Low magnitude of effect and a Low overall effect on benthic fauna.

906 The effects from the coastal marine structures are discussed briefly as well, noting that the pipeline, mooring buoy and chains/anchors used to keep the mooring buoy in place would provide a hard substrate for marine organisms to colonise, potentially providing a small positive effect.

907 Appendix V concludes that the overall effects of the proposed activity on the marine environment would be low from an ecological perspective and less than minor on the environment.

908 Despite the conclusions in this report, Appendix G of the SAR records the level of marine monitoring required by the RMA Hearings Panel as an issue in contention. The RMA Hearings Panel considered that more frequent monitoring of water quality in the CMA was needed given that a one off assessment had been applied by SLR, and the Applicant intends to increase production from 3 million tonnes to 5 million tonnes per annum.

Section 53 Comments

Waikato Regional Council

909 The Waikato Regional Council's comments referred to the empirical information presented in Appendix V as suggesting that there may be large differences in sediment parameters likely associated with the activity -noting the elevated mud content at the Mooring Sites compared with the Reference Sites. The statistically significant difference between the mud content at these two locations, were they to occur at an estuarine site, would represent a shift from a "fair" to a "poor" ecological quality status.

910 The comments point to a divergence between the modelling outputs (as described in Appendix Q and FF) showing no accumulation of sediment at the mooring buoy, and the sample results showing higher mud percentages at that location.

911 Concern was recorded that the modelling does not cover longer time periods accurately and cannot explain what has occurred with respect to sedimentation and the changing sediment environment over the last 35 years with certainty. Similarly, the model cannot be used to confidently claim that the levels of sedimentation over the next 35 years will be inconsequential, especially if there are substantial increases in discharge.

912 There was said to be a lack of a spatial gradient in the sampling sites (at 250 and then 2 km from the discharge) meaning that there is a lack of understanding across a substantial area.

913 The comments state that if sediment mud content increases even further over the lifetime of the consents now being sought (to 40% or 50%, compared with the 27% recorded at one of the Mooring Sites), this would eventually result in changes to the ecology and the functioning of the marine ecosystem i.e. a chronic low level disturbance altering community composition over a wide spatial scale.

914 The comments note that the empirical basis for the assessment in Appendix V is limited to a single survey that was spatially constrained with elements of poor execution and a strong reliance on unvalidated monitoring with respect to sedimentation. They recommend robust gradient based consent monitoring over the term of the consents now being sought, involving three yearly sampling at locations 250 m, 500 m, 1 km, 2 km and 4 km north and south of the point of discharge.

915 These comments were as set out in a technical memorandum prepared by Dr Michael Townsend, Team leader- Coastal and Marine Scientist at the Council.

Te Nehenehenui and Ngaati Mahuta

916 Te Nehenehenui comments that the management of discharge effects including to the coastal environment is largely dependent on management plans, with the proposed conditions containing few numerical limits and a number of the proposed mitigation measures relying on monitoring to trigger a management response, rather than a preventative approach.

917 Te Nehenehenui records a preference for the use of quantified discharge standards because without numeric limits, enforcement becomes very difficult. Independent monitoring regimes and increased reporting conditions are stated to be necessary.

918 Ngaati Mahuta states that they do not accept the conclusions regarding effects on and within the CMA when assessed on a cumulative and 'ki ki tai' basis. It is stated that the conclusions in the application reports do not address cumulative long term sediment inputs over the life of the consents, nor the cultural and customary reliance on kaimoana within the receiving environment, with limited integration of mātauranga Māori indicators or customary harvest monitoring.

Marokopa

919 The comments by Marokopa raise concern about the discharge of vanadium during ship loading which is said to bioaccumulate affecting shellfish, kīna and bottom feeding fin fish, exposing people who harvest kaimoana to whatever is in those organisms. Marakopa requests a near shore sediment vanadium baseline assessment before the consent is issued, and ongoing monitoring requirements.

<u>Applicant's Response to Section 53 Comments</u>

920 The Applicant's response on marine ecology (Attachment D to the Applicant's response to section 53 comments) was prepared by Dr Wilson, the author of Appendix V. The response to comments in Attachment D can be summarised as follows.

921 While acknowledging the divergence between the modelling predictions and the empirical seabed sediment data (which show higher mud content near the Mooring than at the Reference Sites) as being a relevant source of uncertainty, the existing seabed condition needs to be interpreted in the current temporal and regional context.

922 Mining operations at Tahaaroa have been ongoing since 1972 with the dewatering discharge having occurred for several decades, such that the sampled seabed condition near the mooring reflects the current receiving environment following over 50 years of activity. The elevated mud content also needs to be interpreted in context over the wider west coast sediment regime whereby the discharge volume is several orders of magnitude below the combined sediment yield from nearby rivers and harbours.

923 The high loading of catchment derived sediment into the west coast is also said to be

consistent with regional seabed sediment mapping indicating a mud enriched area on the west coast south of Tahaaroa, whereas comparable mud enrichment is not apparent to the north between Kāwhia and Aotea Harbours. It is also noted that the measured differences in sediment characteristics near the mooring have not resulted in significant adverse effects on the benthic macrofaunal community.

924 While further spatial and temporal sampling would provide more information on the distribution and variability of mud content in the receiving environment, the one off sampling was undertaken in an environment that has already been exposed to the dewatering discharge over a period of several decades without any material adverse changes to the benthic environment, which would have been expected to have been evident in the sampling results if they had occurred. It is also noted that the predicted deposition from the dewatering discharge in the Kāwhia and Aotea Harbours is very low.

925 On that basis and acknowledging the uncertainty identified in the Regional Council's comments, it is not considered that the measured sediment differences interpreted in their context warrant ongoing marine monitoring.

926 In response to the Te Nehenehenui comments, proposed consent conditions are referred to which set numeric limits on the maximum volume and rate of discharge (daily and annually) to the CMA, along with conditions of coastal Permit AUTH142035.13.01 setting controls on the discharge of stormwater, requiring testing for turbidity, pH, heavy metals and hydrocarbons and setting limits for samples within the holding ponds for turbidity/ total suspended solids.

927 Attachment B as prepared by Mr Eccles also comments on Te Nehenehenui's concern on this topic noting as follows:

a. The effects of the discharges for which consent is sought are comprehensively assessed in the SAR.

b. The Applicant does not propose to discharge sediment ladened water directly to streams or wetlands.

c. The sediment discharge into the coastal marine area is very small and effects have been evaluated as very low at most (referring to Appendix V of the SAR).

d. The proposed consent conditions require that there are no discharges of oil, grease, fuel, or detergents that result in a conspicuous oil or grease film, scum, foam or a conspicuous change in colour or visual clarity after reasonable mixing, to ensure the discharge does not result in elevations of key contaminants that would adversely impact biota in the Wainui Stream or within the coastal environment.

928 In terms of the Ngaati Mahuta comments, Attachment D advises that cultural effects have not been assessed directly although those matters may be informed by the assessment of marine ecological effects. Cumulative effects are said to be addressed in the assessment, with the conclusion being that there are unlikely to be adverse cumulative effects on water quality, benthic habitats or fauna from the discharge of ship loading and process water collectively.

929 In relation to shellfish, the open coast of Tahaaroa is referred to as a high energy environment where fine sediment from both catchment sources and the Tahaaroa dewatering discharge is more likely to be dispersed and resuspended than accumulated, and with predicted sediment deposition in the harbour environments most susceptible to fine sediment accumulation also being very low. On that basis adverse effects on shellfish resulting from the proposed discharges into the CMA would

be "very low" at most.

930 Responding to the vanadium issue raised by Marokopa, the predicted increases in suspended sediment and seabed deposition are very low with sediment metal concentrations near the mooring site being below relevant ANZG default guidelines. On that basis the report author concludes that adverse effects on marine fish from the discharges would be low.

931 Attachment D refers to literature confirming that vanadium can accumulate in marine organisms, however vanadium concentrations in most benthic invertebrates are generally low, and there is no evidence of biomagnification through marine food chains.

932 Vanadium was not included in the standard analytical suite, however given that the metals analysed did not indicate elevated concentrations or accumulation near the discharge, and given the low predicted deposition and absence of significant adverse effects on benthic communities from those metals that were considered, it is not expected that vanadium would show a materially different pattern.

Applicant's Response to RFI

933 The Applicant's responses to the Panel's RFI relating to Marine Ecology, including on the points noted above in the outline of Appendix V, were also prepared by Dr Wilson. Those responses can be summarised as follows.

a. The "one off" field survey and desktop assessment as recorded in Appendix V is considered to be adequate and proportionate to the potential range and extent of marine ecological effects from the discharge of water associated with ship loading (as well as process – water and stormwater discharges), for similar reasons to those given in response to the Regional Council's comments as set out above. It was also noted that the 2021 survey was not relied on in isolation – but instead based on multiple lines of evidence including the desktop review of receiving environment, site specific sediment chemistry, grain size and benthic macrofauna sampling, discharge and dispersion modelling, and the coastal processes assessment.

b. The survey effort was also considered adequate and proportionate given the low level of effect of the discharges on the marine environment as determined through the results of the one off sampling, and bearing in mind the activity is long established so the survey provided an opportunity to detect cumulative or chronic effects, rather than only predicting effects from a new discharge.

c. The assumption that the process and stormwater being discharged would have a similar suspended sediment concentration to the dewatering discharge from ship loading should be understood as a reasonable source material assumption for assessment purposes, rather than a site-specific measured concentration for the infrequent stormwater and process water discharge, with the effects of that discharge to be managed by the proposed consent conditions.

d. The basis for the assumption is that the stormwater and process water interact with the same iron sands that are extracted, processed, transported and loaded for export. However, given such discharges are intended to be infrequent such as during high rainfall periods, representative sampling is said to be difficult.

e. The monitoring requirements for the stormwater/process water discharge are as set out in coastal discharge Permit AUTH142035.13.01 requiring sampling of water in the holding ponds for turbidity, pH, heavy metals and hydrocarbons prior

to discharge into the CMA, enabling a direct check on the quality of water proposed to be discharged, and testing of the assessment assumption that the discharge quality is consistent with the expected sediment and contaminant profile of the mined iron sands.

f. The mooring sampling sites at 250m north and south of the mooring were selected because this was the closest practical and safe sampling distance achievable during the field survey. Sampling any closer to the mooring would have created a risk of the survey vessel's anchor becoming entangled with the mooring buoy anchor lines. The statement in Appendix V that the mooring sampling sites are located within the area of highest likely deposition was an inference based on the modelled bottom-water suspended sediment concentrations shown in Appendix FF.

g. Explaining the practical limitations encountered during the field survey in more detail, with Dr Wilson advising that he did not consider that the field limitations materially affected the reliability of the benthic faunal data, beyond the normal variability associated with subtidal benthic sampling, or the conclusions reached in Appendix V.

h. Having regard to the relative concentrations of vanadium in titanomagnetite compared to the other metals that were sampled and reported on in Appendix V, vanadium would be expected to be present at a substantially lower concentration than iron, and lower than manganese, in the titanomagnetite source material.

i. Recording that it is not clear why a small increase in fine sediment was recorded near the mooring with there being no direct evidence confirming the cause, and that it may reflect several interacting factors including the complex local hydrodynamic environment, interaction of the near seabed currents with the mooring and anchor system, or the character of fine sediment in the dewatering discharge plume. The higher mud content near the mooring may reflect the character of the sediment in the discharge plume, but this cannot be confirmed from the available data.

j. Clarification was also provided as to the basis of the reported sediment deposition depths and concentrations referred to in Appendix V, relative to the information presented in Appendix FF and Appendix Q of the SAR.

PFC Outcomes

934 The sole issue regarding marine ecology addressed at the PFC related to the Regional Council's comments seeking further and more frequent monitoring, adopting a spatial gradient approach.

935 This topic was addressed through questions put to (and discussion between) Dr Townsend (who prepared the Regional Council comments on this topic) and Dr Wilson.

936 Dr Townsend was concerned that the level of uncertainty inherent to the sampling referred to in Appendix V had been downplayed; that there was no understanding of how the situation might be changing over time, and a heavy degree of reliance had been placed on the coastal modelling. Dr Townsend reiterated the higher mud content at the Mooring Sites reflected in the monitoring results, with uncertainty over the full spatial extent of that elevated mud content.

937 Dr Wilson was of the view that monitoring is only necessary to manage risk, and advised that this is a very low risk situation, as confirmed by the monitoring and modelling that has been completed, within a high energy environment. He noted that

none of the sampling results were near ecological thresholds after 50 years of activity, and the benthic environment would likely have reached an equilibrium over that period.

938 In response to a question as to why, in the background context of catchment derived sediment inputs referred to in Appendix V (and repeated in Attachment D to the Applicant's response to section 53 comments), mud content had nevertheless been confirmed as higher at the Mooring versus Reference Sites, Dr Wilson advised (as with the RFI response noted above) that he was unclear on the reasons for that based on the results of a one off survey.

939 He nevertheless advised that while interesting, this did not suggest that further monitoring was necessary despite the planned expansion in the rate of ship loading activity.

940 Dr Townsend responded that given the statistically significant difference in mud content between the Mooring and Reference Sites, there would be a benefit from further investigation and advised that we may not yet have collated a full ecological assessment with suboptimal sampling and low levels of replication. Dr Wilson remained of the view that the risk is really very low and well below ecological thresholds, such that despite some current uncertainty further monitoring is not required.

Panel Findings: Marine Ecology

941 Having considered all of the information, comments and responses to comments on this topic, the Panel adopts the findings in Appendix V that the overall effects of the proposed activity on the marine environment would be Low from an ecological perspective and less than minor on the environment.

942 There is nevertheless a moderate degree of uncertainty raised by the results of the one-off (and constrained) sampling effort, particularly in terms of elevated mud content on the seabed in the vicinity of the discharge site, the presence of which Dr Wilson was not really able to explain.

943 Accepting that the activity is long established and that if there were any significant impact that should have been apparent by now, a further 35 years of activity is proposed with an expanded level of operations and ship loading activity.

944 The Panel therefore finds that a further equivalent sampling round to that completed in preparing Appendix V is necessary and should be required after a further five years of operations.

945 The Panel has included new conditions 8-10 in Permit AUTH142035.12.01 to require this but on the basis that if no further statistically significant differences between the Mooring and Reference Sites are detected after that further five-year period, along with no material risks to benthic invertebrate communities, no further sampling would be required.

946 Conversely if the sampling does detect a significant difference and effect, a further round of sampling would be required after another five years, with this requirement remaining until the point at which no significant differences or effects are recorded and reported.

947 The Panel anticipates that the outcomes of this further surveying effort could also inform a potential review of conditions of consent, as provided for under proposed condition 61 of Schedule 1.

Marine Mammals

948 Appendix GG of the SAR (Marine Mammals) was prepared by Dr Deanna Clement at the Cawthron Institute. The report describes the marine mammals that use Port Taharoa and surrounding waters, and includes an assessment of potential effects of the marine based activities on marine mammals potentially present in that area.

949 Appendix GG is based on information regarding the life-history dynamics of marine mammal species that could make them more vulnerable to proposed activities, or where the activities might overlap with any ecologically significant feeding, resting or breeding habitats.

950 Specifically the report focusses on four key assessment components, being:

a. A desktop review of resident and transient marine mammal populations using the harbour surrounding Tahaaroa and the wider area, with a particular focus on Māui dolphins.

b. A review of comparable national and international literature to describe any potential marine mammal effects associated with similar sand extraction activities.

c. The identification and categorisation of any potential effects, their spatial scales and durations, likelihood and potential consequences.

d. Recommendations for management of any adverse effects based on the final risk assessment.

951 Appendix GG notes that there has been little dedicated marine mammal research on the west coast of the North Island around the Port, with the notable exception of long-term research and survey work on Māui dolphins. For other species the best data available is from opportunistic sightings reported to the Department of Conservation, which the report advises should be considered as indicative rather than fully representative of marine mammals in the region.

952 In the absence of survey data targeted at population information, the report advises that any potential risks to marine mammal species associated with the proposed activities must be assessed on a general understanding of the species' life-history dynamics.

953 As to the existing environment, the report states that out of the more than 50 species of cetaceans (whales, dolphins and porpoises) and pinnipeds (seals and sea lions) known to live or migrate through New Zealand waters, at least 28 species have been sighted or stranded along the northwestern coastline of the North Island.

954 The most reported species occurring along the Port coastline are Māui dolphins with over 1,000 sightings in more than 20 years of dedicated survey effort for this species. The current population estimate for this nationally critical species is fewer than 100 individuals.

955 Other than Māui dolphins, the next most common species recorded (and most likely to be potentially affected by the project) include common dolphin/aihe and orca/maki with records of sperm whales, blue whales, pilot whales and some beaked whales, albeit with most of the sightings being well off shore. The report states that these species are much less likely to be found in and around the Port area given their preferences for deeper waters.

956 The report notes that based on the available species data, Policy 11 of the NZCPS is triggered, but there is no evidence indicating that most of these species have home

ranges restricted solely to the region around the Port and nearby waters.

957 The sole exception is again stated to be Māui dolphin, which has Nationally Critical status. The Port is at the southern limit of the main population centre for Māui dolphins but well within the normal range for that species. The Port is said to sit within the important resting and feeding habitat for a population of less than 100 mature dolphins, with the species therefore being highly relevant in terms of assessing effects under Policy 11(a) of the NZCPS.

Potential Effects

958 Appendix GG covers potential effects on the proposed mining activities including:

a. underwater noise from vessels and pipelines;

b. vessel strike;

c. vessel lighting;

d. entanglement; and

e. ecological effects including contaminants and prey.

959 In addressing these effects, the report notes that while a lack of data will increase the uncertainty of the assessment, useful parallels and lessons can be taken from similar operations elsewhere.

960 The report advises that materially increasing underwater noise has the potential to adversely affect both cetacean and pinniped species as they rely heavily on underwater sounds for communication, orientation, predator avoidance and foraging.

961 Potential effects can range from Permanent Threshold Shift involving alteration of hearing function caused by physical damage and leading to irreversible hearing loss, through to behavioural responses (animals being displaced or attracted to the noise source), and acoustic responses where the animals change their acoustic rates or call frequency.

962 Appendix GG advises that marine mammals have different hearing sensitivities depending on their mode of communication, navigation and behaviour. It is expected that Māui dolphin would be the main species present near the Port with Hector's and Māui dolphin having a generalised hearing range at the very high frequency end of the noise spectrum, whereas other cetacean species have a high through to low frequency hearing range.

963 The report records that there are no available data on the underwater noise levels (or frequencies) produced by the 290 m long bulk carriers that collect and dewater the slurry and transport the iron sand from Tahaaroa, but states that vessels of a similar size and configuration to the export vessels can be very noisy when underway and may disturb marine mammals at distances of several kilometres.

964 Without actual measurements of the underwater noise from export vessels, the report states that it is not possible to confirm the exact nature and extent of any noise disturbance at the Port, and moored vessels will be audible to most marine mammals over several kilometres. The report nevertheless draws the following conclusions.

965 Based on the overseas noise evidence from vessel studies, it is assumed that an export vessel (similar to TIL's vessels) slowly approaching the pumping station or mooring is unlikely to produce any noise at physiological levels that could damage marine mammal hearing.

966 There is also little information or data about the noises generated from pipelines

transporting mining slurry. However, drawing on reviews of underwater noise from dredging activities which produce mostly low frequency sounds, and given the very small particles in the slurry, it is likely that the noise levels produced from the pipelines would be lower than if they were transporting larger courser particles or materials.

967 Based on the noise characteristics from similar overseas activities, the report concludes that it is likely that any effects would be limited to the temporary masking of some marine mammal acoustic communication within the vicinity of the operation and/or possible behavioural responses (avoidance or attraction) in the vicinity of the vessel and/or pipeline. The likelihood of any hearing injury effects occurring is considered 'not applicable'.

968 Given the lack of known studies on underwater noise along this section of the North Island coastline, the report recommends an in situ study as being useful in benchmarking and understanding the current underwater noise levels to which local marine mammals and other wildlife are subjected, and to confirm the expected noise levels of the export vessels and their pump activities as discussed in the report. The noise measurements should be collected when export vessels are arriving and departing from Port Taharoa, while attached to the buoy, and when collecting and dewatering the slurry.

969 In line with that recommendation, conditions 7 and 8 of proposed Permit AUTH142035.12.01 would require a one off underwater noise survey of the noise generated by vessels arriving and departing from Port Taharoa and from vessels undertaking ship loading, with the survey to be repeated if substantially different methods or equipment for loading iron sand and associated dewatering are used.

970 As to vessel strike, the report advises that the greatest increase in both the risk of a collision and the likelihood that it would result in severe injury or death occurs at speeds over 11 knots. Export vessels would be moving at slow speeds (less than 5 knots) when approaching and departing from the mooring buoy at the Port, with no chance of vessel strike when the vessel is attached to the mooring. The likelihood of a vessel collision (injury or mortality) within the proposal area is therefore assessed as very low.

971 The effects of vessel lighting on marine mammals are also relatively unknown with little to no research in this area nationally or internationally. However, any lighting footprint would most likely be confined to within a few hundred metres of the vessel, and within surface to subsurface depths. Night lighting does however have the potential to attract small food species including plankton, which could attract small cetaceans such as common, bottlenose or Māui dolphins. The report finds that given any effects would be limited to less than 36% of the year (associated with the level of ship loading events per year proposed), potential impacts on Māui dolphins and other marine mammals from lighting are low at worst.

972 Similarly, given the size of the chain, anchor and buoy there is stated to be a negligible risk of entanglement to any marine mammal species, as the gear is too large and heavy to entangle a whale (unlike floating debris such as loose lines and netting).

973 As to ecological effects, Appendix GG states that marine mammals are known to inhabit fairly turbid environments worldwide with echolocation (for odontocetes) being unaffected.

974 Having regard to the MetOcean report, the turbid plume would be constrained to the immediate vicinity of the vessel with a relatively small proportion of the marine environment affected by the dewatering discharges. Overall effects on ecosystem ecology are considered to be low including the likelihood for bioaccumulation and

biomagnification effects on local marine mammal species from the resuspension and dispersal of any contaminants during extraction activities.

975 The report concludes that overall, the residual effects from mining activities on local and visiting marine mammals would be nil to less than minor based on consideration of the types of effects, their spatial scales and duration. As such no mitigation or management is required.

976 A number of best practice measures are nevertheless recommended as set out in Table 3 to the report including measuring underwater noise levels, managing ship speed, establishing and maintaining a watch for marine mammals while transiting towards and within Port Taharoa, and building a record of mammal sightings, along with maintaining a record of all vessel strike incidents.

Section 53 Comments

Te Nehenehenui

977 Te Nehenehenui's comments note that under Policy 11(a) of the NZCPS, decision makers must avoid adverse effects on Threatened species. Te Nehenehenui could not identify proposed consent conditions that directly respond to the uncertainties identified in Appendix GG, and observed that without monitoring or management conditions, the Panel cannot ensure that the Policy 11(a) of the NZCPS will be achieved.

978 The comments point to significant data gaps in the application with there being no data available on the underwater noise levels produced by the bulk carriers that collect and dewater the slurry, little information or data available about the noises generated from pipelines transporting mine slurry, and with few marine mammal surveys undertaken within the Port environs, but a range of marine mammals have been reported in the wider area.

979 The fact that the Port sits within the important resting and feeding habitat for a population of less than 100 mature Māui dolphins is also noted.

980 Te Nehenehenui suggested that the Panel impose conditions relating to:

a. A marine mammal sighting recording programme with annual reporting to the Department of Conservation.

b. Mandatory marine mammal observers.

c. Vessel strike incident reporting.

d. A marine mammal monitoring programme.

e. Underwater noise monitoring.

Marokopa

981 Marokopa point to the fact that Māui dolphin is critically endangered with an estimated population of approximately 50-60 individuals over one year of age. Marakopa's comments challenge the assessment in Appendix GG that risks would be minor to negligible without species specific monitoring or independent verification.

982 The comments suggest that the increase in ship loading events per year (from 20 to 35) should not be allowed without a Māui dolphin specific monitoring and adaptive management plan developed with the Department of Conservation and mana whenua, including passive acoustic monitoring of the ship loading area 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.

Applicant's Response to section 53 Comments

983 The Applicant's response to the section 53 comments regarding Marine Mammals were also prepared by Dr Clement (Attachment E to the Applicant's response to section 53 comments).

984 Those responses can be summarised as follows:

a. All of the issues sought to be addressed in the conditions suggested by Te Nehenehenui are covered in Table 3 of Appendix GG (Proposed mitigation goals and practices) and have been incorporated into Chapter 13 – Marine Mammals in the draft EMP (Appendix T of the SAR) which require:

   i. Adopting best practices for working in environments with marine mammals, including minimising the potential of injury to marine wildlife by minimising underwater noise effects;

   ii. Monitoring marine mammal interactions (including establishing and maintaining a watch for marine mammals) with annual reporting to the Department of Conservation;

   iii. Recording vessel strike incidents, or near incidents, with any fatal incident to be reported to the Department of Conservation;

   iv. Undertaking an underwater noise survey within 6 months of the consent commencing, and measuring underwater noise levels when any substantially different equipment is used for ship loading activities;

   v. Recording any entanglement incidents and reporting annually to the Department of Conservation.

b. Based on the assessment in Appendix GG, the overall risk of any adverse effects for marine mammals, including Māui dolphin, arising from the activities are nil to less than minor. The underwater noise survey requirements in conditions 7 and 8 of proposed Permit AUTH142035.12.01 as well as the best management practices contained within the draft EMP, are therefore considered sufficient to address Te Nehenehenui's concerns.

c. Advising that species specific monitoring as sought by Marokopa would be risky for the Māui dolphin subspecies in terms of gathering any data/results, because there may be few or no sightings of the dolphins over the course of a year/season and with such a small sampling size it is impossible to determine whether results are normal or unusual, or whether you missed sightings from one year to the next.

d. Table 3 (to Appendix GG) nevertheless contains several monitoring actions directly tied to specific management goals aiming to minimise potential for injury to marine wildlife, reduce the risk of vessel collusion to zero injury/mortality, and reduce the risk of entanglement to zero mortality.

e. Agreeing that a Māui dolphin specific management plan could help clarify all the management actions to minimise any risk to the subspecies, however protection should be in place for all marine mammals which is why an overall Marine Mammal EMP was developed. The measures in that plan address the matters raised by Marokopa apart from a suspension of ship loading on confirmed Māui dolphin presence, which is said to be inappropriate given the low overall risk to

marine mammals, with that risk instead managed by monitoring and reporting following best management practices provided for in the EMP.

RFI Response

985 The Applicant's response to the Panel's RFI regarding marine mammals (prepared by Mr Eccles, Dr Clement, and Enviser Ltd) can be summarised as follows:

a. No whale strikes have ever occurred.

b. The noise survey required by condition 7 of proposed Permit AUTH142035.12.01 does not need to focus specifically on the noise frequency range relevant to Māui dolphin because standard noise monitoring methods are adequate for collecting noise levels necessary to assess Māui dolphin specific noise frequencies, as well as other marine mammal species.

c. By understanding the ambient noise levels, an experienced underwater noise expert can then model the spatial extent or propagation of all the frequencies and levels generated by the vessels/activity, and predict at what distance from the activities certain frequencies might exceed any species-specific hearing sensitivities.

d. This condition has only been proposed for the reason that it would be useful to record any noise levels of the export vessels and only needs to be done on a one off basis (as verification monitoring).

e. Further monitoring is only required if vessels use substantially different methods or equipment or new vessels for loading iron sand and associated dewatering are use.

f. It is not necessary to include all of the specific measures summarised in Table 3 of Appendix GG in consent conditions (rather than leaving them to the content of the EMP), because the management plan needs to be prepared in consultation with the Department of Conservation and a range of tangata whenua parties, and would be certified by the Regional Council.

g. It is not necessary for condition 8 of Permit AUTH142035.12.01 (requiring a further noise survey if new vessels using substantially different methods or equipment for loading iron sand and associated dewatering are used) to be triggered by procurement of new ship loading and export vessels themselves, because these may be identical to the existing vessels given they are bespoke to the TIL operation– the potential noise level or character of new vessels would only differ from the current vessels if different methods or equipment are included in that vessel.

Panel Findings: Marine Mammals

986 Having regard to the information in Appendix GG, the comments received and the Applicant's response to comments along with the additional information received in response to the RFI, the Panel adopts the overall findings in Appendix GG that residual effects from mining activities on local and visiting marine mammals would be nil to less than minor.

987 However, the Panel is mindful that Threatened marine mammal species including the Nationally Critical Māui dolphin are at issue here, on which adverse effects must be avoided under Policy 11 (a) of the NZCPS.

988 It is clear to the Panel that the assessment in Appendix GG contains a number of assumptions made in the absence of specific information and assumes adoption of the

various best management practice measures set out in Table 3 to that assessment report along with the recommended monitoring and reporting measures, as do Dr Clement's responses to the section 53 comments.

989 The Panel observes that not all aspects of Table 3 are replicated in equivalent terms within Chapter 13 of the EMP.

990 For example, Table 3 of Appendix GG contains greater detail regarding both marine mammal interactions and sightings, including a requirement to record and report the type and frequency of marine mammal interaction with vessels in a standardised format, and section 13.3 of the EMP (control measures) along with Table 13-2 generally amount to a "shorthand" version of Table 3.

991 Under the Panel's general approach (in line with established case law) the specific performance requirements for all management plans should be set in consent conditions, rather than being left to the management plan preparation process, regardless of inclusion of other stakeholders in that process.

992 It may be that new vessels as procured by the Applicant do have the same noise generation profile and characteristics but that cannot simply be assumed, as it is in the Applicant's RFI response.

993 For these reasons, the Panel has included revised consent conditions for Permit AUTH142035.12.01 and Schedule 1 to which it finds to be necessary, to expressly require:

a. A further verification noise monitoring survey if new vessels are used, *or* vessels that use substantially different methods or equipment for loading of iron sand and associated dewatering.

b. That the EMP chapter addressing marine mammal effects be expressly required to include the best management practice, monitoring and reporting requirements set out in Table 3 to Appendix GG of the SAR

c. That this EMP chapter be revised every 5 years to ensure the best management practices remain up to date over the duration of consent.

Air Quality

994 The SAR was supported by an air quality assessment prepared by Cameron Brown of PDP dated 10 October 2025 (**Appendix S**). This was based on a site visit undertaken on 17 March 2025.

Introduction

995 The site is located adjacent to the Tasman Sea and relatively exposed. Appendix S presented a windrose and tabulated data from an onsite meteorological station showing the predominant winds (38%) are from the east to northeast[155] (i.e., blowing from Tahaaroa village towards the site and ocean) with frequent winds (31%) also from the southwest quarter[156] (i.e., blowing from the site and ocean towards Tahaaroa village) which is typical of an exposed coastal environment.

996 Dust pick-up by wind is usually only significant at wind speeds above 5 metres per

[155] Northeast (9.4%), East-northeast (19.5%), East (8.8%)

[156] South-southwest (11.6%), Southwest (12.8%), West-southwest (6.1%)

second (m/s, MfE, 2016).[157] Tabulated meteorological data from the Port of Taharoa shows elevated wind speeds are relatively frequent, with 41% of all winds being greater than 5 m/s. Appendix S notes that winds from the southwest quarter (i.e. blowing from the site and ocean towards Tahaaroa village) were more likely to be elevated than those from the northeast.

997 The windy, coastal location means that there is the potential for significant quantities of marine aerosols to be generated which will contribute to ambient particulate concentrations. Appendix S presents research[158] indicating sea-salt concentrations increase with increasing wind speeds and reads off the highest curve in the data referred to, to note that total suspended particulate (**TSP**) concentrations could be "up to 200 $\mu g/m^3$" at 15 m/s (no time average given). Appendix S also referred to New Zealand marine aerosols having been measured at 31% - 80% of particulate matter less than 10 micrometres in diameter (**PM_{10}**, a subfraction of TSP) at Awatoto (which is on the coast in Hawke's Bay).[159]

998 Appendix S also notes there are naturally existing areas of sand dunes which have the potential to generate dust in strong winds.

999 The nearest identified residence is 40 metres from the Central and Southern Block boundary – this is the Old Kana Homestead at 1891 Taharoa Road. The next nearest residences are 275 m (Roy Wetini WT Homestead) and 300 metres (New Kana Homestead) from the boundary. All these properties are located to the northeast of the Central Block.

1000 Appendix S further identified Te Kura o Tahaaroa /School at 560 metres with the Tahaaroa village and other residences beyond this distance.

1001 The sensitivity of the receiving environment is important for assessing air quality. Appendix S assessed the nearest residences, marae and kura/school as highly sensitive to discharges to air. These properties and locations were referred to as 'sensitive receptors' meaning they are locations where people are present who are sensitive to the effects of dust discharges to air from the mine.

Air Quality Assessment

1002 The SAR stated that mining occurs at rate of approximately 45,000 tonnes per day, 24-hours a day, 7-days a week. Current production is around 3 million tonnes per annum and this is proposed to increase to 5 million tonnes per annum within the next five years. Appendix S states the main sources of dust are site roads, active mining areas, active tailing disposal, inactive mining areas, processing and overburden / claypan removal.

1003 Appendix S noted mining activities on the Eastern Block, Te Mania Block and Pit 1 of the Northern Block, and states that there is some potential for cumulative off-site effects in some locations (depending on wind conditions), when activities in the Central and Southern Blocks are occurring simultaneously with works in other mining areas.

1004 Appendix S stated the majority of discharges to air from the operations on the site are

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[157] Ministry for the Environment, 2016. *Good Practice Guide for Assessing and Managing Dust*.

[158] Fitzgerald, JW, Marine aerosols: a review, Atmospheric Environment Part A General Topics 25(3) 533-545, 1991

[159] Environet Limited, (2010). *Natural Source Contribution to background PM_{10} in Awatoto*.

Davy, P.K. and Trompetter, W.J, 2017. *Analysis and of PM_{10} composition and sources at Awatoto Hawke's Bay Region*. HBRC Report No. RM18-06-4986 prepared by GNS Science.

TSP, which is often referred to as "nuisance dust", and defined as particulate matter less than 50 micrometres (μm) in diameter (PM_{50}).

1005 Summary monitoring data were presented for TSP measured using low-cost sensors at six locations,[160] between July 2023 and January 2025. Data were tabulated as mean concentrations (over the 1.5 years of monitoring) and 75th and 99th percentile concentrations in Table 5 of the report. This does not permit a direct comparison with the Ministry for the Environment suggested trigger level of 200 μg/m^3 as a 1-hour average for highly sensitive receiving environments. However, Table 6 of Appendix S presents "1 hr TSP Trigger Level Compliance"[161] which shows the six monitors exceeded the MfE 1-hour trigger level a small fraction (<2%) of the time. Table 9 summarises the duration of each exceedance, showing most are less than 2 hours.

1006 Appendix S also presents time-series graphs of 24-hour average TSP between July 2023 and January 2025. The Panel notes that these graphs do not reference the Ministry for the Environment suggested trigger level of 60 μg/m^3 as a rolling 24-hour average for highly sensitive receiving environments but they show daily levels more than double the MfE daily trigger level (>120 μg/m^3) have occurred, with up to 300 μg/m^3 (as a 24-hour average) measured at the monitoring location closest to Tahaaroa village (MP2) in mid-2024.

1007 Appendix S estimated particulate matter travelling distances using the theoretical formula from fluid mechanics that gives the frictional drag force on a small spherical object moving slowly through a fluid under laminar flow (i.e. non-turbulent) conditions (Stokes Law). This showed that smaller particles (20 μm) travel considerable distances (>1 km) under high winds. Appendix S concluded from this:

> The exposed coastal nature of the Site means that occasionally, very high wind speeds can occur, especially from the southwest. In such cases, while mitigation measures help, it may not be practicable to control dust to the point where significant concentrations are not recorded off-site.

1008 Appendix S outlined a range of mitigation measures that were being undertaken by TIL, including progressive rehabilitation of 2.5 ha in the winter of 2025 and a portion of the Eastern Block that is to be planted in pines. Trial mitigation measures including fixed automated sprinkler systems on the first 500 metres of the main access road into site and a mobile, quickly deployable irrigation system to permit targeted water application in 'high-risk' areas.

1009 Appendix S outlined that a Site Interim Dust Management Plan, prepared in 2024, required area-specific dust controls that increased the range and degree of response measures with increasing wind speed and measured dust levels, for example (all above 20°C, i.e. only in summer):

a. Alert Level 1: "Normal" for daily TSP below 80 μg/m^3 and wind speeds <5 m/s when dry*, or <10 m/s when wet*, or >10 m/s when raining – normal operations.

b. Alert Level 2: "Alerted" for hourly TSP up to 160 μg/m^3 and wind speeds <10 m/s and dry* – requires vehicle movement to be minimised across exposed silt/clay areas and commencing pre-wetting if windspeeds are forecast to rise.

c. Alert Level 3: "High" for hourly TSP up to 240 μg/m^3 (for reference, the MfE hourly trigger level is 200 μg/m^3) and wind speeds >10 m/s and dry* – requires vehicle

[160] Two monitoring locations (MP7 and MP8) had only 3 months data.

[161] The MfE trigger level for TSP is an indicative guide for managing dust emissions to avoid dust complaints only.

speeds to be limited to <10 km/hr and application of water to exposed clay/silt surfaces that are trafficked.

d. Alert Level 4: "Extreme" for hourly TSP above 240 µg/m^3 and wind speeds >20 m/s and dry* – requires cessation of removing, transporting and stockpiling silt/clay overburden.

*no rainfall in last 24 hours

1010 Appendix S further outlined that additional, more stringent controls were required within 300 metres of the northern and eastern boundaries of the Central Block. For example, Alert Level 4: "Extreme" requires cessation of work that has the potential to generate dust in that area.

1011 Appendix S considered that additional dust controls were necessary for mining activity close to residences, notably the nearest house (Old Kana Homestead) which is only 40 metres from the Central Block site boundary. It recommended a Priority Stabilisation Area (**PSA**) be established within 100 metres of the Central Block northeastern boundary within which all exposed surfaces be compacted and stabilised within 3 months of completion of mining, where stabilisation measures would include:

(a) Covering areas with geotextiles
(b) Applying chemical suppressants (such as polymers)
(c) Other measures to reduce the amount of exposed surface.

1012 Appendix S noted that planting for progressive rehabilitation is "one of the most significant dust mitigation measures as it reduces the area of exposed surfaces which consequently reduces the potential for wind-blown dust emissions".[162] Noting the difficulties in managing wind-blown dust from large, exposed areas, Appendix S recommended other exposed areas of the Central and Southern Block should also be stabilised as soon as operationally practicable.

1013 Appendix S employed the FIDOL methodology (frequency, intensity, duration, offensiveness (or character) and location) to assess the potential for dust effects from the mining in the Central and Southern Blocks for ten sensitive receptors; namely Aaruka Marae, Tahaaroa Kura/School and eight nearest residences (including three on the northeastern boundary). This considered:

a. The frequency of strong winds (> 5m/s) from the Site to each location ranged from 15 – 23%;
b. The mean 1-hour TSP concentrations at all monitors was well below the MfE hourly trigger level of 200 µg/m^3;
c. Most elevated dust concentrations were of short duration (1-2 hours);
d. Whilst ironsand is dark/black in colour and there is the potential for dust discharges to become offensive if transported in large quantities, this can occur even when all reasonable mitigation measures are implemented; and
e. All locations were 'distant' under UK guidance,[163] being more than 200 metres from the dust source, except the Old Kana Homestead.

1014 The FIDOL assessment in Appendix S concluded that it was unlikely that activities under the control of TIL would result in offensive or objectionable dust effects being

[162] At section 6.1.

[163] Institute of Air Quality Management, (2016). *Guidance on the Assessment of Mineral Dust Impacts for Planning*, v1.1. United Kingdom. May.

experienced off-site.[164]

1015 It further considered there was a low risk of cumulative effects downwind of the Central and Te Mania Blocks "as long as any dust that is generated in the Te Mania Block is appropriately controlled".[165]

1016 Appendix S noted that "it is extremely unlikely that direct health effects can be associated with the type of dust generated by TIL's mining operations in the CSB".[166] However, Appendix S went on to state that during extremely strong winds background sources such as sea salt aerosol and natural sand could be significant sources of TSP.

> Given that these natural sources will influence downwind concentrations of TSP, there may be occasions when despite the best efforts of TIL, high concentrations of TSP are experienced at nearby receptors.[167]

Section 53 Comments

1017 Mr Stacey for WRC noted the regulation of particulate matter less than 10 micrometres in diameter (**PM_{10}**) under the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (**NES-AQ**) and given the elevated TSP concentrations measured around the Site, the large scale of activity proposed and the proximity of residences, considered a detailed assessment of PM_{10} was required.[168] Mr Stacey queried the contribution that elevated tailings and other unstabilised high elevation areas could make to off-site dust effects.

1018 While considering it unlikely to be an issue Mr Stacey also requested confirmation that smaller and more toxic fractions of sand dust; specifically particulate matter less than 2.5 micrometres in diameter (**$PM_{2.5}$**) and respirable crystalline silica (**RCS**) would not pose risks to the local community.

1019 Mr Stacey noted the relatively high frequency of winds greater than 5 m/s (over 36% of the time) particularly in the context of nuisance dust effects associated with strong wind events. His review of the FIDOL assessment pointed out that the conclusion of low nuisance dust effects relied significantly on assumed attenuation with distance and the effectiveness of mitigation measures. He queried this given the "history of dust complaints and observations of windblown dust from elevated tailings areas".[169]

1020 Mr Stacey sought TSP monitoring be replaced with PM_{10} monitoring and recommended more specific monitoring conditions including at least one NESAQ compliant monitor[170] (preferably at Te Kura o Tahaaroa /School) with all data to be publicly available.

1021 He further sought:

a. the following PM_{10} trigger levels as concentrations in micrograms per cubic metre

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[164] Appendix S of the Substantive Application; Air quality assessment prepared by Cameron Brown of PDP dated 10 October 2025 at section 7.6.

[165] *Ibid* at section 8.3.

[166] *Ibid* at section 9.0.

[167] *Ibid* at section 10.

[168] Memorandum from Peter Stacey (Air Quality Consulting NZ) to Sheryl Roa (Waikato Regional Council) dated 20 May 2026. *Technical Review of Air Quality Assessment for the Taharoa Central and Southern Block Mining Project.*

[169] *Ibid* at section 3.5.

[170] This refers to prescribed methods for measuring air pollutants that are referenced in Schedule 2 of the NESAQ. These standardised methods ensure robust and reliable data can be compared with the ambient air quality standards (i.e. health-based limit concentrations) in Schedule 1 of the NESAQ.

(µg/m^3) with automated alerts and contingency response procedures:

- 55 µg/m^3 PM_{10} as 1-hr average (immediate investigation & dust mitigation measures)
- 65 µg/m^3 PM_{10} as 1-hr average (stop works / dust generating activities)

b. retention of the ridgeline along the northern boundary of the Central Block that provides physical screening and wind sheltering between the nearest house (R4 or the Old Kana Homestead) and mining activities;
c. increase the 100-metre PSA to 200 metres and require completion of mining in the PSA within 12 months;
d. the EMP must identify the proposed mining sequence, duration of works, dust mitigation measures, monitoring procedures, contingency responses and methods for minimising the length of time that mining activities occur within the PSA (which he defined as within 200 m of the nearest house, R4);
e. a prohibition on further mining within the PSA with stabilisation and permanent rehabilitation within 24 months (and ongoing maintenance as required to minimise any dust effects on neighbours);
f. staged works and progressive rehabilitation requirements aimed at minimising the extent of exposed and unstabilised surfaces at any one time;
g. clear stabilisation and rehabilitation timeframes for exposed areas;
h. investigation and reporting requirements following dust complaints; and
i. requirement for preparation, certification, implementation and ongoing review of an EMP addressing dust management.

1022 Mr Stacey also requested consideration of more prescriptive controls to manage cumulative dust effects from large, exposed areas over the long term, noting:

> Many of the recommendations I have outlined above are intended to address concerns identified by WRC monitoring and enforcement staff regarding the current consent framework and operation of the site, including limitations associated with the existing monitoring approach, uncertainty regarding rehabilitation and stabilisation outcomes, the need for more robust and transparent monitoring of potential health related effects, and the practical difficulties associated with investigating and responding to dust complaints at this location. In my opinion, these matters support the need for a more prescriptive and transparent dust management framework than is currently proposed.

1023 Ngaati Mahuta noted that dust effects are experienced directly by whaanau residing within Tahaaroa. They considered the absence of rehabilitation was the cause of dust affecting amenity and health within the village.

1024 Te Nehenehenui and Ngaati Mahuta sought defined, enforceable rehabilitation and closure conditions with time-bound milestones and independent verification of rehabilitation outcomes.

1025 Te Nehenehenui, Ngaati Mahuta and the Roy Wetini WT sought a 200-metre buffer around the entire site as conditioned by the RMA Hearing Panel.

1026 Ngaati Mahuta and the Roy Wetini WT further supported retention of a pine tree buffer and the ridgeline between their property and the Site.

1027 The Roy Wetini WT property adjoins both the Central and Northern Blocks. The Trust raised significant issues with enforcement and compliance (dust and noise adverse effects, erosion and sand encroachment).[171] They provided photos of dust clouds above the mine and entering their property with reports of being forced to bring children inside, raising health concerns, and concerns over effects on their water tank and

[171] Roy Wetini Whaanau Trust Comments on Fast-Track Application under Section 53 & 54 RMA 1991 prepared by Teina Malone, dated 20 May 2026.

potable water supply. They further raised concerns about cumulative effects of dust (as well as noise, and light).

Hui at Aaruka Marae

1028 Tahaaroa Lakes Trust raised the issue of air quality at the hui held on 22 May 2026, with Ms Herangi noting a dust storm had occurred for the first time this year, and stating that this had not occurred before. Ms Herangi expressed concerns over the removal of the ridge by Mitiwai Stream that used to provide protection. She identified the tailings in the southern block as the cause during southerly winds.[172]

1029 Ms Passau concurred with Ms Herangi's concerns noting that dust storms didn't occur previously because the dunes were all vegetated. She considered dust had worsened in the last 3-4 years and were becoming more frequent.[173] Ms Passau also expressed concerns over the effects of dust on children at the kura, asserting the school had had to close on occasion because of high levels of dust. Dust issues were said to be frequent with tamariki having dust all over their clothes, which couldn't be hung on washing lines anymore, having to employ dryers instead.

1030 Ms Whitiora-Te Uira noted anecdotal evidence of respiratory distress, reporting that kaumatua did not wish to return to their homesteads because their asthma flared and dust was considered to be the cause.[174]

1031 The Trust provided a video taken by drone above Te Kooraha Marae on 2 March 2026, that showed large clouds of dust arising from the site.

1032 The Roy Wetini WT also raised concerns about clay dust being thick enough to impact visibility. Concerns were expressed about potential health effects and impacts on the drinking water. Ms Malone stated they no longer used the rainwater for drinking due to the presence of clay dust on the roof, which washed into the water tank.

1033 Ms Malone expressed concerns about erosion and sand migration and potential impacts on the Mitiwai Stream and wetlands below. An excerpt of her remarks from the transcript are repeated here:[175]

> In regard to rehabilitation, as attached to our comments submitted to the panel, the compliance audit undertaken in 2024 by WRC confirmed that in the seven-year period TIL had been the consent holder, only eight of the 70 hectares of required rehabilitation had been completed, with no planting at all being undertaken within the first four years. We have not observed any successful planting within the central mine site.
>
> While the regional council has year after year identified breaches to rehabilitation conditions throughout, TIL as consent holder, no enforcement action has been taken. These ongoing consent breaches have resulted in an escalation of effects and have created the environment that exists today.
>
> When we look over the mine site, we see a vast exposed landscape devoid of vegetation. Without vegetation, there is nothing to stabilise the land. Without buffers, there is nothing to contain the effects of the mining operations. This results in the dust clouds we have witnessed

[172] Verbal submission Ms Ngahuia Herangi to the Panel. Aaruka Marae, 22 May 2026. [Transcript: At page 11]

[173] Verbal submission Ms Fleur Passau to the Panel. Aaruka Marae, 22 May 2026. [Transcript: At page 13]

[174] Verbal submission of Ms Jodi Whitiora-Te Uira to the Panel. Aaruka Marae, 22 May 2026. [Transcript: At page 13]

[175] Verbal submission of Ms Malone to the Panel. Aaruka Marae, 22 May 2026. [Transcript: At page 5]

> which move across the land and across Taharoa C Block well outside the mine boundaries to the east, towards Taharoa Village and the kura, and to the north including over our whenua.
>
> In addition to the potential health effects while dust is airborne, this dust eventually settles on the whenua and water bodies, on people's kai and property. We have communicated concerns about the ongoing effects of these works to the consent holder and the regional council on numerous occasions through direct communications and issues raised in consenting processes over a period exceeding two years. Our voices have not been heard. Our concerns continue to fall on deaf ears. We cannot fulfil our role as kaitiaki when those in a position to address our concerns do not.
>
> Based on our experience, should consent be granted, there is a need for significant changes to ensure clear enforceable conditions are imposed, that there is transparency, accountability and greater engagement with and involvement by mana whenua.
>
> … We appreciate the economic and social benefits that mining operations can provide to the community and benefits to the wider region. As a whānau, we are not opposed to the activity of mining itself, provided operations are managed in a way that they do not impact adversely on the health and wellbeing of the people and the taiao for current and future generations.

Applicant's Response to s53 Comments

1034 The Applicant responded to air quality comments by s53 parties with a memorandum (PDP, 2026)[176] prepared by Andrew Curtis and Cameron Brown (Attachment J). Attachment J stated that Mr Brown has visited the site three times, including on 27 May 2026 to collect sand samples and to "observe current site conditions and the effectiveness of mitigation".

1035 In response to WRC's request for assessment of elevated tailings dust emissions, Attachment J presented additional theoretical 'travelling distances' for a range of particle sizes (but not PM_{10}) at different elevations. The Panel notes these suggested that particles 20 µm in diameter could easily travel 1.5 – 3 kilometres downwind at wind speeds of 5 m/s which is common at Taharoa.

1036 Attachment J acknowledged the TSP monitoring data is not directly comparable to the NESAQ standard for PM_{10} as the measurement technique measures all particulate, not just PM. However, to fully respond to this question, detailed long term PM_{10} monitoring would be required and this is not practical in the time available. To provide a response to WRC's request for assessment of PM_{10} therefore, a surrogate approach was adopted considering the size distribution of material on site with supplemental information from workplace exposure monitoring and theoretical 'travelling distances' as described below.

PM_{10}

1037 Two samples of unprocessed sand, one sample of product sand and two samples of tailings were fractionally sieved to a minimum size of 63 µm to reveal a very low fraction of particles below that size (1-3%). Given the very low percentage of material in the smallest size fraction (<63 µm), it was considered there would be an even lower fraction of material in the smaller size fractions that have the potential to cause human health effects (i.e. PM_{10}).

1038 In addition to the sieve fraction analysis, Attachment J reported some recent (undated) workplace exposure monitoring for inhalable particulate (consistent with PM_{10}) and

[176] PDP, 2026. Memorandum from Andrew Curtis & Cameron Brown to Taharoa Ironsands Ltd dated 22 June 2026. *Response to comments relating to Air Quality on the Taharoa Ironsands Fast-track application.*

respirable particulate (defined by WorkSafe NZ as PM_4) as 12-hour time-weighted averages. The workplace exposure monitoring reported maximum inhalable and respirable particulate concentrations below workplace exposure standards (as 12-hour time weighted averages). Based on this *onsite* (workplace exposure) monitoring and assuming attenuation between the mine and offsite receptors, Attachment J considered the potential for off-site effects from PM_{10} to be very low.

1039 Attachment J proposed amended conditions of consent requiring the installation of a NESAQ compliant PM_{10} monitor at Te Kura o Tahaaroa /School.

1040 Alongside that, Attachment O to the Applicant's response to comments included a condition requiring that "concentrations of PM_{10} as a result of mining operations" measured at Te Kura not to exceed the national environmental standard for PM_{10} of 50 $\mu g/m^3$ as a 24-hour average to address the potential for non-mining related PM_{10} sources to cause exceedances.[177]

1041 Attachment J noted issues with data transmission from the previous (MP5) monitoring location that was a 'background location' and proposed a new monitoring location near the process stockpile area and buildings on the assumption that stable cell coverage is present. It further recommended relocating another dust monitor to monitor potential effects at the nearest house (R4 or Old Kana Homestead).

1042 Attachment J further proposed to continue with TSP monitoring around the site for a maximum of 16 months to establish onsite "trigger levels" for PM_{10} for the dust controls in the site EMP. A total of six (6) PM_{10} monitors were proposed.

1043 Regarding nuisance dust effects as informed by the FIDOL assessment (referred to in the WRC's comments), Attachment J acknowledged that all sensitive receptors are either moderately frequently, frequently or very frequently downwind of the Central and Southern Block before concluding:[178]

> However, PDP is comfortable with the conclusion reached in its FIDOL assessment, that it is unlikely that activities under the control of TIL will result in offensive or objectionable dust effects being experienced off-site, when the proposed mitigation is implemented.

$PM_{2.5}$

1044 The assessment of $PM_{2.5}$ (as subset of PM_{10}) adopted the same approach to the PM_{10} assessment by considering the size fraction analyses of sand samples collected on site. Attachment J concluded that $PM_{2.5}$ would be an even lower fraction of the sub-63 µm particles, and therefore there is an "extremely low potential of adverse $PM_{2.5}$ related health effects being experienced off-site resulting from on-site material".[179]

RCS

1045 Sand samples were then sieved to less than 38 µm in diameter, where practicable, and analysed by x-ray diffraction for crystalline silica content. This found crystalline silica (quartz) in four of five samples at levels ranging from 0.3 – 1.7% with the highest fraction present in product sand. Attachment J assumed the maximum crystalline fraction measured in product sand (1.7%) was all RCS present in TSP to conservatively

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[177] Attachment J at [15]

[178] *Ibid* at [7]

[179] *Ibid* at 5.2, page 10.

estimate annual average RCS at all TSP monitoring locations.[180]

1046 Attachment J compared these estimates of annual average RCS to the California Office of Environmental Hazard and Health Assessment (OEHHA) chronic reference exposure limit (REL) for RCS of 3 $\mu g/m^3$ as an annual average. The conservative estimates indicated annual average RCS would be less than 10% of the OEHHA chronic REL.

Rehabilitation

1047 As noted above, Te Nehenehenui and Ngaati Mahuta sought defined, enforceable rehabilitation and closure conditions with time-bound milestones and independent verification of rehabilitation outcomes. The Roy Wetini WT asserted a lack of compliance with previous rehabilitation conditions of consent providing photographic evidence of sand erosion on their boundary that adjoins the site.[181] The Trust provided a file note prepared by Josh Evans of Waikato Regional Council dated 17 April 2024 that documented a total of 6 hectares rehabilitation completed out of a required 62.94 ha.[182]

1048 In response to that (and related comments from the WRC) Attachment J proposed that conditions of consent requiring the 100 m PSA be revised to include a 3-month deadline for stabilisation and a maximum timeframe of 12 months for completion of works (in the PSA). It further advised that coconut matting trial for rehabilitation would not be used in future as it had created an exposed surface from which particulates can be re-entrained by strong winds. Attachment J restated the importance of planting for progressive rehabilitation, noting that 25,000 plants (predominantly pine) had recently been planted in the Eastern Block.

1049 Attachment J did not respond to dust complaints raised by the Roy Wetini WT and Mr Stacey for WRC, deferring to a memorandum prepared by Counsel for the Applicant dated 22 June 2026. Counsel's memorandum referred to a summary of compliance in the SAR, concluding the dust complaints were vexatious and not supported by data.[183]

<u>Panel Request for Further Information</u>

1050 The Panel queried the duration of collocated monitoring, at only one location, undertaken for TSP monitors and, if less than a year, the representativeness of the calibration for other time periods and locations.

1051 The Panel further queried:

a. information about TSP monitoring, including mining activities during the period of monitoring;

b. the relevance of the some of the analyses in Appendix S and Attachment J;

c. uncertainty of key assumptions;

d. details of proposed mitigation particularly with respect to good practice consent conditions for quarries and mines in New Zealand; and

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[180] The Panel understands that RCS is the fraction of crystalline silica measured in particulate matter than 4 micrometres in diameter

[181] Roy Wetini Whaanau Trust Comments on Fast-Track Application under Section 53 & 54 RMA at [17]

[182] *Ibid at* digital page 234 – 240.

[183] Memorandum of Counsel for the Applicant in Response to Comments dated 22 June 2026 at [114]

e. how background concentrations would be assessed if only one NESAQ compliant PM_{10} monitor was to be employed.

1052 The Panel requested a quantitative estimate of daily and annual PM_{10} emissions, noting the following outstanding questions remained unanswered:

a. What are the likely daily and annual PM_{10} concentrations (in $\mu g/m^3$) at the nearest neighbours and in the village?

b. How much does current mining likely contribute to daily and annual PM_{10} at these locations?

c. How will daily and annual PM_{10} levels likely change at these locations over the proposed mining stages in central and southern blocks?

Applicant's Response to Panel RFI

1053 Mr Curtis of PDP, air quality expert for the Applicant, clarified that the TSP sensors were co-located with an approved method (beta attenuation) monitor for a period of 2 months during late summer (14 February and 13 April 2020). During this period higher air temperatures coupled with low soil moisture content often result in higher TSP concentrations during windy conditions than would occur at other times of the year, with associated higher correction factors.[184]

1054 Mr Curtis presented a summary table showing very good data capture, with valid data >85% at all sites between July 2023 and January 2025.[185] Mr Curtis provided information showing that *daily* TSP concentrations had exceeded the MfE daily trigger level of 60 $\mu g/m^3$ for highly sensitive receiving environments rarely (<3% of the time).

1055 Mr Curtis acknowledged:

a. the significant limitations of theoretical calculations to estimate particulate matter travel distances using Stokes Law in a real-world situation; and
b. the absence of any PM_{10} monitoring, or a detailed assessment, to resolve the Panel's outstanding questions regarding likely offsite PM_{10} levels and the mine's contribution to those offsite levels but proposed future PM_{10} monitoring to enable this to be assessed in future.

1056 Mr Curtis declined to provide a quantified estimate of PM_{10} emissions citing concerns over the reliability of US EPA or Australian emission factors for New Zealand conditions, which the Panel's RFI requested be applied for that purpose. He acknowledged Appendix S did not contain a detailed assessment of PM_{10} because he considered the key potential off-site effects to occur would be from nuisance dust. He maintained the conclusions of Mr Brown that it would be "extremely unlikely that direct health effects can be associated with the type of dust generated by TIL's mining operations" in the Central and Southern Block, based on the material size distribution data included in Attachment J (response to comments).

WRC Response to Panel RFI

1057 WRC responded to the RFI with a memorandum outlining reasons why an air discharge permit was not needed for the substantive application.[186] The relevant permitted

[184] Applicant response to RFI Updated 23 July. At page 109.

[185] *Ibid.* At page 110.

[186] Legal submissions on behalf of Waikato Regional Council dated 18 August 2026.

activity rule in the WRP is:

> **6.1.16.1 Permitted Activity Rule – Mineral Extraction, Size Reduction, Screening and Storage**
>
> The *discharge of contaminants to air from any mineral extraction, processing and storage operati*on is a permitted activity subject to the following conditions:
>
> a. Where the operation occurs within 1000 metres of a property boundary and there is a discharge of particulate matter beyond the property boundary the following measures shall be implemented:
> i. the use of water sprays to suppress dust from crushing and screening plants, access ways, haul roads, stockpiles, load out areas and access roads
> ii. the sealing and maintenance of the access road, when it is within 150 metres of a neighbouring residential dwelling.
>
> b. As specified in Section 6.1.8 a) to e) of this Plan.
>
> c. Within seven working days of commencing works at a new site, the operator of the new quarrying site shall provide the Waikato Regional Council with written notification of the location of the site.
>
> d. Should an emission of particulate matter occur that causes adverse effects of an objectionable nature beyond the property boundary as determined in accordance with the decision making guidelines set out in Section 6.4.2.2, the quarry operator shall provide a written report to the Waikato Regional Council within five days of the incident occurring, which specifies:
> i. the cause or likely cause of the event and any factors that influenced its severity
> ii. the nature and timing of any measures implemented by the quarry operator to avoid, remedy, or mitigate any adverse effects
> iii. the steps to be taken to prevent recurrence of similar events.
>
> e. There shall be no discharges of hazardous substances into the air,

1058 The standard conditions for permitted activities in the WRP (as referred to in Rule 6.1.16.1. b) further provide:

> **6.1.8 Standard Conditions for Permitted Activity Rules and Standards and Terms for Controlled and Restricted Discretionary Activity Rules**
>
> The following are the standard conditions for permitted activity rules and the standards and terms for controlled and restricted discretionary activity rules for discharges to air:
>
> a. There shall be no discharge of contaminants beyond the boundary of the subject property that has adverse effects on human health, or the health of flora and fauna.
> b. The discharge shall not result in odour that is objectionable to the extent that it causes an adverse effect at or beyond the boundary of the subject property.
> c. There shall be no discharge of particulate matter that is objectionable to the extent that it causes an adverse effect at or beyond the boundary of the subject property.
> d. The discharge shall not significantly impair visibility beyond the boundary of the subject property.
> e. The discharge shall not cause accelerated corrosion or accelerated deterioration to structures beyond the boundary of the subject property.
>
> **Advisory Note:**
>
> Waikato Regional Council will use the Guidelines for Assessment in Chapter 6.4 to determine whether adverse effects are occurring from the discharge of odour or particulate matter.

1059 WRC submitted that, for the purpose of interpreting Rule 6.1.16.1(e), the assessment of a discharge to air of a hazardous substance be undertaken "beyond the boundary of the subject property" as opposed to at the point of discharge (being a literal reading of the rule).

1060 WRC pointed us to the objectives and policies that support the interpretation that "the permitted activity rules were designed to ensure that the effects of an activity are internalised to the site and, if effects are beyond the boundary of a site, the effects

would need to be assessed".[187]

1061 WRC also made submissions regarding scope of the original consent application being concerned that the applicant had not applied for air discharge consent and would therefore, be excluded from grant of consent for air discharges.

Panel Facilitated Conference

1062 At the PFC, Mr Curtis agreed collocated monitoring for a period of only two months was inadequate for calibration purposes to represent all meteorological conditions that would occur over a year, noting this was not his decision. He expressed his opinion that at least the co-location was undertaken during the drier, summer months when dust was likely to be present.

1063 Mr Curtis acknowledged dust discharges presented unique challenges at Tahaaroa with frequent, high winds and elevated marine aerosols contributing to background levels. He confirmed his opinion that the proposal would not pose adverse health effects.

1064 Mr Curtis acknowledged Mr Stacey's concerns regarding PM_{10} discharges to air, noting his proposed amendments to consent conditions to incorporate a NESAQ compliant PM_{10} monitor at the local school. Mr Curtis and Mr Stacey agreed that, in their professional opinion, PM_{10} was a hazardous substance.

1065 Te Nehenehenui supported progressive rehabilitation so that exposed areas are minimised, where reasonably practicable and shared Mr Stacey's concern about exposing new areas of the mine and potentially creating new dust sources in the absence of rehabilitation. However, Te Nehenehenui acknowledged that rehabilitation is a staged process with timing being dictated by external factors (e.g. seasonal planting). Te Nehenehenui stated they were not therefore, seeking rigid timeframes or uniform targets to be applied across the entire mine site.[188] Te Nehenehenui requested that consent conditions provide a clear direction, rather than targets and criteria being delegated to management plans. Te Nehenehenui proposed an annual target as a proportion of the area available (to be rehabilitated) as a potential workable approach.

1066 Ngaati Mahuta supported Mr Stacey and Te Nehenehenui's comments, particularly the progressive nature of rehabilitation. Ngaati Mahuta reiterated their support for the RMA Hearing Panel's findings which imposed a condition requiring rehabilitation at a rate of 6 hectares per year.[189]

1067 Ngaati Mahuta were concerned about the absence of mātauranga Māori in the assessment of air quality. Ngaati Mahuta pointed out that historically kaumatua of Aaruka Marae were directly involved in the planting and rehabilitation, which is why it was so successful (in the past).[190] Mr King noted that planting for stabilisation cannot be carried out in summer – only in the rainy season (winter).

1068 Ngaati Mahuta noted that prior to the pine trees, when sand dunes were present with marram grass and lupins, there was no dust around.[191] Ngaati Mahuta stated that the process that was happening now wasn't working, expressing concerns about health effects, particularly for tamariki and mokopuna who are physically feeling some of

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[187] *Ibid at* [2.11]

[188] Ms Leah Wyatt, Day Two of Panel Facilitated Conference. [At 1:38:45]

[189] *Ibid*. Ms Nevada Huaki. Day Two of Panel Facilitated Conference. [At 1:40:30]

[190] *Ibid.* Mr King. Day Two of Panel Facilitated Conference. [From 1:41:43]

[191] *Ibid.* [From 3:23:00]

those effects.

1069 Mr King noted that, for the first time, dust was being deposited on roofs and into the water tanks at Te Kooraha Marae, affecting the preparation of kai for large numbers of people attending the marae. He expressed concerns about the physical effects and potential health impacts on tamariki.[192]

1070 WRC stated that air quality was their number one concern with respect to the application, considering the current approach whereby previously mined areas could be dug up again at any time to be problematic. WRC requested clear conditions requiring rehabilitation with no future mining in the area adjacent to neighbours (i.e. retreat from or retire the Priority Stabilisation Area), noting that it was less of an issue further south (away from neighbours). WRC requested a 200-metre buffer for the Priority Stabilisation Area, as sought in WRC's comments on the application.

1071 The Panel informed the parties that its initial view was that dust discharges from the site were problematic and that an air discharge permit was needed. In the absence of any PM_{10} monitoring, or quantified estimates of the scale and potential effects of PM_{10} discharges to air from the proposal, the PFC focused on conditions of consent relating to dust mitigation, air quality monitoring and rehabilitation.

Additional Panel (PFC) RFI

1072 The Panel issued a second request for information to the air quality and mātauranga Māori experts to draft good practice conditions of consent for dust management. The Panel further requested draft consent conditions requiring an action plan with specific actions to reduce overall site PM_{10} emissions, if elevated PM_{10} concentrations are measured at Tahaaroa kura/school.

1073 Recognising the importance of rehabilitation for dust mitigation, the Panel requested that the Applicant propose consent conditions identifying specific areas and proposing measures and timeframes for staged mining/rehabilitation.

Joint Witness Statement

1074 The Applicant and WRC provided an air quality joint witness statement dated 21 September 2026 (**Air JWS**) prepared by Mr Curtis & Mr Stacey, with input from the planners, Mr Eccles and Mr Chrisp.

1075 The air quality JWS commented on the whether an air permit was needed, with all experts agreeing:

a. Taking a literal interpretation, PM_{10} is a hazardous substance as defined by the RMA and the WRP (which adopts the RMA definition of Hazardous Substances).

b. Rule 6.1.16.1(e) requires an assessment at the boundary of the site and not at the point of emission.

c. An air discharge consent is not required solely on the basis that PM_{10} is generated at the site. Rule 6.1.16.1 is a permitted activity rule. No mineral extraction activity would be able to comply with that rule if clause (e) was interpreted in an absolute manner, whereby there shall be no discharges of hazardous substances to the air whatsoever. The comma at the end of clause (e) indicates that the clause is an unfinished sentence, and this would suggest that the rule cannot be relied upon in

[192] *Ibid*. [At 1:47:15]

that regard because it is incomplete and does not work in practice.

1076 The planners highlighted the 'circularity' of the reference in proposed Condition 8 of AUTH142035.01.01 to the avoidance of general effects parameters in relation to effects on human health, flora and fauna, general amenity and visibility. They posited that if the activity complied with proposed Condition 8 then it would, by virtue of that compliance, be a permitted activity.

1077 The experts also agreed that irrespective of the need for an air discharge consent (the alternative being air quality conditions are attached to the earthworks land use consent), the specific air quality conditions should be the same. They further agreed with the Panel's recommendation that conditions of consent should address the 'what' (needs to be achieved) with the management plan addressing the 'how'.

1078 The JWS presented updated draft consent conditions to include a NESAQ compliant PM_{10} monitor at the Kura and to reduce dust emissions in accordance with industry good practice (as requested by the Panel). Mr Stacey recommended conditions requiring a progressive programme of stabilisation and rehabilitation going forward, considering this to be a critical dust-management issue. He noted the history of complaints indicates that existing separation and controls have not always provided adequate protection.

1079 Mr Curtis agreed there is a need for rehabilitation but considered the proposed rehabilitation conditions addressed this. Both experts agreed the dust management chapter of the EMP should be reviewed regularly; Mr Stacey recommended annually and Mr Curtis every five years.

1080 Mr Stacey recommended ceasing TSP monitoring and monitoring PM_{10} against his recommended trigger guidelines, with review and amendment if necessary. He requested low-cost PM_{10} monitors be of the same make and model, with permanent co-location at the Kura with the NESAQ compliant PM_{10} monitor to address some of the uncertainties of this method.

1081 Mr Curtis favoured continued TSP monitoring, with a 16-month period of collocated monitoring to establish a reasonable correlation and inform the trigger guidelines to finalise the dust section of the EMP.

1082 Both experts agreed on the need for meteorological monitoring, Mr Stacey noted the importance of this to trigger mitigation measures (wind speed alert levels) and investigate dust complaints. Mr Curtis was comfortable with the existing Port Tahaaroa weather station providing information, but if it was no longer available TIL should install and operate a weather station itself.

1083 Mr Stacey noted his recommended trigger level of 65 $\mu g/m^3$ as a rolling 12-hour limit was broadly consistent with the NESAQ for PM_{10} (50 $\mu g/m^3$ as a 24-hour average) and also a limit for the RS Sands consent. The rolling 12-hour average provides the Consent Holder with an opportunity to respond to increasing PM_{10} concentrations before the daily limit is exceeded.

1084 Mr Curtis preferred the alternate wording in the proposed conditions, which he considered consistent with those imposed in the RS Sands consent.

1085 Mr Stacey recommended adding the New Zealand annual PM_{10} guideline (20 $\mu g/m^3$) to address long-term exposure, noting it was consistent with another sand mining consent in the Waikato (RS Sands). He considered TSP data indicated that compliance with this limit should be achievable but if it was exceeded, an investigation would be undertaken to address the contribution that the site is making to existing 'natural' sources of PM_{10}. He noted the annual guideline does not distinguish between

background concentrations and contributions from the Site. Accordingly, where background concentrations are higher, a lower contribution from the Site would be required to achieve the guideline.

1086 Mr Curtis disagreed and was concerned that an annual guideline could pose compliance issues for TIL depending on how WRC interprets and applies this condition:[193]

> For the condition to be reasonable there needs to be the ability for TIL to influence the outcome, and consequently if there are significant PM_{10} sources that are not under its control, there are mitigation it can implement.

Applicant Response to PFC RFI

1087 The Applicant provided an interim response on 8 September, [194] which included a memorandum from Mr Curtis dated 3 September 2026 (Appendix C).[195] The Applicant's final response was provided on 1 October 2026[196] with a supplementary memorandum from Mr Curtis dated 30 September 2026 (Appendix B).[197]

1088 Appendix B noted some of the monitors had moved and provided an updated TSP monitoring site location diagram. Appendix B provided additional TSP monitoring data in the form of:

a. time series graphs of 1-hour average TSP concentrations for 6 monitoring locations from mid-2019 until late 2026 (no date provided) and 2 monitoring locations from late 2025 until late 2026.[198] These graphs had a common y-axis maximum concentration of 2,000 $\mu g/m^3$ with no direct comparison to the MfE hourly trigger level of 200 $\mu g/m^3$, however, it was apparent that highly elevated hourly TSP concentrations (>500 $\mu g/m^3$) have occurred at all monitoring locations. Appendix B reported occasional peaks occurring in late spring and summer, associated with strong winds and attributed to naturally occurring emissions of sea spray and particulate matter, with Mr Curtis acknowledging "some of that will originate on the site".

b. updated pollution roses for all monitoring sites. These indicated that high dust concentrations can be associated with winds from all directions.

c. tabulated annual average TSP concentrations. These appeared to show a significant reduction in long-term TSP concentrations over the years, decreasing from a range of 21 – 52 $\mu g/m^3$ in 2019 down to 6 – 19 $\mu g/m^3$ in 2025, which was explained as being linked to completion of mining in the Eastern Block, at least for sites MP1 to MP6.

1089 Appendix B further provided onsite meteorological and TSP monitoring data and a review of the drone footage taken above Te Kooraha Marae on 2 March 2026. It noted that the winds were very strong that day, averaging over 15 m/s (near gale) at the time of the video (4-5 pm).

1090 In counsel's memorandum dated 8 September, the Applicant advised that it disagreed with the Panel's initial view stated at the PFC that an air discharge consent was

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[193] Air Quality JWS at [20-21].

[194] Memorandum of counsel for the Applicant dated 8 September 2026.

[195] Memorandum from Mr Curtis to TIL dated 3 September 2026.

[196] Memorandum of counsel for the Applicant dated 1 October 2026.

[197] Memorandum from Mr Curtis to TIL dated 30 September 2026.

[198] *Ibid* at Figure 7

required for the proposed activities. The Applicant submitted that WRC's legal submissions were incorrect in that there was scope in the application for the panel to grant such a consent. Notwithstanding this scope, the Applicant maintained that an air discharge consent was not required. This was based on advice from Mr Curtis that (paraphrased from Appendix C):[199]

a. there are natural sources of particulate that affect the amenity of the area. The TSP monitoring data shows (onsite) alert levels are rarely exceeded and most of these events occur when winds are stronger than 10 m/s;
b. there is no evidence that site activities are resulting in emissions of contaminants that are giving rise to off-site effects on human health or the health of flora or fauna;
c. there is no evidence that site activities are resulting in emissions of particulate matter that is objectionable to the extent it is giving rise to off-site adverse effects;
d. average measured concentrations of TSP are similar to other remote, rural locations. A conservative assumption of TSP being primarily PM_{10} indicates annual levels would be just over half the NZ ambient air quality guideline, which is not indicative of a chronic PM_{10} effect;
e. the site has a good record of compliance, with one abatement notice in 2024 during extreme weather conditions and no other verified complaints; and
f. the site does not give rise to hazardous substances that cause any form of off-site effects.

1091 Appendix C considered that overall, the compliance record is good based on PDP's experience with a range of quarry and other activities where a handful of complaints each year are very common.

1092 With respect to consideration of visibility under Standards 6.1.8(d) of the WRP which requires no significant impairment of visibility beyond the boundary of the subject property, Appendix C states:

> While there is anecdotal and photographic evidence (such as that discussed in Section 4 of this memo), of visible dust at Taharoa, there is no indication that PDP is aware of that the visible dust associated with TIL activities has been considered to not meet this standard, apart from the issue of the abatement notice in 2024 which TIL responded to.
>
> In any case regardless of TIL's presence or activities, in a coastal environment such as Taharoa there will be visible emissions of sea spray and mist and wind generated visible dust from the sand dunes.

Independent Air Quality Report

1093 The Panel engaged an independent air quality expert to address some outstanding questions on the information relevant to our assessment, namely:

a. how much PM_{10} is likely to be discharged to air from existing and proposed mining activities (noting calculation uncertainties);
b. whether there is potential for adverse health effects from daily and annual PM_{10} concentrations at the nearest neighbours including in Tahaaroa village;
c. a rationale for and priority ranking for mitigation of PM_{10} and/or rehabilitation in the event of any measured exceedance of health criteria; and
d. recommendation, with rationale for location of a 'background' PM_{10} monitoring site.

[199] *Ibid* at Section 2, page 2.

1094 The Panel engaged Ms Tracey Freeman at Jacobs (New Zealand) Ltd to provide an independent air quality (IAQ) report.[200] Ms Freeman visited the site on 24 September 2026.

1095 Ms Freeman developed indicative TSP and PM_{10} emission inventories using published emission factors, principally from US EPA AP-42 and the Australian National Pollutant Inventory and provided a report detailing her assumptions and calculations. Her estimates indicate the vast majority (94-97%) of PM_{10} emissions are from wind erosion (i.e., wind pick-up of dust from exposed surfaces).

1096 Ms Freeman estimated total site PM_{10} emissions were:

a. 2.2 tonnes per day or 814 tonnes per year from existing operations (which includes the Central, Southern & Eastern Blocks); and

b. 1.8 tonnes per day or 671 tonnes per year when mining the Southern Block (assumes closure and full rehabilitation of Pit 1 and Eastern Block, and rehabilitation of Central bock and Te Mania extension is 50% complete).

1097 The uncertainty rating for wind erosion calculations is E (average) but Ms Freeman noted a high degree of uncertainty with the emission estimate because:

a. of the generally low silt content of the materials being worked at the mine (except clay/slimes which are mixed with the tailings to some degree);

b. the assumption of TSP being 50% PM_{10} in the absence of any site-specific data (noting the surface sample analysis for size particle distribution does not help to inform this);

c. the actual exposed area not subject to any form of control is approximate; and

d. the frequency and magnitude of high wind speeds is a key influence.

1098 Nevertheless, Ms Freeman concluded total emissions of PM_{10} were strongly dominated by wind erosion,[201] rather than routine emissions from bulldozers, haul trucks or material handling.[202]

1099 Ms Freeman's examination of the TSP monitoring data concluded the high TSP concentration spikes downwind of the mine and close to sensitive receptors were caused by short-term, wind-driven erosion of surface particles at the mine, rather than day to day mining activities.[203]

1100 Ms Freeman's review of the long-term average TSP concentrations largely agreed with Mr Curtis's. She noted a significant unexplained drop in measured TSP concentrations from January to August in 2026, compared with 2020 – 2024.

1101 Ms Freeman noted the draft EMP states that site triggers for wind only apply for wind blowing from the W, SW or S directions and when the temperature is greater than 20°C. Ms Freeman considered the WNW direction should also be included to address additional residences potentially downwind of mine sources.

1102 Ms Freeman agreed with Mr Curtis that Alert Level 4 (Extreme) was rarely reached, noting some dust monitors exceeded 240 $\mu g/m^3$ as a 1-hour average 1.7% of the time

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[200] Expert Report of Tracey Freeman dated 6 October 2026.

[201] *Ibid* at [136]

[202] *Ibid at* [11]

[203] *Ibid at* [50]

between September 2019 – August 2026. However, filtering the same data to remove all hours when the temperature was below 20°C reduced the frequency of exceedance to 0.7% of the time. She considered there was no valid reason to restrict the wind speed trigger alerts to only temperatures >20°C and recommended this requirement be removed.

1103 Ms Freeman also noted a significant, unexplained difference between the TSP concentrations measured in 2024 and 2026 at the site nominated by Mr Curtis as a 'background' monitoring site, located on the western edge of the site (MP5). She considered the current 'background' dataset cannot yet be regarded as reliable. Ms Freeman recommended adopting an inland background location, potentially within the Northern Block, at approximately the same inland distance as the Tahaaroa receptors as far as possible. She also recommended improving backup/remote data logging to minimise monitoring losses due to intermittent cellular coverage.

1104 Ms Freeman concluded:

a. the main air quality risk from the Tahaaroa mine was episodic wind erosion from large, exposed surfaces during strong onshore winds rather than normal mining equipment activity;

b. existing monitoring does not indicate that PM_{10} health criteria are likely to be exceeded at sensitive receptors, but direct PM_{10} monitoring and better background/source-apportionment information are needed to confirm this; and

c. progressive rehabilitation and reduction of exposed surface areas are the most effective long-term means of reducing particulate emissions. Reducing the amount of exposed erodible surface should be the primary mitigation measure and this should focus on both surfaces closest to Tahaaroa and neighbouring residences, and reducing the overall exposed area, particularly within the Eastern Block, Central Block and Pit 1.

1105 Ms Freeman supported the proposed installation of a permanent PM_{10} monitor at Tahaaroa kura/school using a NESAQ compliant PM_{10} monitor to enable her conclusions to be verified using direct PM_{10} measurements at a sensitive receptor. She also recommended operating a gravimetric PM_{10} sampler alongside the PM_{10} monitor to permit chemical/source-apportionment analysis and to distinguish sea salt from mine derived sand or clay.

Applicant's Response to Independent Air Quality Report

1106 The Applicant responded to Ms Freeman's report on 2 November 2026.[204] Mr Curtis noted agreement with most of Ms Freman's findings and provided corrected annual average TSP data for 2019 – 2026 (the Panel notes the annual mean for 2026 is based on a partial year).

1107 Mr Curtis noted Ms Freeman included calculations for emissions of PM_{10} from the Eastern Block and Pit 1 in the Northern Block which are outside the scope of the application (for consent for mining in the Central and Southern Block). Acknowledging her opinion that it is also important to reduce the overall surface area available for wind erosion, he highlighted TIL's commitment to rehabilitate the areas shown in Figure 15 as follows:

[204] Memorandum of Counsel for the Applicant dated 2 November. Appendix D Memorandum of Andrew Curtis dated 22 October 2026.

a. Areas 1 and 2 (Pit 1) by September 2028;

b. Areas 6 and 7 by December 2028;

c. Areas 8 and 9 (Eastern Block) by 2034;

d. Ara 17 (Te Mania Block) before the land is due to be handed back to the owners in 2030;

e. Area 3 by 31 December 2032; and

f. Area 4 by 30 May 2034.

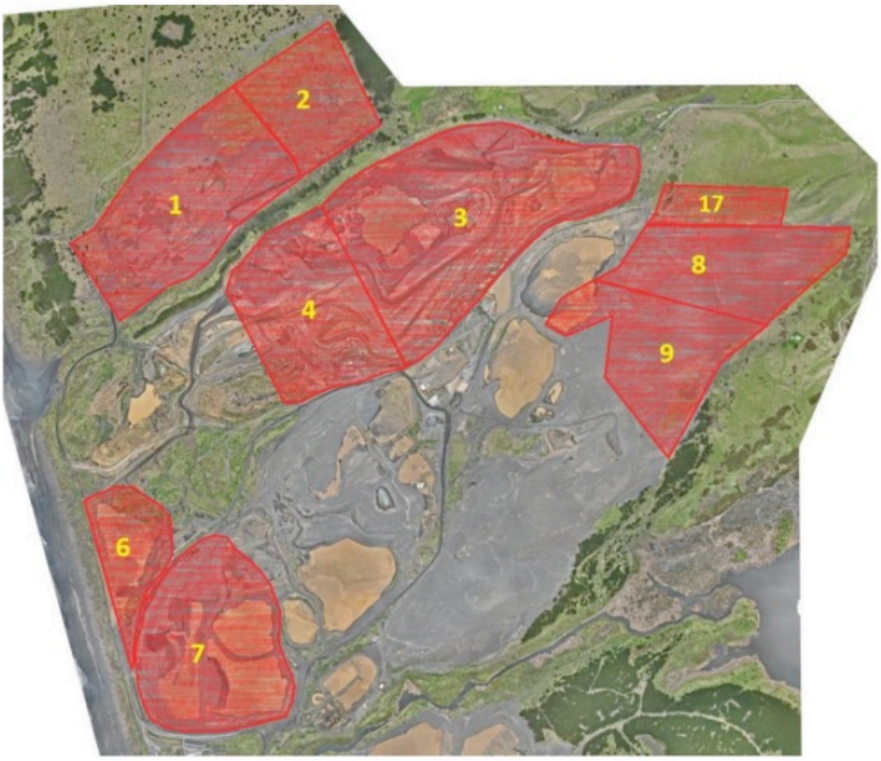


Figure 15 Plan shown areas to be rehabilitated

1108 Mr Curtis also reviewed the TSP monitoring data and agreed with Ms Freeman's concerns over the reliability of the data at MP5 (monitoring location to west of Site) from before July 2025.

Panel Findings: Air Quality

1109 The Panel has considered the information in the SAR, the section 53 comments received, the Applicant's response to those comments, comments by parties attending the hui and PFC, the air quality expert witness statement, the Applicant's response to RFIs and closing presentation to the Panel and various memoranda of counsel for the Applicant, and the report prepared by the independent air quality expert Ms Tracey Freeman.

1110 Air quality matters in contention are discussed in the following order:

a. need for an air discharge permit;

b. adverse (objectionable) effects of dust discharges to air;

c. actual and potential health effects of particulate matter discharges to air; and

d. dust mitigation – rehabilitation.

Need for Air Discharge Permit

1111 First the Panel notes that the SAR states "TIL's resource consent application includes an application for an air discharge consent, if the Panel determines that such a consent is required".[205] We accept TIL's submission that there is scope for grant of an air discharge permit.

1112 With respect to the planner's circularity argument, expressed in the Air JWS, that compliance with proposed condition 8 of AUTHORITY 01.01 demonstrates the activity is a permitted activity, the Panel notes the wording of Condition 8 has been taken directly from Rule 6.1.8. The Panel agrees that this argument presents a conundrum for new activities where the nature of the air discharges are not known and can only be inferred. That is not the situation at Tahaaroa. Discharges to air have been monitored and experienced in the local environment sufficiently for the Panel to make a finding based on the quantified and available monitoring and other information. If the Panel's finding is that discharges to air do not comply with the condition 8 parameters then the circularity is broken.

1113 With reference to the permitted activity standards from the WRP rule set out above, the Panel considers Rule 6.1.8.(c) requiring no objectionable (adverse) effects from the discharge of particulate matter at or beyond the boundary of the subject property to be the primary consideration for determining the requirement for consent.

1114 In relation to the other clauses in the rule, Rule 6.1.8.(a) (adverse effects on human health) is also a key matter for consideration for the substantive application so this is considered in more detail below. The Panel has no evidence on odour or corrosion effects associated with discharges to air from the Substantive Application so Rules 6.1.8.(b) and (e) are put to one side.

1115 The evidence before the Panel in relation to Rule 6.1.8(c) comprises:

a. an abatement notice issued by WRC for offensive and objectionable discharges of dust into air in 2024;

b. TSP concentrations exceeding the Ministry for the Environment trigger guidelines. Whilst infrequent these include:

   (a) 98 exceedances of the MfE hourly trigger level over the period of monitoring (approximately 1.5 years) at monitors MP2, MP3, MP4 and MP8;[206]

   (b) hourly levels (>500 μg/m^3) more than double the MfE hourly trigger level (250 μg/m^3) measured at all monitoring locations;[207]

   (c) daily levels (>120 μg/m^3) more than double the MfE daily trigger level (60 μg/m^3) have occurred, with up to 300 μg/m^3 measured at the

[205] The Applicant has also ticked the box for discharge consent (other than coastal marine area) in Part 3 (Type of approval(s) sought) on page 12 of the Fast-track Approvals Substantive Application Form.

[206] Appendix S to SAR at Table 9.

[207] Memorandum of counsel for the Applicant dated 1 October 2026. Appendix B at Figure 7.

monitoring location closest to Tahaaroa village (MP2) in mid-2024;[208] and

(d) historically elevated annual TSP levels (21 – 52 µg/m^3).[209]

c. dust complaints from neighbours to the regional council – some validated and some still under investigation;

d. photographs and video of clouds of dust beyond the site boundary; and

e. submissions by residents at the hui, and mātauranga Māori experts at the PFC, of dust settling on roofs and in water tanks, with credible commentary matching sources to specific areas and noting changes in emissions over time.

1116 On the balance of probabilities, the Panel finds that dust from the site has, at least on occasion, resulted in adverse (objectionable) effects beyond the site boundary. Accordingly, the continuation (and proposed expansion) of mining activities does not meet the permitted activity standards and a discretionary activity application is needed for that activity. The test of objectionable adverse effects is addressed further below.

1117 The Panel notes the photographs and videos of dust beyond the boundary may demonstrate a breach of Rule 6.1.8.(d), which requires no significant impairment of visibility beyond the boundary of the site, but the Panel does not make a finding to that effect in this decision.

Adverse (Objectionable) Effects of Dust

1118 At the PFC, Mr Curtis acknowledged the inadequacy of calibration for the TSP monitoring data (noting this was not his decision). The Panel considers the absence of robust calibration to be problematic. There is a real likelihood that measured TSP concentrations are under-reporting actual concentrations because they have been over-corrected using calibration factors calculated for dustiest time of the year. This limits the confidence the Panel can place on the TSP data.

1119 Nevertheless, taking the TSP data at face value, we note:

a. the MfE hourly trigger level for TSP (250 µg/m^3) has been exceeded. Whilst infrequent, the exceedances have been significant with ~1,000 µg/m^3 TSP recorded most recently at the monitoring site near a residence (MP8) in 2026.[210]

b. the MfE daily trigger level for TSP (60 µg/m^3) has been exceeded. Whilst infrequent, the exceedances have been significant with >300 µg/m^3 TSP recorded at a monitoring site near the village (MP2) in 2024.[211]

c. the historical data record shows elevated annual-average TSP concentrations (>20 µg/m^3) in earlier years.[212]

1120 Policy 6.4.2.2 of the WRP provides the criteria that Waikato Regional Council applies when assessing whether a discharge of particulate matter is objectionable to the extent that it is causing an adverse effect, essentially being the FIDOL assessment approach.

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[208] Appendix S to SAR at Figure 8.

[209] Memorandum of counsel for the Applicant dated 1 October 2026. Appendix B at Table 3.

[210] Applicant's (final) response to RFI dated 1 October. Appendix B Memorandum from PDP to TIL dated 30 September 2026 at Figure 7.

[211] Appendix S to the SAR at Figure 8.

[212] Applicant's (final) response to RFI dated 1 October. Appendix B Memorandum from PDP to TIL dated 30 September 2026 at Table 3.

Having regard to this policy, we turn next to the Applicant's FIDOL assessment in Appendix S to the SAR.

1121 We find the Applicant's FIDOL assessment (in section 7 of Appendix S) to have a number of issues, namely:

a. The frequency assessment assessed the (lower) frequency of windspeeds at an arbitrarily high windspeed (>7.5 m/s) in addition to the (higher) frequency of windspeeds when dust pickup by wind is well established to occur (>5 m/s) (MfE, 2016).[213] These frequencies were then lowered by consideration in conjunction with separation distances, which is not the purpose of a frequency assessment.

b. The intensity assessment inappropriately compared the mean of 1-hour average concentrations measured over more than a year of data, across all monitors, with the 1-hour trigger level. This artificially smoothed the data and excluded consideration of the extremely high (intense) 1-hour concentrations (500 - 1,000 µg/m^3) of TSP recorded at multiple monitors through this period.[214]

   Whilst attenuation will reduce concentrations (intensity), the intensity assessment appeared to only consider the separation distance of 550 m for MP1 which is not relevant for some receptors (R5 – R10) only 250 metres from another monitor (MP2) which recorded extremely high (intense) 1-hour concentrations (500 - 1,000 µg/m^3).[215]

   There was further no acknowledgement of any uncertainties resulting from inappropriate calibration. In our view this is material when all concentrations could be substantially under-reported.

c. The duration assessment considered only the most recent 1.5 years of data. This excluded previous years when monitoring data in the time series graphs show much higher TSP concentrations that occurred more frequently and for longer duration – as evidenced by considerably higher annual average levels.[216]

d. Despite stating the offensiveness of dust relates to visibility and acknowledging the dark colour of ironsand increases visibility, and despite acknowledging there is the potential for dust discharges to become offensive if they are transported in large quantities, the assessment concluded dust will be of low to moderate offensiveness "for the majority of the time" due to variation in colour and particle size. This appears unjustified. The reference to 'majority' timing is further irrelevant to the purpose of an offensiveness assessment.

e. The location assessment correctly identified that three residences are within 300 metres of the site and the remainder are much further away (560 m – 1.1 km). However, despite noting that finer 20 µm particles can travel considerable distances (>1 km) in high winds, no conclusions for TSP (defined as <50 µm) were drawn about the adequacy of these distances at Tahaaroa where winds are frequently elevated.

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[213] Ministry for the Environment, 2016. *Good Practice Guide for Assessing and Managing Dust*. Wellington. November.

[214] Applicant's (final) response to RFI dated 1 October. Appendix B Memorandum from PDP to TIL dated 30 September 2026 at Figure 7.

[215] *Ibid*.

[216] Applicant's (interim) response to RFI dated 8 September at Appendix C [Memorandum from PDP to TIL dated 3 September 2026. Time series graphs at Figure 7. Annual average TSP ranged from 20 – 52 µg/m^3 in 2019 compared with 9 – 25 µg/m^3 in 2024 at Table 3.

1122 The FIDOL assessment in Appendix S also appeared to ignore cumulative effects from existing sources such as Pit 1 in the Northern Block (exclusion of WSW direction in frequency assessment for the nearest houses (Old Kana Homestead R4, New Kana Homestead R3 and the Roy Wetini WT Homestead R2).

1123 We note the meteorology is clear that elevated wind speeds from the Central and Southern Blocks towards houses are relatively common (15 – 23% of the time). The TSP monitoring data, such as it is, is also clear that extremely high concentrations of TSP occur offsite.

1124 The Panel notes the photographs of excessive, visible dust provided by the Roy Wetini WT taken in March and December 2024 and in January 2025.[217] The Panel also notes the report of the Roy Wetini WT of clay dust on and inside buildings, washing into the water tank rendering potable water undrinkable:[218]

> 'While the worst of the clay dust was received when TIL were mining the top of the ridgeline to the south-west of us, this remains an ongoing issue for us.'

1125 Similar concerns were expressed by Ngaati Mahuta at the PFC, with dust being evident for the first time at Te Kooraha Marae and affecting the preparation of kai.

1126 The Panel considers the video provided by the Tahaaroa Lakes Trust to be at least relevant corroborating evidence of objectionable, adverse dust effects from the site. The 34 second aerial drone footage, taken on 2 March 2026, from above Te Kooraha Marae, shows very large dust clouds drifting eastwards from the mine site. It further shows evidence of:

a. The sources of dust emissions with large, exposed areas being prominent (as estimated by Ms Freeman) as well as haul roads. These dust sources appear to contrast with (non-emitting) process water ponds, vegetated areas, the black sand beach to the west and the sea itself.

b. The scale and extent of dust sources; with haul roads creating visible dust in the central block, and exposed surfaces in all areas of the site – central, eastern and even down to the southern end of the southern block – appearing to create visible dust.

c. The scale and extent of visible effect; with the dust plumes starting low in height, being more concentrated at ground level, then becoming lighter in colour as they disperse upwards and westwards, with puffs visible in the drifting clouds. The distance the clouds are travelling extends from the western edge of the site to the eastern hills – around four kilometres. The height of the dust clouds is also evident, with dust clouds being visible as high as the hills to the east (themselves 230 – 300 m above sea level)[219] as the clouds move eastwards.

1127 We note the drone footage of 2 March 2026 coincides with three dust complaints made to WRC on 2 March 2026,[220] two of which were notified to the Applicant that same day. The footage does not support the Applicant's submission that the notified dust

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[217] Roy Wetini Whaanau Trust Comments on Fast-Track Application under Section 53 & 54 RMAz at digital page 12 (6 Jan 2025), pages 13 and 14 (18 Mar 2024), page 195 (31 Dec 2024).

[218] Roy Wetini Whaanau Trust Comments on Fast-Track Application under Section 53 & 54 RMA at page 11.

[219] Refer Topographic Map (Figure 1 Location Overview) in Lake Taharoa Hydrology Assessment (Appendix I) at page 4.

[220] WRC s53 Comments. Appendix A. Memorandum by Peter Stacey to Sheryl Roa dated 20 May 2026 at Appendix A (WRC Mem to Peter Stacey on dust complaints at Tahaora Ironsand Ltd dated 13 May 2026). Digital page 18 of 21.

complaints were vexatious and not supported by the data[221] – at least for dust complaints made on the day of the drone footage.

1128 During both Panel site visits on 22 April 2026 and 21 July 2026, wind speeds were low and there was no evidence of significant dust generation from the site. However, the Panel witnessed large dust and/or aerosol clouds drifting eastwards from the direction of the site on the day of the hui at Aaruka Marae. Wind speeds were elevated on this day, 8 June 2026.

1129 The Panel concludes from all of the information before us (but in particular from our assessment of the available TSP monitoring data as summarised above), that dust from existing mining operations are causing objectionable dust effects beyond the site boundary at times, such that resource consent for air discharges would be required for continuation and expansion of mining activities on the Site under Rule 6.1.8(c).

1130 We have struggled to understand why there is such an objection to the need for an air discharge permit by the Applicant (and for that matter, the Council) given their general agreement and support for consent conditions of the kind that would normally be found in an air discharge permit. It is also unusual that conditions such as those proposed, and accepted as necessary, would be found in any other consent than that required by section 15 of the RMA – namely an air discharge permit.

1131 We would also have thought that from the Applicant's perspective, given the potential for exceedance of the permitted activity performance standards by such an extensive mining operation in future, it would be sensible to secure this form of approval as part of the application, even out of caution. However, as the proposed and necessary conditions are incorporated into the overall suite of consents, we do not insist that an air discharge permit needs to be crafted to achieve the same outcome. For the avoidance of doubt, this decision considers approval to that permit on the conditions we refer to below.

Actual and Potential Health Effects – Rule 6.1.8(a)

1132 The air quality assessment in the SAR considered only TSP, or rather nuisance dust. However, the Panel notes it is PM_{10} (not TSP) that is regulated under the NESAQ, and this is the primary contaminant of concern with respect to potential health effects.

1133 The air quality assessment in the SAR (Appendix S) failed to address PM_{10}, and subsequent responses failed to address requests for further information from both the air quality expert for WRC and the Panel regarding PM_{10}.

1134 The Applicant's additional information on travelling distances of particles > 20 µm in diameter, size fractional analyses of surface materials and how compliance with workplace exposure standards for particulate matter contributed to the analysis of offsite effects. In relation to each of these matters, the Panel considers:

a. The Applicant did not establish the relevance of Stokes Law (in Appendix S of the SAR) for settling distances of dust discharges from the site, most notably for PM_{10}. Notwithstanding this, we note the graphs do indicate that particulate matter less than 20 micrometres in diameter (PM_{20}) – which will include PM_{10} – is likely to remain elevated for significant distances (kilometres). The Panel notes this is a well-established fact for PM_{10} which, being smaller and inhalable, will not settle or deposit but rather behave like a gas and disperse over similarly significant

[221] Memorandum of Counsel for the Applicant in Response to Comments dated 22 June 2026 at [114]

distances.

b. The Applicant did not establish the relevance of analyses of the size of particulate matter in samples of material *from the ground* for the size of particulate matter discharged *to air* (as reported in Attachment J, to the Applicant's response to s53 comments). The Panel acknowledges that whilst the composition of particulate matter discharged to air will be the same as the parent material (for example, the fraction of crystalline silica present in material on the ground will be the same fraction in particulate matter discharged to air) the size of the particles discharged to air will be completely different to the size of particles on the ground. This reflects only smaller, lighter particles being discharged to air (having been created from, for example, crushing of tyres over an exposed surface) and the heavier particles will stay on the ground. As an analogy, analysing the size of droplets in a bucket of sea water has no relevance for the size of aerosols discharged to air in sea spray.

c. The Applicant did not establish the relevance of compliance with *workplace* air quality standards for inhalable ($\sim PM_{30}$) and respirable ($\sim PM_{4}$) particulate matter exposure in workers in varying occupational settings on a large mine site (as reported in Attachment J, to the Applicant's response to s53 comments), for assessing compliance with *ambient* air quality guidelines and standards for concentrations of PM_{10} at offsite locations where residents may be reasonably exposed. The Panel notes workplace particulate exposure standards are hundreds of times higher in magnitude than ambient air quality concentration limits, being set to protect the general working population who are assumed to be in reasonable health for exposure over a working week (40 hours only) and who have access to personal protective equipment (e.g., P2/N92 respirator face masks) to assist with exposure reduction. By contrast the general population, and Tahaaroa Village in particular, could include people highly sensitive to air pollution such as children, pregnant people, the elderly and asthmatics who are potentially exposed 24 hours a day, 7 days a week, all year.

1135 The Panel considers the available TSP monitoring data is not relevant (being TSP and not PM_{10}) and not sufficiently robust to provide an evidential basis for assessment of potential adverse health effects, which are principally determined by PM_{10}. Even considering the long-term TSP concentrations from a *relative* perspective is not helpful:

a. Monitoring and activity data provided by the Applicant for 2024 when mining operations were close to the boundary shows the annual average TSP concentration measured at the location closest to residences and furthest from the mine (MP2) is elevated in comparison with annual average TSP concentrations measured at *site boundary* locations (MP1, MP3, MP4 and MP6). This suggests little, if any dispersion downwind.[222] The annual average TSP concentration in 2024 was 11 $\mu g/m^3$ at MP2 (close to Tahaaroa village) and 11 $\mu g/m^3$ at MP4 and MP7 (on mine boundary) and *lower* at all other monitoring sites (6 – 10 $\mu g/m^3$).

b. TSP data for MP5 located to the west of the site near the ocean is very likely to be influenced by sea salt but it is also predominantly (38%) downwind of the mine (as east through northeast winds are the predominant winds). Neither Mr Curtis, nor Ms Freeman, have been able to clearly establish the contribution from background or natural sources other than to acknowledge that it exists and may be significant.

1136 The Panel was assisted by Ms Freeman whose report established that emissions of PM_{10}

[222] Applicant's Response to s53 Comments (Air Quality). Attachment J at Table 4.

from the mine are potentially significant, being of the order of magnitude of 1-2 tonnes per day and hundreds of tonnes per year. We accept her findings that:

a. The primary air quality risk is wind erosion from large, exposed surfaces during strong onshore winds;

b. Direct PM_{10} monitoring and better information on background sources of PM_{10} is required to inform whether PM_{10} health criteria are likely to be exceeded; and

c. Progressive rehabilitation and reduction of exposed surface areas are the most effective long-term means of reducing particulate emissions.

1137 The Panel considers that potential health effects of discharges to air are a significant concern because exposure to PM_{10} is known to cause very serious adverse health effects (including premature mortality). We note the position of Mr Chrisp, for WRC, who stated that air quality was "the number one issue associated with the application for the regional council".[223]

1138 The Panel also notes the statements of:

a. Mr King expressing concerns about the health of mokopuna and tamariki being impacted (by mine emissions);[224]

b. Tahaaroa Lakes Trust about kaumatua asthma being exacerbated by dust;[225]

c. Roy Wetini WT having to bring tamariki inside due to dust in the air and being unable to drink roof tank water;[226] and

d. Ngaati Mahuta reporting that dust effects are experienced directly by whaanau residing within Tahaaroa.[227]

1139 We are mindful of the whakatauki of Ngaati Mahuta which underlines the significant impact that local winds have on the village of Tahaaroa:

> Kāre he hau e rite ana ki te hauāuru
> Ka pupuhi ana, ngaro katoa ngā hau
>
> *There is no wind like the west wind*
> *When the west wind blows all other winds are silent*

1140 In light of the Panel's findings of objectionable (adverse) dust effects, and in the absence of any PM_{10} monitoring or quantitative assessment, the Panel is less confident than Mr Curtis that it would be "extremely unlikely that direct health effects can be associated with the type of dust generated by TIL's mining operations" in the Central and Southern Block. The Panel notes that this statement could be read as acknowledgement of the technical difficulties in source attribution, as opposed to a confidence in an absence of adverse effect.

1141 The Panel notes Ms Freeman's review of the TSP monitoring data and site emissions is similar to Mr Curtis' opinion, having concluded:

a. it is very unlikely that the 24-hour average PM_{10} standard in the NESAQ would be

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[223] Mr Mark Chrisp. PFC, 23 July 2026. [At 1:57:54]

[224] Mr Taitufa King. Day Two of Panel Facilitated Conference. [At 1:47:15]

[225] Verbal submission of Ms Jodi Whitiora-Te Uira to the Panel. Aaruka Marae, 22 May 2026. [Transcript: At page 13]

[226] Roy Wetini Whaanau Trust Comments on Fast-Track Application under Section 53 & 54 RMA at page 11.

[227] NMKTH s53 comments at digital page 33.

exceeded at sensitive receptors in and around Taharoa. If it was exceeded, this would likely be due to a combination of background PM_{10} sources (including sea salt) plus emissions from the mine;

b. it is very unlikely that annual average PM_{10} concentrations at sensitive receptors would exceed either the WHO guideline (15 $\mu g/m^3$)or the NZ ambient guideline (20 $\mu g/m^3$);

c. the potential for adverse effects due to PM_{10} exposure is no more than minor.

1142 However, we note Ms Freeman has relied on the absolute values of the TSP monitoring to make these conclusions, with no consideration of calibration issues that give us significant pause.

1143 We also share Mr Stacey's concerns at the proximity of mining activities to houses beyond the boundary, noting that it is well established that PM_{10} can travel significant distances (kilometres).

1144 We find that there *may* be adverse health effects off site due to PM_{10} emissions from the Site.

1145 We have therefore, imposed robust conditions of consent to reduce, monitor and manage PM_{10} going forward. Specifically we have imposed:

a. Clear, enforceable rehabilitation conditions to reduce overall site PM_{10} discharges to air (these are discussed further below);

b. A robust PM_{10} monitoring programme to monitor downwind levels of PM_{10};

c. A robust PM_{10} monitoring programme to monitor upwind levels of PM_{10} to determine the contribution of background (natural) sources;

d. The NESAQ for PM_{10} (which applies nationally) and WHO PM_{10} guidelines as reporting limits for information purposes (only) on Ms Freeman's advice that these will be met;

e. Contingency requirements in the event that the PM_{10} reporting limits, to be measured at locations where people are present (school, marae and neighbouring houses), are exceeded;

1146 We have further accepted Mr Stacey's recommendations for a 200 m PSA and to reinstate the ridgeline adjacent to the northern boundary of the Site.

1147 For completeness we note that:

a. Our inclusion of Mr Stacey's recommended 200 m PSA addresses potential effects of PM_{10} on both properties proximate to the boundary whilst disregarding effects on the occupiers of the two dwellings situated on one of those properties.

b. We have accepted Ms Freeman's recommendation for improved data logging capability and included conditions requiring good practice data capture and quality assurance.

c. We have not accepted Ms Freeman's recommendations for additional PM_{10} monitoring at an inland location or gravimetric PM_{10} monitoring for source attribution because we are not imposing ambient limits (downwind), rather we have conditioned reporting limits. We consider this avoids undue focus on what cannot be controlled (background sources).

d. Our finding engages Rule 6.1.8(a) such that resource consent for air discharges would likely be required under this rule as well. As noted above, we have not insisted on this being approved through a discrete air discharge permit given the

necessary conditions achieving the same outcome have been included in the broader suite of consents.

e. Mr Curtis compositional analysis of 1.7% respirable crystalline silica suggests annual PM_{10} concentrations would have to be higher than 175 $\mu g/m^3$ to approach the OEHHA REL offsite. This concentration of annual PM_{10} is on par with the most polluted cities in the world and very unlikely to occur.

f. We accept the consensus view of Mr Curtis, Mr Stacey and Ms Freeman[228] that $PM_{2.5}$ emissions are unlikely to be significant offsite.

1148 We further acknowledge the Applicant and WRC legal submissions on the interpretation of Rule 6.1.16.1(e) which provides:

> (e) There shall be no discharges of hazardous substances into the air,

1149 The Panel agrees with WRC legal submissions that this rule should be interpreted to apply at the boundary of the property, having regard to the plan context of the rule including the relevant objectives and policies as referred to in the WRC submissions. This is after all, the purpose of assessments under the RMA – to consider the potential and actual effects of discharges to air beyond the boundary.

1150 When considering potential health effects from discharges to air, we would add that these effects should be considered where people may reasonably be exposed. This would provide consistency with Regulation 14 of the NES-AQ (application of ambient air quality standards) and broader good practice air quality management. The Panel is not aware of case law on the definition of 'may reasonably be exposed' as referred to in the NES-AQ but anticipates a conservative approach is justified in the interests of protecting public health. This would further provide consistency with 'safeguarding the life-supporting capacity of air' in the purpose of the RMA.

1151 Considering Rule 6.1.16.1(e) of the permitted activity rule for mineral extraction within the context of the objectives, policies and rules of the plan, we acknowledge WRC's submission that it would be nonsensical that all discharges of any hazardous substance into the air would require consent as this does not consider the scale or significance or potential effects of the discharge (at the boundary). However, we are not helped by WRC's reference to Policy 6.1.3, which seeks to clarify that *low risk* (our emphasis) discharges are to be enabled because we do not consider annual emissions of hundreds of tonnes of PM_{10} (as assessed by Ms Freeman's report) to be low risk.

1152 It is further evident that TSP is being measured beyond the boundary, and PM_{10} is a subset of TSP so will similarly be present beyond the boundary – hence the proposal to measure PM_{10} at Tahaaroa kura/school. We also conclude that PM_{10} (a hazardous substance) is being discharged beyond the site boundary, again triggering the need for an air discharge consent, along the potential for an adverse health effect (under Rule 6.1.8(a)).

1153 We turn next to proposed mitigation and management measures to provide adequate protection against adverse public health effects going forward.

Dust Mitigation – Rehabilitation

1154 We agree with all the experts that background emissions from sea salt may be significant. We acknowledge Mr Stacey's point that having elevated background

[228] Expert Report of Tracey Freeman dated 6 October 2026 at [67]

concentrations of PM_{10} places greater importance on the need to control what emissions of PM_{10} can be controlled.

1155 We accept Ms Freeman's advice that the primary source of particulate matter onsite is wind erosion. We concur with Ms Freeman and Mr Brown (Appendix S to the SAR) that progressive rehabilitation and reduction of exposed surface areas will be the most effective long-term means of reducing particulate emissions.

1156 We note that Section 6.4.2.1 of the Regional Plan includes the following matters to be considered in determining the likelihood of adverse effects from particulate deposition for resource consent applications (our emphasis):

- History of complaints regarding the discharge
- Whether the best practicable option is being applied for the discharge.
- Records of emission control improvements undertaken, and those improvements proposed for the future.
- Experiences of Waikato Regional Council with the discharge and information held by this Council or a territorial authority regarding past compliance.

1157 We are cognisant of the practical difficulties of enforcement for such a remote site. This was articulated by Mr Chrisp at the PFC who stated that "the situation suffers from the tyranny of time and distance".[229]

1158 We further note the WRC file note documenting approximately seven hectares of rehabilitation being completed between 2017 and 2023 compared with the 70 hectares required in the approved rehabilitation plan.[230] This aligns with the Panel observations on site visits which noted a significant absence of rehabilitation being undertaken on site.

1159 Regarding compliance, the Applicant advised us that our consideration of compliance is confined to formal enforcement action of the kind identified in section 104(2EA) of the RMA.[231] Accordingly we note the following:

a. an abatement Notice was issued for discharge of unauthorised sediment into the Coastal Marine Area in 2025; and

b. an abatement Notice was issued for offensive and objectionable discharges of dust into air in 2024.

1160 These two abatement notices are recent and we consider them to be minor (sediment) to moderate (dust) in seriousness.

1161 We further acknowledge the Applicant's advice that two formal warnings for dust discharges issued by the WRC in early 2026 were subsequently cancelled following the Applicant's request for reconsideration.[232]

1162 Regarding rehabilitation, *and irrespective of compliance history*, it is evident to the Panel that there is a significant deficit of rehabilitation undertaken to date that has resulted in large, exposed areas on the site in its entirety (i.e. northern, central,

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[229] Mr Mark Chrisp. PFC, 23 July 2026. At 1:58:27

[230] File note No. 60 40 32A prepared by Josh Evans, completed 16 July 2024. Doc #29011358. Attachment AB to WRC s42A Report Addendum – Central and Southern Resource Consent. Provided as Attachment 7 to s53 comments of Roy Wetini Trust.

[231] Memorandum of Counsel for the Applicant in Response to Comments dated 22 June 2026 at [116]. Specifically, to consider any previous or current abatement notices, enforcement orders, infringement notices, or convictions under the RMA received by the applicant within the preceding seven years.

[232] *Ibid* at [111].

eastern and southern blocks including the Te Mania extension) giving rise to dust discharges to air to a significantly greater degree than would otherwise have occurred.

1163 In this context, we find the position of Te Nehenehenui and Ngaati Mahuta to be reasonable in stating that whilst they wish to see greater rehabilitation in future, they are willing to tolerate operational flexibility with respect to timeframes.

1164 We also acknowledge the Applicant has responded to our questions about dust mitigation and addressed some resident's concerns, with amended conditions of consent reinstating ridgelines and proposed end dates for some areas of the Central Block. Mr Curtis and Mr Stacey have also proposed helpful, good practice, conditions of consent for dust management going forward.

1165 We have adopted nearly all these recommendations and have added our own conditions of consent to ensure progressive site rehabilitation, in sequence with proposed mining. Specifically:

a. We adopt Mr Stacey's recommended trigger limits for onsite PM_{10} alert levels (we concur with Ms Freeman that a minimum temperature requirement is not appropriate for onsite PM_{10} alert levels);

b. All mining activities are to be undertaken in accordance with a Mining Operations Stabilisation and Rehabilitation Plan (**MOSRP**) prepared by an air quality expert requiring stabilisation and rehabilitation of areas as soon as operationally practicable but at least within 6 or 12 months (depending on operational requirements). The MOSRP is to be updated annually with the Annual Works Plan and report on progress annually to Council and be made public; and

c. We have introduced a Contingency PM_{10} Emission Reduction Action Plan requiring additional stabilisation and rehabilitation actions to be prepared by an air quality expert in the event that PM_{10} reporting limits are exceeded at the kura, marae or a residential (NESAQ compliant) PM_{10} monitor.

1166 Coupled with rigorous and robust PM_{10} monitoring, this will ensure responsible dust emissions management going forward.

Forest Harvesting

1167 The Applicant proposes to fell (approximately) 60.6 ha of radiata pine plantation forest (**Tahaaroa forest**) which is located on the Southern Block on previously mined ground.

1168 The Resource Management (National Environmental Standards for Commercial Forestry) Regulations 2017 (**NES-CF**) provide that the proposed forest harvesting is a restricted discretionary activity. This is because *inter alia* the forest is predominantly Land Use Capability Class 8e, which is land with severe to extreme erosion limitations or hazards that make the land unsuitable for commercial forestry use.

1169 This section addresses the environmental effects of proposed commercial forest harvesting but excludes consideration of potential effects on terrestrial ecology including bats, which is addressed under Terrestrial Ecology - Fauna. Specifically, this section addresses the matters over which discretion is reserved in the NES-CF.

Introduction

1170 The trees in Tahaaroa forest will be of harvestable age from 2035 – 2040, however, the SAR did not specify the exact timing of harvest noting only that it must be prior to mining the Southern Block. The SAR was also unclear on the duration of harvesting noting it could be undertaken over a minimum 3-to-4-month period whilst also stating

that harvesting would take longer if completed in stages.

1171 The Harvesting would utilise machine harvesters and manual felling and will require:

a. Upgrading 1.2 km of existing (unsealed) road within the Site and creating 400 m of new road;

b. Earthworks of approximately 10,000 cubic metres to construct four new skid (landing) areas for log processing. These new skid areas are approximately 0.2 – 0.3 ha each in size and will take around 3-4 weeks each to construct.

Harvest Plan and Forestry Earthworks Management Plan

1172 As required under the NES-CF, the SAR included a draft HEMP. The HEMP does not state the basis for the preparation of the plans or whether the (unknown author) Enviser Environmental Consultant visited the Site.

1173 The HEMP notes that given the size of the forest and the local long-tailed bat population, harvesting may be undertaken in stages. The HEMP proposes a 30-metre buffer between forest harvesting and Lake Rotoroa on which existing forest and indigenous vegetation will be retained. Harvesting will employ directional felling away from the lake.

1174 The HEMP notes that the site's soils are free-draining sands such that overland flow only occurs in very heavy sustained rainfall events, during which active forestry operations will not be undertaken. The HEMP further includes a range of erosion and sediment controls to be employed when activities are within 100 metres of the lakeshore wetland(s) and lake or on sloping ground where there is a chance of concentrated runoff (to be assessed prior to the commencement of ground disturbance activities).

Forest Harvesting Effects Assessment

1175 The SAR considers the effects of the proposed forest harvesting to be minor based on the proposed mitigation measures in the HEMP.

Section 53 Comments

1176 Te Nehenehenui noted that pine tree clearance alters visual screening, landscape character and amenity values. They expressed concerns that reduced buffering has already increased exposure of the village and neighbouring properties to dust and operational effects.

1177 Ngaati Mahuta commented that the retention of pine trees in different areas 'mitigated adverse effects of dust and light'. Similarly, the Roy Wetini WT noted the efficacy of pine trees to buffer the adverse effects of noise, light and dust emissions. Ngaati Mahuta and the Roy Wetini WT considered the pine trees provided dust mitigation that was relied upon for grant of consent in 2013. They requested the retention of pine trees present on the site. The Roy Wetini WT submitted that the new consent for forest harvesting was an expansion of the existing consented operations.

1178 WRC noted the removal of some of the mature forest on the eastern boundaries of the Central and Southern Blocks may have increased the exposure of nearby residents to dust as a result of the loss of physical screening and wind sheltering.

1179 The Department of Conservation noted the removal of pine trees means that the water table will likely rise (as the trees will no longer be using the water), which could increase the wetted extent of wetlands or cause them to be more connected to groundwater. It could also increase dewatering requirements for the southern block

mine. DoC noted neither effect had been considered by the applicant.

Applicant Response to s53 Comments

1180 The applicant responded that pine trees on the site have not been established, nor needed to be retained, as a requirement of a condition of any consent granted for mining to date.

1181 The requirement for consent to clear existing plantation forestry arises from the NES-CF and is triggered by ground conditions (i.e. high erosion risk). The NES-CF provides that forest harvesting is a restricted discretionary activity, with discretion restricted to matters associated with erosion and sediment control. The Applicant states there is no ability for the Panel to decline consent for the clearance of the pine trees for the reasons raised by Ngaati Mahuta and the Roy Wetini Whaanau Trust.

Panel Facilitated Conference

1182 At the PFC, Te Nehenehenui and Ngaati Mahuta raised concerns over Tāwhirimātea (wind) creating channelling effects at the village after the pine forest was removed; they note the forest currently provides a buffering effect for the village in relation to the lake.[233] Their whakatauki notes the constancy of the west wind which speaks to the frequency and intensity of these future effects. Their concern was that the predominant southwest winds would channel directly through to the village from the southern block once the forest was removed.

Panel Findings: Forest Harvesting

1183 The Panel is mindful that the existing forest has grown on previously mined ground (sand) and is a permitted activity (or land use) in its own right. Whilst the application for forestry consent is new, it is a requirement of the NES-CF. We do not accept that the forest harvesting activity is new or expanded from the 'continuation of existing mining' not least because vegetation stripping or ground clearance is a prerequisite for ironsand mining and as such anticipated within the existing consent.

1184 The Panel is further satisfied that the requirements of the NES-CF for forestry harvesting, specifically the requirements of preparing a Harvest Plan and Forestry Earthworks Management Plan, are met. Consistent with our approach in other areas we have included the straightforward requirements of the HEMP as conditions of consent.

1185 The Panel acknowledges the concerns of WRC, Ngaati Mahuta, Roy Wetini WT and Te Nehenehenui that the loss of mature forest will cause increased potential dust exposure and reduced wind sheltering. We note the proposal states the "site will be left bare for mining" for an unspecified period of time after harvesting[234] and that while the HEMP includes provisions for stormwater and sediment management, these do not anticipate or provide control measures for discharges of dust to air that are likely to occur from exposed areas under high wind speeds, particularly if those areas are trafficked by forestry or mine vehicles.

1186 However, our finding that harvesting the forest is a prerequisite for mining logically extends to including this activity within the broader scope of the application itself. Thus, the conditions we have imposed requiring all mining activities are to be undertaken in accordance with a Mining Operations Stabilisation and Rehabilitation

[234] SAR Appendix U at [11].

Plan (**MOSRP**) (AUTH142035.01.01) will similarly apply to harvesting the forest.

Noise

1187 The SAR included a noise assessment prepared by Martyn Chambers and Darran Humpheson, acoustic specialists of Tonkin & Taylor dated September 2025 (**Appendix W**). This identified three noise sensitive receptors (the Old and New Kana Homesteads and the Wetini Homestead) as shown in Figure 3.4 (reproduced from Appendix W). These are the same three houses located adjacent to the northeastern boundary of the central block identified in the air quality assessment (identified as R2, R3 and R4 in Appendix S).

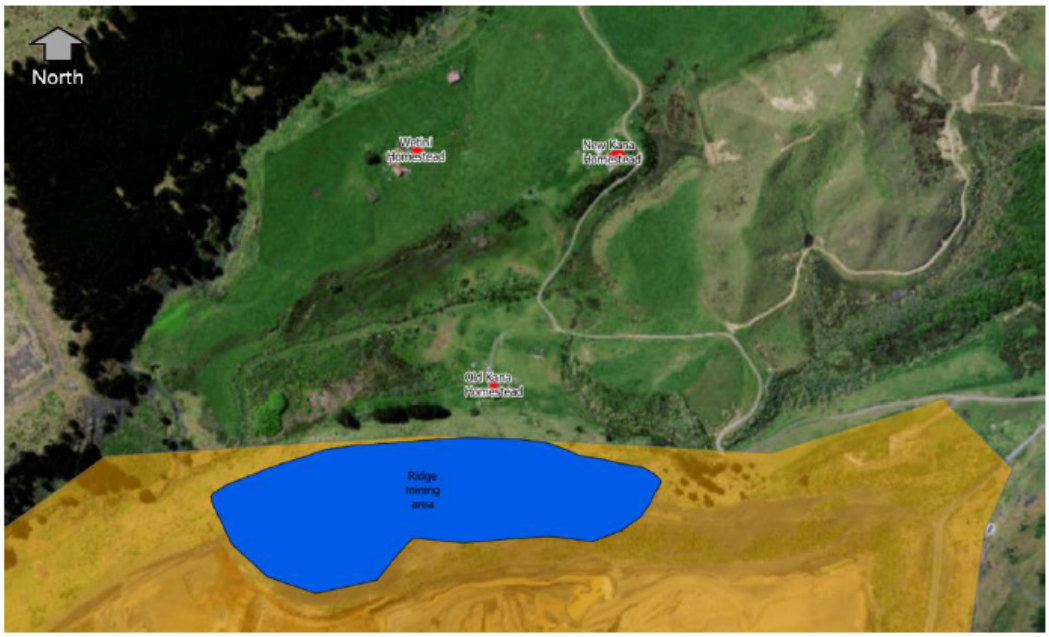


Figure 3.4: Ridge mining area.
Note: Central Block outline indicative only.

1188 Appendix W states that a T+T site technician (person not stated) conducted noise monitoring at the three noise sensitive receptors on 1 October 2024. Meteorological conditions were not stated except to generally note that winds shifted to be towards the site (i.e. from the east-north east, and so away from the nearest houses towards the mine site) for an unstated fraction of the time during an evening period.[235]

1189 At the time of the noise monitoring, mining activity was underway in the adjacent Central Block with three dry mining units and bulldozers (number unstated) active behind the ridge separating the three houses from the mining site. Appendix W stated that:[236]

> "A subjective assessment indicated that dominant noises were unrelated to mining, such as wind in vegetation and bird sounds."

1190 The Panel understands that, at the time of the noise monitoring being undertaken, the ridge between the three houses and the mining activities was still present in its entirety. Appendix W stated that a ridge of approximately 55 m in height will remain

[235] SAR Appendix W at s5 [12]

[236] *Ibid*.

after mining between the central block and the nearest houses,[237] with a Figure suggesting that the height of the ridge post mining will be considerably lower (about half the original size).[238]

1191 Appendix W adopted the Proposed Waitomo District Plan noise criteria for the assessment which introduce a new noise limit for the evening period (7pm to 10pm) in addition to the daytime and night-time limits of the Operative District Plan. Appendix W then utilised noise modelling software (SoundPLAN) to predict noise contours and location specific noise levels for two scenarios:

a. Mining the majority of the Central and Southern Blocks; and

b. Mining the ridge separating the Central Block from the three closest houses.

1192 The noise modelling assumed use of two bulldozers, one collecting and pushing sand into piles, and the other distributing sand to the dry mining units. It assumed the dry mining units are set back from the site boundary with negligible noise contribution at neighbouring houses. It applied maximum permissible noise levels on the ridge that would comply with the District Plan noise limits for each of the sensitive noise receptors and determined what noise sources could comply with these levels for each scenario.

1193 The modelling demonstrated that mining can occur anywhere in the Southern Block without exceeding the District Plan noise limits at any time.

1194 The noise modelling of mining the ridge (scenario b) identified a need for additional mitigation to ensure compliance with the District Plan noise limits, specifically that: in this area, mining should only occur between 7 am to 7 pm until operations progress below the ridge line and out of sight of the nearest houses, because any mining at the top of the ridge during evening or night-time periods is unlikely to be practical given the size of the equipment required. Further, during the day, the maximum permissible noise level on the ridge precludes the use of bulldozers but would allow for a modified methodology (for example, a 15 – 20 tonne excavator operating on the ridge in combination with a rope-trawl bucket crane positioned behind the ridgeline to benefit from terrain shielding).

1195 Appendix W recommended monitoring by an acoustics specialist after mining moves behind the ridge line but before commencing 24/7 operations. Appendix W further recommended best practice measures such as:

a. Minimising simultaneous use of heavy equipment, particularly bulldozers, operating when mining close to houses;

b. Avoid tonal reversing alarms where practicable (using alternatives such as flashing lights, broadband alarms or rear sensors);

c. Equipment maintenance (can reduce noise by up to 50%, e.g. ensuring tracked vehicles do not produce 'squealing' sounds).

d. Positioning dry mining units at least 400 metres from the boundary when there is line of sight and 200 metres when out of sight (noting that it is more practical to position the dry mining unit centrally within the block to minimise relocation during operations).

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[237] *Ibid* at s3.1 [5]

[238] *Ibid a*t Figure 3.5 [6]

Section 53 Comments

1196 The Roy Wetini WT reported a significant increase in noise inside and outside their dwelling from mining on the adjoining ridgeline. This was said to be particularly problematic when mining occurred on the top of the ridgeline, disturbing sleep. Noise disturbance occurred when works to the ridgeline were being undertaken more than 400 metres away.[239]

1197 The Trust queried the absence of an assessment of cumulative noise effects and considered proposed mitigation would be insufficient. To address noise effects, the Trust sought the inclusion of conditions of consent to mitigate effects on air quality as per the decision of the RMA Hearing Panel, specifically the inclusion of a 200 m setback from external boundaries and the retention of the remainder of the ridgeline.

1198 Ngaati Mahuta submitted that they have repeatedly raised concerns regarding *inter alia* noise effects on cultural values, noting "these effects are ongoing and have significantly impacted Ngaati Mahuta and their ability to live in and maintain connection with their ancestral whenua, moana, and wai".

1199 Te Nehenehenui and Ngaati Mahuta sought a 200-metre buffer around the entire site as conditioned by the RMA Hearing Panel.

Applicant Response to Comments

1200 The Applicant responded to noise comments by s53 parties with a letter (Tonkin & Taylor, 2026)[240] prepared by Darran Humpheson (**Attachment K**). Attachment K stated a cumulative assessment was not necessary for various reasons including that sound combines logarithmically (two equal noise sources will only produce a 3-decibel increase), and ridge line mining would be completed before mining in other locations commences. Once ridge mining has been completed, and even assuming an absolute worst-case scenario with all mine plant operating simultaneously combined noise levels would not exceed the District Plan noise limits, except marginally in the night-time period.

1201 Attachment K stated that controlling case for the Roy Wetini WT is the ridge mining scenario, which has the potential to cause an exceedance of noise limits at night – if plant in both areas (Central Block and Pit 1 of Northern Block) were operating simultaneously and at the closest location in each area to the dwelling. Mr Humpheson recommended noise emissions be managed by restricted hours (for example, no mining after 7 pm on the ridge), modified methodology and compliance monitoring. Based on these, Mr Humpheson concluded the potential for adverse cumulative noise effects were expected to be low.

1202 Mr Humpheson did not consider a blanket 200 m setback to be the most effective noise control, preferring his recommended approach for restricting line-of-sight ridge mining to 7 am – 7 pm with a modified mining methodology verified by an acoustic specialist, and with additional noise monitoring to be appropriate.

1203 The planner for the Applicant, Mr Eccles, advised that noise is a land use amenity matter that is not within the function of the Waikato Regional Council/Waikato Regional

[239] Roy Wetini Whaanau Trust Comments on Fast-Track Application under Section 53 & 54 RMA at page 14.

[240] Tonkin & Taylor, 2026. Letter from to Taharoa Ironsands Ltd dated 18 June 2026. *Taharoa Ironsands Limited – Central and Southern Block Mining Fast-Track Application. Noise response to Roy Wetini Whaanau Trust invited comments.*

Plan to control. Further, there is no ability for the Fast Track Panel to impose conditions addressing noise on consents sought under the WRP.[241]

Request for Information

1204 Our RFI dated 29 June 2026 noted the absence of any conditions of consent to give effect to Mr Humpheson's recommendations as outlined in his assessment (Appendix W) and response to comments (Attachment K). The Panel acknowledged that whilst the draft EMP does provide for some of these recommendations, there were no explicit consent conditions (mandating, for example, no mining be undertaken on the ridgeline between the hours of 7 pm – 7 am). We requested case law to support the Applicant's position that conditions of consent could not be imposed to control noise from the Site in the context of the various regional permits being sought under the RMA Approvals.

1205 In response, the counsel for the Applicant advised us that there is no basis under s 108AA for a noise condition to be imposed on TIL, citing:

a. The provisions of s 108AA of the RMA.

b. *Lindis Catchment Group Inc v Otago Regional Council* [2020] NZEnvC 120 regarding conditions volunteered by the Applicant in accordance with the Augier principle per s 108AA (1)(a) (at para [63]-[64]) or s 108AA (1)(b)(i) whereby conditions must be directly connected to an adverse effect but not the activity itself (at para [67]).

c. *Newbury DC v Secretary of State for the Environment* [1981] AC 578, [1980] 1 All ER 731 for when it is, and isn't, reasonable to impose conditions of consent (referring in turn to *Housing NZ Ltd v Waitakere CC* [2001] NZRMA 202 (CA)). It was submitted that it would not be reasonable to impose conditions of the kind suggested by the Panel, when through adoption of the measures recommended in Appendix W, the District Plan noise limits can be met.

d. Under s108AA(1)(b)(ii), a condition can only be applied relative to an "applicable district or regional rule", being defined under s108AA(4) as meaning the regional permit rules that trigger the need for the consents sought in the application in this case.

1206 This is discussed further in our findings below.

Panel Findings: Noise

1207 The Panel accepts the advice of Mr Humpheson that the proposed mitigation and monitoring measures he recommended would be adequate to prevent adverse noise effects. We further accept his advice that there would be no cumulative effects based on various factors referred to in Attachment K.

1208 We note that Mr Humpheson adopted the Proposed Waitomo District Plan (PWDP) noise limits as assessment criteria and the Applicant has confirmed that they can comply with these noise limits.[242] However, we remain concerned about the absence of any explicit conditions of consent to implement Mr Humpheson's recommendations for noise mitigation and monitoring. We consider the draft Environmental Management Plan cannot be relied on as the sole control for noise as proposed by the Applicant,

[241] Tonkin & Taylor, 2026. Taharoa Ironsands Mine – Central and Southern Blocks Mining Project. Response to Comments. Prepared for TIL. Date 22 June 2026. (Attachment B) at page 24.

[242] TIL, Response to RFI, July. At page 138.

because not all recommended measures to ensure District Plan compliance are included, and regardless, as addressed elsewhere in this decision, management plans should not be left to set performance standards such as the constraint on operating hours only between 7 am and 7 pm for activities in the ridge area.

1209 The Applicant responded to our queries on this matter asserting there is no basis under s108AA(1) of the RMA for any noise conditions to be imposed. We agree with the Applicant's advice that a condition of consent must be directly connected to an adverse effect of the activity on the environment (s108AA(1)(b)(i)),[243] and find that imposing noise conditions requiring adoption of the Appendix W measures would be so connected.

1210 Section 108AA(1)(b) is not confined to the relevant consent triggers as referred to in the Applicant's RFI response on this topic, under s108AA(1)(b)(ii).[244] The section is expressed as alternatives ("one or both of the following").

1211 We do not agree that imposing *any* noise condition(s) would be unreasonable in terms of the Newbury principles as set out in *Newbury DC v Secretary of State for the Environment* [1981] AC 578, [1980] 1 All ER 731 on the basis that any adverse effects arising from TIL's mining activities are explicitly contemplated by the Waitomo District Plan as permitted activities.[245]

1212 While it is true that s31 of the RMA provides for noise as a function of district councils, we note that s16 explicitly provides for noise emission standards as a condition of *inter alia* land use consent as follows:

> **s16 Duty to avoid unreasonable noise**
>
> (1) Every occupier of land (including any premises and any coastal marine area), and every person carrying out an activity in, on, or under a water body or the coastal marine area, shall adopt the best practicable option to ensure that the emission of noise from that land or water does not exceed a reasonable level.
>
> (2) A national environmental standard, plan, or resource consent made or granted for the purposes of any of sections 9, 12, 13, 14, 15, 15A, and 15B may prescribe noise emission standards, and is not limited in its ability to do so by subsection (1).

1213 Whilst we accept that the consent holder is required to comply with the District Plan general standards for permitted activities regardless, the District Plan standards themselves do not require the Applicant to implement the noise monitoring or specific controls that Mr Humpheson recommended in his assessment of effects. We consider it necessary to impose conditions of consent to implement Mr Humpheson's recommendations so that compliance with the noise limits is achieved and to ensure that adverse effects do not occur.

1214 While there may be issues of 'jurisdiction' (as between the local authorities) and their specific functions under s 30 and 31 of the RMA in play, there is also the question of application scope. The SAR is specifically advanced on the basis that the District Plan noise limits (and s 16 obligations) will be met through adoption of the various measures outlined in Appendix W (refer section 4.1.4).

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[243] In the absence of an Augier condition volunteered by the Applicant (s108AA(1)(a)); or a direct connection to an applicable district or regional rule or national environmental standard (s108AA(1)(b)(ii)); or the condition being administrative and essential (s108AA(1)(c)).

[244] TIL, Response to RFI, July. At page 138.

[245] *Ibid*.

1215 In short, we consider noise conditions to expressly require that these measures be adopted are not only best practice, but necessary to prevent potential adverse noise effects of mining on the ridgeline in particular, and ensure that the activities being approved remain within the scope of effects as assessed in the application. Accordingly, we have included additional conditions into Permit AUTH 142035.01.01 to require and ensure that the EMP includes the various measures in Appendix W to ensure the Waitomo District Plan noise limits are met.

1216 For completeness, the Panel notes our assessment of potential noise effects addresses potential effects of noise on all three dwellings proximate to the boundary whilst disregarding effects on the two persons who have given approval themselves.

Archaeology

1217 The SAR included an archaeological assessment (Appendix O) prepared by Messrs Doug Gaylard, ,Glen Farley and Ms Jen Low of Clough & Associates Ltd dated October 2025 based on a site investigation on 1-3 April 2025. Appendix X of the SAR also comprised a bundle of archaeological documents including the above assessment, proposed conditions for the Archaeological Authority, a draft Archaeological Management Plan (**AMP**), supporting documents for the nomination of Mr Farley as Project Archaeologist, a Cultural Values Report prepared by the Committee of Management of Taharoa C Incorporation, a landowners consent letter from Hoturoa Barclay-Kerr, the Chairman of Taharoa C Block Incorporated[246], and a summary of comments on the above documentation received from Ngaati Mahuta and Te Kooraha Marae.

1218 As noted above, in relation to a FTAA application, where an Archaeological Authority is sought in relation to potential impacts on archaeological sites, Heritage New Zealand Pouhere Taonga (**HNZPT**) and the Māori Heritage Council must prepare a report pursuant to section 51 FTAA for our consideration. The report records that HNZPT worked together with the Applicant to an agreed set of conditions for the Archaeological Authority and that, with some minor amendments, was prepared to certify the draft Archaeological Management Plan prepared for the Applicant by Clough & Associates Ltd.

Summary of Assessment

1219 The archaeological assessment provided an extensive review of recorded archaeological site information and the field survey undertaken. Appendix O provided a succinct summary of the assessment which we adopt as follows:

> The proposed reworking of mining pits and dredging across the Central and Southern Blocks will potentially affect eleven recorded archaeological sites, though the status of all of these could not be confirmed. Two are located in the Central Block [R16/61 and R16/117], both of which have midden. Nine sites located in the Southern Block. One of these (R16/327) is in the northern zone of the Southern Block and is a Māori burial site where kōiwi tangata (human remains) were recorded in the 1970s and removed for reburial by local kaumātua. It is assumed that all known kōiwi were re-interred in the nearby reserve at that time. The other sites consist of midden (R16/52, R16/58, R16/88, R16/89, R16/150, R16/151, and R16/155) and a terrace site (R16/572). The remaining sites which are still present or potentially present within the study area are located outside the areas affected by the proposed works.
>
> The potentially affected midden sites are considered to have limited archaeological value, with the terrace site considered to have limited to moderate value, and any effects can be appropriately mitigated through archaeological investigation and recording to recover information relating to the settlement history of the area, under the provisions of the HNZPTA.

[246] Mr Barclay-Kerr was replaced by Ms Charity Edwards as chairperson of Taharoa C Block Incorporated during our consideration of the application.

> If any kōiwi tangata associated with R16/327 are still present, their primary values would be cultural, and they should be appropriately managed as directed by tangata whenua and Heritage NZ.

1220 In addition to this summary we would add that the assessment describes an area which is relatively dense in recorded sites indicating an occupation of the area at least as far back as the 17th century, and very likely earlier given the association of the area with Kāwhia, being the resting place of the Tainui canoe. The landscape has undergone considerable modification through natural erosion, substantial mining works, and approximately 30 years of forestry operations. Table 1 of the assessment lists 88 recorded sites and their present condition within the survey area. Only 29 of these 88 sites have not been destroyed by mining or forestry activity.

1221 Nevertheless, the expert advice from HNZPT is that there is no evidence to suggest that the historical and cultural heritage value of the recorded sites and any potential subsurface sites justifies their protection. Further, the application describes how the proposal will avoid known urupaa and waahi tapu areas which will serve to protect and conserve those archaeological sites.

1222 The eleven sites identified in the assessment are afforded special protection in the proposed Archaeological Authority. In addition to those sites, the Cultural Values Report has identified five urupaa or cultural sites within the overall Taharoa C Block.[247] These sites are proposed to be protected in the Applicant's proposed Condition 2(f) of AUTHORITY 01.01 which states as a detail to be shown on the site map:

> (i) The location of urupā and other wāhi tapu sites known to the Consent Holder at commencement of this consent, including a 20m buffer from cultural reserve sites unless a local specific geotechnical assessment has identified an appropriate reduced setback.

Comments Received

1223 The comments received by the Applicant and in turn by HNZPT from Ngaati Mahuta and Te Kooraha Marae on the draft Archaeological Authority application and the protection of cultural sites in proposed conditions of consent were reiterated in the section 53 comments from these organisations. The comments focussed on two matters:

a. Increasing the buffer for urupaa and other waahi tapu sites in Condition 2(f) from 20m to 50m; and

b. Ensuring that Ngaati Mahuta, Aaruka Marae and Te Kooraha Marae are named as parties in the Archaeological Authority to nominate kaumātua for consultation and advice in the matters of tikanga surrounding koiwi discovery and to receive information via annual reporting requirements and records of archaeological work. As currently proposed it is the Proprietors of Taharoa C Block that are named as the nominating party for kaumātua.

1224 On the latter of the two matters above, the Panel sought information from HNZPT on how it generally expects an Archaeological Authority to recognise the respective roles of Māori landowners, mana whenua and marae where these roles overlap as they do at Tahaaroa.[248] HNZPT responded that it was very common to have multiple tangata whenua parties involved in archaeological authorities and advised that when granting an archaeological authority (or in this case, pursuant to the FTAA, recommending the

[247] Appendix X Archaeological Management Plan Figure 1; SAR. Areas being Te Tauwhare, Te Kaumarua (2 areas), Te Kapua, Te Kakara (2 areas), and Te Ruaoteata

[248] Panel Minute 21, dated 14 July 2026

grant of an archaeological authority) HNZPT imposes a set of conditions that, amongst other things, ensure that the archaeological work is undertaken in a culturally appropriate way. This may include conditions that provide for:[249]

a. Notification of start works;

b. Input to the Archaeological Management Plan and/or Research Strategy and/or other protocols;

c. Access to the site to carry out any tikanga, subject to health and safety site requirements;

d. Notification in the event that any koiwi are encountered;

e. Notification of works completion; and

f. Provision of a copy of the Final Report.

Panel Facilitated Conference

1225 The PFC agenda included both of the matters raised in the s 53 comments as summarised above. In response to a question from the Panel on exactly how the boundaries of the urupaa and waahi tapu areas are known (i.e. from which the proposed 20 m buffer would apply), Mr Farley explained that it was difficult to locate sites and that site extents have uncertainty until site stripping (of the overburden) occurs. He explained that the general approach in relation to these areas is that, before mining occurs in the vicinity, an archaeologist examines the area for any sign of koiwi and whether the mining buffer needs to be extended.

1226 Mr King reinforced the concern expressed in the comments from Ngaati Mahuta and Te Kooraha Marae that koiwi is likely to be within the mine site and to increase the buffer distance will allow the koiwi to still be included within the urupaa site if they have been moved by nature. He referred to the 'hurt' that mana whenua felt at the prospect of mining activity within any urupaa or koiwi areas.

1227 In relation to the second matter on the nomination of kaumātua for responsibility in relation to archaeological matters, Ms Nevada Huaki emphasised the importance of Ngaati Mahuta, Te Kooraha Marae and Aaruka Marae being involved in nomination, but noted that it was likely that their nominations would be similar to those made by the Proprietors of Taharoa C Block i.e. include the same people/representatives in any event. Ms Charity Edwards, the Chairperson of Taharoa C advised the Panel that while it has been the practice for Taharoa C Block owners to nominate the kaumātua, she recognised the desire for additional hapu involvement. Ms Edwards similarly noted that the list of nominees from the respective groups was likely to be similar. The parties agreed to have discussions about resolving the nomination matter and this became an item in the PFC RFI.

1228 In commenting on the advice that the Panel had received from HNZPT on this matter, Mr Farley advised that an AMP can have reference to specific persons for this responsibility, but that it was unusual to have the landowner listed. He considered that the situation at Tahaaroa was a 'complicated area'.

PFC RFI response

1229 The PFC RFI response on this topic included a letter from the Proprietors of Taharoa C

[249] HNZPT Memo dated 21 July 2026 in response to Minute 21

Block which advised that the appointment of kaumātua was to be in accordance with tikanga and that a hui on this matter was being arranged.[250] The advice also sought that the conditions of consent in the Archaeological Authority and the AMP refer to tikanga and not contain more detailed requirements of the methodology.

Mana Whenua Comments

1230 On 30 October 2026, Mr King provided a copy of document entitled *Rautaki Tiaki Taonga o Tahaaroa 2026; Tahaaroa Taonga Care Strategy 2026*. The purpose of the strategy was stated in the opening paragraph as:

> This strategy sets out a practical, marae-led process for bringing tikanga Maaori, maatauranga Maaori, whakapapa and local knowledge into archaeological discovery and response in Tahaaroa. It supports the Archaeological Authority and Archaeological Management Plan (AMP), while recognising that statutory responsibilities remain with the relevant authorities and professionals.

1231 In an accompanying email Mr King explained that the strategy had been reviewed and endorsed by the Chairs of Aaruka Marae and Te Kooraha Marae, with the support of the Chair of Te Ruunanga o Ngaati Mahuta ki te Hauaauru. Mr King also noted that "while the Chair of Taharoa C Block participated in our hui and provided feedback during the development of the document, they have subsequently requested that all references to Taharoa C Block be omitted from the final version."

Panel Findings: Archaeology

1232 The Panel has considered the comments made, the response from the Applicant, the responses to the questions and statements at the PFC and the closing presentation of the Applicant.

1233 On the matter of the buffer for urupaa and other waahi tapu sites, the Panel has considered the location of these sites as shown on Figures 32 and 33 of Appendix O in the context of other site features and potential mining activity. The Panel notes that the sites vary significantly in terms of their probable interface with future mining activity due to the current land use surrounding them. These surrounding land uses vary between existing mining or overburden areas, areas that appear to be either undisturbed or not recently disturbed, forestry areas, and riparian coastal, stream or wetland areas. In the case of mining or overburden areas such as along the northern and southern boundaries of the Te Tauwhare waahi tapū area, the land has already been disturbed. In the case of riparian coastal, stream or wetland areas, such as parts of Te Kaumarua, Te Kapua and Te Kakara waahi tapū areas, with the proposed buffer area lying within the riparian area, it is already protected from mining activity. The small area called Te Ruaoteata is located between the mine administration building and the shoreline and appears unlikely to have mining activity in its vicinity.

1234 Proposed Condition 1 of the Archaeological Authority titled Start Work Notification requires that the eleven sites that are identified as being potentially affected by mining are subject to specific archaeological and cultural management including prior advice to kaumātua (Condition 1), a briefing for site personnel involved in excavation (Condition 3), and monitoring (Condition 4). In addition, the Archaeological Authority requires specific actions for all kōiwi discovery including notification (Conditions 5 and 6)and investigation(Condition 7). However, neither the Archaeological Authority conditions nor the AMP address the urupaa and other waahi tapu sites specifically. The Archaeological Authority provides no additional protection beyond that provided

[250] Letter for the Proprietors of Taharoa C Block dated 1 October (Appendix H of the PFC RFI)

generally in Conditions 5 to 7. The AMP does not refer to the urupaa and other waahi tapu sites. The only specific protection of these sites is in proposed Condition 2(f) of AUTHORITY 01.01 as set out above.

1235 The matter for resolution in relation to the urupaa and other waahi tapu sites is the extent of the buffer to mining activities. However, irrespective of this extent, based on the advice from Mr Farley, there is uncertainty as to the boundaries of the actual sites. The Panel considers that instead of increasing the buffer extent as sought by Ngaati Mahuta and Te Kooraha Marae, more specific and active management of the urupaa and other waahi tapu sites should be provided for within the AMP. Such measures would better address the uncertainty around the location of any remains of archaeological or cultural significance.

1236 At page 4 of the AMP, General Requirements for site management are set out. The Panel considers that the following requirements should be amended and added (as underlined) to protect the urupaa and other waahi tapu sites:

> 2. Prior to the start of land disturbance in the vicinity of sites R16/58, R16/61, R16/88, R16/117, R16/150, R16/151, R16/155, ~~and~~ R16/572 and the urupā and other wāhi tapu sites shown on Figure 1 of this AMP the Project Archaeologist will be called to meet the personnel undertaking works on site to brief them on the archaeological requirements.
>
> 2A. Prior to the start of land disturbance in the vicinity of any urupā or other wāhi tapu sites shown on Figure 1 of this AMP the mine operator shall ensure that the relevant site(s) including the 20m buffer is appropriately fenced and signed to alert all site personnel of the location and significance of the site. The Project Archaeologist shall advise the nominated kaumātua and Heritage NZ that such fencing and signage is in place.

1237 The second matter for the Panel to address is the procedure by which kaumātua are nominated to undertake responsibilities relating to the effects of mining activities on archaeological and cultural sites. The Panel acknowledge the historic and ongoing role of the Proprietors of Taharoa C Block in such nominations. In doing so, the Proprietors exercise their mana motuhake over their resources and their obligation to represent the property owners.

1238 The comments from the mana whenua groups asserted that Ngaati Mahuta, Aaruka Marae and Te Kooraha Marae should be named as parties in the Archaeological Authority for the nomination of kaumātua.

1239 The post PFC RFI advice from the Proprietors of Taharoa C Block was that the conditions in the Archaeological Authority and the AMP should refer to tikanga and not contain more detailed requirements of the methodology for appointing kaumātua. The subsequent advice from Mr King, on behalf of mana whenua, came in the form of the strategy document referred to above.

1240 The Panel has examined the strategy document and appreciate the thought and effort put into this important matter. We note that much of the content would appear to parallel the requirements of the AMP. We consider that an amendment should be made to the General Requirements of the AMP to add cultural advice/instruction by kaumātua to the briefing given to personnel undertaking works on site.

1241 Unfortunately, the joint advice from the Proprietors of Taharoa C Block and mana whenua does not address the specific requirement as to the overall nomination of kaumātua that we were seeking, other than the common view expressed that this should be carried out according to tikanga. The Panel has consequently proposed nomination of two kaumātua each by Proprietors of Taharoa C Block and mana whenua, with a fifth kaumātua being a joint nomination by the two groups. We note the view expressed at the PFC by Ms Edwards that the list of nominees from the respective groups was likely to be similar. We also agree that the nominations should

be undertaken according to tikanga.

1242 With respect to the strategy prepared by mana whenua, we consider that its content and application merits further consideration by the combined group, but we are not in a position to formalise its status as part of the Archaeological Authority or the AMP.

1243 These methods for kaumātua nomination are also to be reflected in the archaeological discovery protocols in Schedule 2 of the RMA Approvals.

Bond Conditions

1244 The SAR Appendix BB set of proposed conditions included conditions on a rehabilitation bond. Pursuant to existing resource consents, TIL currently maintains a $5 million bank bond with WRC for the Central and Southern Blocks of the mine. The objective of the proposed conditions is set out in condition 46 of Schedule 1 to:

> (a) Secure compliance with the conditions of this consent relating to on-going rehabilitation and closure of the Central and Southern Blocks of the Mine;
>
> (b) Ensure the completion of rehabilitation and closure in accordance with the approved Site Rehabilitation Plan and final Site Closure Plan ;
>
> (c) Enable the Council to undertake monitoring of any adverse effect on the environment that may arise from the exercise of the consent until completion of closure of the site.

1245 The key details of the proposed bond conditions are as follows:

a. The bond is to be maintained in favour of WRC and can be held in cash or a guarantee provided by a bank or other party on behalf of the consent holder;

b. Within four months of the commencement of the consents, the consent holder is to provide a report to the WRC of the bond amount calculated in accordance with the methodology set out in condition 52 and other matters including the Site Rehabilitation Plan and Conceptual Site Closure Plan; within a further four months the WRC is to fix the amount and notify the consent holder;

c. The bond amount may be reviewed every three years;

d. The conditions establish procedures for a dispute by the consent holder for any aspect of the bond fixed by the Council;

e. Until the new bond has been established, the consent holder must maintain the bond which is in place for the existing consents, and within two months of the commencement of the new consents the consent holder must make any necessary changes to the existing bond to secure performance with the requirements of condition 46.

1246 The SAR Appendix BB also contained a memorandum from the Applicant which explained some of the background issues with previous bonds and why a clear, reasonable and commercially certain bond condition is necessary. The memorandum also explained some of the amendments to the standard WRC bond condition proposed by the Applicant to provide commercial certainty, ensure consistency and reasonableness, and to avoid disputes and associated delays about the quantum. In particular, amendments have been proposed to:

a. recognise the context of the Mine, including the resources available on site to aid in rehabilitation and site closure;

b. recognise that TIL undertakes on-going rehabilitation as mining progresses by requiring the bond to be based on the area disturbed or proposed to be disturbed over the forthcoming three-year period. This reflects that the bulk of the rehabilitation costs depend on the size of an open pit;

c. require the consent holder to provide the bond, but ensure it can be provided by someone else, on behalf of the consent holder. In this instance, the Māori landowner (The Proprietors of Taharoa C Block Incorporated) has agreed to provide the bond to reflect their 50-year ongoing partnership with the mine operator and their confidence in the operation of the mine; and

d. provide the consent holder an opportunity to refer any disputes relating to the fixing of the bond to mediation, rather than immediately preceding to arbitration, and to ensure that legal arguments can be raised in arbitration (if required), rather than it being simply a calculation exercise.

Section 53 Comments and Applicant Response

1247 Several parties addressed the bond condition in their section 53 comments and reiterated these concerns at the PFC.

1248 Ngaati Mahuta expressed concern about the long-term state of the lakes post-closure and sought that this was addressed through "enforceable rehabilitation and bond conditions".[251]

1249 Te Nehenehenui expressed a similar concern that despite the conditions proposed by the applicant including a rehabilitation bond, a site rehabilitation plan, annual works plan and annual monitoring report, rehabilitation will be deferred or may not meet the necessary standard to restore the Site. Te Nehenehenui sought that the rehabilitation bond be set at an amount that would incentivise the applicant to complete progressive rehabilitation. The comments also drew a connection between the Maniapoto Environmental Management Plan and the requirements of the bond condition.

1250 Roy Wetini WT comments also encompassed the concerns expressed by the above two comments. The Roy Wetini WT opposed the potential for the bond to be provided by another party, in particular Taharoa C Block shareholders, as the Trust considered that this would eliminate the incentive for the consent holder to complete rehabilitation works. The Trust supported the bond conditions imposed by the 2020 RMA Hearing Panel.

1251 WRC did not provide any comments on the rehabilitation bond conditions, however at the PFC Mr Chrisp, the WRC consultant planner, addressed the Council's position on the bond conditions. Mr Chrisp confirmed that the bond conditions' wording was based on the WRC bond template subject to the Applicant's amendments. Mr Chrisp also explained how the Annual Works Plan, which includes areas to be rehabilitated, the Conceptual Site Closure Plan, and the bond amount work together to ensure that as respective areas of the mine are processed to extract the ironsand, exposed areas are rehabilitated, either finally or to an interim state, and these works are secured by the calculated bond amount. The re-calculation of the bond amount is proposed to occur, at the discretion of the Council, every three years.

1252 The Applicant responded to the section 53 comments on the bond provider as follows:[252]

a. The Applicant is ultimately responsible for the provision of the bond and that irrespective

[251] Section 53 comments from Ngaati Mahuta ki te Hauaauru on Taharoa Ironsands Limited Substantive Application under the Fast-Track Approvals Act 2024 - Central and Southern Block Mining Project [FTAA-2512-1153] Appendix 1 dated 19 May 2026

[252] TIL, Memo dated 22 June 2026 Response to s53 Comments at [117]

of who provides the bond, it is the Applicant that is bound to comply with the conditions of consent including rehabilitation and site closure; and

b. The provision of the bond by Taharoa C is solely up to the shareholders.

Panel Findings: Bond Conditions

1253 The Panel has reviewed the proposed bond conditions and notes that they are based on the WRC template and also on the Council's extensive experience in administering bond conditions for mining operations. Subject to the following findings, the Panel largely accepts the bond conditions as provided by the Applicant.

1254 On the matter of who can provide the bond the Panel accepts that there can be flexibility on this matter. We accept the Applicant's view that the primary objectives are that the conditions of consent are complied with and that the rehabilitation and site closure conditions are financially secured.

1255 On the matters raised by Ngaati Mahuta, Te Nehenehenui and Roy Wetini Whanau Trust the Panel is cognisant of the relationship between the three-yearly cycle of the Annual Works Plans, the Conceptual Site Closure Plan and the bond re-calculation. The Annual Works Plan includes the details of the areas to be rehabilitated. Rehabilitation has been addressed earlier in Part E and the findings include specific requirements on rehabilitation extent and standards, addressing key concerns about ensuring that the rehabilitation activity is certain and measurable.

1256 The Panel considers that the period for review of the bond should be at a mandatory three years for the first nine years of the consent, and thereafter three-yearly at the discretion of the Council. It is important for the bond amount to be kept up to date so as to reflect the outstanding works for rehabilitation and closure at any given point in time over the 35 year consent duration. However, if it is evident, based on the information readily available, that the extent of these works remains relatively the same, then a full review by the WRC may not be required. In making this finding, the Panel acknowledges that compliance with the substantive conditions comprising the works is required by other conditions.

Regional and National Benefits of the Project

1257 Section 3 of the FTAA states:

> "The purpose of the Act is to facilitate the delivery of infrastructure and development projects with significant regional or national benefits."

1258 Each of the three approvals referred to in section 81(4) FTAA specifically require the Panel to consider the extent of the project's regional or national benefits.

1259 There is no specific definition of significant regional or national benefits in the context of listed projects progressing to a substantive application. Section 22 FTAA, which relates to the criteria for assessing a referral application can be seen as providing some guidance. For the purposes of determining whether a project has significant regional or economic benefits, section 22(2) provides the following criteria:

> (2)(a) whether the project—
> (i) has been identified as a priority project in a central government local government, or sector plan or strategy (for example, in a general policy statement or spatial strategy), or a central government infrastructure priority list:
> (ii) will deliver new regionally or nationally significant infrastructure or enable the continued functioning of existing regionally or nationally significant infrastructure:
> (iii) will increase the supply of housing, address housing needs, or contribute to a well-functioning urban environment (within the meaning of policy 1 of the National Policy Statement on Urban Development 2020):

(iv) will deliver significant economic benefits:
(v) will support primary industries, including aquaculture:
(vi) will support development of natural resources, including minerals and petroleum:
(vii) will support climate change mitigation, including the reduction or removal of greenhouse gas emissions:
(viii) will support climate change adaptation, reduce risks arising from natural hazards, or support recovery from events caused by natural hazards:
(ix) will address significant environmental issues:
(ixa) will promote competition in the grocery industry
(x) is consistent with local or regional planning documents, including spatial strategies:

(b) any other matters the Minister considers relevant.

1260 The Panel also notes that an assessment of the adverse impacts, or costs, of a project in relation to an approval sought is particularly relevant in the context of a decision to decline an approval. Section 85(3) provides that an approval may be declined if there are adverse impacts in relation to the approval sought and that these impacts are sufficiently significant to be out of proportion to regional or national benefits.[253]

1261 In terms of the analysis to be undertaken, the Panel makes the following observations, some of which draw on findings in the decisions on FTAA approvals to date and commentaries on the analysis of regional and national benefits.[254]

a. The inclusion of a project in Schedule 2 does not mean that it has already been determined by the legislature as having significant regional or national benefits for the purposes of the Panel's assessment in sections 81(4) and 81)5), notwithstanding that Schedule 2 is headed up "Listed projects with significant regional or national benefits". From a statutory perspective, the listing of a project simply means that the project has been accepted to the fast track approvals process.[255]

b. Economic assessments for FTAA projects to date have adopted a range of assessment techniques. Most assessments have set measures of economic activity, such as revenue, project expenditure items (capital and operational), and employment creation within an overall framework which enumerates such data over the project time period. Economic impact analysis (EIA) using a multi-regional input-output model has typically been employed to estimate the direct and flow-on effects of a project over time. There has been some commentary that, instead of an EIA using input-output analysis, applicants should be using a Cost Benefit Analysis approach, thus accounting for the adverse impacts or costs of a proposal within the framework.[256] However, the FTAA does not require such an approach, and in that regard differs from a section 32 evaluation in the RMA, which requires the identification, assessment and netting of the benefits and costs of a proposal to determine efficiency.[257] Where projects have employed an EIA approach, they have addressed adverse impacts separately to assess whether any impacts are "out of proportion" with the estimated benefits.

c. The matters listed in section 22(2) extend beyond economic benefits, into central and local government policy matters, sectoral development benefits, and climate change, natural hazard and environmental outcomes. We also note the Ministers

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253 Section 85(3) FTAA

254 At the time of writing there has been 28 FTAA approvals.

255 Maitahi Village decision, 18 September 2025, at [515]

256 See for example, the peer review of the Delmore 1 FTAA economic assessment

257 Oparure Quarry South-Western Pit Economic Assessment, Fast-Track Referral Application (FTAA-2602-*1168)* prepared for Graymount (NZ) Limited, March 2026 – Final by Savvy Consulting at [1.2.1]

discretion provided for in section 22(2)(b).

d. The interpretation of 'significance' is contextual. Project benefits that are significant in one region may not be in another. This is not just a matter of scale but might also relate to timing or structural factors of the industry in question.

e. Most projects will have a mix of benefits and costs from the project itself or from effects that a project has on the wider economy such as an alternative urban growth pattern or upstream/downstream economic effects within a market sector.

f. Gross benefits will usually vary from net benefits as most projects are for types of activity already established in the economy, and many projects are likely to have some replacement or displacement effect on existing or planned activity.

g. Benefits are typically enumerated on a net present value (NPV) basis, summing benefits over time and discounting at the NZ Treasury recommended discount rate of 8% with sensitivity testing at 2%. Consequently, projects that operate over an extended time period may produce greater benefits.[258]

h. Consideration of a "counterfactual" scenario may be a useful analytical tool in understanding the benefits of a project, particularly in urban development projects where competition for infrastructure and alternative development locations is an issue. The Panel for the Homestead Bay Project noted that, in practical terms, the benefits of a project are always understood "relative to some "without project" scenario."[259] In other words, while it is not strictly required under the FTAA, evaluation of the opportunity cost of not granting approval for a project, and the economic benefits of that project not being realised, may be a relevant and helpful tool for Panels when considering the regional or national significance of those benefits.

i. Where adverse impacts have been identified in assessments, they have not typically been monetised, albeit that an adverse effect on a resource can be considered an 'economic' effect in terms of the efficient use of that resource. Rather, a comparison has been made in terms of section 85(3) whether such impacts were "out of proportion" to the benefits. The nature of this comparison is not whether the adverse impacts necessarily outweigh the benefits, which suggests the assessment is expected to be more holistic and wide-ranging than a direct comparison of the scale of adverse impacts vs benefits.

Project Benefits

1262 The SAR included an economic assessment (Appendix C) prepared by Dr Kirdan Lees of Sense Partners Limited, dated 24 July 2025. In response to the Panel's RFI and PFC RFI on economic matters (RFI Responses), TIL and Sense Partners provided further information on the matters raised.

1263 The TIL project benefits assessments are based on a 30 year time horizon, within the 35 year maximum time period provided for the consents being sought under the RMA. TIL has confirmed the size of the iron-ore resource through the company's drilling programme and confidently predicts a mine life of at least 30 years.

1264 The assessment provides data in relation to expenditure and employment relating to

[258] We note however that benefits accrued beyond 10 years are significantly diminished in net present value terms by an 8% discount factor.

[259] Decision of the Expert Consenting Panel for Homestead Bay dated 18 February 2026 at paragraph [393].

the 30 year time horizon.

1265 In relation to expenditure, estimates are based on known costs since the current owners purchased the business in 2017 and known fixed costs for major items into the medium term. In the 2026 financial year TIL spent $319 million in the New Zealand economy, with additional amounts being spent offshore, particularly shipping costs. The annual projected regional expenditure is $298 million for each of the 30 years of operation.

1266 TIL has approximately 350 full-time employees, including persons employed at the mine, port and head office. The company estimates that the average salary of a person engaged at the mine is $150,000 (2024). The assessment notes that the average salary advertised on Trade Me at this time was approximately $73,000. The RFI Response also advised that 70% of mine workers are from the Ngaati Mahuta hapū.

1267 Other key parameters of the significance of the mine operation in the Waikato regional and New Zealand economies referred to in the assessment were:

a. Port of Taharoa projected increased export tonnages to 5.0Mtpa would place it amongst the top export ports by total tonnage after Port of Tauranga.

b. TIL's export revenue is approximately equal to the New Zealand wool industry and is greater than the entire arable sector.[260]

c. TIL is the largest single product export company in the Waikato region.

d. TIL's total corporate tax paid to the New Zealand government since 2017 is in the order of $100 million.

e. Payments to the landowners, the Proprietors of Taharoa C Block, are anticipated to be approximately $5 million per annum over the 30-year period.

1268 The assessment identifies the following direct benefits to the local and regional community provided by TIL, reiterated in the planning response to the section 53 comments:[261]

a. Access to employment for local people that would otherwise only be obtained by relocating or significant daily travel. TIL's position was that the village would not exist but for the mine, and that this had been acknowledged during the presentation at the hui at Aaruka Marae.

b. Housing for employees and their families in Taharoa Village that is close to the mine, renting 75 houses to employees at a heavily discounted rate.

c. In relation to a. and b., the RFI Response describes the nature of occupation of houses by mine workers in the village as changing over time due to improved roading access from more permanent occupation to temporary or shift-related occupation by workers with a family residence being maintained in an urban location. TIL estimates that the number of employees currently living in the village on a permanent basis is 20-25. The local kura (school) has a roll of 24 pupils. Despite this change in use of village housing, TIL estimates that the number of persons who reside in the village and who do not work at the mine to be 15 persons. Further, there are nine houses in the village that are not either

[260] The NZ arable sector is grain, cereal and high value seed crops.

[261] Taharoa Ironsands Mine - Central and Southern Blocks Mining Project Response to Comments prepared by Tonkin & Taylor Ltd adated 22 June 2026

owned or leased by TIL.

d. The community hall, school, ship, two large sports facilities and the local marae.

e. Provision and maintenance of village infrastructure and services including water supply, wastewater services, power, rubbish collection and open spaces.

f. Support for local education and for travel and boarding of high-school age children.

g. Subsidised freight services for the store, access to the company petrol and diesel supplies for the local community and emergency standby helicopter.

Section 53 Comments

1269 Comments on the economic assessment were received from the Minister for Infrastructure, Minister Responsible for RMA Reform, Minister for Economic Growth, Waikato Regional Council and Ngaati Mahuta.

1270 The Minister for Infrastructure, Minister Responsible for RMA Reform, Minister for Economic Growth specifically highlight and express support for the economic benefits of the Project and recognise these benefits as being nationally and regionally significant in accordance with FTAA.

1271 Mr Mark Chrisp, of Mitchell Daysh Limited prepared the overview section 53 document for Waikato Regional Council, which was supported by the specialist reports. In section 2 of the overview document Mr Chrisp provided the following opinion on the regional and national benefits of the proposal based his review of the application and the Economic Assessment (Appendix C):

> … it is my opinion that the proposal will deliver significant regional and national benefits and is therefore consistent with the purpose of the FTAA. I also agree with statements in the application that the environmental effects of the proposal are not sufficiently significant as to be out of proportion such that they outweigh the regional and national benefits. On that basis, section 85 of the FTAA does not require that the application be declined in this instance. However, none of that avoids the need to ensure that the consent conditions appropriately address the environmental effects of the proposal, which is the primary focus of the following sections of this report.

1272 Ngaati Mahuta comments focus on the employment and broader social benefits detailed in the SAR. Ngaati Mahuta consider that the current proportion of Ngaati Mahuta employees, the stability of those roles, and the level of influence within the company is not accurately portrayed in the SAR.

1273 The comments also express concern that reliance on external labour has increased over time and that employment opportunities for Ngaati Mahuta uri have significantly reduced compared to what is presented in the application. Detail was provided on the employment agreements now in place, differentiating the Collective Agreements, which included housing entitlements, from Independent Agreements, which did not. As many new staff are employed under Independent Agreements, this limits the ability of whanau to relocate permanently to Tahaaroa. Reduced permanent residency also results in reduced support for the kura (school) and kohanga reo (pre-school).

1274 The comments were also critical of the current standard of buildings and drinking water.

Panel RFIs

1275 The Panel requested further explanation of the information in the economic assessment and economic data contained in other parts of the SAR. As noted above, the economic assessments provided with FTAA applications typically contain economic data within a

framework such that capital and operational expenditure and employment is identified over time and a discount factor utilised to express expenditure flows over time in net present value form.

1276 The PFC RFI response provided further explanation in support of the SAR assessment as follows:

a. Dr Lees provided helpful commentary on the interpretation of "significance" with reference to other FTAA projects that he had been engaged on and to the Waihi North FTAA project, which he described as the "closest decided comparator" to the Project being within the same sector and also located within the Waikato region.

b. Dr Lees had noted in expert evidence on another FTAA project that:[262]

> One definition of significant is: important or noticeable. I adopt this definition to assess significance. This means we might expect significant impacts to be distinguishable by their size, value, impact on price, or other key economic features. Such a definition implies that the benefits are noticeably different or easily distinguishable from what would occur in the status quo, that is, in the absence of approval of the project application.

c. Further on the matter of significance he noted the Waihi North decision finding that significance has no fixed quantitative threshold, and neither does it need to be transformational or produce a 'game-changing' shift in regional or national GDP, to be significant.[263]

d. Dr Lees considered that GDP was a useful measure as this data is produced annually at a regional level, adopting a consistent basis across regions. It therefore provides an official benchmark against which the scale of a project's economic contribution can be judged and compared with other projects. However, he distinguished GDP, which measures added value (wages, profits, and taxes on production) from expenditure on purchases from a regional supplier which includes the supplier's own inputs and thus overstates the project's contribution.

e. The significance of this distinction for interpreting the SAR regional expenditure estimate of $298 million per annum was that the added value amount of this was in the range of $125- $200 million per annum, which equated to 0.3 – 0.5 per cent of Waikato region GDP.

f. Comparing the Project key data to Waihi North, Dr Lees summarised this as:

   i. Regional purchases ($ million/annum): Taharoa 298; Waihi North 106

   ii. Indicative % value-added to Waikato GDP: Taharoa 0.3-0.5; Waihi North 0.2-0.5;

   iii. Operating life (years): Taharoa 30; Waihi North 18

g. With reference to a table of FTAA project contributions that had been prepared as a comparative measure for the Ayrburn FTAA Panel,[264] Dr Lees advised that the Project was larger than every project in that table 'on any reading' and emphasised the significance of the Project in terms of the size of the GDP contribution and the extensive period of 30 years over which this was to be

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[262] Dr K Lees Peer Review: Matakanui Gold FTAA Report for Otago Regional Council, 2025

[263] Decision of the Expert Consenting Panel for Waihi North dated 18 December 2025 at [843]

[264] https://www.fasttrack.govt.nz/__data/assets/pdf_file/0032/19895/Attachment-Ayrburn-Economic-Response-Memo-Final_Redacted.pdf

made. In this regard he calculated the net present value of the added value to be in the range of $1.4 - $2.3 billion, equivalent to between 4 and 9 per cent of one year of Waikato's GDP, and that more than 10,000 Full Time Equivalent jobs would be delivered in that time period.

1277 Dr Lees concluded with the following statement:

> my view is that the Central and Southern Block Mining Project is clearly regionally significant. That conclusion is supported by the scale and persistence of regional purchasing, direct and contractor employment, supplier activity and the Project's indicative value-added footprint relative to the Waikato economy, considered together, not against any single threshold. In my view, the scale and persistence of the activity is consistent with national, not only regional, significance.

Panel Findings: Regional or National Benefits

1278 The Panel considers that the principal finding available on the information before us in relation to regional economic benefits is that the operation will have an annual added value to regional expenditure of $125 - $200 million. This figure is exclusive of shipping costs and international expenditure. Adopting the standard NZ Treasury discount to the 30 years of operation this amounts to a net present value of $1.4 - $2.3 billion.

1279 Relevant to the matters we observed in paragraph 1260 we make the following comments:

a. The matters listed in section 22(2) extend beyond economic benefits. The Panel identifies the following facts in relation to these matters:

   i. The Project will enable the continued functioning of existing regionally or nationally significant infrastructure, including Port Taharoa (section 22(2)(a)(i) and (ii)).

   ii. Mining over the entirety of the Taharoa C Block has been a permitted activity since the early 1970s. Mining operations commenced in 1972 and have operated to the present day. TIL holds existing use rights for the mining operation as confirmed by Waitomo District Council (section 22(2)(a)(x)).

   iii. The Project accesses the largest deposit of ironsand in New Zealand. As set out in the SAR the sand contains titanomagnetite, a mineral composed of iron and titanium. The sand is excavated and processed on-site at Tahaaroa, and titanomagnetite is then exported primarily to China and Japan where it is used for the manufacture of steel (section 22(2)(a)(vi)).

b. Unlike many FTAA projects, the consideration of a counterfactual is not warranted. This is because there is no alternative use of the land that would have the productivity in any way matching mining activity. Further, the mining activity could not readily be undertaken at an alternative site, even if an economic resource was discovered.

c. The Applicant identified the social and economic benefits it supports in terms of local employment, housing, and social infrastructure and services in Taharoa Village we have summarised above. The Ngaati Mahuta position was that the social and economic benefits of the mine had deteriorated in recent times. Without further enquiry, it is not possible for the Panel to resolve these two positions. It is possible that both are correct. In any event, the finding we make above in relation to the Project’s regional and national benefits being significant

are not dependent on the existence or extent of these benefits.

1280 Taking into account the guidance from the legislation in terms of the criteria in Section 22, the interpretations of economists engaged in FTAA applications and many of the decisions under the FTAA to date we find that the Project's benefits are of regional significance. When other data on employment, export tonnages, shipping operations, industry comparisons and tax revenue are taken into account, the Panel finds that TIL's benefits also demonstrate national significance.

Section 85(3) Approval may be declined if adverse impacts out of proportion to regional or national benefits

1281 Section 85(3) states:

> (3) A panel may decline an approval if, in complying with section 81(2), the panel forms the view that—
>
> (a) there are 1 or more adverse impacts in relation to the approval sought; and
>
> (b) those adverse impacts are sufficiently significant to be out of proportion to the project's regional or national benefits that the panel has considered under section 81(4),even after taking into account—
>
> (i) any conditions that the panel may set in relation to those adverse impacts; and
> (ii) any conditions or modifications that the applicant may agree to or propose to avoid, remedy, mitigate, offset, or compensate for those adverse impacts.

1282 In our assessment of regional or national economic benefits we found that the Project generated both regional and national benefits. This finding was based on the contribution ironsand mining and export activity made to the Waikato regional GDP and the scale of this activity in terms of nationally significant export parameters such as export activity at other ports and comparative sectoral value with other primary industries.

1283 On the matter of social benefits, we have acknowledged the information provided by the Applicant in relation to housing, employment and community benefits at Tahaaroa. The comments from Ngaati Mahuta disagreed with some aspects of the information provided. In summary, we understood that, in their view, the overall socio-economic situation for the occupants of Tahaaroa village was not as good as it used to be. However, we find that, overall, the mine provides some additional social benefits.

1284 Part E also identifies a range of adverse impacts from the mine operation. The conditions that we have set, and that the Applicant has proposed, in order to avoid, remedy, mitigate, or offset those adverse impacts have been identified in Part E. Taking into account these conditions, we find that there are no adverse impacts that are sufficiently significant to be out of proportion to the project's regional or national benefits. Accordingly, there is no reason to decline the approval pursuant to section 85(3).

Term of Consent

1285 The Applicant has requested the maximum term of 35 years for all of the necessary resource consents for the ongoing operation of the mine and export facilities as set out in the SAR.

1286 Ngaati Mahuta, Te Nehenehenui, Roy Wetini WT and Marokopa all proposed shorter terms in their section 53 comments, varying from 7 years to 20-25 years, with reference to limiting what they considered to be the adverse effects of the Project. The Proprietors of Taharoa C Block supported a 35-year consent duration to ensure that the significant socio-economic effects of the mining and export activity can continue

through to the early 2060's, broadly in line with the term of the mining lease for the site.

1287 Waikato Regional Council also supported a 35-year consent duration, stating in its section 53 comments that a term of 35 years is consistent with the approach that WRC and other councils have taken to large-scale capital-intensive activities within their region.

1288 In replying to the section 53 comments, the Applicant considered that the comments from invited parties seeking a shorter term were not justifiable when regard is had to all relevant matters set out in Section 8.4.3 of the SAR, including the policy direction of the Waikato Regional Plan, the significant value of investment at the mine, the commitment to managing the environmental effects of the mine as codified in the proposed resource consent conditions, and the significant socio-economic benefits that the mine generates.

Panel Findings: Term of Consents

1289 The Panel finds that, taking into account the conditions that we have placed on the RMA Approvals, the Wildlife Approval and Archaeological Authority for the purpose of avoiding, remedying and mitigating adverse effects, the high level of capital expenditure proposed and the benefits of the Project that result from providing long term certainty, the 35-year term sought is justified. Accordingly, we have granted the approvals for the term sought by the Applicant.

1290 For completeness, we also accept the Applicant's proposal for lapse periods, being for two years, with the exception of the forestry consent and the discharge to ground consent, the commencement of which require more flexibility for operational reasons and a 35 year period is granted.

Statutory Documents

1291 The AEE addressed the statutory documents and identified relevant provisions. Rather than repeat all of that material, this section addresses the documents of particular relevance to the Application and the comments received. The Panel also relies on our conclusions on effects and the conditions we have decided to impose in support of the conclusions reached on relevant planning provisions.

National and Regional Policy Statements

1292 The relevant National Policy Statements were addressed in section 8 of the SAR and include:

a. National Policy Statement for Freshwater Management 2020 (**NPSFM**);

b. National Policy Statement for Indigenous Biodiversity 2023 (**NPSIB**);

c. New Zealand Coastal Policy Statement 2010 (**NZCPS**)

National Policy Statement for Freshwater Management 2020

1293 The NPSFM sets out a framework under which local authorities are to manage freshwater (including groundwater).[265]

1294 The objective of the NPSFM is to ensure that natural and physical resources are managed in a way that prioritises:[266]

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[265] NPSFM Clause 1.5.
[266] NPSFM Clause 2.1.

a. first, the health and well-being of water bodies and freshwater ecosystems;

b. second, the health needs of people (such as drinking water);

c. third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

1295 This objective also reflects the hierarchy of obligations in Te Mana o te Wai – the fundamental concept of the NPSFM, which must be given effect to according to Policy 1, but is no longer a relevant matter for consenting under s 104 (2F) of the RMA.[267]

1296 The NPS-FM is of particular relevance to this application given the abundance of water bodies including Lakes Taharoa, Numiti and Rotoroa, the Wainui and Mitiwai Streams and the numerous natural inland wetlands within the site. We note the following policies and their relevance to the Application.

1297 Policy 2 of the NPS-FM seeks to involve tangata whenua in freshwater management and ensure that Māori freshwater values are identified and provided for. Related to these matters is Policy 15 which seeks to ensure that communities are enabled to provide for their social, economic and cultural well-being in a way that is consistent with this National Policy Statement. The concerns of mana whenua in relation to their expression of kaitiaki have been addressed in Part E Mana Whenua Engagement.

1298 Policy 5 seeks to improve the health of degraded waterbodies, while Policy 12 seeks to achieve the national target for water quality improvement. Part E on Terrestrial Ecology-Wetland and Freshwater Ecology address the matter of water quality in relation to wetland augmentation proposals, the maintenance of water levels and instream habitat values.

1299 Policy 6 seeks to avoid further loss of extent of natural inland wetlands, protect their values and promote their restoration and more generally Policy 9 seeks to protect the habitats of indigenous freshwater species. The proposed removal of the southern wetlands and the loss of wetland habitat in lake margin wetlands has been addressed in Part E - Terrestrial Ecology-Wetland. Part E – Freshwater Ecology examines the potential adverse effects on instream habitat, in particular taonga species.

1300 Related to Policy 6, Clause 3.22 of the NPS-FM was of particular relevance to that part of the Application proposing the removal of 4.25 ha of the southern wetlands. A specific analysis of this clause has been undertaken in Part E – Terrestrial Ecology - Wetland. Our findings recorded there are that the proposal met each of the four pre-requisites of Clause 3.22 e. i.–iv.

1301 Policy 11 addresses the efficient allocation of freshwater. The potential effects of the use of both surface water and ground water has been addressed in Part E – Hydrology, particularly in relation to environmental flow being achieved.

National Policy Statement for Indigenous Biodiversity 2023

1302 The objective of the NPSIB is:[268]

a. to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date; and
b. to achieve this:
   i. through recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity; and
   ii. by recognising people and communities, including landowners, as stewards of

[267] NPSFM Clause 2.2.

[268] NPSIB Clause 2.1

indigenous biodiversity; and
iii. by protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and
iv. while providing for the social, economic, and cultural wellbeing of people and communities now and in the future.

1303 The responding policies of the NPSIB are extensive and we quote the most relevant to this decision as follows:

> Policy 1: Indigenous biodiversity is managed in a way that gives effect to the decision-making principles and takes into account the principles of the Treaty of Waitangi.
>
> Policy 2: Tangata whenua exercise kaitiakitanga for indigenous biodiversity in their rohe, including through:
> 1. managing indigenous biodiversity on their land; and
> 2. identifying and protecting indigenous species, populations and ecosystems that are taonga; and
> 3. actively participating in other decision-making about indigenous biodiversity.
>
> Policy 3: A precautionary approach is adopted when considering adverse effects on indigenous biodiversity.
>
> Policy 4: Indigenous biodiversity is managed to promote resilience to the effects of climate change.
>
> Policy 12: Indigenous biodiversity is managed within plantation forestry while providing for plantation forestry activities.
>
> Policy 15: Areas outside SNAs that support specified highly mobile fauna are identified and managed to maintain their populations across their natural range, and information and awareness of highly mobile fauna is improved.

1304 Section 8.3.3 of the SAR addresses the relevance of the NPSIB to the Project. Indigenous flora and fauna at the site are recognised as including a number of Threatened and At-Risk bird species, and long-tailed bats are present which have a threat classification status of Threatened – Nationally Critical. The Wainui Stream and the Mitiwai Stream are also recognised as having high and moderate to high ecological value respectively, with the presence of Threatened and At-Risk fish species in the stream and lakes within the Wainui Stream catchment.

1305 The SAR then lists the various measures that are proposed for avoiding and mitigating adverse effects on these species and habitats including setbacks, maintenance of minimum water levels, riparian planting, the implementation of Bat Roost Protocols, pest management and monitoring.

1306 These matters are addressed in the Part E sections on Terrestrial and Freshwater Ecology, in particular in relation to Threatened and At-risk species of birds and the long-tailed bat, and the fish screen mesh size.

1307 The SAR also notes that Taharoa C Block is defined by the NPSIB as "specified Māori land" as it is Māori freehold land and draws our attention to Clauses 3.18 2.c. and e.[269] The SAR considers that the effect of these clauses is that the occupation, use, and development of specified Māori land to support the social, cultural, and economic wellbeing of tāngata whenua should be enabled and there must be recognition that there are circumstances where development will prevail over indigenous biodiversity. We address this matter in our findings below.

New Zealand Coastal Policy Statement 2010

[269] We note the Substantive Application applies referencing from the NPSIB 2023, not the current version.

1308 The preamble of the NZCPS states that the purpose of the NZCPS is to state objectives and policies to achieve the purpose of the RMA in relation to the coastal environment of New Zealand.

1309 As with the preceding comments on the NPSFM and NPSIB, the statutory analysis should focus on the existing environment within which the Project is situated and the specific activities proposed within that environment. The application identifies the need for four coastal permits, two addressing the occupation of the CMA by the pipelines and SBM and ongoing maintenance and replacement, and one each for the discharge of ship loading water and of stormwater and process water to the CMA.

1310 The NZCPS objectives and policies are extensive and, following a review of them, the Panel accepts that the objectives and policies referred to in Table 8.4 of the SAR address the matters of relevance to the activities described above. In addition, we note that in relation to Policy 9 Ports, the Port of Taharoa is to be recognised as part of a "network of safe ports, servicing national and international shipping".

1311 The analysis in Table 8.4 adopts a topic-based approach with references to relevant NZCPS objectives and policies for each topic.

1312 The assessment of the Project against the outcomes sought by the objectives and policies for these topics in Table 8.4 refers to the assessment of specific environmental effects that we have reviewed in Part E – Coastal Processes and Marine Ecology. With a particular focus on the activities for which consent is sought we summarise the Applicant's statutory assessment as follows:

a. The form, functioning and resilience of the coastal environment will be sustained given the proposed continuance of the existing 100 m mining activity setback from MHWS (which has the practical effect of protecting the foredune) and the pipelines being sub-surface across the intertidal area;

b. The mine operation does not interfere with or restrict public access to the beach or CMA. Vehicle use on the beach and foreshore will be incidental to the operation of the business and will be conducted without causing damage to dunes, shellfish beds, vegetated areas, bird nesting areas during nesting season or in any area identified as waahi tapu.

c. In relation to the discharge of contaminants, the assessment considers that the effects of discharges from the existing ship dewatering and stormwater/process water discharges have not had a significant adverse effect on the benthic macrofaunal community.

d. Policy 6 recognises that the extraction of minerals is an activity that is important to the social and economic well-being of people and communities. The assessment considers that the mine has a direct connection with the people and community of Tahaaroa and the wider region and that its ongoing operation and development is vitally important to their well-being.

e. In relation to Policy 3 on adopting a precautionary approach, the assessment takes into account that the mine has been in operation since the 1970's and that its effects are generally well understood and are not assessed as being significantly adverse. Nevertheless, it considers that a precautionary approach for the activity has been taken through ongoing environmental monitoring and any adaptive action that needs to be undertaken.

<u>Waikato Regional Policy Statement</u>

1313 The Substantive Assessment identifies the policies of the Waikato Regional Policy

Statement (**WRPS**) which relevant to the proposed activities. These policies generally mirror the matters identified above for freshwater management, and the management of indigenous biodiversity and the coastal environment in the national policy statements, to which we would add the policies on managing the potential adverse impacts on human health and amenity levels from the discharges to air.

Section 53 Comments

1314 As we have noted previously, WRC agrees and accepts the assessment of the proposal in relation to the relevant provisions of the WRP and RMA.[270] DoC also recorded general agreement with the Applicant's assessment of what provisions are relevant, albeit stating that Policy 3 of the NZCPS required a greater degree of precaution is appropriate in prescribing monitoring and adaptive management.[271] We observe that Policy 3 of the NPS-IB requires the same precautionary approach.

1315 No substantive comment on the relevant national and regional policy statements were received from other section 53 parties.

Panel Findings: National and Regional Policy Statements

1316 There does not appear to be any material dispute about the specific provisions of the national and regional policy documents identified as being relevant to our assessment. However, in taking into account these provisions as we must, it is evident from comments received from several parties that they consider the adverse impacts of the proposed activities had not been sufficiently mitigated, either as proposed in the SAR or subsequently as part of the Applicant's response to comments.

1317 The Panel considers that the conditions we have proposed are necessary and appropriate to ensure that the activities enabled by the consents are consistent with the outcomes for freshwater management, indigenous biodiversity and the coastal environment as sought in the respective national policy statements and the WRPS.

1318 The SAR considered that Clauses 3.18 2.c. and e. of the NPS-IB applied to the site as a result of Taharoa C Block being defined in the NPS-IB as "specified Māori land" as it is Māori freehold land. These clauses, and more particularly Clause 3.18 3. which relates to resource consent decisions, and by implication requires the Application to support the social, cultural and economic well-being of tangata whenua has been a principal issue for this decision. The decision we have arrived at acknowledges that the proposal will to some extent necessarily prevail over indigenous biodiversity as provided for by Clause 3.18 2.e. However, social and economic benefits will result for tangata whenua from the ongoing mine development. Further, the conditions of the consent granted will work to maintain and restore indigenous biodiversity on Taharoa C Block and its environs.

National Environmental Standards

National Environmental Standards for Air Quality

1319 Regulation 13 and Schedule 1 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (**NESAQ**) set a health-based ambient air

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[270] Taharoa Ironsands Ltd Central And Southern Blocks Mining Project [FTAA-2512-1153] Waikato Regional Council Section 53 Comments under The Fast-Track Approvals Act 2024 prepared by Mitchell Daysh 20 May 2026 at [4].

[271] FTAA-2512-1153 – _Central and Southern Block Mining, Taharoa – _s53 comments from D-G Conservation at [5.3]

quality standard for PM_{10} of 50 µg/m^3 as a 24-hour average with one permissible exceedance in a 12-month period (**PM_{10} standard**).

1320 Regulation 14 of the NESAQ provides that the PM_{10} standard applies at any place in an airshed in the open air where people are likely to be exposed (to the contaminant). For the purposes of the NESAQ, the proposal is in the Waikato Regional Airshed.[272] The Applicant has identified the following areas to be locations where people are likely to be exposed to PM_{10} discharges to air from the site and particularly sensitive to those discharges:

a. Te Kura o Tahaaroa; and

b. The Kana & Wetini Homesteads; and

c. The neighbouring Tahaaroa village.

1321 The Applicant has not established whether the Waikato Regional Airshed is polluted (i.e. breaches the PM_{10} standard) in accordance with Regulation 17(4) of the NESAQ because there is no local ambient air quality monitoring data for PM_{10}.

1322 The size and scale of the proposal is significant, with tonnes of PM_{10} discharged to air each day, and hundreds of tonnes of PM_{10} discharged to air each year. In the absence of any monitoring data or quantified assessment of PM_{10} discharges to air, and in light of the established adverse health risks of PM_{10} we remain concerned that adverse health effects may occur from PM_{10} discharges to air from the proposal.

1323 We have therefore imposed robust dust mitigation and PM_{10} monitoring conditions of consent to confirm, in practice, the consensus expert view that the PM_{10} standard will be complied with. These conditions include contingency requirements if the PM_{10} standard in Schedule 1 of the NESAQ is exceeded (PM_{10} dust reduction action plan to reduce site emissions).

Panel Findings: NESAQ

1324 The Panel is satisfied that, if the conditions we have imposed are adhered to, the NESAQ will be complied with and, if exceeded, contingency requirements (PM_{10} dust reduction action plan to reduce site emissions) will assist future compliance.

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

1325 Appendix P of the SAR identified a number of HAIL activities that have been undertaken on the site, however, no soil disturbance activities are proposed within these areas – at least until the site requires rehabilitation for closure at which time a 'conceptual site closure plan' will be prepared.

Panel Findings: NESCS

1326 The Panel concludes that the proposed development is consistent with the intent and purpose of the NESCS.

National Environmental Standards for Commercial Forestry

1327 Harvesting the forest on the Southern Block of the site is a restricted discretionary activity under Regulations 35(1), 71(1)(a) and 97(7) of the NES-CF. We have imposed

[272] Designated by notice in the Government Gazette, 15 March 2007. Notice No. 2007-go1580 at page 789. Issue No. 3.

conditions to minimise soil erosion after harvesting that are consistent with good practice.

1328 The Panel has made findings above that the harvest and forestry earthworks management plan (HEMP) fulfils the requirements of Regulation 71 (harvest plan) and Regulation 35 (forestry earthworks management plan).

Panel Findings: NESCF

1329 Providing the conditions we have imposed are adhere to, the Panel is satisfied that the proposed forest harvesting complies with the NES-CF and will have minor effects.

Waikato Regional Plans

1330 An assessment of the relevant statutory plans has been included within the SAR as is required by Schedule 5, clause 5(1)(h). These plans include the WRP, WRCP and the PWRCP. Part B of this decision identified the RMA Approvals that are required pursuant to these plans and these are listed in **Appendix 4**.

Waikato Regional Plan

1331 Table 8.6 of the SAR provides an assessment of the relevant objectives and policies, including those from Chapter 3: Water Module on water takes, water discharges, the damming and diverting of water and the management of wetlands, all of which are relevant to activities being undertaken by the mine. Objectives and policies from Chapter 5: Land and Soil Module on accelerated erosion and discharges to land, and from Chapter 6: Air Module which relate to dust management are also assessed.

1332 The Panel also notes the references to the minimum flow requirements for streams in assessing the effects of the proposed water take as set out in Table 3-5: Allocable Flows for Surface Water and to the maximum mesh screen size for a take from the Wainui Stream as required by the standards in Rule 3.2.4.5 of the WRP. Our findings on this are set out in Part E Hydrology (allocable flow for Wainui Stream) and Part E Freshwater Ecology (mesh screen size).

Waikato Regional Coastal Plans

1333 The WRCP and PWRCP apply to the CMA of the Waikato Region, from the line of MHWS out to 12 nautical miles and includes the pipelines for the shiploading system, the mooring buoy and associated tethering structures, and the discharges to the CMA. The WRC notified its decision on the PWRCP on 13 October 2025.

1334 Table 8.7 of the SAR provides an assessment of the relevant objectives and policies, including those from the following WRCP chapters, with cross-references to parallel PWRCP provisions as relevant:

a. Chapter 2: Tangata Whenua Perspective on tangata whenua values and participation;

b. Chapter 3: Natural Character, Habitat and Coastal Processes on the preservation of natural character and recognition of coastal processes and biodiversity;

c. Chapter 4: Water Quality in relation to discharges;

d. Chapter 5: Structures, in relation to the pipelines, SBM and moorings;

e. Chapter 7: Foreshore and/or Seabed Disturbances;

f. Noise-P1 of the PWRCP

Panel Findings: Waikato Regional Plans

1335 The Panel has reviewed and considered the assessment provided by the Applicant for the WRP. The assessment is generally reliant on the standards and mitigations in the Applicant's proposed conditions of consent, as lodged, for achieving acceptable environmental outcomes, in reaching conclusions on whether the Project is consistent with the objectives and policies of the respective plans. On several key areas of actual and potential adverse effects, the Panel has disagreed with the Applicant's assessment of these effects or has arrived at different conclusions on consent conditions. The Panel consequently considers that the Project's consistency with the relevant provisions of the regional plans is reliant on the implementation of the consent conditions it has set and the achievement of compliance with standards specified in those conditions, and that the Panel's revised conditions are necessary for this purpose.

1336 The Project has a general consistency with the WRCP and PWRCP objectives and policies. Nevertheless, the Panel has recommended additional or amended conditions in relation to noise and sediment deposition monitoring. These conditions are consistent with a precautionary approach to the management of the potential adverse effects of activities in the CMA as required by the NZCPS. The conditions will also achieve greater consistency with the relevant objectives and policies of the WRCP and PWRCP.

Iwi Authority Planning Documents

1337 Schedule 5, clause 5(1)(h) requires an assessment of any planning document recognised by a relevant iwi authority and lodged with the local authority. The Substantive Report Application identifies the following documents in this category:

a. Ngaati Mahuta ki te Hauaauru Environmental Management Plan 2025 (**NMEMP**);

b. Waikato-Tainui Environmental Plan 2013 (**WTEP**); and

c. Maniapoto Environmental Management Plan 2018 (**MEMP**)

1338 The SAR contains an assessment of the WTEP and the MEMP, with the assessment of the NMEMP comprising Appendix AA to the SAR. The Panel has reviewed each of the iwi environmental planning documents, the provisions of which we must take into account. They have a similarity in the matters addressed and cover similar issues as found in the various chapters of the WRP which have been addressed in the previous section. Both the NMEMP and MEMP draw on and acknowledge the guidance provided by the earlier WTEP.

1339 For each plan, the recognition of and provision for kaitiaki places the lens of tikanga, kawa and mātauranga firmly on the resources of interest. While the WRPs provide important higher-level objectives and policies, they lack specific reference to the local area that would typically be provided by a district plan. In the absence of land use consents being sought pursuant to the Waitomo District Plan, the iwi environmental planning documents fill the void of local environmental management. This is particularly the case for the NMEMP which has the most local focus and has been drafted with mine and forestry operations in sight. Consequently, the Panel has given particular focus to the NMEMP.

1340 All of the management plans have a strong focus on opportunities for partnership and collaboration between iwi and their strategic partners, including local and central government and other stakeholders. This partnership and collaboration emphasises early engagement, the application of mātauranga, the conveying of traditional knowledge and the building of capacity in activities such as resource consent processes

and monitoring. Where the engagement of expertise that is to be supplied by iwi is required by conditions of consent as imposed by the Panel in this decision, then the Panel's expectation is that such input is suitably compensated.

1341 The NMEMP contains policies for all resources of the Ngaati Mahuta rohe including the coastal environment, streams, lakes and wetlands, including associated fisheries, the land and its use to create social and economic benefits, and air. Within these resource areas specific policies are directed at the protection of waahi tapu sites and other taonga, the conservation of soil resources, maintaining water quality and water levels, the enhancement and protection of biodiversity and appropriate pest and waste management.

Panel Finding: Iwi Authority Planning Documents

1342 The Panel is satisfied that relevant objectives contained in each of the iwi management plans will be largely achieved by the proposal (inclusive of the consent conditions that we propose including the standards and limits for the use and management of the various resources, the proposed rehabilitation of the Site, and offset/compensation initiatives).

Decision: RMA Approvals

1343 The sections of Part E above contain the Panel findings in relation to each of the matters required to be assessed pursuant to Schedule 5, Clause 17 as set out at the beginning of Part E. Collectively, these findings, and the associated conditions of consent, comprise the decision on the RMA Approvals.

PART F: DECISION ON WILDLIFE APPROVAL

Schedule 7 Requirements

1344 Schedule 7, clause 5 sets out the criteria for assessment of an application for a wildlife approval as follows:

> **5 Criteria for assessment of application for wildlife approval**
> For the purposes of section 81, when considering an application for a wildlife approval, including conditions under clause 6, the panel must take into account, giving the greatest weight to paragraph (a),—
> (a) the purpose of this Act; and
> (b) the purpose of the Wildlife Act 1953 and the effects of the project on the protected wildlife that is to be covered by the approval; and
> (c) information and requirements relating to the protected wildlife that is to be covered by the approval (including, as the case may be, in the New Zealand Threat Classification System or any relevant international conservation agreement).

1345 The discussion at paragraphs 60-64 above in relation to section 81 and at paragraph 154 in relation to Schedule 5, clause 17 applies equally to our assessment of clause 5 above - insofar as the *Enterprise Miramar* decision provides guidance as to how we should approach our assessment of clause 5(a), the purpose of the Act, and what meaning should be given to the phrase "take into account".

1346 For the purposes of clause 5(b), the Wildlife Act does not have a specific purpose section but it still has a purpose. Section 10, Legislation Act 2019, provides that "legislation must be construed in light of its purpose, and the word legislation is defined to include both the whole and any part of an Act. So, in cases of the kind we are now considering, the provision concerned must be interpreted to advance its own

purpose."[273] That provision is section 3, the purpose of which is that, with some limited exceptions, wildlife is "to be absolutely protected throughout New Zealand."

1347 In respect of clause 5(c), we must consider the information and requirements relating to the protected lizard species covered by the wildlife approval sought including the NZ Threat Classification System or any relevant International Conservation Agreements.

1348 For the grant of a wildlife approval the following clause of Schedule 7 on conditions applies:

> **6 Conditions**
> (1) A panel may set any conditions on a wildlife approval that the panel considers necessary to manage the effects of the activity on protected wildlife.
> (2) In setting any condition under subclause (1), the panel must–
> (a) consider whether the condition would avoid, minimise, or remedy any impacts on protected wildlife that is to be covered by the approval; and
> (b) where more than minor residual impacts on protected wildlife cannot be avoided, minimised, or remedied, ensure that they are offset or compensated for where possible and appropriate; and
> a. take into account, as the case may be, the New Zealand Threat Classification System or any relevant international conservation agreement that may apply in respect of the protected wildlife that is to be covered by the approval.

1349 Appendix KK to the SAR comprises an application for what Schedule 7 to the Act defines as a "wildlife approval", to provide for the following activities:

a. To capture, temporarily hold and relocate lizards prior to site clearance works for the purpose of protecting animals within the works footprint; and

b. To incidentally kill lizards, recognising that trapping/handling activities carry some risk of injury or mortality, and that any remaining undetected lizards may also incidentally be killed during site works.

1350 Appendix KK includes a checklist against the information requirements of clause 2 of Schedule 7 to the Act along with a draft Lizard Management Plan (**draft LMP**) which addresses those information requirements in more detail.

1351 The draft LMP was prepared by Katherine Muchna, Ecologist and Senior Principal at Boffa Miskell.

1352 The draft LMP provides information about the native lizard species that may be present within the Site, contains an assessment of potential effects on the lizard species involved, and sets out the specific management measures and methods that would be employed to survey, capture, temporarily hold and relocate the lizard species prior to mining works commencing in identified areas of potential lizard habitat.

1353 On 21 April 2026 counsel for the Applicant submitted a draft wildlife approval including a proposed set of conditions, advising that they remain subject to discussions with a view to reaching agreement with the Department of Conservation. The proposed conditions would require preparation and certification of a final LMP which must be implemented and complied with for the duration of the approval.

1354 While the draft LMP included within Appendix KK identifies a limited range of lizard species that could potentially be present within the Site (Copper skink and three gecko

[273] Burrows and Carter *Statute Law in New Zealand* (6th Ed, 2021), Chapter 8, p 314.

species), the draft wildlife approval submitted on 21 April is confined to Copper skink on the basis that (as the draft LMP records) this is the only species of lizard likely to be present within the project Site.

1355 The proposed conditions in this draft wildlife approval would also confine the capture, holding, and relocation of this one lizard species to a defined 14.77 ha area of "Potential Lizard Habitat", as identified on Maps 4 and 5 in the draft LMP.

1356 As recorded below, following the receipt of comments on the wildlife approval application from the Department of Conservation, the Applicant produced a revised draft LMP and proposed set of conditions that would also cover the three gecko species, which, while less likely, could potentially be present within the Site having regard to BioWeb database records in the vicinity of the Site.

1357 In addition, under the revised conditions, the wildlife approval would authorise the activities set out above for this range of lizard species extending beyond the "Potential Lizard Habitat", as identified through what are defined as "Updated Habitat Surveys" prior to works commencing, to inform the final LMP that is to be provided to the Department of Conservation for certification.

Draft Lizard Management Plan

1358 The draft LMP states that the Applicant seeks a 10-year duration for the wildlife approval to ensure that the term of the approval adequately covers the initial stages of the operation. The Applicant intends to apply for a variation to extend the term of the approval as required beyond the initial 10-year term, noting that the term of the resource consents sought by the Applicant is for 35 years.

1359 The Panel understands from the Department of Conservation's comments (as outlined below) that a term of 10 years is consistent with other wildlife approvals granted by the Department, with those comments also noting that reassessment of the activity in 10 years' time would allow for any improvements in methodology to be incorporated into subsequent authorities, as well as taking into account any updated information about the species including any change in threat status.

1360 The draft LMP then lists the specific actions proposed involving protected wildlife namely:

a. Capturing lizards using pitfall/funnel traps and by hand;

b. Handling lizards to identify species, measure and photograph them;

c. Releasing lizards into a prepared release site; and

d. Incidental killing of lizards that could not be captured.

1361 The draft LMP also sets out details of the site location and history, and refers to the vegetation cover and features present with the Site as recorded in Appendix K to the Substantive Application.

1362 This includes noting that the Central Block is predominately bare or sparsely vegetated land, while the Southern Block has more variable vegetation, in part because it has not been mined for a longer period of time and rehabilitation planting has occurred in some areas. It is also noted that a large area of plantation pine forest is located next to Lake Taharoa on the eastern boundary of the Site.

1363 The draft LMP refers to the lizard survey work completed within the Site in September 2021 as detailed in Appendix M to the SAR. This involved the deployment of 20 Artificial Retreats (**ARs**) at locations sites chosen to cover the comparatively higher quality potential habitats across the Site including pine slash piles, back-dune vegetation and forest edges.[274]

1364 The draft LMP notes that the habitat types available within the Site were assessed as unsuitable (by the authors of Appendix M) for native arboreal gecko populations, and so no targeted gecko surveys have been undertaken as part of the assessment. No native or invasive skinks were identified during the surveys, with Appendix M recording that mining staff have not observed lizards within the Site during their time there.

1365 The draft LMP then states:

> Surveys using a greater range of methods with a more intensive and wider coverage (particularly in the Southern Block) would better inform this assessment. It is possible that lizards are either absent, or present within the Site at low densities based on the habitats available and the history of disturbance at the Site.
>
> Lizard surveys conducted in a neighbouring site, the Northern Block, detected a single Copper skink.

1366 The draft LMP also sets out the BioWeb records (referred to above) whereby four native lizard species have been recorded within 30 km of the Site. The draft LMP advises that of the species recorded, only one species of skink (Copper skink) is likely to be present within the Site given the existing vegetation cover and disturbance history of the area, as this species is widespread and more typically found in modified habitats.

1367 The other three species (Forest gecko, Pacific gecko and Elegant gecko) have been recorded within 25, 22 and 17 km of the Site (respectively).

1368 None of these species are classified as Threatened (being 'At Risk – Declining' apart from the Pacific gecko, which is 'At Risk – Relict').

1369 The draft LMP then refers to the 39 vegetation types described in Appendix K to the Substantive Application in more detail, before stating as follows:

> Whilst many of these vegetation types *could* provide habitat for native lizards, the likelihood of lizards being present is low. This assessment takes into consideration the history of the Site including continuous activity for more than 50 years that has progressively stripped all the vegetation; and the natural features such as lakes, wetlands and rivers that restrict dispersal into the Site on the northern, southern and eastern boundaries. For these reasons it is unlikely that lizards are present throughout the majority of the Site.
>
> However, where suitable vegetation/habitat is present in the northern and southern parts of the Site that are connected to adjacent (unmined) areas, lizards are more likely to be present. Management of lizards in this plan focusses on these areas.

1370 The draft LMP includes a Table (2) and Maps (4 and 5) giving details and identifying the location of six vegetation types that are the focus of lizard management under the draft LMP on this basis. These areas cover 14.77 ha of the overall Site and represent

[274] Noting that in Appendix N the AR sites are referred to as Artificial Cover Objects (or ACO sites).

the "Potential Lizard Habitat" referred to in the Applicant's original set of conditions submitted on 21 April, as noted above.

1371 The six vegetation types are (principally):

a. Knobby Club Rush
b. Pampas
c. Radiata Pine
d. Grey Willow
e. Inkweed
f. Harakeke.

Description of Proposed Works and Potential Effects

1372 The draft LMP records that a range of activities may impact lizards if present within the Site, including:

a. Vegetation and topsoil removal.
b. Overburden removal and iron sand extraction.

1373 It is noted that vegetation and topsoil are removed separately from the underlying material to allow for appropriate use in rehabilitation phases. Native species are transplanted and used in the ongoing development of native stock at the eco sourcing nursey set up on Site to provide plants for use in rehabilitation of previously mined areas.

1374 The draft LMP gives an assessment of numbers of lizards potentially impacted by activities in the Potential Habitat Areas, noting that the assessment presumes current land management and vegetation cover remains much the same until it is cleared. However, a site inspection will be carried out prior to clearance in areas adjacent to the Potential Habitat Areas, with the findings of that inspection to be documented and provided to the Department of Conservation.

1375 Table 2 of the draft LMP as prepared on that basis contains a provisional estimate that up to 360 lizards might be affected by mining activities.

1376 The potential effects of the proposed activities on lizard species (if present) are assessed in the draft LMP as follows:

a. *Complete loss of habitat in all mined areas*: The magnitude of this effect is assessed as Low whereby if present, lizards are likely at low density, and currently subject to intermittent habitat disturbance from grazing, mining activities and uncontrolled predators. The level of effect of habitat removal on Copper skinks specifically is assessed as Low based on the EIANZ criteria for describing the level of effect.

b. *Habitat fragmentation:* The potential magnitude of habitat fragmentation is assessed as Negligible based on the lizard habitats within the mining area and the mining methodology whereby large areas are earthworked in stages, moving

across the Site, rather than isolating pockets of habitat. The level of effect of habitat fragmentation on Copper skinks specifically is assessed as Very Low.

c. *Injury, death or disturbance during vegetation clearance*: In the absence of management, habitat clearance may result in death of, or displacement of, lizards into surrounding sparce vegetation which affords limited habitat for lizards. Lizards are noted as being particularly vulnerable to injury and mortality during vegetation clearance because they are visually and behaviourally cryptic, have low mobility and are inactive for parts of the year.

   If lizards are present, injury and death of any resident lizards in habitat patches during vegetation removal and mining is therefore likely in the absence of management. However, given the low likelihood of lizard presence and likely low abundance of lizards, the level of effect of injury or death during vegetation at a "meta-population scale" is assessed as Low.

d. *Noise, dust and vibrations*: Disturbance and sub-lethal stress to lizards during mining operations such as noise, dust and vibrations may impact ground dwelling lizards (i.e. Copper skink), however various extents of the Site have been operated as a mine for over 50 years and been subject to a level of disturbance which will continue to at least the same level in future. The magnitude of effect on lizards from increased dust and vibrations is therefore assessed as Negligible, and the level of effect of noise, dust and vibrations on Copper skinks as Very Low.

1377 The draft LMP sets out the proposed management methods to address these impacts in table form as follows:

a. Vegetation remediation at the completion of mining as part of Site rehabilitation (with any benefit of that remediation likely to be far in the future).

b. Lizard surveys and salvage in the Potential Lizard Habitat areas prior to clearance and extending these surveys into adjacent areas if suitable habitat has expanded. Where lizards are detected, they will be captured and relocated to a prepared release site using standard salvage and relocation methods by a suitably qualified and experienced ecologist. Any connected adjacent areas of lizard habitat beyond the Site will be temporarily fenced off to reduce the likelihood of skinks from those adjacent areas moving into habitats inside the Site during and following salvage.

c. Placement of lizards in individual containers to be kept in a cool place, minimising handling, and with all lizard handling to follow best practice and hygiene protocols.

d. Pest and predator control at the proposed release site.

<u>Management Methods</u>

1378 The draft LMP also details the lizard salvage methods that would be applied to follow best practice standards including as set out in the Department of Conservation's salvage principles document.[275]

[275] Department of Conservation, 2019. *Key principles for lizard salvage and transfer in New Zealand*. Prepared by the Department of Conservation Lizard Technical Advisory Group.

1379 Because the identified Potential Lizard Habitats areas are relatively small, capture and relocation of lizards ("salvage") is said to be an appropriate tool to minimise the potential effects on lizards as described in the draft LMP (and summarised above).

1380 A pre-vegetation clearance survey/salvage approach is proposed for the Potential Lizard Habitat Areas (rather than further baseline surveys across the Site), given the low density/lack of lizards likely to be present, as well as the staged nature of mining operations.

1381 On the other hand, the draft LMP records that there is likely to be a considerable time lag between the assessment in the draft LMP and vegetation clearance in parts of the Site given the staged nature of operations, meaning potential lizard habitats might expand in the meantime. For that reason, areas adjacent to the identified habitats would be examined by the Project Herpetologist, and survey and salvage effort would expand into these areas if the habitats are found to be suitable, and if lizards are detected in neighbouring identified habitats.

1382 The draft LMP then sets out specific details for the pre-salvage survey and methods of lizard capture/salvage including the use of live trapping using pitfall or mesh funnel traps, ARs, manual and visual searches, and mechanical habitat removal if lizards continue to be trapped following 10 days of trapping activity.

1383 A minimum of five days of survey would occur at all identified potential habitats to inform subsequent steps and salvage requirements. Trapping intensity would begin with approximately 10 m spacings over five trap days. If lizards are detected, salvage activities would begin immediately, and trapping intensity would increase to 5 m spacings for a maximum period of 10 trap days in total. The habitat area would be fenced with lizard proof fencing to prevent lizards dispersing into the area from surrounding habitats. The trapping and salvage activities would be supervised or carried out by an experienced herpetologist.

1384 Measures to protect lizards during transport and prior to release are detailed including to avoid any overheating, overcrowding/competition, injury or death.

1385 Details are also provided as to the proposed lizard release site being a 1 ha area of replanted vegetation (10-15 years old) within the Wainui Stream buffer. The release site is connected to a wider buffer area and reserved land to the east, with no further mining proposed in the land directly to the south. This area to the south will be gradually rehabilitated once temporary ponds associated with mining activities are no longer required, providing a larger habitat area outside of the release site for translocated lizards to expand into.

1386 The suitability of the lizard release site is assessed in the draft LMP with reference to principle 6 of the Department of Conservation Lizard Salvage Guidelines. Measures for weed pest and predator control within the release site are also detailed within the draft LMP, including the control of gorse and tree lupin, and the deployment of bait stations or traps to control rats, mice, hedgehogs, ferrets and possums. Feral animals are to be excluded from the release site with fencing.

1387 The draft LMP also sets out an Incidental Discovery Protocol for the scenario in which a lizard is discovered during Site works generally, following implementation of the lizard salvage. This includes a requirement that all activities within a 10 m radius around where the lizard was observed must cease, with fencing off of habitat features using

lizard proof silt fencing until the area can be thoroughly searched by a suitably experienced person.

1388 The Incidental Discovery Protocol in the draft LMP includes provision for lizards to be captured and stored until the Project Herpetologist (who must be notified within two hours of the sighting) is able to attend and identify the species and assess the health of the lizard.

1389 The draft LMP outlines the proposed assessment of monetary compensation which would be provided to a local environmental group to support wildlife (including lizards) in the local area through pest control, weed management or habitat enhancement. The Applicant would consult with mana whenua and other stakeholders to determine the appropriate recipient group for that compensation. The Applicant proposes a maximum compensation sum of $20,000 plus $1,000 for any Threatened lizard that is captured for this purpose.

1390 Details for post release monitoring reporting of lizards within the release site are then set out including reports to the Department of Conservation by the 30th of June each year covering the species and number of animals released, and a description of the habitat quality and extent, survey effort and lizard results.

1391 Post release monitoring would be triggered if more than 50 lizards of an At-Risk species are salvaged and released within the release area, with the objective of assessing population persistence and breeding for up to three years following release.

1392 The draft LMP reports that the Applicant had undertaken consultation with mana whenua and the Department of Conservation including specifically regarding management of lizards at the Site, with details of that consultation given in the Substantive Application.

Section 51 Report

1393 As noted in Part B, the Panel was provided with a report prepared by the Department of Conservation in accordance with section 51(2)(c) of the Act (**section 51 Report**). The Report records that it draws on information from the Substantive Application and technical advice from Dr Burns (Senior Technical Advisor at the Department of Conservation).[276]

1394 The report was prepared on the understanding that the wildlife approval sought was confined to the Copper skink only, presumably with reference to the draft wildlife approval and conditions submitted by the Applicant on 21 April as noted above.

1395 By way of overview as recorded in the report, the Department had identified that the following matters need to be addressed for the application to be considered consistent with the purpose of the Wildlife Act 1953:

a. Insufficient surveys had been conducted, causing a high degree of uncertainty regarding what species are likely to be present on the Site.

[276] The Panel noting that Dr Burns also prepared a statement of evidence in support of the Department of Conservation's comments on the resource consent applications made by the Applicant, as summarised earlier in this decision regarding the Wetlands and Terrestrial Vegetation topic.

b. A more in-depth assessment of the release site is needed to determine its suitability, as well as an assessment of the risk of flooding from the Wainui Stream and/or ponding from high rainfall events. The type of fencing to be used on the release site to exclude feral animals, as well as the level of monitoring and maintenance to ensure its reliability, has not been specified.

c. The incidental discovery protocol should be amended to remove mention of capturing and holding lizards prior to the arrival of authorised personnel. Only authorised personnel can lawfully capture and hold lizards. If a lizard is discovered, the area should be avoided until authorised personnel can attend and attempt lizard salvage.

d. Monitoring should be triggered when a cumulative total of 20 lizards salvaged is met and should occur for at least three years following each subsequent release of lizards.

e. Without a robust process and long-term focus, the compensation proposed is unlikely to deliver overall protective benefit to impacted lizard populations. Funding should cover both a Department of Conservation certified plan and separate realistic funding for implementation, operations and monitoring over a meaningful timeframe, ideally at least five years.

1396 This overview of the comments made in the report is expressed with reference to the salvage principles document issued by the Department of Conservation.

1397 The body of the section 51 Report from the Department of Conservation expands on the comments summarised in this overview, with the Panel noting the following aspects of that additional content in particular.

1398 The section 51 Report records that the relevant purpose of the Wildlife Act (which the Panel is required to take into account under clause 5(b) of Schedule 7 to the Act) is to protect wildlife. The Wildlife Act creates a tiered system with different levels of protection required for different species. Absolutely protected wildlife (including the lizard species at issue under the wildlife approval application) cannot be lawfully hunted, killed, harassed or possessed without specific authorisation.

1399 The report sets out the key principles for lizard salvage and transfer as referred to in the draft LMP, being as follows:

a. Lizard species' values and site significance must be assessed at both the impact (development) and receiving sites.

b. Actual and potential development-related effects and their significance must be assessed.

c. Alternatives to moving lizards must be considered.

d. Threatened lizard species require more careful consideration than less threatened species.

e. Lizard salvage, transfer and release must use the best available methodology.

f. Receiving sites and their carrying capacities must be suitable in the long term.

g. Monitoring is required to evaluate the salvage operation.

h. Reporting is required to communicate outcomes of salvage operations and facilitate process improvements.

i. Contingency actions are required when lizard salvage and transfer activities fail.

1400 The section 51 Report states that while the Applicant had determined that Copper skink are the only lizard species likely to be present within the Site and so had applied to salvage Copper skink only, the BioWeb database records three additional species of lizards within 30 km of the Site, albeit that records for this area are relatively sparce. The Department considers that there is a high degree of uncertainty regarding what species of skink are likely to be present on the Site.

1401 In similar vein to the Department's comments regarding Appendix M (as set out earlier in this decision) it is noted in the section 51 Report that no survey was undertaken in the southern part of the Southern Block nor manual searches done in the southern dunes. Additionally, the amount of person hours used for manual searches had not been stated and other methods such as pitfall traps had not been utilised. The Department had provided feedback that it may be beneficial to include other lizard species in the wildlife approval; however (the section 51 Report states), the Applicant did not wish to proceed on that basis.

1402 In addition to the points made in the overview summary regarding the release site, the section 51 Report records that consideration should be given to buffer areas and to expanding the release area size and the pest control area if more lizards are found than currently anticipated.

1403 As to the Incidental Discovery Protocol, the s51 Report notes that it could take several days for the Project Herpetologist to attend and it is inappropriate for untrained individuals to attempt to capture and hold lizards. Only those persons listed on a wildlife approval have legal authority to undertake the activities of capture and hold, and only for those species listed in the approval.

1404 In that regard, the section 51 Report challenged the qualification and competencies of one of the proposed authorised personnel included in the draft LMP.

1405 As to compensation, the section 51 Report states that it is difficult to assess whether the proposed monetary compensation is sufficient particularly given the cost of personnel and required infrastructure (bat stations, toxins, traps etc). An alternative could be a fund for setting up the compensation project, then operational money to enable monitoring, data collection and reporting on an indefinite basis or at least for a minimum of five years.

1406 The section 51 Report states that currently the LMP does not meet all the nine principles of lizard salvage (as set out above) and therefore overall wildlife protection has not been achieved. However the Department notes that should the issues raised in the report be adequately addressed, a net benefit to populations may be achieved which would align the application with the purpose of the Wildlife Act.

1407 The section 51 Report summarises the outcomes of consultation and engagement both with the Applicant and with mana whenua in the context of the Department's obligation to give effect to the Treaty of Waitangi expressed in s 4 of the Conservation Act. The summary of the feedback received by the Department from mana whenua (including Ngaati Mahuta and Te Nehenehenui) as recorded in the section 51 Report closely

reflects the specific comments from those commenting parties on the wildlife approval application as summarised below.

1408 The section 51 Report gives information as to relevant International Conservation Agreements including the United Nations Convention on Biological Diversity and the International Union for Conservation of Nature (**IUCN**), which the Panel must have regard to under clause 5(c) of Schedule 7. The report advises that the IUCN red list status of species for Copper skink is "Least Concern" (stable).

1409 The section 51 Report also refers to the Conservation General Policy 2005 and the Waikato Conservation Management Strategy 2014 as prepared under the Conservation Act, noting that the General Policy does not contain provisions specific to the proposed wildlife activities, and that the Site is not listed as a place requiring detailed management under the Strategy and nor is the Copper skink identified as a species in Appendix 6 to that document (with objectives of the Strategy including conserving threatened species to ensure persistence, with emphasis on those species listed in Appendix 6).

1410 Finally, the section 51 Report appends a revised set of conditions (amending those submitted by the Applicant on 21 April).

1411 Under the Applicant's proposed conditions (21 April, as noted above), the LMP would be provided to the Department for certification 20 working days before starting works. The section 51 Report notes that lizard salvage requires suitable lizard attracting devices to be put out at least six weeks before they become effective. If Project works were to commence within 20 working days of submitting the draft LMP, the Report states that there is a possibility that lizards would be put at risk. The Department also cannot guarantee how long an LMP will take to get certified. The version of conditions appended to the Department's report revised the certification conditions with this in mind.

1412 The section 51 Report also explains that a Wildlife Act authorisation granted under s 53 of that Act often includes conditions requiring the authority holder to comply with the management plans provided with the application. A wildlife approval would not be granted by the Department if it had concerns regarding the LMP.

1413 The Department's other recommended revised conditions address the substantive concerns raised in the section 51 Report including in relation to those persons who are authorised to carry out activities under the approval, and regarding the Incidental Discovery Protocol, as summarised above.

Section 53 Comments

1414 The Panel also received the following comments on the wildlife approval application under s 53 of the Act.4.

Te Nehenehenui

1415 Te Nehenehenui's comments cover the following matters:

a. Noting that the authorisation is sought for 10 years, expressing concern about the uncertainty of species management over the subsequent 25 years of the proposed 35 year resource consent duration sought by the Applicant.

b. Concern at the trigger for monitoring at the release site being proposed at 50 At Risk lizards, recording that significant adverse effects might occur without any monitoring requirement if lizards are not captured and relocated within this threshold.

c. Seeking the views of the Department and the ecologists advising the Panel as to whether relocation of lizard populations is actually a successful or reliable mitigation measure.

d. Seeking the cessation of activities within a larger area than the proposed 10 m radius if any lizards are discovered on the Site (under the Applicant's proposed Incidental Discovery Protocol) – noting that machinery operators may not be able to prevent lizard injury or death during works at that distance.

e. Recording concern about potential modifications to the LMP as provided for under the "adaptive management" section of the draft LMP, at the discretion of the Project Herpetologist.

Ngaati Mahuta

1416 Ngaati Mahuta state that they were not provided with the full application documentation and accordingly Appendix KK and Appendix M were not reviewed by Ngaati Mahuta prior to lodgement. Ngaati Mahuta request that the proposed conditions clearly reference that Ngaati Mahuta consultation must be given significantly more weight than proposed, particularly in determining the administration and implementation of any compensation packages.

Applicant's Response to Comments

1417 The Applicant's response to these comments was prepared by Katherine Muchna and can be summarised as follows:

a. Lizard survey areas were chosen to cover the comparatively higher quality potential habitats across the Site, with large areas subject to active mining deemed unsuitable, and areas currently grazed avoided due to the potential for stock impacting survey tools and because of the low-quality habitat as a result of grazing. The Site is highly modified and has been actively mined for many years. The persistence of lizard populations in vegetated areas across the Site is considered very unlikely particularly Arboreal gecko populations (Forest, Pacific and Elegant gecko). However, given that there is potential for gecko to be present, the survey and salvage approach is designed to detect both skink and gecko species.

b. Recommending amendment of the draft wildlife approval (as submitted by the Applicant on 21 April) to expand its scope and include the three gecko species that could potentially be present on the Site with reference to the BioWeb records, to provide for a scenario where these other species are found during the project works.

c. Stating that the size and location of the release site is appropriate given the low number of Copper skinks or geckos likely to be encountered (as recorded in the draft LMP), and said to be a conservative estimate of the number of lizards that could be impacted if all identified potential lizard habitat were cleared. Nevertheless, giving further information as to the adequacy of the release site in a

revised draft LMP produced with the response, and advising that the topography of the release site (above Wainui Stream) and the free draining nature of the local catchment area mean that flooding is very unlikely and has not been observed.

d. Also giving further detail as to the intended fencing for the release site in the amended draft LMP and requiring the checking of fencing by mining staff following severe weather events.

e. Advising that the amended draft LMP includes a trigger for the size of the release site to be reviewed, as well as the extent and type of vegetation planting and fencing, to confirm its suitability for lizards salvaged as part of the project works.

f. Deleting the aspects of the Incidental Discovery Protocol (in the revised draft LMP) which were of concern to the Department of Conservation, i.e. to remove any reference to mining staff handling lizards before the Project Herpetologist can attend.

g. Revising the trigger for post release monitoring at the release site from 50 to 20 lizards of an At Risk species as requested by the Department, in the revised draft LMP.

h. Noting that Ngaati Mahuta had expressed an interest in how the compensation package is administered, and the draft LMP already provides for consultation with mana whenua to determine the appropriate recipient group for compensation. Conversely noting that the compensation will be a one off lump sum payment rather than ongoing funding, and any continuation of funding is not intended to be the Applicant's responsibility.

i. Noting that the revised conditions for the wildlife approval as appended to the responses to comments have deleted reference to the person whose qualifications and competencies had been challenged in the Department of Conservation's comments.

j. Explaining other proposed amendments to the conditions providing for certification of the LMP to provide for setting up and settling in of lizard capture infrastructure alongside the certification process, and to address the concern raised in the response that there is no timeframe for the Department to certify the LMP, meaning there is no certainty as to when Project works can be undertaken. Similarly, to provide for the situation where the Department considers that amendments are needed to the LMP, so that specific changes can be made prior to resubmitting the LMP to address the specific shortcomings involved.

k. Similarly explaining proposed amendments whereby the previous definition of "Potential Lizard Habitat" included in the 21 April version of conditions was supplemented with reference to a new definition for "Updated Habitat Surveys" to provide for further habitat surveys to be undertaken, and the LMP to be updated, following granting of the approval and prior to certification of the LMP.

l. Responding to the comments from Ngaati Mahuta by noting (as above) that the draft LMP already provides for the Applicant to consult with mana whenua in determining an appropriate recipient group for compensation.

m. In relation to the Te Nehenehenui comments, referring to the responses made (and

proposed amendments to the conditions and LMP referred to above) in response to the Department of Conservation's comments. In addition to that, advising that:

i. Under the proposed conditions, if the Applicant wishes to renew its wildlife approval it must review the LMP and resubmit it to the Department for certification before it expires, to enable a reassessment of habitat conditions and characteristics and for the LMP to be updated to reflect current species knowledge.

ii. Explaining that the "minor changes" that can come about through the adaptive management provisions of the draft LMP would be as directed by the Project Herpetologist, and are intended to include measures such as increasing survey effect or using survey tools and traps in a different layout better suited to the habitat involved.

1418 The Panel also notes that the Applicant's response to comments included submissions from counsel for the Applicant regarding the wildlife approval.

1419 In addition to the points made in the response prepared by Katherine Muchna, counsel noted that:

a. The Department of Conservation had not raised the majority of matters covered in the section 51 Report, other than indicating that further work may be needed on the management plan component of conditions, in its engagement with the Department prior to submitting the draft conditions on 21 April, and that the response prepared by Ms Muchna included a revised set of conditions responding to the issues now raised in the Department's section 51 report.

b. The wildlife approval had only been sought out of an abundance of caution to provide for the unlikely scenario where lizards are encountered during the course of mining operations, given the background of continuous mining activity throughout the Site, and the fact that only a single Cooper skink had ever been recorded in the wider area surrounding the Site.

c. Noting that the scope of the wildlife approval had been expanded to include the three gecko species in response to the Department's concern about the possibility of other species being present on the Site.

d. Referring to the proposed amendments to the definition of "Potential Lizard Habitat" and inclusion of the "Updated Habitat Surveys" definition in the draft conditions to include information from further baseline surveys prior to works commencing and the LMP being certified.

e. Noting that Ms Muchna's recommended revisions to the certification process in the revised conditions attached to the Applicant's response to comments adopt a similar approach to that taken in the wildlife authority granted for the Southland Windfarm, including a specified process for certification which both the Applicant as the approval holder and the Department as certifier must follow.

Decision: Wildlife Approval

1420 The Panel records that it has considered all of the information referred to and summarised above including the Applicant's initial draft LMP and proposed wildlife approval conditions, the comments received under both section 51 and section 53 of

the Act, and the Applicant's response to those comments (producing an updated LMP and revised proposed conditions).

1421 With that information in mind, the Panel has taken into account the criteria for assessment of a wildlife approval application included within clause 5 of Schedule 7 to the Act (as set out earlier in this decision) giving greatest weight to the purpose of the Act.

1422 Central to the Panel's deliberations in this regard is the point made in the Department of Conservation's comments noted earlier, whereby the Department records that if the issues raised in its comments are adequately addressed, a net benefit to lizard populations may be achieved which would align the application with the purpose of the Wildlife Act.

1423 The Panel finds that the Applicant's proposed updated draft LMP and revised conditions do, in substance, address the Department of Conservation's comments.

1424 We bear in mind the Applicant's submission that this wildlife approval has been sought out of caution rather than in the knowledge or certainty that there would be At Risk native lizard species present on the Site.

1425 Conversely the Panel is mindful of the point raised in the Department of Conservation's comments that, as matters stand, detailed surveys of the entire Site have not been completed, with a focus instead on those areas where lizards are most likely to be found having regard to their habitat attributes.

1426 In this context, the Panel considers there to be merit in the Applicant's point made in response to the Panel's RFI for the resource consent approvals sought, that it is unlikely additional monitoring efforts in the southern and central areas more generally would have detected lizards, given their complete absence in higher value habitats that were surveyed.

1427 We also note the requirement in the Applicant's draft LMP and proposed conditions (as updated in response to comments) whereby further baseline habitat surveys would be undertaken prior to commencement of works and the certification of the LMP, to confirm the areas of potential lizard habitat that would be subject of the management measures in that LMP (revised definition of Updated Habitat Surveys, and the requirements of section 6.4.2 of the draft LMP).

1428 In summary, those measures would require areas adjacent to the most likely habitat areas that have been surveyed to date to be examined by the Project Herpetologist, with salvage occurring in those areas if habitats are found to be suitable, and with survey and salvage effort expanding into those areas if lizards are detected in neighbouring identified habitat areas.

1429 Beyond that, the Panel finds that the best practice measures for lizard salvage and relocation included within the Applicant's revised draft LMP align with the principles for lizard salvage and transfer as published by the Department of Conservation, and that combined with the revised Incidental Discovery Protocol, monitoring and reporting requirements, the revised draft LMP measures would in overall terms serve to protect any At Risk native lizard wildlife species that are ultimately found prior to mining activities commencing.

1430 The information included within the Department of Conservation's comments assisted the Panel in terms of the criteria in clause 5(c) of Schedule 7 to the Act (relevant international conservation agreements).

1431 We further find that in relation to the issue of compensation raised in the comments received, the proposal for a maximum of $20,000 to be contributed to a local environmental group to support wildlife management, and whereby the Applicant would consult with mana whenua and other stakeholders to determine an appropriate recipient group for that compensation, is a proportionate response to any residual risk arising following application of the LMP requirements and the other conditions proposed for the wildlife permit.

1432 At the Applicant's in-person presentation on 13 October 2026 the Panel asked the Applicant to consider the decision of the Environment Court, *Re Application by Stratford Solar P LP* [2026] NZEnvC 229 (**Stratford Solar P LP**), and advise whether any amendments need to be made to TIL's Wildlife Approval conditions. *Stratford Solar P LP* addressed the ability of the decision maker to impose timeframes for the certification of management plans in conditions.

1433 In response, the Applicant distinguished the inclusion of 'deemed certification' conditions, which provided for a consent holder to proceed with the subject activities despite not receiving certification within a specified timeframe, from those that contained specified timeframes within which certification is to occur, but which did not provide for activities to commence in the absence of such certification. The Applicant stated that its proposed conditions were in the latter category and referred to Court decisions which supported this distinction in not approving of the former type of condition but supporting the latter.[277]

1434 The Panel accepts this approach noting that while the Wildlife Approval conditions relating to the certification of the LMP specify responses to take "no longer than five (5) working days", this response time also includes the opportunity for the Department to advise of any shortcomings in the proposed LMP, thus providing for negotiation of final conditions in a manner common to such processes.

1435 Finally, the Panel considers that two further refinements are needed to the proposed (updated) conditions advanced by the Applicant in its response to comments:

a. Firstly, to require that, for the purpose of condition WA1, the final LMP be prepared in accordance with the draft LMP dated June 2026. This is to ensure that all of the management measures proposed by the Applicant including in response to comments are incorporated within the LMP that is submitted for certification; and

b. Secondly, noting that the trigger for post-release monitoring is now to be set at 20 lizards within the release area (instead of 50 lizards), as indicated in the Applicant's response to comments, the final LMP provide for this trigger to be further reviewed, as well as the extent and type of vegetation planting and fencing, to confirm the suitability of release area for lizards salvaged as part of the project works.

1436 In conclusion, and subject to the revised conditions, the Panel finds that granting the wildlife approval would serve the purpose of the Act and also the purpose of the Wildlife Act by protecting any At Risk native lizard species that are found within those

[277] *Re New Zealand Transport Agency* at [124]-[126], citing *Meridian Energy Ltd v Wellington City Council* at [402].

parts of the Site that provide suitable habitat for such species.

PART G: DECISION ON ARCHAEOLOGICAL AUTHORITY

Schedule 8 requirements

1437 Schedule 8 is relevant to the Panel's decision in respect of the approval sought by the Applicant for an archaeological authority under either s.44(a) or (b) of the Heritage New Zealand Pouhere Taonga Act 2014 (**HNZPTA**) that would otherwise be applied for under that Act.

1438 Schedule 8, clause 4 sets out the criteria for assessment of an application for an archaeological authority as follows:

> **4 Criteria for assessment of application for archaeological authority**
> (1) For the purposes of section 81, when considering an application for an archaeological authority, including conditions in accordance with clause 5, the panel must take into account, giving the greatest weight to paragraph (a),—
> (a) the purpose of this Act; and
> (b) the matters set out in section 59(1)(a) of the HNZPT Act; and
> (c) the matters set out in section 47(1)(a)(ii) and (5) of the HNZPT Act; and
> (d) a relevant statement of general policy confirmed or adopted under the HNZPT Act.
>
> (2) For the purposes of subclause (1), the provisions of the HNZPT Act referred to in that subclause must be read with all necessary modifications, including that a reference to Heritage New Zealand Pouhere Taonga must be read as a reference to the panel.

1439 As for the wildlife approval, we similarly note that the discussion on the RMA Approvals pursuant to Schedule 5, Clause 17 applies equally to this assessment.

1440 The application to be considered is for a general authority in relation to works associated with the mining of the Central and Southern Block Mining areas and the approval of a person (Glen Farley) to carry out the archaeological work under this authority.

Section 51 Report

1441 The Panel notes that the matters we must consider in Clause 4(b) to (d) have been directly addressed in the section 51 report from Heritage New Zealand.

1442 The section 51 report was reviewed in the Archaeology section of Part F, including the proposed Archaeological Authority and the draft AMP. The Panel's findings in relation these documents focused on two matters:

a. The extent of the buffer around the urupaa and other waahi tapu sites; and

b. The procedure by which kaumātua are nominated to undertake responsibilities relating to the effects of mining activities on archaeological and cultural sites.

1443 In relation to a., as addressed in Part E Archaeology, the Panel noted that neither the Archaeological Authority nor the AMP addresses the urupaa and other waahi tapu sites specifically. The Archaeological Authority provides no additional protection beyond that provided generally for koiwi discoveries. Neither does the AMP refer to the urupaa and other waahi tapu. The Panel finds that two amendments are required to the AMP to address this matter in order to elevate the awareness of, and care required by, these sites by the mine operator.

1444 In relation to b. this matter is addressed in Part E Archaeology and the nomination procedure is to be undertaken in accordance with tikanga.

Decision: Archaeological Authority

1445 Subject to these amendments the Panel's decision under Schedule 8 is:

a. That the Archaeological Authority is granted, subject to conditions; and

b. Glen Farley is to be the approved person to carry out archaeological work under this Authority.

PART H: PRINCIPAL ISSUES IN CONTENTION

1446 The FTAA directs the Panel to identify and include in this decision report a statement of the principal issues in contention for each approval sought (section 87(2)), and our main findings on those principal issues. Part H identifies these issues and, in order to avoid undue repetition, provides cross-references to the parts of the decision which contains the main findings.

RMA Approvals

1447 The resource consents for the Project embody the bulk of the issues the Panel was required to consider, albeit noting that the issues on terrestrial ecology and archaeology overlap with the matters to be addressed in the Wildlife Approval and the Archaeological Authority respectively. While all issues raised by the application and in comments have importance and have been considered, the issues that had generated broader interest amongst the section 53 comments, involved any critical state for the natural environment or human health, or required a greater degree of enquiry by the Panel, we have considered to be principal issues. These issues are as follows:

Mana whenua engagement

1448 This issue addressed opportunities for mana whenua engagement through the practical expression of kaitiakitanga and the input of mātauranga Māori to site environmental management.

1449 Our main findings in relation to this matter are explicitly set out in under the **blue headings** in the Part E Section Mana Whenua Engagement and provide more proactively for mana whenua/mātauranga expertise and input into management plan preparation along within ongoing cultural monitoring.

The effects on mining operations on the hydrology and ecology of the Site's wetlands, waterbodies and appurtenant riparian areas/habitats.

1450 This issue addressed the complex interrelationship between hydrology, hydrogeology, ecology and mātauranga Māori. The interrelated effects included groundwater drawdown, residual flows in the Wainui and Mitiwai Streams, lake and wetland water levels, buffer widths for riparian margins, removal of wetlands and the wetland offset site proposal.

1451 The effects of the mining operations on water/wetland/ecological/taonga resources and species were comprehensively addressed in application material, comments, at the PFC, and in expert conferencing.

1452 We note that by the time of the Applicant's final response to the Panel's questions there was significant consensus between the hydrologist, hydrogeologist, ecologist and mātauranga experts on proposed conditions of consent to manage freshwater, wetland and groundwater resources, along with potential effects on ecological habitats/taonga species arising from proposed mining activities generally.

1453 Our main findings in relation to these effects are explicitly set out in under the **blue headings** in the Part E Sections Hydrology, Hydrogeology, Terrestrial Ecology- Wetlands and Vegetation, Freshwater Ecology, and to a lesser extent, Terrestrial Ecology- Fauna. In essence, the Panel has:

a. Adopted the control framework for surface water management agreed in expert conferencing (including relative to the monitoring and management of effects on lake margin wetlands), noting that a 9.0 mRL cease take trigger has been set for water extraction as recommended by the ecologists.

b. Set an 'envelope of effects' approach to groundwater drawdown to ensure (in particular) effects on natural inland wetlands remain as assessed in the SAR and associated technical reports, and resolve uncertainties in the groundwater model, alongside the expert agreed framework for monitoring and management of effects on retained natural inland wetlands, and management of flows in the Mitiwai Stream.

c. Adopted the expert agreed conditions framework for the offset/compensation wetland site, with some variations adopting the final version of conditions as proposed by the Applicant for certain matters not agreed by all experts, and ensure mana whenua/mātauranga expertise and input to management plan preparation and ongoing cultural monitoring.

d. Set a 30-metre width for all riparian wetlands, subject to all ecological measures recommended by the experts being set in the conditions/management plan framework to ensure the potential of those riparian margins for aquatic habitat and terrestrial fauna (including taonga species) protection is realised.

e. Imposed a requirement for a 1.5mm fish screen on the Wainui Stream water intake as being necessary to protect juveniles of Threatened and At-Risk fish species from entrainment, with an overall period of 36 months for implementation.

Air quality effects

1454 This issue related to the effects of discharges to air of particulates on the local receiving environment. Matters we addressed were:

a. Adverse (objectionable) effects of dust – we concluded from all of the information before us that dust from existing mining operations is causing objectionable dust effects beyond the site boundary at times, such that an air discharge permit would be required. Acknowledging the objections to the need for an air discharge permit by the Applicant and WRC and, as the proposed and necessary conditions are incorporated into the overall suite of consents, we have not insisted that an air discharge permit needs to be crafted to achieve the same outcome.

b. Actual and potential health effects – our findings were constrained by the failure of the air quality assessment in the SAR, and the failure of subsequent surrogate approaches, to address PM_{10} the primary contaminant of concern. We did not have confidence in available monitoring data (for TSP) due to calibration issues and retained concerns that PM_{10} can travel significant distances (kilometres). We found that there *may* be adverse health effects off site due to PM_{10} emissions from the Site and imposed robust conditions of consent to reduce, monitor and manage PM_{10} going forward.

c. Mitigation – we found that there is a significant deficit of rehabilitation undertaken to date that has resulted in large, exposed areas giving rise to dust discharges to air to a significantly greater degree than would otherwise have occurred. The Applicant has responded to our questions about dust mitigation and addressed some resident's concerns, with amended conditions of consent reinstating ridgelines and proposed end dates for some areas of the Central Block. We have adopted nearly all of these recommendations and have added further conditions of consent to ensure progressive site rehabilitation, in sequence with proposed

mining.

1455 Our findings are explicitly set out in under the **blue heading** in the Part E Section Air Quality. We note that this robust approach to the management of air quality has been set in preference to the RMA Hearing Panel decision to impose a blanket 200 set back around the Site.

Wildlife Approval

1456 There were no principal issues in contention for the Wildlife Approval. While there was some minor disagreement between the Applicant and the Department on the contents of the LMP these were subsequently resolved.

1457 Our findings in relation to the Wildlife Approval and final Lizard Management Plan are explicitly set out in under the **blue heading** in Part F.

Archaeological Authority

1458 Similarly, there were no principal issues in contention for the Archaeological Authority. The Panel made minor amendments to the Archaeological Authority on buffer setbacks and the kaumātua nomination process for accidental discovery protocols.

1459 Our findings in relation to these issues are explicitly set out in under the **blue heading** in Part G.

PART I: CONDITIONS

Draft Conditions

1460 In accordance with section 70 FTAA the Panel provided draft conditions to the Applicant and persons invited to comment on 9 November 2026, requiring responses by 16 November 2026. Similarly, in accordance with section 72 FTAA the Panel provided conditions to the Minister for Māori Crown Relations: Te Arawhiti and the Minister for Māori Development, requiring responses by 23 November 2026.

PART J: OVERALL ASSESSMENT

1461 With reference to all of the information provided to the Panel and the evidence before us, and having assessed the approvals sought against the required provisions of the FTAA and linked provisions[278] of the RMA, WA53 and HNZPTA, the Panel has determined to grant the approvals sought.

1462 The grant of the approvals sought is subject to the sets of conditions attached as Appendices A (resource consent conditions), B (wildlife approval conditions) and C (conditions for the archaeological authorities).

1463 The key reasons for the grant of the approvals sought, without unduly repeating those reasons given in Parts D to G, are:

a. Overall, and as recorded in Parts E, F, and G of this decision report, the Panel is satisfied that the matters set out in section 81 of the FTAA have been addressed appropriately.

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[278] Referring to sections 3, 81 and 85, and Schedules 5 (for resource consents, and especially clause 17), 7 (for wildlife approvals, especially clause 5) and 8 (for archaeological authorities, especially clause 4) of the FTAA, and the referenced provisions of the RMA (including the subordinate planning hierarchy), WA53 and HNZPTA.

b. The Panel is also satisfied that the requirements of Schedules 5, 7 and 8 to the FTAA have been met.

c. The purpose of the FTAA is achieved by this decision.

d. The approvals sought include conditions that appropriately address the necessary matters raised in the linked provisions of the RMA, WA53 and HNZPTA.

e. No matters have been identified that would render the grant of the approvals sought inappropriate or unlawful in terms of the relevant statutory tests, including those applicable through the linked provisions.

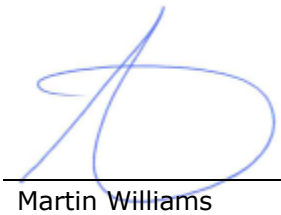
f. As recorded in Part D of this decision report the Panel may decline the approval sought only in the limited circumstances set out in section 85 of the FTAA. Those circumstances do not apply on the facts and evidence before us.



Dave Serjeant
(Chair)



Lou Wickham (Member)



Martin Williams
(Member)

APPENDIX 1: DRAFT CONDITIONS - RMA APPROVALS

APPENDIX 2: DRAFT CONDITIONS – WILDLIFE APPROVAL

APPENDIX 3: DRAFT CONDITIONS – ARCHAEOLOGICAL AUTHORITY

APPENDIX 4: CONSENTS REQUIRED