Overview Conference Transcription – Taranaki VTM Project

Conference Summary

Part One: Opening and Panel Introductions 10am – 11:30am

- Chair Kit Toogood opens the conference with a pepeha and overview of the Fast-track Approvals Act 2024.
- Purpose of the conference: to receive a high-level briefing from Trans-Tasman Resources Ltd (TTR) on their application for marine and discharge consents.
- Introductions from panel members: Dr Hilke Giles, Gavin Kemble, Natalie Hampson.
- Alan Eggers (TTR) introduces the project, team, and background of the vanadium-titanium magnetite (VTM) mining proposal.

Part Two: Project Overview and Environmental Context 11:45am – 12:30am

- Mr Eggers presents the strategic importance of the project, its economic potential, and alignment with government mineral strategies.
- Describes the mining process, vessel operations, and environmental safeguards.
- Discusses sediment plume modelling, seabed rehabilitation, and marine ecology.
- Panel questions focus on plume behaviour, sedimentation, and operational responses to environmental thresholds.

Part Three: Technical Overview 1:00pm – 3:00pm

- Paul Majurey outlines Treaty and tikanga considerations under the Fast-track Act.
- Dr Alison MacDiarmid presents ecological and oceanographic data, sediment plume modelling, and benthic recovery expectations.
- Detailed discussion on:
    - Marine mammal and seabird impacts
    - Underwater noise
    - Monitoring plans (PCEMP and EMMP)

Part Four: Consent Conditions and Management Plans 3:15pm – 5:00pm

- Luke Faithfull presents the consent framework, environmental limits, and monitoring conditions.
- Explains the role of the Technical Review Group (TRG) and Kaitiaki Reference Group.
- Details on:
    - Sediment thresholds

    - Cultural effects
    - Community engagement
    - Reporting and compliance mechanisms
- Legal advisor Morgan Slyfield explains the legislative hierarchy, material harm test, and proportionality under the Fast-track Approvals Act.
- Panel discusses site visit logistics and procedural fairness.

Date: Tuesday 2 September 2025

Location: Grand Millennium Auckland

Panel: Kit Toogood (Chair), Dr Hilke Giles, Gavin Kemble, Natalie Hampson

Apologies: Loretta Lovell

Applicant: Trans-Tasman Resources Ltd.

Start of part one

[1] Kit Toogood (Chair):

[2] All right.

Ka taki te tītī.

Ka taki te kākā.

Ka taki hoki ahau

Tihei mauri ora!

Ko Takitimu te maunga

Ko Aparima te awa

Ko Te Ara a Kiwa te moana

Ko Murihiku te whenua

Ko Takitimu te waka

Ko Kai Tahu raua Kāti Mamoe

Waitaha te iwi

Ko Kit Toogood toku ignoa

No reira, Tēnā koutou, Tēnā koutou, Tēnā tātou katoa

[3] Morena and good morning, everybody. I've just given you my pepeha, which originates from the deep south — about as far south as you can go — a little island called Whenua Hou, just off the coast of Rakiura.

[4] I'm Kit Toogood Chair of the Expert Panel, appointed to determine the substantive application for the Taranaki VTM Project, submitted by Trans-Tasman Resources Limited under the Fast-track Approvals Act 2024.

[5] With me, the other members of the Expert Panel: on my right, Dr Hilke Giles; on my left, Gavin Kemble; and on Gavin Kemble's left, Natalie Hampson. Absent today, unfortunately, is the fifth member of the panel, Loretta Lovell, who is overseas honouring a prior commitment. She sends her apologies and good wishes. Notwithstanding the absence of one member of the panel, we have a quorum to conduct this conference.

[6] We're meeting today in a conference that has been convened pursuant to a minute issued by the panel on the 25th of August 2025, so the panel may receive an in-person briefing from the applicant.

[7] The purpose of the briefing is to familiarise the Expert Panel with the content of the application for approvals, the content and structure of proposed conditions — including management plans, strategic plan, and the drafting style — key points of evidence, technical reports, assessments, and other supporting information, proposed site visit details, relevant legal tests, legal issues in contention, and other matters.

[8] During the briefing, the applicant will present a high-level overview of the application. The Expert Panel will have the opportunity to ask questions about the application, noting that the panel members have familiarised themselves with the documents by the time of the briefing, but we do not have a detailed knowledge of the application at this point.

[9] This is not a hearing. The applicant will not be producing any evidence. Although that is the case, the applicant's representatives present and involved in the presentation will necessarily refer to the evidence filed with the application.

[10] Questions from the panel members will be directed to receiving information about the application and the material filed by the applicant in support. There will be no discussion between the applicant and the panel about the merits of the application.

[11] One of the purposes of the conference is to inform the panel's decision on which persons or entities should be invited to comment on the application pursuant to the panel's discretion under section 53(3) of the Act.

[12] Comments on the application will be received by 8 October 2025, and the panel will then decide how it will conduct its consideration of the application and the comments, and the evidence filed in support, and its determination of the application.

[13] The panel intends to convene a meeting of the statutory participants — that is, those identified in the Act who must be invited to comment on the application — and the applicant, and possibly some of the discretionary commenters, in Taranaki, in the week beginning 20 October.

[14] After the applicant has responded to the comments that have been received, a note will go out confirming that week — the week of the 20th of October — for that meeting. And the meeting will take place, obviously, after the applicant has responded.

[15] I've used the word “meeting” in describing that gathering or hui because the panel has not yet decided whether that meeting will take the form of a conference such as this or a hearing under sections 57 to 59 of the Act.

[16] Details of the meeting, as I've said, will be advised by a minute following the closure of the time for comments. And the purpose of that meeting will be to enable the commenters to better inform the panel of their views of the application — much in the same way as the applicant is doing here.

[17] The members of the panel will now introduce themselves briefly, and then representatives of the applicant will be introduced by Mr Eggers.

[18] I note that the conference is being recorded, and a transcript of the recording will be placed on the Fast-track website.

[19] I am a barrister practising in Auckland and elsewhere as a mediator, arbitrator, and investigator. I've spent my entire legal career — over 50 years — in investigation in one capacity or another: a partner in small and larger firms, a barrister, a King's Counsel, and I served as a High Court Judge from 2011 to 2019, and again between 2021 and 2023.

[20] I'm now going to invite the other panel members to introduce themselves. Dr Giles?

[21] Dr Hilke Giles:

[22] Thank you. Morena. Tēnā koutou.

[23] Yeah, my name is Dr Hilke Giles. I'm a marine systems scientist. I've got qualifications and experience in marine science, mathematical modelling, and systems science. I've got experience assessing environmental effects of various activities on the marine environment, largely in the coastal marine area.

[24] I work for myself, in an independent consultancy. I work for consent holders, applicants, regional councils, central government — Ministry for Primary Industries, Ministry for the Environment — and I'm also an RMA commissioner. I've done quite a few hearings under the RMA.

[25] I look forward to this process and the mahi.

[26] Gavin Kemble:

[27] I'm Gavin Kemble. I'm a planner. I've been practising for coming up to around 35 years, although it doesn't feel that long.

[28] I work primarily for myself — or I have done so for the majority of that time. I was Trustpower's Environmental Manager for a period of time, so I did a number of new and renewable electricity projects, throughout New Zealand — and reconsented a number. That has been a big part of my work since.

[29] But more recently, in the last five years, I've found myself working more in the coastal environment than anywhere else.

[30] I'm a qualified hearings commissioner. I've undertaken, I think, 30 or 40 hearings — all but 1 or 2, including this one I've been the chair of, and I'm working hard to make sure I'm not one of those planners who just does commissioner roles. So I still do quite a few applications and present expert evidence before the court.

[31] So that's me.

[32] Natalie Hampson:

[33] Morning. I'm Natalie Hampson. I'm an owner and director of Savvy Consulting Ltd, an economic consultancy based down in Wanaka, in the South Island.

[34] I've been studying economic effects under the RMA primarily, but under a range of other legislation as well, for over 25 years. I do a lot of work — with consenting doing plan changes, fast-track applications, and policy work for a range of entities.

[35] So yeah, thank you.

[36] Kit Toogood (Chair):

[37] All right, thank you. Mr Eggers?

[38] Alan Eggers:

[39] Well, thank you for those introductions, and we certainly welcome this opportunity to present the project to the panel.

[40] I'd like to make two introductory remarks — just so I can operate the slides as we go.

[41] I'm Alan Eggers. I'm Executive Chairman of TTR. I'm a 5th-generation Kiwi. My family came out here in the 1850s and settled in the Tasman District — and they're still there. The extended family is still there.

[42] I was born in Mangaweka. I went to Victoria University of Wellington, and I had a great experience at that university. I went as a mature-age student and really went there to learn how to learn. And at university — man, did they look after me — I had a terrific time.

[43] That set me in good stead for a career in mining, and it's been a real exploration in mining. I'm now a professional geologist with many qualifications I won't bore you with, and a corporate company director.

[44] I've led some of Australia's top ASX 200 mining companies. I started one of those companies — a mining company in New Zealand — and it was New Zealand's tenth-largest listed company at the time. I built that from nothing.

[45] I'm an entrepreneur, that's true, but I also have high regard for the environment. And I might say that I was trained very well by an American company — Anaconda Mining Corporation.

[46] And what they did to me — they got me by the scruff of the ear and said, “You actually don’t know all that much, and we’re going to take you around the world and show you what mining is about.”

[47] But importantly, they told me right from the start: “Ten percent of your budget, Alan, in mineral exploration and mining, will be for environmental work.” This was back in the early 1980s, and it taught me a great lesson, and I’ve never forgotten that.

[48] So I have over 40 years of international experience now, and I have with me a great team up on the board here. What I’ll do is I’ll introduce them briefly, but when it

comes their turn to speak, They'll give you a little bit more background about themselves — I won't do that right now.

[49] We have Dr Alison Macdiarmid from Earth Sciences New Zealand, and formerly NIWA, here on marine ecology and sedimentation effects.

[50] We have Paul Majurey from Holm Majurey Law, and he'll be speaking about Tikanga, Treaty settlement matters.

[51] We have Luke Faithfull here from Mitchell Daysh, on project effects summary and proposed consent conditions and management plans.

[52] And can I just say at this point that Dr Phil Mitchell has been with us also since 2014, leading the charge on those matters for us, but he's unable to attend today and sends his apologies. He will be available ongoing throughout this process and is part of our team — so Phil will be available as we go through the consenting process.

[53] And we have Morgan Slyfield here, our legal counsel, on relevant tests and legal issues in connection with the application.

[54] On behalf of TTR, the management team, and our investors, I'd like to thank you for the opportunity to present the Taranaki VTM proposal today.

[55] I'd first like to make these few introductory remarks.

[56] I've been excited by and committed to this project from its inception — when the New Zealand Government and New Zealand Petroleum & Minerals, back in the 2000s, invited and encouraged mining companies to evaluate the iron sands offshore on the west coast of the North Island.

[57] Our work has included considerable investment in expertise, research, and risk capital, and has identified an opportunity that will be a game changer for the Taranaki region, the Whanganui District, and New Zealand.

[58] It'll provide local jobs and help turbocharge the regional economy, while also making a significant contribution to the Government's aim to double mineral exports to $3 billion by 2035.

[59] We have been granted a mining permit — that's not at issue here. We are seeking, through this process, to gain our marine and marine discharge consents under the EEZ Act to mine vanadium and titanium-bearing iron sands up to 36 kilometres offshore in the Taranaki Bight.

[60] We need these consents to finance, construct the project, and commence exporting mineral concentrates.

[61] We ran exploration activities in 2008 — we've been out there for a while. We've been committed to this project for a long time. And we've had statutory rights out there in terms of licences to explore for minerals, including way before the EEZ Act, when we in fact had a continental shelf licence — it was the only way they could do it outside of the 12 nautical mile limit.

[62] We announced a major mineral discovery in 2013. And when we were invited to go out there, it wasn't just TTR — we were the entrepreneurial end of the business. We saw the opportunity, and I'm a Kiwi, and I was asked to come back and invest in this project.

[63] But importantly, I think you should remember: at that time, from Manukau Harbour to Cape Egmont, the entire coastline was pegged. And it was pegged by Rio Tinto — one of the world's largest mining companies — FMG from Western Australia, SinoSteel from China, and TTR.

[64] We were the minnow, and amongst the majors. We're the only one left, and we've stuck with it.

[65] And I can tell you why — later in the presentation, if you wish — why the others aren't here. But it does have to do with risk and the approvals process here in New Zealand.

[66] We have been working hard for more than 12 years and invested more than $87 million to gain the consents required. We are very close to $90 million now.

[67] The project will manage any impacts to protect the environment, and it will be profitable for those that have stuck by and invested in our company — including myself, many Taranaki people, along with international resource investors.

[68] The company is currently owned — around about — 30% by Kiwis.

[69] Importantly, the project will also deliver strong revenue streams in the form of mineral royalties and corporate taxes to New Zealand, and be one of the country's top 12 foreign exchange earners — by itself. That's not as part of the wider minerals industry — by itself.

[70] The strategic value of the iron, vanadium, and titanium we plan to harvest is huge. And there's no accident that the largest mining companies in the world — BHP, Vale, and Rio Tinto — are all there, basically making it out of iron ore from Brazil and Australia.

[71] And this resource, and other resources that are known along the west coast of the North Island, potentially could be described as the "Pillar of the South."

[72] There are significant resources out there — and I'll demonstrate to you here today the work that we've gone to and identified one major resource. There could be others.

[73] The project has the ability to place New Zealand at the forefront of the clean energy transition — to meet domestic and international demand — and ensure long-term economic stability and growth.

[74] The large number of highly qualified professionals and experts — some here today — have contributed to the project and the application before you over many years. And I'm very proud of all of them, and the diligence and the excellence they've brought to the task to increase our understanding of the project's outcomes, including the benefits and the effects.

[75] It's for these reasons I'm pleased to have the opportunity to present our project for your consideration under the Fast-track Approvals process.

[76] So let's get on with it.

[77] I've got a lot of slides here, and I see that one panel member's printed them out — and I hope the colour printer survived!

[78] We'll work our way through, and I'm absolutely fine with being interrupted or stopped at any point to answer a question or explain something. As we go along, if it refers to something in detail, where I've got my experts with us, of course I'll defer to them — or we'll leave it until they come up and address that issue.

[79] I'm not having much luck shifting this on... the slides... but they... do you know why, Elliott? Sorry.

[80] It's all right. It's just not picking up. Do you think it'll work now?

[81] There we go.

[82] Okay, I think I've covered those points in my introductory remarks.

[83] As a way of background — the New Zealand Government changed back in October 2023. And the coalition agreements between National and ACT, and National and New Zealand First, set out what their policy agenda is — and it is very relevant, I believe, to what you people are considering here today.

[84] Part of those agreements were to update the Crown Minerals Act and promote the use of Crown minerals. That's good — because the word "promotion" had been taken out of the Act over the years, and it's being put back in.

[85] Explore the potential for critical minerals. Get a critical minerals list — I'll tell you a little bit about that.

[86] Prioritise regional and national projects of significance. Improve consenting settings in relation to mining by Fast-track Approval legislation — that's why we're here today.

[87] And investigate strategic opportunities for New Zealand mineral resources — including for vanadium.

[88] Vanadium is the only metal mentioned in the coalition agreements, and the government plans to develop these opportunities.

[89] So they got a briefing — as ministers do — by the incoming Minister for Resources. They got a briefing from MBIE and New Zealand Petroleum & Minerals.

[90] And iron sand, offshore on the west coast of the North Island, sitting in 20 to 50 metres of water, could supply iron for steelmaking, construction, electric vehicles, wind and solar, and power transmission.

[91] Vanadium — for steel rebar. Vanadium is a key hardener in steel. All hardened steels, all useful steels, in fact, have a lot of vanadium in them. Rebar — reinforced bar — for construction, and utility-scale storage batteries, which are being built now.

[92] Vanadium redox flow batteries — up to 800 megawatts — are being built around the world. Australia is building its second one right now. Not that big — but 200 megawatts and up. They are very large batteries.

[93] You can't get one in your watch or your car because of the way they're designed, but they're more efficient than lithium, and they don't explode. And vanadium doesn't decay — they can be used forever.

[94] And titanium — for aerospace, satellites, paints, paper, white goods, electronics, medical implants, instrumentation, and building products.

[95] MBIE estimated an in-ground value of TTR's Taranaki iron sands at around $1 billion — that's in their briefing. And they said additional offshore iron deposits along that coast could be worth up to a further $275 billion. You'll have to query them exactly how they calculated that.

[96] The Fast-track Approvals legislation was introduced into Parliament on the 7th of March. Initially, ministers were empowered with decision-making powers under the Act. Expert panels would be appointed to review applications and make recommendations, and determine a set of consent conditions as required.

[97] During the passage of the bill, the decision-making powers were shifted to the expert panel — so they rest on your desk now.

[98] Then the government, as part of its roadmap and its plan, sought to try and understand: what is our mineral endowment? What are the potentials? Where should we be going here?

[99] So they asked GNS Science — which I guess is now part of Earth Sciences New Zealand — to give them a report on what they think is around, and what is the potential.

[100] And in that report, our project features — the iron sands and VTM deposits are in the report. And our resource statement is in there, which I'll explain shortly. But the 3.2 billion tonne project is sitting in there as one of the potentials to be developed.

[101] It's a world-class resource. New Zealand does not have many world-class mining or mineral resources. This is one. We call it a "Tier One" in the industry.

[102] And this is the resource that — quote — Rio Tinto, FMG, and SinoSteel were after. That's why they were here. They don't go around looking for small projects — they want Tier One. This is Tier One.

[103] And then by October, we had to apply — last year, as you may recall — to the Fast-track process. We had to apply to get listed, to be considered to be referred across.

[104] And during that process — I'll stand corrected on this — but about 389 projects, or something of that order, applied for Fast-track approval through that process.

[105] 149 were accepted by the panel that the government appointed, and they referred 149 projects through.

[106] 19 of those were mining and quarrying, and 11 of those were mining. And TTR is one of the 11 that came through.

[107] We didn't need a further referral from the Minister, so we're in the Fast-track process — subject to the legislation being put in place. And it wasn't in place at that time.

[108] So they then also did a critical minerals analysis — they got Wood Mackenzie, a well-known international resource consultancy — and they produced the New Zealand critical minerals list.

[109] Vanadium and titanium were both included in that list.

[110] And the development of the project could elevate New Zealand to be the third-largest vanadium producer globally — and the largest in the Western world.

[111] The window of opportunity is for New Zealand to capitalise on its mineral resources — and particularly critical minerals.

[112] The opportunity is driven by growing global demand for these minerals and security of supply, especially for those used in renewable energy technology and electric vehicles, which I explained earlier.

[113] There's tremendous opportunity for New Zealand to be part of the global supply chain for critical minerals — New Zealand Minerals Council.

[114] And then, on the 31st of January — the year after the Fast-track Act was put in place on 23rd December and became law — the Critical Minerals Strategy was launched by Minister Shane Jones in Waihi.

[115] And as I said, vanadium and titanium are in there. And also, it's interesting to note that the critical minerals lists of the USA, UK, EU, Australia, Canada, and China all have those same minerals in them — including vanadium and titanium.

[116] At the same time, the government wisely developed a Mineral Strategy for New Zealand to 2040. And that outlines their roadmap going forward — how they intend to implement their strategy.

[117] And you'll note on that there are a number of different commodities around the nation, but importantly, along the west coast of the North Island — here in yellow — the vanadium and titanium-rich iron sands are right up there in the headlights again in the strategy, with the aim of doubling mineral exports to $3 billion by 2035.

[118] What are we going to do out there?

[119] Well, this is a little video of what we're going to do — hopefully it will play. It's an animation. Hopefully it'll give you some sense of perspective about what we're doing.

[120] The helicopters actually fly a bit higher than that, believe it or not, when they go off over the coast — but it illustrates what we're about.

[121] This is out here in the South Taranaki Bight, and the oil and gas industry is operating out here.

[122] This is the area within our mining permit that we're seeking in this application — 66 square kilometres.

[123] The Māui platform, the Kupe platform — sitting right in here.

[124] We'll have three vessels out there:

[125] An IMV (Integrated Mining Vessel)

[126] A transshipment vessel — it takes the concentrates from here, dewaters them, and puts them onto export

[127] Cape-size vessels for export

[128] None of these vessels will come into a harbour. We have biosecurity plans and all the rest of it.

[129] It's a very large vessel — 335 metres long, 60 metres wide, 12-metre draft — and this has all been approved by Maritime New Zealand and certified by the American Bureau of Shipping.

[130] The plans are done. We're kitting this, and we're working closely with technology partners:

[131] De Beers Marine from South Africa

[132] Royal IHC from Rotterdam — who build these things and have been operating them and the crawlers for over 35 years

[133] We took the Taranaki Regional Council, the EPA, and the Iwi Fisheries Forum to South Africa and showed them this equipment in operation and the environmental monitoring that's going on around it.

[134] We took them over there and showed them what's happening. This is not an experiment — these things are real.

[135] It's 480 tonnes — it's a vacuum cleaner. It doesn't suck up rocks, or fish, or anything else. It sucks up black sand. It's just black sand — that's all that comes up. There's nothing else where we are, and I'll demonstrate that shortly.

[136] It moves at 40 metres an hour. This moves probably a little faster, but the ship overall will only shift a few metres each hour.

[137] 8,000 tonnes an hour coming up at one end of the ship — you can see — comes out through the mineral processing, which I can go into more detail if you want.

[138] And in a controlled manner — we are not dumping — we send it back into the ocean in a controlled manner through a diffusion system, four metres above the seabed. We're putting it back from where it came.

[139] The only disturbed area is the 300 metres under the ship at any one time. Behind it, it's rehabilitating. In front of it, we haven't touched it.

[140] It is not a pit out there for 35 years with desecration. We are continually rehabilitating.

[141] These are the mining blocks — 900 by 300 metre mining blocks. The vessel is on four large anchors and largely shifts on those. It does have dynamic positioning capability, but we just work our way through the mining blocks.

[142] That's what we're doing out there.

[143] Kit Toogood (Chair):

[144] Mr Eggers, can you just help me — sure — so when you're taking the iron sand through the vacuum cleaner?

[145] Alan Eggers:

[146] Yes.

[147] Kit Toogood (Chair):

[148] Processing it on the vessel, and at the same time, discharging?

[149] Alan Eggers:

[150] Behind us. Yes — behind.

[151] And there are no chemicals, no toxins, nothing.

[152] The black sand coming up goes past some large drum magnets. We've got an 80-megawatt power station on board. It primarily does three things:

[153] Electrically drives the crawler

[154] Produces fresh water — reverse osmosis plant

[155] And... I've forgotten the third... oh yeah, that's right — produces electricity for the magnetic separator

[156] It's a drum magnetic separator, and the material going past — about 10% of it clings to that drum. It's circulating, and it scrapes it off as it goes, and that goes into the concentrate.

[157] The rest just keeps going straight through and down. It's in the same seawater that it came up in — and it's going back down.

[158] There's nothing being added to it whatsoever. And there's no way for us to infuse anything into that process.

[159] So we're operating — and as I said, a lot of people don't understand much about the EEZ, and I think this is relevant.

[160] The EEZ is 4 million square kilometres sitting around New Zealand. It is not New Zealand's sovereign territory — it's under our custodianship via the EEZ Act, to manage the development of resources and at the same time protect the environment.

[161] It's 15 times the size of the land area of New Zealand, and already 42% of it — or 1.7 million square kilometres — is in protected areas and benthic protected areas.

[162] So it's not carte blanche. And a lot of those areas are to do with protecting it from the fishing industry — not necessarily from mining — but at the same time, it is already well protected.

[163] I think the rule of thumb around the world — some of you will know — is 30% of any nation's land area they try to get into reserves and protect it. And I think we're doing well — we've already got 42% out here. So not bad.

[164] Now, the little red area here is where we are — and that's the South Taranaki Bight. It represents less than 1% of the EEZ.

[165] I can't put the project on here because you can't see it — it's a dot.

[166] So when we zoom in — the South Taranaki Bight here is around 36,000 square kilometres, and really covers from Cook Strait out to the continental shelf, to the west of Farewell Spit and Mount Taranaki.

[167] And it's less than 1% of the EEZ.

[168] Then we zoom in — and this is the permit area.

[169] I'll digress slightly here — and it's something for the future — but you'll see the bathymetry on here, and this is quite an important thing for your considerations.

[170] This has the 12 nautical mile limit — and you'll see better diagrams of this in a moment.

[171] But we're outside the 12 nautical mile limit here for our application. Inside, of course, is the coastal management area, where the RMA prevails, and we would need to go through the RMA process to get any approvals.

[172] Out here, we're under the EEZ.

[173] But the bathymetry — you see it says 50 metres deep. And the reason for the big bulge here is a very large titanomagnetite iron sand deposit, which we have discovered. That's why that bathymetry is as it is.

[174] Our friends from the wind energy sector have come along and said, "But we want this area to put our offshore wind turbines."

[175] They describe it as the "Goldilocks zone" of the South Taranaki Bight.

[176] And there's currently legislation being put in place — and I won't go into that — but they're putting in place legislation to permit offshore wind energy.

[177] And the reason the wind energy people came along and said, well, the choice for New Zealand and the government is to make a choice between mining — and what the mining companies do to the world — and clean, green wind energy.

[178] Well, if I went to the shopping mall on Saturday morning and saw that, I'd probably sign that too. "Let's have clean, green wind energy." Why not?

[179] I'm also a grandfather, and I love the country, and I don't want to wreck it.

[180] But why do they want — and why did they plant their proposals right on top of us — and then ask the nation to make that decision?

[181] And that's what they've done — and the previous government too.

[182] Right now, Hon. Simon Watts, Minister of Energy, is putting together legislation on how to allocate space out here for these two competing activities.

[183] I'll say a couple of things:

[184] One — they don't need to be competing. There's room for us all.

[185] Two — we're here, and they are here, because they cannot put their turbines in water depths greater than 50 metres.

[186] And there's their problem. They want to be on top of us because of the bathymetry — and that's our iron ore deposits.

[187] We can't go somewhere else. We're not mobile. We can't go mine here — because it's not economic. We can't go mine up here — because it's not economic. The minerals aren't concentrated.

[188] They happen to be concentrated here — put here historically by these rivers during the last glaciation, when this was the old coastline, when sea levels were 50 metres lower.

[189] We don't have time today to go into global warming and all the rest of it, but that's why we're where we are. And these deposits have been uprated by natural processes associated with sea level rise in the last 10,000 years — not very long — and sea levels have risen 40 or 50 metres in that time.

[190] Okay. So I said — it's a busy, busy little area. It's not a pristine environment. There's a lot of existing interests and activities going on out in this area.

[191] There's oil and gas. We have an operating agreement with the OMV Joint Venture. They've agreed to work with us, and we're happy with that agreement. They're happy with us. And in the end, at the last hearing in 2017, they supported us. And we have an agreement.

[192] Fishing and trawling — you've heard that some of the fishing industry are opposing, and that's true. We're talking — we're actively engaged with Talley's and Seafood New Zealand again right now, and I think we're making some very good progress there — but we don't have an agreement.

[193] Importantly, in FMA 8 — which is Fishing Management Area 8, out where we are — we do have an agreement with Sanford, the largest quota holder in that fishing area. They are happy with us. They came to the hearing and supported us.

[194] So we do have some friends.

[195] The proposed wind farms — that's another issue. We have approached them, and we've written to them twice. We're open to sitting down and working with them through the issues, so that we can see how we can coexist and operate together.

[196] I can say — they can't plant big wind towers right where we need to mine. That will become a hazard for navigation and our large vessels out there, and Maritime New Zealand would have a lot to say about that — and that would be to do with safety.

[197] Right — and as we go through this — commercial shipping: there are nearly 7,000, probably more, commercial movements of large vessels in the South Taranaki Bight each year.

[198] Harbour dredging takes place on the harbours around here — including the top of the South Island, but along here and up around to Taranaki. And that seems to be okay.

[199] And they actually will create much larger plumes and dumps than we ever will. And I'll show you the data on that in a moment. But that's a permitted activity.

[200] And land use activities have generated river sediment — and I'll show you something about that.

[201] But the problem here — if there's a sediment problem, and a problem for the marine life and the marine ecology and kai Moana in this part of the world — it is not mining. It is land use activities, and the sediment loads coming in from these rivers along here. And I'll give you some information on that.

[202] Recreational fishing and diving is non-existent out where we are, and quite infrequent on this coast. And in fact, I think it was a member of a fishing club who admitted — they only have a few days a year where they can actually get out there across that bar.

[203] And as you may know or remember, just recently there was a tragedy going across that bar as well — which is very sad.

[204] But the thing is — this is a rough coast, a rough part of the world, and it's very dynamic, it's very turbid, and there's a lot going on here.

[205] Okay — we have tenements. We have a mining permit — a federal mining permit — 55881, about 250 square kilometres sitting in here, outside the 12 nautical mile limit.

[206] And we have a mineral exploration permit — 54068 — sitting in here, which is quite a bit larger, around about 635 square kilometres.

[207] This is being converted right now to a mining permit — simply because mining permits and exploration permits everywhere — but in New Zealand — are ephemeral. They don't last forever.

[208] We have had work programmes — we have to go through those — and they reach the end of their natural life, and you either have got to have a stage where you've found something and you need to move on to a mining permit, or go away.

[209] We have found something — and I'll show you the resources in there shortly — but that's now being converted and needs to be done by the end of this year.

[210] So when you read in the paper, it says, "Yes, we've got a large mining permit out there — another one," it will be — because that's how the system works. And we've got resources out there. We make no apologies for that.

[211] Okay — and we developed technology — this little old TTR — and our partners in Cooper Drilling and New Zealand Diving itself — have developed the technology to actually drill deposits on the seafloor.

[212] And we've got very large resources — which is the Kupe North and South, Cook North and South, and Tasman North and South.

[213] The reason we have North and South again is because the quote approval system cuts right through the middle of the deposit. So it's an artefact of that — not the resources. They're contiguous and all of equal value.

[214] How did we find these resources?

[215] We've done a huge amount of work.

[216] First of all, we flew detailed airborne magnetic surveys from Manukau Harbour — where you landed on the plains if you came into this place in the last 24 hours.

[217] We then undertook multibeam bathymetry surveys to understand the seabed and the seafloor.

[218] High-resolution boomer seismic surveys — to get depth perspective of what's going on beneath the seafloor. We know how deep the sands are.

[219] We did remote observation videos of the seafloor — and in fact, they have videoed the entire project area.

[220] And we hope that you'll avail yourselves of the opportunity to come out and have a look — and you can run the cameras yourself and have a look around on the seafloor and see what's out there.

[221] We'll set up the equipment — you can do that. You have a look. You tell us what's out there.

[222] We did resource definition drilling. We've drilled extensively — down to 40 or 50 metres in places.

[223] We've got previous oil and gas holes — but we can only actually mine with this equipment down to about 10 or 11 metres.

[224] And we're harvesting the top — on average — five metres.

[225] And we're only doing that for 200 days of a year, for 20 years.

[226] We are not mining for 35 years and dumping into the ocean.

[227] We have 72% utilisation of the equipment. The other 28% is downtime — for servicing, weather events, and other requirements.

[228] And we're not — we are not — operating during those periods.

[229] So only about 200 days of each year for 20 years.

[230] The consents we are seeking are for 35 years — that's true. And the reason for that is that we need to do two or three years of pre-commission monitoring.

[231] We've done a huge amount of work out here. We understand what the ocean is, and Alison and her team have done a fantastic job of that.

[232] But what we need to do now is update that — the currents — so that we know exactly what's going on there. And we also have to establish some new monitoring points that have been shown to us that need to be covered through the hearing processes.

[233] And some of our submitters have said, "But you've forgotten about this," or "You've missed that," or "We think you should be doing this." And we're happy with that.

[234] And we've included them in our proposed management plans and conditions before you.

[235] Natalie Hampson:

[236] Sorry, is the 200 days a year that you're operating — is that contiguous, or is it likely to be broken up? So weather — it means it's going to be spread out across the year?

[237] Alan Eggers:

[238] Ah, yeah — it's not... we don't just operate for 200 days and then have 100 off.

[239] But I think we've agreed — we won't operate when there's a swell over four metres. So whenever that happens, we stop.

[240] And we actually have permission — or did have permission — in our EPA consents in 2017 to shift our vessels, in fact relocate into Queen Charlotte Sound or Tasman Bay, out of the way of a storm, if it's a real bad one coming.

[241] That helps with safety and other issues there.

[242] But yeah — it'll be on and off as we go along. But we only intend to utilise 72% of the time for 20 years.

[243] And the rest in that 35 years is:

[244] 20 years of mining

[245] 2–3 years of pre-commission monitoring

[246] And then we've got to do five years of post-production monitoring to ensure everything is as it should be in terms of rehabilitation, and we provide that information.

[247] Dr Hilke Giles:

[248] Thank you. Sorry — you just said information being updated. I didn't quite catch what exactly it referred to?

[249] Alan Eggers:

[250] That was in — we've got the data, and I'll leave that bit to Alison.

[251] But we know a lot about the South Taranaki Bight, and we've monitored a lot of monitoring information. But we need now to pre-map the currents — so that's absolutely two or three years just before we start mining.

[252] We know what's really going on out there, and that database is set. And then additive to that — oops, here's mining. What's happening here? How's that?

[253] But if we don't update that, you'll say, "Well, that's 2016 data — come on."

[254] And so that's part of the reason.

[255] And the pre-commission monitoring also — as I said — identified during the hearing processes, identified some other areas. It was decided by including our opponents' experts that we should be doing this.

[256] Okay — we took it on board. We've included it in our new plans.

[257] Okay — and that brought us to the independent...

[258] Oh — we did bulk sampling and pilot plant processing. It's not guesswork about how much iron ore and vanadium and titanium we're going to produce.

[259] We built a pilot plant in Wellington — at Porirua— and we spent about five or six years putting bulk samples through that pilot plant.

[260] And that was all IATA-approved and tested — plant-registered — independently verified.

[261] And we got a JORC — which is a Joint Ore Resource Committee mineral code — which we need to have to a standard one to bank it:

[262] but two to report any numbers to the Australian or New Zealand stock exchanges

[263] So it's a JORC resource.

[264] This here is just one of our latest specials — when we finally got this.

[265] This is a shallow rig. What happens is this frame gets launched onto the seabed and it stands there. It's not anchored — it just sits there.

[266] Umbilical cords come up, and all the hydraulics and the sampling equipment and the sensors and things are all on the vessel. And it drills — and we don't have to do... nobody on the seafloor. We don't have to go down there and change rods or anything.

[267] We have 11 metres of rods in here.

[268] Now, the reason I got a bit sidetracked before — the reason we can't go deeper than about 10 metres is simply: this is only economic when we're in our high-grade material.

[269] And once we get down to about 10 or 11 metres, we're starting — because of the angle of repose of these super-saturated sands — we're starting to suck material from too far away.

[270] And we would also dig too deep a hole, take too long to get out of it, and with natural storm events and various other things, that site would be contaminated very quickly — the seabed movement — and we'd lose that grade control.

[271] So we can only harvest that top five metres on average. Some places we're only taking a metre off the surface. Other places — as I say — we do get to 11 metres. That's the maximum.

[272] And there are technical reasons for that.

[273] It's something a bit like this — where we plan, if you're going out there, we would take you out on this vessel.

[274] The resource — I won't bore you with the resource. It's a technical thing.

[275] But I will just say that — as you can see here — nearly 2 billion tonnes of it sits outside in the EEZ, and about 1.3 billion tonnes of it sits on the inside — in the CMA.

[276] And that is the subject — and that will be the justification — is the justification for turning this into a mining licence.

[277] I think you'll be aware that this is the last area — from Wellington Harbour to Manukau Harbour — this is the last area within the Coastal Marine Area that is available for mining.

[278] Because mineral exploration and mining is not a permitted activity in the Māui Dolphin Reserve, which has been extended out to the 12 nautical mile limit — right on that coastline.

[279] And that has sterilised very large commercial resources. That's a matter for another day.

[280] The resource is about 10% Fe_2O_3, less than 0.5% V_2O_5 — vanadium pentoxide — and about 1% TiO_2 — titanium dioxide.

[281] It contains 1.6 million tonnes of vanadium pentoxide. That's a lot.

[282] When we concentrate it — over 20 years — we will mine a billion tonnes, or 1,000 million tonnes, and we'll produce a concentrate of about 57% iron — which is in fact about 81% Fe_2O_3 — very high grade.

[283] Half a percent of vanadium pentoxide, and about 8.5% TiO_2.

[284] I will talk more about the economics of that.

[285] And that's about 11 pounds of vanadium pentoxide in the concentrate.

[286] Five million tonnes a year will be exported.

[287] Finally — the EEZ. Interesting?

[288] The purpose of the EEZ Act is to promote the sustainable management of natural resources of the Exclusive Economic Zone and the continental shelf.

[289] This Act provides for sustainable management — and sustainable management means managing the use, development, and protection of natural resources in a way or at a rate that enables people to provide for their economic well-being.

[290] It is not primarily an environmental act to protect the environment at all costs.

[291] The EEZ Act incorporates comprehensive environmental safeguards and international guidelines that seek to balance economic development with environmental protection.

[292] It is not no-effects legislation. It permits environmental recovery — where impacts on the environment can be remedied, mitigated, or if other interests — including economic benefit and the efficient use and development of natural resources — are justified.

[293] That's what the EEZ Act says. That's what we're here primarily to get approval under.

[294] We're not here to bypass the EEZ Act or take shortcuts over environmental protection or avoid environmental protection.

[295] We're here to comply with that Act.

[296] The Fast-track Act — we'll get onto names — provides the way forward for us.

[297] I've got down the bottom there — it also includes the precautionary principle. And you people, as planners and commissioners and things, would have heard a lot about that — and also the courts would have had a lot to say about that over the years as well.

[298] I'll put it simply — at the moment — the precautionary principle is basically... it isn't law, but this is what it means.

[299] If you've got insufficient information — you don't know, you don't do.

[300] And the precautionary principle reverses the burden of proof. The individual or entity proposing an activity must prove the activity is not harmful.

[301] There are a number of analogies I'll give on titanium and vanadium. I think if I start sprouting them... it's very hard to prove — to prove — when you get permission to do anything, that something else might not happen.

[302] And I think I'll leave that at that point. But we're very aware of that. And that is what a lot of the arguments — which we'll get to a bit later — have been about in the courts.

[303] The Fast-track Act, passed on the 23rd of December 2024, is a one-stop shop to facilitate the delivery of infrastructure and development projects of significant regional and national benefit.

[304] I think I've already started to demonstrate — and I will, when we get further into this — that this is certainly a project of regional and national significance.

[305] The elevation of Fast-track's purpose over the RMA and EEZ Act, when considering the application for approval, is limiting the ability to decline applications only where adverse impacts are sufficiently significant to be out of proportion to the project's regional or national benefits.

[306] The Act's one-stop shop is to bring it all together under one umbrella and hopefully streamline the process — but not, in my view or our view, to avoid anything.

[307] And I'll tell you a bit more about our application and its timeline.

[308] Excuse me — one or two of the dates are wrong. I just heard another date or two from the Chair that I haven't put on here.

[309] But this — on the left — is the Fast-track process in the legislation and the regulations. And on the right is how our application is fitting into the Fast-track process.

[310] So the Act was passed in December 2024. Applications opened on the 7th of February.

[311] We were too busy — we'd read the Act over Christmas — and we were too busy with our team putting together an entirely new application to suit the Fast-track.

[312] This is not the 2016 application submitted. It's a new application.

[313] We applied on the 15th of April. We were notified a month later that the application was complete — it was not rejected.

[314] The Panel Convener then gets advice and a number of reports — I think we've seen the Chair here refer to that.

[315] And we had a Panel Convener's conference on the 7th of July, which a number of parties were invited to.

[316] The Expert Panel of five was appointed and announced on the 12th of August, and you commenced your duties — looking at the task before you — on the 25th of August.

[317] And we're now at the first opportunity we've had to speak to you today.

[318] Invited comments — I apologise if that date's wrong. That's how we worked it out at the time. The other date — whatever. The dates are what they are.

[319] But certainly we noted — we've got 100 days, I think, from your comments and responses. That takes us to the 4th of March, with about 10 business days for a decision to be published.

[320] And the Minister and I have got an opportunity to comment on that draft decision over there.

[321] And then we need to wait — which is in the schedule here — we need to then see whether or not there are any judicial appeals to that decision for another 20 business days.

[322] And unfortunately, Easter gets in the way — so it takes us out for a little while.

[323] I don't want to be too tight, but this is the Fast-track Act. I'd like to see it a bit faster — but that's what it is. That's over a year.

[324] The Fast-track application includes a new prefeasibility study — some major documents.

[325] I think you've got about 15,000 pages of information in front of you — and 5,000 pages of those are the feasibility study.

[326] That is a brand-new document — 2025. You'll see nothing similar to that from previous.

[327] And that's what the whole project is based on — along with this new JORC mineral resource statement for vanadium and titanium.

[328] If you look at the 2016 applications and decisions — vanadium and titanium were never mentioned. It was only iron ore and iron sand.

[329] These have come to the fore since then, and we've redone this work to ensure that we've got the basis for the project.

[330] We then got the New Zealand Institute of Economic Research to do an economic impact assessment — which is 2025 — to demonstrate the benefits.

[331] We haven't asked these people to suggest what the outcomes would be. We give it to them — we give them the information — they run it — they give us a report. Totally independent.

[332] And we have done extensive ongoing consultation and updated that.

[333] A full review — and Alison will tell you a lot more about this in particular — a full review and update of the previous 2016 application package, including effects on marine mammals and seabirds.

[334] And these are areas that were considered perhaps deficient by the previous hearing in Hawera — and perhaps the Supreme Court judgment.

[335] We updated the sediment plume modelling and addressed the High Court, Court of Appeal, and Supreme Court judgments — which Morgan will pace through over three days.

[336] Okay — as I say, it includes an update of the court judgments.

[337] And I would just say — I'm not a lawyer, I'm a geologist, as I've said — but the court judgment made clear: no court in this land has banned seabed mining.

[338] They've suggested things could be done better — I accept that.

[339] And what the judgment did say — in 2019 — was:

[340] "Given the complex and evolving nature of the issues involved, it would not be appropriate to deny TTR the opportunity to have the applications reconsidered."

[341] That's what the court said.

[342] And TTR should be able to remedy matters if it can.

[343] Importantly, the Supreme Court judgment provided a summary of the legal deficiencies of the original consent grants, and the legal framework to address these when the grants are reconsidered by the EPA's Decision-making Committee.

[344] We've got to be careful what I say here — but it wasn't actually TTR that was in the firing line here. It was how the EPA managed the application — granting those consents — and its application of the law.

[345] Our consent conditions and our operations could not be challenged in court. It was only on points of law — about how that process had been undertaken.

[346] We were forced to defend it, of course. We didn't go to court — we were taken to court by our opponents — to the High Court.

[347] We were then in a position where we had to either abandon our project or pursue its route. And we believe this is a good project. We believe we've done the work — and we pursued it.

[348] Kit Toogood (Chair):

[349] Okay — at the moment... I should have said this earlier — but we're going to take a break.

[350] You've been talking for a while and you might... you can do all the rest probably.

[351] So we'll take a break now, I think. That seems a convenient point to move on to another topic.

[352] For 15 minutes.

[353] Then we'll resume — and have lunch between 12:30 and 1:00 — and then we'll stop again for afternoon tea around about 3:15.

[354] That'll be good. I think I'll be through — and I think we'll be ready for my team to go probably about lunchtime or sooner.

[355] Okay — so we'll take a break now for 15 minutes. Thank you.

[356] Thank you very much.

End of part one

Start of part two

[357] Kit Toogood (Chair):

[358] Now, Mr Eggers — just before you go on to this next topic — Dr Giles has a question she wants to ask you.

[359] Dr Hilke Giles:

[360] Sure. Information having been updated — and you listed marine mammals and seabirds and sediment plume modelling — have any technical reports been prepared for these updates?

[361] **Dr Alison MacDiarmid:**

[362] We can dig those out for you, they are listed at various points in the document and we can point to them

[363] Alan Eggers:

[364] Yes — they are listed in the evidence points in this document, and we can point to them.

[365] Dr Hilke Giles:

[366] That would be really helpful. I'm sure the idea is still relatively new and it would be helpful to get to that.

[367] Alan Eggers:

[368] Thank you.

[369] Kit Toogood (Chair):

[370] All right — thank you.

[371] Alan Eggers:

[372] And so — if you think I'm going too slow or too fast — you just give me a bell

[373] Kit Toogood (Chair):

[374] You are doing perfectly fine.

[375] Alan Eggers

[376] Thank you.

[377] Okay — we'll move on now to the environmental advantages — you might call it environmental effects.

[378] So what are we doing out there?

[379] We have a very small environmental footprint at any one time. Yes, we mine for 20 years, but at any one time, there's only 0.27 of a square kilometre that's being disturbed. It's either not being touched, or it's being rehabilitated.

[380] And we have a very low carbon footprint.

[381] If we're worried about carbon emissions — and that's not what you're here to judge — but these deposits, and the technology we're applying to extract and beneficiate the minerals here, it's very low carbon.

[382] And the simple reason for that is nature's done a very good job of hydrating the mineral sands — if you like — and concentrating them into a very saleable commodity, sitting on the seabed, ready to be recovered.

[383] We do not have overburden, forests, and streams, and water management issues to deal with, such as you do on land-based operations.

[384] There's no heavy mining fleet and haulage fleets, which you'll see around most large mines — including here in New Zealand. If you look at Waihi or Macraes.

[385] There are no open pits or overburden stripping, as I said. There are no waste or tailings stacks. We're not — we're just putting back the de-sanded sand.

[386] When the black sand comes up and goes back down, I defy you to see the difference. We have extracted 10% of it — which is the high-grade titanomagnetite.

[387] Black sand up, black sand coming down.

[388] I'll tell you a bit more in a moment about the exciting trip that some of the critters get during that — but that's just... that's black sand.

[389] And it's black sand going back.

[390] There are no haul roads. There's no energy-intensive crushing and grinding circuits.

[391] All major mines — including iron ore mines around the world — have huge carbon footprints in grinding and crushing that mineral to get it into an export-saleable commodity.

[392] This is done for us.

[393] We do have light grinding on board — but it's basically to segregate clumps of sediment that come out — clumps of iron sands — that come out and burst them apart so that they go through the circuit and we can extract the best of it.

[394] But we're not actually grinding. And somebody said the other day, "Ah, they're grinding — they'll be putting more fines into the discharge — that causes the problems."

[395] We collect the fines — that's what we're after. It's the coarse material that goes back down, not the fines. So it's the exact opposite.

[396] So we have a low carbon footprint.

[397] And in terms of harvesting — in one year, we'll harvest about three square kilometres.

[398] Out here in New Zealand, you're busy — or we're busy — harvesting about 1,800 square kilometres of cropping fields each year. That seems to be okay.

[399] And also, we're doing — as well as upsetting a few worms, perhaps — as well, which turn up...

[400] We're just on the five-metre average on the top one to eleven metres strip. Simple magnetic separation. No chemical additives or processing. No permanent seabed installations or fixtures of any sort.

[401] When we leave — if we go bust — we leave. There'll be nothing left out there for you to see or go and complain about.

[402] Natural processes deliver rapid rehabilitation of the mined areas. They recolonise within weeks, and full recovery within two years. And that's progressive as we go along.

[403] There is no impact on fish, whales, or dolphins — and again, Alison will explain this in much more detail. I'm going to give you a little bit of it in a moment.

[404] There are no legacy issues — with continuous rehabilitation as part of the recovery process. We're not going to leave a mess out there.

[405] In 2017, we got our consents approved — our marine and marine discharge consents approved by the EPA.

[406] Those consents came with a set of 109 comprehensive conditions to operate, and a detailed set of management and operating plans — which we'll go through in a moment as well — and a 30-year-plus marine effects monitoring programme.

[407] Well, TTR's actually going to deliver a bonus on that — because it's taken so long to get through this approval process.

[408] We commenced marine research out there in 2011. We're now at 2025 — and we've still got our 30-odd years to go.

[409] So you're going to get 40 or 50 years of marine research of the South Taranaki Bight that you didn't have before. And we're proud to deliver that.

[410] Okay — the proposed conditions provide the following set of management and monitoring plans.

[411] I'm not going to go through and explain each one — I am going to mention each one.

[412] There's a Pre-commencement Environmental Monitoring Plan — I've explained a bit about the reasons for that.

[413] There's an Environmental Monitoring and Management Plan — that is to set up the sites in the South Taranaki Bight and monitor them.

[414] There's a Seabird Effects Mitigation and Management Plan.

[415] There's a Marine Mammal Management Plan.

[416] There's a Collision and Loss of Position Contingency Management Plan for our vessels.

[417] There's a Simultaneous Operations Plan — with our colleagues out there in oil and gas and the fishing industry.

[418] There's a Biosecurity Management Plan — for our vessels coming and going.

[419] There's a Kaimoana Monitoring Programme — which we would like to see a lot of this work done by the South Taranaki iwi groups themselves.

[420] I'll show you shortly — we will provide the vessels and wherewithal and pay for it — but we would like them to undertake this.

[421] It doesn't matter what the past has been — we know we have to work with those groups. We will be working with those groups. We want to train them, get them jobs, and we would like them to undertake the Kaimoana Monitoring Plan work.

[422] In fact, the whole environmental monitoring plan — we will need some highly skilled people and scientists on that programme — but we would like the input to come from the local community.

[423] And we have an Extraction Monitoring Plan, as I said.

[424] So we've delivered a very comprehensive environmental application.

[425] We didn't go out there and say, "Just do the minimum, please, NIWA and our experts from New Zealand specialists and offshore."

[426] We said, "Go out there, look at that environment, and tell us what's going on out there. You tell us — we don't know — we're a mining company."

[427] And we didn't skimp. We didn't say, "Let's take some shortcuts here — let's just do enough to get across the line."

[428] Man, we fired some time and dollars at that.

[429] And these are the major headings of the reports that you'll have in front of you — that we addressed.

[430] There's a lot up there — and there's more, if you want to dig into the reports. And I hope you do.

[431] What's out there?

[432] I want you to watch this.

[433] We had an ROV film the seabed — and I might say, we've drilled thousands of drillholes from Manukau Harbour to Kāpiti.

[434] We've drilled 789 in this permit area. We've drilled thousands in the South Taranaki Bight — around this area — including in the rest of our resource that's not up for approval at this point.

[435] Each of those drillholes has a camera — I didn't mention before — we have a camera on that when it goes down onto the seabed.

[436] We know what's there. We're not guessing.

[437] And the marine surveys have time — we know where the reefs are, we know where it's rocky, we know where there's abundant marine life — and where it's not.

[438] And where we are — this is what it looks like.

[439] It is black sand. It's got some microalgae — less than a millimetre in size. Microphytes — less than a millimetre in size.

[440] It's got the odd worm — as my drilling team says — the odd sea lice. In fact, quite a few sea lice in places.

[441] That's what's going to go through the machine.

[442] Some of these blokes out here — this microalgae — and Alison will probably take offence at this — but these microalgae don't do too much.

[443] They're sitting out there — the most exciting thing that's ever going to happen to them is going through a machine and out the other end.

[444] Because when they get back down on the ocean floor, those less-than-millimetre critters will still be alive. They'll still recolonise — and that's what's going on out here.

[445] We can do this for hours — as many hours as you like. And when you go out there on a visit, we will have these cameras. You can look at anywhere within our application area that you wish.

[446] Show the cameras — have a look. Including, if any of our opponents say, "Here — we have this here and we're really concerned about it," fine. Put the camera down at the location they give you and have a look.

[447] If it's in our mining area — this is what it looks like. We know — because we have filmed the entire area.

[448] You want another area looked at? Or shall we move on?

[449] Kit Toogood (Chair):

[450] Well, no — if it's at all like this, we've probably got a picture. You've got an idea.

[451] Thank you. Are you saying that there are no structures of any kind?

[452] Alan Eggers:

[453] Correct.

[454] We can't mine rock — and rock is of no value to us. If it came up...

[455] And as for marine life — I don't want to be flippant — but we're not producing cat food. There's no value in it for us. In fact, it interferes with processing the heavy mineral sands through the operation.

[456] And we would be burning a lot of diesel and people's time and energy out there producing nothing. Not good business. Not good for our shareholders. Not good for the bottom line.

[457] Now — what is happening out there?

[458] This is an example — just a week or two, three or four weeks ago. I think the date was July 4th of this year — US Independence Day.

[459] And it's the Stony River — or Hangatahua River — that feeds into the South Taranaki Bight. And this is happening on a regular basis.

[460] We're not adding one grain of sediment to the South Taranaki Bight — not one grain.

[461] This is what's coming down and going into that South Taranaki Bight — massive sediment loads off all those rivers.

[462] The Whanganui River — if you go there — is never clear. It doesn't exactly look like the ones coming across the Canterbury Plains. It's never clear — because of land use activity and erosion. It's full of silts.

[463] In the spring, the silts head out into plumes into the South Taranaki Bight.

[464] If you walk along the beach — you see — and I have, many, many times, for many hours doing it — those waves are generally brown and blue.

[465] There's a reason for that — there's a lot of sediment in there. And I'll tell you more about it.

[466] That's what's happening in the South Taranaki Bight.

[467] Now — I said, what about the plume?

[468] Well, first of all — on the seafloor — I said, we've got these microalgae, benthic algae, less than a millimetre in size. We've got a few worms — up to a few centimetres in size. Possibly the odd starfish.

[469] And Alison will be able to tell you a lot more about this if you wish.

[470] The sediment — our heavy mineral sands — do not produce a plume 24/7, even when we're operating. Only if we hit silts.

[471] When we hit silts — if we've got over 1.8% silts — we stop. Because then the waters are too cloudy in our processing equipment for us to be efficient extractors of the titanomagnetite.

[472] So we stop. That's a high element that we've set.

[473] And as we go along — these little blokes, as I said — will have a fairly exciting ride through the process. Then they go back down.

[474] But what about this plume?

[475] The plume is what our opponents seize upon. It gets the headlines in the newspaper — "It's going to kill all the fish stocks in the South Taranaki Bight," and on we go.

[476] Let's just have a look — well, for science.

[477] And we had to stand up — we sent bulk samples to the UK. We had this done by NIWA here in Wellington — their scientists.

[478] We sent samples to HR Wallingford in the UK.

[479] HR Wallingford — experts in this area. They manage all the plume activities associated with the City of London getting all its gravels out of the English Channel — and they've got Belgium and France on their backs, you wouldn't believe, if they create a plume that upsets them and their fishing stocks.

[480] HR Wallingford — we brought in here.

[481] And NIWA experts — as owners — microbenthic organisms and things.

[482] We got Larry Cahoon from the University of South Carolina — who's an expert at looking at those critters as well.

[483] This plume is quite intense — within about two kilometres of where we're operating at any one time, yes. Not denying that.

[484] But it doesn't go very far — when there is one — because these are heavy mineral sands, and they settle very quickly.

[485] They settle very quickly. And when we get high silt readings, we stop.

[486] Natalie Hampson:

[487] What does it mean when you stop — if you get high silt loads? What physically happens to your operation?

[488] Alan Eggers:

[489] We shut down the operation and we'll move the crawler to where we've got away from those silts.

[490] And how do you know that?

[491] Because we have grade control drilling in front of the operation at all times. And that's core drilling — whether it's 20 to 50 metres, depending on where we are — and we know exactly where the silts lie.

[492] We say, "No — we know we're going into that." We'll move around it. We'll go past it. And we can go back.

[493] Kit Toogood (Chair):

[494] Then you're moving the crawler at a pace that enables you to stop it before you reach any?

[495] Alan Eggers:

[496] Yes. Start the crawler — stop the crawler — it's well controlled.

[497] There's nobody on the seafloor. There's nobody down there. It's all remote-controlled upstairs — on joysticks and screens.

[498] Dr Hilke Giles:

[499] And would you then deposit the material back into a hole that was created, so you were able to adjust?

[500] Alan Eggers:

[501] No — we put it back into where we've just come from. So we're moving along, and we're putting the material back.

[502] [953 Dr Hilke Giles:

[503] But if you stop the vessel and don't dig for a while, how would that look?

[504] Alan Eggers:

[505] It could be — we could leave a few undulations, that's true. But with the shifting of the seafloor out here, you wouldn't see them.

[506] And a five-metre excavation slope, over 300 metres across two or three kilometres — an engineer can draw that cross-section, right?

[507] But it's unlikely we would be going anywhere from there — because we know from grade control drilling that it's a really valuable site, and we'd be factoring that in.

[508] Dr Hilke Giles:

[509] So the deposits — the fine seabed — you avoided?

[510] Alan Eggers:

[511] Yes.

[512] Natalie Hampson:

[513] And just to clarify — the plume only applies if you inadvertently bring up these silts?

[514] Alan Eggers:

[515] Yes.

[516] There is a plume — even with the heavy mineral sands — and there's no silts. It will be a plume that settles very quickly — because that's what they are. And it's the coarse fraction that's going back. The fines we keep.

[517] So it settles very quickly.

[518] Kit Toogood (Chair):

[519] “Very quickly” — meaning?

[520] Alan Eggers:

[521] In real time?

[522] Can I also explain — when you go to the beach with your grandchildren — used to be with your kids, but for me it’s grandchildren — when you go to the beach, you dig a sandpit and you have a good time with your bucket and spade.

[523] These are super-saturated sands — no different.

[524] So what happens is — when they go back down, they settle and reconsolidate very quickly.

[525] So when you’ve been at the beach — the next day you don’t go... the next wave comes over and fixes up your sandcastle. The kids cry, and you go home and have hot dogs.

[526] The thing is — it reconsolidates very quickly.

[527] The next day, when you walk along the beach, you don’t start breaking your ankles because you step again where the kids built their sandcastles yesterday.

[528] It reconsolidates — and you can’t see where it was.

[529] That's what's happening here. It goes back to as-is.

[530] And this plume — once we get a few hundred metres away from the actual redeposition — it's not the sucking up of the sands. It's the redeposition that causes the plume.

[531] We have 1.5 milligrams per litre of sediment, perhaps, in the water column.

[532] Once you're 10 or 15 kilometres away — it's down to half a milligram per litre of sediment in the water column. And 0.35 on this model out to 20 kilometres away.

[533] Now — by comparison — hopefully when you give us our consents, the TTR team will have a drink.

[534] And according to the laws of the land here, we're allowed up to 500 milligrams per litre of alcohol in our blood — and still be considered safe to drive on the roads.

[535] Hopefully that helps to put it in perspective — what this really is.

[536] New Zealand drinking water standards — the water in front of you on that table — allows up to 5 milligrams per litre of suspended solids and sediments.

[537] There is no plume.

[538] And I'll show you what's happening in the bight and elsewhere — there's no issue with this plume.

[539] You say, "Ooh — that's a big statement." I'll stand by it.

[540] Dr Hilke Giles:

[541] Excuse me — got one more follow-up question.

[542] You said the fine sediments will be retained and not deposited?

[543] Alan Eggers:

[544] Yes.

[545] Dr Hilke Giles:

[546] Is that the material — the fine sand — that's what you're exporting?

[547] Alan Eggers:

[548] Yes — that's what we're exporting.

[549] Dr Hilke Giles

[550] So if there are any other fines that are not material?

[551] Alan Eggers:

[552] There will be some fines — we don't get 100%. We're not extracting fines per se — but the greatest proportion of the fines is what we actually sell.

[553] Dr Hilke Giles

[554] Thank you.

[555] Alan Eggers:

[556] So that's what's going on out there.

[557] And here's what's happening in terms of that plume.

[558] These are log scales on the side — for the scientists amongst you — and this is a normal day in the South Taranaki Bight. Just a medium day.

[559] And you'll see that the concentrations of sediment in the ocean range from nothing — 0.1 — up to hundreds, perhaps up in the purple — thousands of milligrams per litre of suspended sediment concentrations.

[560] Here's our mining area. When we're operating — this is the difference.

[561] Now — yes — this looks... ooh, this is a bit bigger than this up here. I'm not disputing — it is.

[562] But look at the value — that's just over one milligram per liter of suspended sediment. Nothing.

[563] You won't be able to measure that. It will be impossible for our sensors to tell the difference between mining and non-mining.

[564] But during the 2016–17 hearings in Wellington, the Chairman wisely said, “But TTR — we can accept that.”

[565] And by the way — this sediment modelling is much more complex than that. It comes off a whole lot of percentiles and ranges — and it’s all in the data you’ve got in front of you.

[566] But what Alick Shaw— the Chairman — said was:

[567] “If everything turns to custard out there — what’s really the worst outcome that could happen?”

[568] All right — here’s when it turns to custard out there. This is where we’ve got a major storm event. This is where the turbidities — you wouldn’t believe.

[569] The whole place has gone wild — and we’re sucking sediment, say, in one of our high sediment loading areas.

[570] Just note down here — we will not be operating in these conditions.

[571] We’ve already agreed — and our proposed conditions to this panel — we will not be operating.

[572] But — and out here — here it is up the top. This is without mining. This is with mining.

[573] It’s a very hardy, energetic, turbid ocean — full of sediment — caused by natural causes. I’ve shown you how most of it gets there.

[574] This is the fact.

[575] Alison and her team — and HR Wallingford — and I think McDonald... sorry Alison, isn't it McDonald?

[576] Dr Alison McDermott:

[577] McDonald and Hatfield.

[578] Alan Eggers:

[579] Yeah — McDonald and Hatfield. They did the modelling.

[580] And Alison will tell you more about that. And it's more complex than what I've shown you here — but not much different.

[581] Of course — this is also for when we're right next to the boundary.

[582] Remember — most of the time we're going to be another 14 or 15 kilometres away from there. That's even less.

[583] And deeper water.

[584] Ah — but what about the whales?

[585] We had a lot of problems with whales.

[586] And we've spent many thousands of hours — ourselves — with aerial surveys and monitoring and hydrophones — trying to perceive whether there's anything out there.

[587] And our opponents have hydrophones out here right now — including on the Kupe platform — right here — listening for whales.

[588] Here's the blue whale sightings — over about the last 15 to 20 years.

[589] This is not on a single day. You go out here — you won't see these whales this meeting. You'll be lucky if you see one.

[590] You will see perhaps a few out here on the continental shelf, where upwelling currents bring the krill — and they thrive out here.

[591] A few of them travel through here occasionally, from the Kaikōura coast — which, as you know, is a very active coast down there. And you can go whale watching within a few metres off the coast, because that's where they live.

[592] And these whales are migratory — right around New Zealand.

[593] This is not a nursery or a breeding ground for whales — blue whales — where we are, at all.

[594] No whales have been sighted ever within our proposed area of operations.

[595] Closest sighting line — 15 kilometres to the southwest — on one day out of about 15 years.

[596] Our opponents have hydrophones out in our area, as I say — listening for whales — because it will be headline news the moment I get one in our mining area.

[597] I can assure you — it will be in the Taranaki Times site you wouldn't believe — before it gets to the scientists.

[598] Kit Toogood (Chair):

[599] Can I just ask — that previous slide doesn't appear in the version of the presentation that we received?

[600] Alan Eggers:

[601] I apologise — but I think you might be looking at a PDF and not the PowerPoint.

[602] Panel Member:

[603] I am.

[604] Alan Eggers:

[605] And the PDF often just goes to the last version. This is the next iteration of that — I'll probably go...

[606] No, that's right — so yes, we have updated things.

[607] This is the DOC marine mammal database — 2023.

[608] Remember, we're putting this together in 2024 as well — and way after we got out of the 2016 process.

[609] And here are the blue whales.

[610] As I said — there's been one sighted within a 10-kilometre buffer of the project area.

[611] Minke whales — nine, or one within 5 kilometres

[612] Common dolphins — about four

[613] Hector's/Māui dolphins — none

[614] There's one within 10 kilometres

[615] Orcas — one, and five

[616] So that's the total.

[617] No — within the now proposed area of operations — this is the modelling and predictability of whether or not we're likely to see a whale.

[618] And you can see the oil and gas industry — and us — and our tenements in here.

[619] And the black and dark purples here are really the main probability of the presence of a blue whale.

[620] We're down in this zone — you can see where they think they might travel around, and where they come along the west coast of the South Island and migrate around New Zealand.

[621] That's fine — you might see a whale out there.

[622] There's not a big whale-watching industry out of the South Taranaki Bight — because it's too far out, and there are no whales here to have a look at.

[623] Dolphins are a sensitive issue — and we are all for saving the Māui dolphin.

[624] We would contribute towards that process — no problem at all. Don't see why we wouldn't.

[625] Here's our bathymetry. Here's where we are — down here.

[626] I've told you about the little bulge in why I see it.

[627] This is the South Taranaki Bight.

[628] This is the Māui Dolphin Register — as we understand it — and the Department of Conservation data.

[629] And they think — and it's an algorithm — but they think there are 54 remaining.

[630] It's unsure whether there are actually any Māui dolphins at all — but there may well be.

[631] We certainly would like to save them if they do exist.

[632] There are quite a few Hector's dolphins — that's a different story.

[633] All of these sightings — there have been two carcasses found in the South Taranaki Bight.

[634] There might be one or two further south — out towards Kāpiti — I'm not sure.

[635] On this graphic — there are two carcasses over the years washed up in the South Taranaki Bight.

[636] All the red are live sightings — they are all north of New Plymouth, up here to Manukau Harbour, and through onto the east coast.

[637] There are no Māui dolphins where we are.

[638] All bar the Māui Dolphin Reserve — which prohibits mineral exploration or mining — has now been extended from up here to Wellington Harbour, out to this 12 nautical mile limit.

[639] It has sterilised a huge area of potential iron sand deposits.

[640] That's for another day.

[641] First — seabed. Very concerned — right beside that — we're going to kill a few birds.

[642] If you want to kill birds — put a wind farm out there.

[643] And don’t worry about noise.

[644] Our noise might affect marine mammals — and even fish — fair enough.

[645] We’ve got one stationary vessel sitting out here — basically a stationary vessel.

[646] We’ll have one or two cape-size vessels coming each month — coming for the material.

[647] And we’ve got one transfer vessel — loading and transfer vessel — operating.

[648] We have a couple of other vessels out there:

[649] Anchor-handling tug

[650] Environmental monitoring vessel — to do the environmental monitoring

[651] Geological survey vessel — to do the grade control drilling

[652] Not a lot.

[653] This here is, in actual fact, the vessel movements out there for a year.

[654] These vessels — some of them make less noise than us. A lot of them make a hell of a lot more noise than us.

[655] And you can see where we are — we'll be pretty quiet. We'll be mining our own business, and we're not causing a fuss — not affecting very much with noise or bird strike.

[656] Forest & Bird are worried about us killing a seagull that's going to fly into our vessel at night with its lights. We've got to have spotters on the vessel at all times — that's now in our application consent conditions — to look for those and mitigate it as best we can.

[657] But the biggest killer of birds around the world? Your lounge windows and front doors. That's what kills birds. They fly in — flat out — and a lot of them die that way.

[658] We don't think it's material — that our effects on seabirds will be material — and certainly not on a population level.

[659] Trawling — fishing and trawling — is active in the area. This is trawling traverses for a year. You can see it's quite a busy little area.

[660] That's where the fishing industry operates — and it's ongoing.

[661] And as I say — we've got a management agreement with Sanford. They're happy with us — we're happy as they can be, I guess — and we're certainly back talking constructively, I believe, with Talley's and Seafood New Zealand.

[662] Natalie Hampson:

[663] Will the fishing boats need to stay out of your operational area — or only away from the boats?

[664] Alan Eggers:

[665] Just away from the boats. No — they'll be able to go through the operational area. They need to give us a few hundred metres of berth from their boat — but there's no problem with that.

[666] And they probably — where we're actually extracting — they don't want to be there, because it will be disturbed. The fish will clear — they will move away from that sort...

[667] Sorry about using that language — but they will move away.

[668] Okay — Alison's here — but never mind.

[669] What do the experts say about it?

[670] Well — no, I do mind — sorry, Alison.

[671] But here's what we've got: a 3.2 billion tonne deposit. It's a world-class resource in a big, covered world — avoiding material harm — and can deliver major economic and social benefits.

[672] Extensive peer-reviewed expert reports and evidence — over 12,000 pages of it — that you have, has been provided to the committee. That supports this and shows that the South Taranaki Bight marine environment and outcomes are well understood.

[673] Here's a quote from Alison in her evidence in 2023:

[674] "The proposed mining area and adjacent area in the South Taranaki Bight are one of the best-studied shallow, exposed shelf marine environments in Aotearoa New Zealand, with the wealth of studies generated by the applicant, TTR, that add to a body of existing information. The information is the best available and sufficient for me to give my expert opinion that the effects of the proposed mining operations and resulting sedimentation on biota in the South Taranaki Bight — and in light of the

Supreme Court's findings — I have considered whether granting consent, subject to the proposed conditions, will avoid material harm, will favour caution and environmental protection in relation to the effects of the proposed mining operations and resulting sedimentation on biota in the South Taranaki Bight, including ecological effects on marine mammals. In my opinion, it will."

[675] That's what the experts are saying.

[676] It might not be what the newspapers are saying — but that's what the experts are saying.

[677] To summarise — it's here. It's a well-studied area. We've gone and got the information. The experts have done their job and delivered it.

[678] And we see that it will avoid — no, I'll change that — we know it will avoid material harm.

[679] I'll stake my reputation on it. And I've got a long reputation doing the right thing in this industry — and by the environment.

[680] I could bore you with a lot more about that — but I won't right here.

[681] But the thing is — my reputation's at stake here — and I'm proud of what we're doing.

[682] Dr Phil Mitchell sends his apologies today — as an expert planner — and he worked hard on our conditions.

[683] And in May 2023, what did Phil say?

[684] “I acknowledge the very clear and consistent opposition by tangata whenua, and all I can say is that based on the technical evidence and the environmental resources of the South Taranaki Bight — from a Western science perspective — it will not be materially harmed. I consider the granting of both marine and discharge consents is consistent with the overall purpose of Section 10 of the EEZ Act, in that it will promote the sustainable management of natural resources of this marine environment and protect the environment from pollution by regulating the discharge component of the activity.”

[685] That’s what the experts are saying.

[686] DOC opposed our first application in 2013. We were declined by the first EPA in 2014.

[687] We sat up — we took notice — pulled up our socks — and went back and had a look at the deficiencies.

[688] DOC — when we put in our second application — that got accepted, got approved in 2016 — DOC accepted all TTR’s conditions to monitoring and management plans and did not consider further conservation gains would be made by submitting.

[689] They supported our second application.

[690] I spoke to DOC as recently as today — last week. They reiterated that to me — face to face.

[691] We’ve done a lot of consultation — and it’s been ongoing.

[692] We have not stopped consulting — with communities, with existing interests — this year — and the Ministry for the Environment, the Department of Conservation, the New Plymouth District Council, the Taranaki Regional Council, the Stratford District Council, the South Taranaki District Council, the Whanganui District Council, and a part of the community board.

[693] I have presented, given information, emailed, and talked to them — the MPs for the area — we're talking to them, explaining the project.

[694] And fisheries, offshore wind, oil and gas, and the Chamber of Commerce — the ports authorities at Whanganui and Taranaki — Venture Taranaki — with strategy on our training requirements and what we need to do on those fronts.

[695] We've made many attempts to engage with iwi — and I'll tell you a bit more about that in a moment — and Paul will also be addressing that shortly.

[696] And we've got a provision for ongoing community and iwi involvement — and that's addressed in our consent conditions — and we'll refer directly to those as we go through this process.

[697] This is a snapshot. There's too much in it — and I don't expect you to actually read it.

[698] But pre-2013 — we had extensive engagement. We had Dame Jenny Shipley on the board — and she took us all to the marae.

[699] And we did have meetings on the marae with Ngāti Ruanui — and we did extensive engagement. We thought we were doing the right thing.

[700] And this is ongoing. It's extensive.

[701] And I would direct you to Tipa Waldron's engagement report in our application.

[702] We engaged Tahu Potiki and iwi at the time to do a Cultural Values Assessment — because we were unable to get a Cultural Impact Statement from the mana whenua in the area.

[703] And Buddy Mikaere's evidence — to both the Fast-track panel, sorry, to the DMC in the 2016–17 application — we made...

[704] And it just goes on.

[705] What happened is — once we got our consents granted — and then they were challenged in the courts — most parties refused to engage with us.

[706] Flat out — they said, "We don't think you'll get through this. Come back when you think you've got your consents — and we'll talk to you. In the meantime, it's a waste of energy."

[707] Despite the fact we kept on providing the information, that door's never been closed — and it's open today.

[708] And I will say, in the last few days, we have had a positive response from two of the key iwi groups — and we're very pleased to see that.

[709] Kit Toogood (Chair):

[710] Which two?

[711] Alan Eggers:

[712] Ngā Rauru and Ngāruahine.

[713] They made a statement about the panel being announced, and we responded to that. And they have suggested that we should meet — and we're happy to do so, and trying to arrange it.

[714] So that goes on.

[715] What we did do is we asked Ngāti Ruanui to do a Cultural Impact Statement — which is required. We paid for that to be done.

[716] And we got to the 2013 hearing — and it wasn't done.

[717] We then — in the 2016 application — we requested it again. They agreed to do it. We paid additional fees for it to be done. And we made many overtures to ensure that it was delivered on time for the application in 2017 to be heard.

[718] It wasn't delivered.

[719] So by the beginning of 2017, we asked Tahu Potiki to write a Cultural Values Assessment — the best we could do, because we could not get the Cultural Impact Statement we required. And we were held to ransom to some extent by that.

[720] So that's what we did.

[721] But you can see — this is ongoing engagement. And for our opponents to say, "They've ignored us and haven't engaged" — they took us to the High Court.

[722] They had a team of experts and lawyers in the DMC hearing before that.

[723] They took us to the courts. They had a team of lawyers and experts preparing their submissions for the courts — and worked through them from 2017 to September 2021, when those court processes were ongoing.

[724] We were engaged — they wouldn't believe — but they were there stating their position very strongly, which we respect.

[725] But we were engaged.

[726] They know that much about the project — it's unbelievable — because they are in great detail in their submissions to the courts and to the hearings.

[727] And then again, when we went to the Hāwera hearings.

[728] So as I say — I don't expect you to read this — but this is just ongoing, with our engagement process.

[729] So in 2013, we employed a full-time iwi Community Relations Officer — Kevin Waldron. He's a fantastic guy.

[730] And we actively engaged with groups and provided them with information.

[731] We had a formal stakeholder engagement and presentations to a wide range of groups in the area — from recreational fishing to local authorities, to all iwi groups that let us through the door.

[732] And I think in October 2015, digitally and hard copy stakeholder engagement packages were delivered to anybody that wanted them — and we did extensive roadshows.

[733] Okay — I'm now going to give you some...

[734] Why is this project important?

[735] We're now into the economic benefits.

[736] Kit Toogood (Chair):

[737] Mr Eggers — it's 12:30. Do you want to break?

[738] Alan Eggers:

[739] I think we'll get there.

[740] Kit Toogood (Chair):

[741] Okay — thank you. We'll break at whatever time is convenient.

[742] Alan Eggers:

[743] Thank you.

[744] Iron ore — with a lot of money, as I say — the major mining companies in the world, all the biggies, make it out of iron ore.

[745] And it's pretty stable.

[746] Here's from 2021 to now — I think this morning it's $101.

[747] By the way — all the dollars I talk about here are US dollars — just so you get it in context.

[748] And it's around about $101 — this morning I looked.

[749] It did get down in 2016 — it got down to around about $70 or $80 — but it's not too bad.

[750] This project made billions and billions when it got up to $226.70 a tonne back in July 19, 2021.

[751] It was a black gold mine — unbelievable.

[752] Gavin Kemble

[753] What caused that spike?

[754] Alan Eggers

[755] China — and the rapid growth and construction and building in China.

[756] So — but today, iron ore prices are pretty good — around about $100.

[757] Our PFS actually uses $90. We discounted it forward — and then there's a discount on that for the material we produce.

[758] So we're going to get five million tonnes a year and ship it out in these large vessels — and that's 57% iron, 11 pounds of vanadium, and 85% TiO_2 — titanium dioxide.

[759] That produces 18,000 tonnes of vanadium pentoxide — which translates to 10,000 tonnes of vanadium metal — the rest is oxygen. Once it's an oxide, the rest is metal — so about 10,000 tonnes of metal.

[760] And we have 325,000 tonnes of titanium dioxide.

[761] And the concentrate — as it leaves the shores of New Zealand — a bit about royalties in a moment.

[762] At the moment, China produces about 40,000 tonnes of vanadium metal a year. Russia — about 12,000 tonnes. South Africa — about 5,000 tonnes. Brazil — about 3,000 tonnes.

[763] So about 60,000 tonnes a year are used around the world.

[764] And this is January 2025 — US Geological Survey data.

[765] Dr Hilke Giles

[766] Is that China and Russia — is that from an offshore resource or is that from onshore?

[767] Alan Eggers:

[768] No — no, it's from reprocessing — mostly slags out of steel production.

[769] So if we produce this — we're going to produce — we know we can get circa 77% of the vanadium amount. We've done all the work.

[770] Robertson Research here in New Zealand have helped us enormously with this.

[771] We can get 10,000 tonnes of vanadium out of this each year.

[772] That puts New Zealand at the forefront — the Western world's largest producer of vanadium — and the world's third-largest producer within a material amount.

[773] So this is truly significant for New Zealand — and for TTR.

[774] This is major.

[775] How are we going to do that?

[776] We've got to spend a lot of money to do that.

[777] We're going to invest a billion dollars — Kiwi — or $600 million US.

[778] You can see here where we're going to spend that money.

[779] There's a pie chart here — too fine for you to read from your desk square — but we've got:

[780] Vessel hull, equipment, and integration — that's basically an empty vessel. Some people might say that's about what I've got above my shoulders — but let's hope not.

[781] The processing plant we put on top of it — $163 million. That's a very expensive piece of kit that we load on top of this vessel to process the minerals.

[782] Dewatering equipment — we put on the transfer vessel to dewater it — because we flush this material with fresh water from the reverse osmosis plant.

[783] That water gets dewatered — and goes back into the ocean where we sucked it from. It's slightly saline when it goes back in — but we put in a highly saline brine beside it — where we're using the reverse osmosis plant. So that's a balance — that balance is zero.

[784] The crawler — two of them — about $100 million.

[785] 80-megawatt power station — $66 million.

[786] Desalination plant — $22 million.

[787] Planning, engineering, and management.

[788] Anchor-handling vessel — $5 million.

[789] Environmental monitoring vessel — about $5 million — sitting out there doing this work.

[790] Geological survey vessel — about $10 million — because it's got all the drilling equipment and things on that as well.

[791] These are very specialised bits of equipment.

[792] And we've got a risk in here — about 14% or something like that. That's normal — it's a prefeasibility study.

[793] We don't know — we've got to get our approvals — and then bankers and others will do a bankable feasibility study and firm up these figures.

[794] But that is 2025 — 2025 figures.

[795] Kit Toogood (Chair):

[796] Is that information broken down in detail in the application process?

[797] Alan Eggers:

[798] Yes — and in the PFS study.

[799] Kit Toogood (Chair):

[800] Does that tell us where that expenditure occurs — whether it's in New Zealand or overseas?

[801] Alan Eggers:

[802] Yes — and there's a breakdown of that.

[803] I think only about 10% of that capex is in New Zealand. And that is in the documents — absolutely.

[804] Natalie Hampson:

[805] Just checking — the geological vessel — is that the one you already own?

[806] Alan Eggers:

[807] No — we don't own one.

[808] That belongs to New Zealand Diving and Salvage. They've done all the work with us — and we work with them — and they are the people that we'll engage to take you out there.

[809] Alan Eggers:

[810] There's capex — which is an investment — mostly overseas, true. I think about 10% of it is in New Zealand. The breakdown is here.

[811] Opex — we're going to spend $250 million a year in the local community.

[812] Well, I'll tell you where we're going to spend it.

[813] This year, we expect the crawler is going to cost us about $1.29 a tonne — US figures again, dollars.

[814] The integrated mining vessel — about $15 a tonne.

[815] Floating storage and offloading vessel — basically a hire situation. These vessels exist to be just hired. We can bring it in tomorrow morning — about $7 a tonne.

[816] Our anchor-handling vessel — $1.85 a tonne.

[817] And an environmental monitoring vessel — $1 a tonne.

[818] So that's $5 million US we'll be spending on operating costs to do the environmental monitoring — which is about $10 million NZD. A lot.

[819] Now — who are we spending this money on?

[820] Leasing — that's the transfer vessel.

[821] Fuel's a big one — a very low sulphur fuel we use — the lowest emissions possible. We're burning about 7,000 tonnes of fuel oil a month — quite a lot — but that's it. That's all we do.

[822] Repairs and maintenance.

[823] Labour — that's people, staff.

[824] Insurance — we have, I've got to get my number right — $500 million public liability insurance. It has to be kept alive for the 30-odd years to ensure that if there are any adverse effects in New Zealand, the EPA can claim on that policy and fix it up. That's the case — if that happens.

[825] Miscellaneous costs.

[826] Environmental monitoring and training — we'll handle a large training process underway.

[827] We're establishing a logistics hub and a training institute in Hāwera as well.

[828] We'll have choppers going from New Plymouth to Hāwera out to site.

[829] We will train people in the local community — it's in our proposed conditions that we will give them preference for jobs and training.

[830] So that's where the operating costs will be — $250 million a year in the local district operating this — whether we make a dollar or not.

[831] Of course — if it's not making too many dollars, we'll stop. That's true.

[832] But that's what it just costs us — the base load — to keep going.

[833] So — summary:

[834] Capex — about $1 billion NZD, or $600 million USD

[835] Operating costs — about $27 a tonne

[836] But we're going to get about $78 worth of value — that's $90 worth of iron ore, with a 13% discount because you get a discount on 57% Fe compared to 62% Fe — which is the standard global benchmark

[837] There's a lot of iron ores out of Australia of much less than this grade — but a lot of them are around 55%, particularly FMG. It's quite normal.

[838] There's a sale for these products — and we're exporting it at the moment.

[839] Waikato North East mining is putting it into Glenbrook — and I can tell you more about that if you want — but it's being mined and sold.

[840] As well as, of course, for over 50 years now, from Waitipi — it was exported. That's all there — closed now — on the Taranaki coast where we are — and rehabilitated. It's now a housing estate.

[841] So that's what happens to all mines.

[842] And we get $23 worth of vanadium — gives us a concentrate of about $100 USD a tonne.

[843] For the economists among you — that's currently all discounted at a 10% NPV — which is a discount rate of 10% interest.

[844] As we know, interest rates are a lot more than that at the moment — and I could do a... I have done — and we've got a sensitivity analysis, and I can take you through the various prices of iron ore and discount rates, and you'll see how it affects it.

[845] But this is just the middle of the road — and a 10% discount rate is normal for a PFS.

[846] When we get to pre-bankable, we'll probably bring that — we'll tighten that up — and bring it down to perhaps 5 or 6% NPV discount.

[847] But you can see — it's not a bad profit here.

[848] If it's costing us that — and the payback of this takes 18 months — we get that — there's quite a difference.

[849] It's a very, very profitable project.

[850] It will return those profits to investors.

[851] As I said — 30% of those are Kiwi.

[852] We would welcome this company to be 100% Kiwi — it's not going to happen. It will not happen.

[853] And I'll tell you why — not because I'm not a Kiwi — I'm very proud to be a Kiwi — but because all major mining projects around a billion dollars plus require foreign investment.

[854] That is the case in Australia as well.

[855] There's not a single project in Australia — of a billion dollars or more — that doesn't get foreign investment in it.

[856] And if you think about it — BHP and Rio — anyway — are foreign companies because their listings are funded out of Hong Kong, London, and the US. That's where they're funded from.

[857] But they require foreign investment.

[858] Woodside — out of Perth, where I lived — is currently developing another gas field off the northwest shelf. It's a billion-odd dollars — and that's on foreign investment.

[859] They themselves — some of the world's largest oil companies — are seeking foreign investment for their projects.

[860] There are no New Zealand mining companies.

[861] All New Zealand substantial mining companies — this is a substantial application — are all Australian or Canadian listed.

[862] There are no heavyweight mining companies here.

[863] I got one going back into the '70s — sorry, '80s — and had to shift it to Australia to get the depth of equity and capital markets to build that company into what was then a $1.5 to $2 billion company.

[864] But you have to get foreign investment — and it's good for the nation.

[865] Remember — we'll be upsetting, minimum, $850 million of foreign exchange credits each year here.

[866] But looking for a sleeper down the bottom — and Robertson Research are working very hard — and we think we can also get credit for the titanium.

[867] This is a certainty — we know about this.

[868] And as I say — TTR are exporting at the moment.

[869] There's a tenement in South Africa exporting VTM product into China at the moment — and they are getting the credits.

[870] In fact, they're getting much more than this per tonne — because of the vanadium.

[871] If we can finalise how we get this last bit of titanium out of the residues when we process this — these figures will go through the roof.

[872] But so will the royalties to the New Zealand government — because they say, "Well, we don't know. If you go and do all that offshore, we won't get the credit for the titanium or the vanadium — and we won't know."

[873] Here's how the royalties work — very simple.

[874] We have to pay to the Government of New Zealand:

[875] 2% royalties on revenue — if we sell anything, automatically — even if I'm not making a profit — 2% of revenue (not profit) goes to the New Zealand Government

[876] As soon as we make a profit — 10% of profits go to the Government

[877] And we have to pay whichever is greater — 2% of revenue or 10% of profits

[878] So if we're getting paid for the vanadium and titanium offshore — and it goes to our bottom line — it'll be a profit, and we pay royalty.

[879] So the New Zealand Government will get credit for it. The New Zealand community will get credit for it.

[880] Natalie Hampson:

[881] Can you just explain a bit more — you've indicated how much titanium resource there is?

[882] Why is it you don't know if you can extract it?

[883] Alan Eggers:

[884] We do know that we can extract it. In fact, we're getting up to 70-odd percent — 77% recoveries — and there's a report, which you have in there.

[885] The problem with it is — at the moment — I have a code of ethics that I'm bound by, and I report to the Australian Stock Exchange.

[886] And until we can demonstrate that it's marketable — and we can have an off-take agreement for it — I am not allowed to put it in my figures.

[887] Kit Toogood (Chair):

[888] Do you or your evidence explain that opportunity in more detail?

[889] Alan Eggers:

[890] Yes. Yes — and it's in the PFS study again.

[891] Go to the Metal Edge Store Report by PCAP — I think they wrote it in March 2025 — and it's there.

[892] Natalie Hampson:

[893] So you believe it will be?

[894] Alan Eggers:

[895] Yes. Yes — we certainly do.

[896] But we're not making wild claims about it until we can prove it. As I say, it's part of what I'm bound by in reporting to the Australian Stock Exchange.

[897] Gavin Kemble:

[898] So how does one prove that?

[899] Alan Eggers:

[900] We have, effectively. It's not now a matter of proof — as I said, it's a matter of getting off-take agreements for it.

[901] So we've got to go now and get off-take agreements to take that.

[902] As soon as we're able to table one of those, we're allowed to put that in our forward-looking statements and put it into the resource statement.

[903] Gavin Kemble:

[904] Okay, thank you.

[905] Alan Eggers:

[906] We do think we can refine out a bit. There's a little bit more metallurgical process flow — if you're into something — very quickly, how that's done.

[907] We hit the titanomagnetite — the black sand — we use a salt roaster, and that roasting reduces the volume of the sand by around about 30%.

[908] But we wind up with pig iron and vanadium residue, with the titanium going to a slag.

[909] The pig iron — we've got two-thirds of the volume we had for iron ore — but pig iron is a direct feed to a blast furnace, and is worth four times as much as iron ore.

[910] So we do that process — we've got a very valuable leftover in pig iron.

[911] So we lose volume — but we've got three to four times the value in US dollars.

[912] Then we get the vanadium — we can get the vanadium straight out of there.

[913] Through SXEW — which is a technical term for solvent extraction and electrowinning — we can get that out.

[914] And we're left with the titanium in a slag.

[915] Now — what we need is a market for that.

[916] And there's a lot of work being done on that — from the steel industry as well — here in New Zealand — trying to sell their vanadium and titanium credits out of this slag from Glenbrook.

[917] Natalie Hampson:

[918] So that salt roast process — is that something that could be done on the ship?

[919] Alan Eggers:

[920] No — that's... no, we couldn't.

[921] The ship's not big enough for that.

[922] And we've also been asked — well, would you bring that onshore to New Zealand?

[923] The short answer to that is no.

[924] I'll tell you why.

[925] If we're taking — as a small company — and New Zealand has very high environmental standards, which we applaud — but there's a lot of work to go through to get something done here.

[926] If we bring 5 million tonnes of iron ore up Port Wellington — we're not going to be very popular.

[927] We're going to need a big rail system to shift it — or we're going to have to take it to another port somewhere.

[928] We could get it into Taranaki — but it's too small.

[929] Nelson's a vague possibility — maybe Littleton — but then we'd need rail infrastructure, land, and holding sites for large volumes of material. 5 million tonnes a year is a lot of stuff.

[930] Then we're going to have to go and find a piece of land and go through an approval process — we're going through that process right now — and deal with the emissions, deal with the water contamination problems, deal with the alkalines and the acids and the disposal of those.

[931] I've got grey hair — white hair, actually — and I can tell you, I haven't got time in my life to go through another 30 years of trying to get a project like that up here.

[932] If we can — and if New Zealand can do it — and you've got some great scientists here — if we can get it in the future, let's do it.

[933] But it's not as simple as doing the science and getting on with it.

[934] This approval process is a major part of any operation you're thinking about that might be commercial and employ people — anywhere in the world — particularly here in New Zealand.

[935] So you've got to keep that in mind when you think about business.

[936] Whereas there are plants operating in the US, the EU, and in Korea and Japan that can do this right now — and are operating with all the approvals in place — obviously ticking away.

[937] So we can get it done — but not here.

[938] And just imagine road freighting 5 million tonnes a year up Transmission Gully...

[939] So I'm getting now just about to the end — to the replacement moment.

[940] Regional and local benefits — 20 years of my life.

[941] We've got a 60-year resource — that's there. I won't harp on about that.

[942] But we've got 3 billion tonnes — and in 20 years, we'll extract 1 billion tonnes — or 50 million tonnes a year over 20 years.

[943] We'll have — it's not fly-in fly-out — we'll have a head office in New Plymouth, and a Hāwera training and logistics base, which I mentioned.

[944] We'll directly employ 300.

[945] The vessel takes up about 270 operational staff — and that's because we've got about 125 out there at any one time.

[946] We'll be turning them over — two weeks by two weeks — but not a whole lot every two weeks. Every day, 10 to a dozen to 15 will be transferred — and it's a slow migration through the team as the operation goes along.

[947] We're going to have about 30-odd people on the geological survey vessel, the marine monitoring vessels, the anchor-handling tug, and things as well — to support.

[948] So they'll be going on.

[949] And we'll have about 35 in marketing, head office, health and safety, HR — and on we go — in New Plymouth.

[950] It is a challenge to get the skilled professionals we need to come to places like New Plymouth — and that's a worldwide problem.

[951] Many of the people that we need — much younger than me — but they are in their mid-40s to 50s — they've often got children heading into universities and things, and they want to be living in places like where I live most of the time — in Perth.

[952] And there's good reason for that — it's the mining capital of the world — good universities, good services.

[953] And they say — and more accurately, the wife says — "You can go off over here, you can do that. I'm not going. We're staying here — my kid's going to university."

[954] So it's a bit of a challenge to get the life professionals.

[955] With COVID and some of the things that have gone on recently in geopolitics — now settling things in Europe and the US, perhaps, and Asia — there's a lot of professionals today now becoming quite keen to come back here.

[956] There's a huge number of Kiwis in Perth — I don't want to harp on about it — Perth is a city full of people in the mining industry — like myself.

[957] There's a lot of them over there — and a lot of my people keen to come back.

[958] So we want to get them back — but we also want to train locals.

[959] We want this to be local.

[960] We're here for 20 years — and I'd like to think in the future for many more.

[961] Responsibly mining, responsibly looking after the environment, and getting those skills and that knowledge back to the entire community — as well as doing the environmental monitoring.

[962] Natalie Hampson:

[963] Just before you go off the staff issue — I noticed the Social Impact Assessment was referring to a head office in Wellington?

[964] Alan Eggers:

[965] Yes — that's true.

[966] That was the original plans back in 2016–17 — was to have it out of Wellington.

[967] And that was for the reasons I've just explained — it's hard enough to get people into the regions here — never mind...

[968] Yeah — but I think people like Waihi and McCallum's have shown that you can get good skilled staff back into these regional areas — and we'd like to perhaps replicate that and see if we could do that.

[969] Alan Eggers:

[970] That's a change in plan.

[971] Natalie Hampson:

[972] And just clarifying — how do those staff on these two-week rosters get back and forth to the ships? How are they ferried?

[973] Alan Eggers:

[974] Yep — it's the same as the transfer — it's the same as what the oil and gas industry are doing at the moment to the offshore oil platforms in Taranaki — and have done for 30–40 years.

[975] Natalie Hampson:

[976] So you outsource that service? You'll be paying some other service provider?

[977] Alan Eggers:

[978] Oh absolutely. We're not going to fly them ourselves — put a sign on the side of it.

[979] We will get international helicopter groups — they're doing oil and gas up there too — we've engaged with them.

[980] Everybody's got to go through health and safety and survival courses — even just to go on the choppers. There's an institute there, Woods Training in New Plymouth, that already does that. We're working with them, we're talking with them, and we'll have an agreement with them to do all that.

[981] We'll stick to our net. Thank you.

[982] Okay — there's a charitable trust or two to be put in place, and they are actually managed by the regional council and the locals.

[983] Gavin Kemble:

[984] You haven't touched on the improvements you're proposing in Taranaki and Whanganui and the ports.

[985] Alan Eggers:

[986] Sorry — yes. We have spoken to Port Taranaki and Port Whanganui.

[987] Port Taranaki will need a hardstand area — quite a large one — because all of our plant is modular. If anything goes wrong with any part of it, we can extrapolate part of the reverse osmosis plant or the power system — it's 18-megawatt units. We can lift one off with our equipment, put it on our anchor-handling vessels, bring it in, get it serviced, take another one out, and pop it on.

[988] That's the engineering. If anything goes wrong, it's all modular. We bring the equipment in to Port Taranaki, get it fixed, and take it out — and we're able to carry on in the meantime.

[989] We're actively talking to them. They've got an area there that's suitable for that.

[990] And Whanganui Port — we want to run the environmental monitoring vessel and the geological grade control vessels — both very important — out of Port Whanganui. It's a shorter trip for them. We can get in and out daily as we operate. They may stay out overnight at times when the weather's right, but that is the closest port.

[991] Rather than 170 km from the mine site around Mount Egmont to Port Taranaki — and it's exactly 170 km to Port Nelson — Whanganui is only about 40 or 50 km away.

[992] Gavin Kemble:

[993] Thank you.

[994] Alan Eggers:

[995] So for the nation — there are 1,300 jobs. That's from the New Zealand Institute of Economic Research — independent analysis.

[996] We'll pay $55 million in royalties — and some of that may go to Royalties for Regions, if various political parties get their way. But I'm not here to promote that.

[997] We'll add $136 million a year in corporate taxes. That's nearly $200 million a year, discounted at the moment — we think it'll be higher. $200 million a year.

[998] We're not going to put a pothole in the road. We're not coming anywhere near demanding water or services of any sort — or power.

[999] This is how it works out — and how those royalties will be paid. The more profitable we are, the higher that will go in terms of corporate taxes and royalties.

[1000] $495 million at the moment in foreign exchange earnings. The New Zealand dollar is currently collapsing — so that would be over $900 million per annum right now on the same figure.

[1001] And as I say — a billion-dollar investment. It is meaningful in terms of the industry statistics here. We're exporting about $1.46 to $1.5 billion in metals and mineral products a year. They want to double that by 2035. We'll add $900 million to that.

[1002] So think about that — we're going to achieve what the people in Wellington want virtually overnight.

[1003] It's been a struggle. It's been very tough — the approval process. I've had 12 years and $88 million over.

[1004] Eventually the EPA, DMC hearing process — three times. I'm not going to labour on about these things.

[1005] There's a new application under new law. We'll keep going.

[1006] We've had court challenges — including the Supreme Court — which focused on legal definitions and the purpose of the EEZ Act legislation, the DMC Panel grants process and their write-up, and how they justified their decision. Certainty of information principles — which are rapidly getting out of my depth line here — but that's what we're being challenged on.

[1007] Tikanga and Treaty issues were not even on the radar when we applied. But by the time we got to the Supreme Court in 2021, they were — and Treaty and the application of taonga principles, which Paul will talk more about shortly.

[1008] So they're not about the project, the environmental impact protection, or conditions — they were about the law.

[1009] Now, we've had a large number of challenges as well.

[1010] There's a dolphin reserve put in place all along that coast — which allows Harbor Dredging, surveys for oil and gas, and oil and gas production, and some fishing — but does not allow any mineral exploration or mining activity.

[1011] We put a very good case when Eugenie Sage put that up as a proposal — and we put the evidence and science before them that we would have no effect on the dolphins. Hopefully we've demonstrated that to you — and it's in the application, the backup data for that.

[1012] That didn't happen. That went in.

[1013] And the only reason we've still got our project is they would have to compensate us by taking a tenement off us within that 12-nautical-mile limit. It's a statutory right. They couldn't do that without compensation — so they chose to leave us there, hoping we would go away.

[1014] So I believe that reserve is more about banning seabed mining than it is about saving dolphins.

[1015] Okay.

[1016] Then in 2023, we had an inquiry into seabed mining — a government inquiry. They decided they'd better have a look at us and see what we're really up to.

[1017] So I presented to that. I presented them digital and hard copy — 12,000 pages of information on seabed mining and what we're doing off that coast.

[1018] The response from the chair of that inquiry was:

[1019] "Mr Eggers, we do not want that information."

[1020] Her next sentence was:

[1021] “The problem we have here is there is insufficient information about seabed mining for us to be able to assess what’s going on.”

[1022] Here’s the information — we’ll present it to you, we’ll give it to you, we’ll go through it.

[1023] No.

[1024] That information was given back to us and rejected. We Gavin Kemble it to them in digital form and hard copy — 21 boxes of hard copy. They didn’t want it.

[1025] Te Pāti Māori put a bill into Parliament to ban seabed mining. Luckily, that didn’t get anywhere — as far as we’re concerned. I’ve got to be honest — luckily it didn’t get anywhere. But that was simply a bill to ban seabed mining.

[1026] They’ve had a go at it from every angle.

[1027] Then this year, they went to the Waitangi Tribunal and said:

[1028] “Come on, stand up and ban seabed mining.”

[1029] And I think the response to that was:

[1030] “No, we won’t do that — but we’ll wait and see what the outcome is, and hopefully there’ll be a fair hearing.”

[1031] That's my understanding of what the Tribunal said — only a month or two ago.

[1032] Our opponents — who bought shares in the company — have attended meetings, disrupted our meetings illegally, locked up the New Zealand Minerals Council in their office — all publicity stunts to raise money.

[1033] And they've reported us recently to the ASIC — if you like, the police for me and listed companies — the corporate regulators in Australia — and the ASX.

[1034] With complaints — and they got headlines here in New Zealand in the paper.

[1035] We've never received a complaint from the ASIC or the ASX. Anybody can complain to them — it doesn't mean it's a valid complaint. And we've never heard from them — and we're fine.

[1036] They say it was over my disclosure of our resources and our project — and that we were misleading the public.

[1037] Well, I'll stand here and say — good luck with that. I'm very straightforward. We are very transparent in what we've been doing — and the information's there for anybody to see.

[1038] Including right now — anybody can go to your very own Fast-track site and access any piece of information they want. And it's on our website as well.

[1039] And now the Energy Minister, the Honourable Simon Watts, is seeking advice to restrict seabed mining and space allocation offshore.

[1040] I've made a submission to senior officials on that — and just to give some perspective on where we're at. Hopefully I've explained some of that to you here today — why we can coexist out there, but not right on top of each other.

[1041] Righto — I reckon I'm just about there.

[1042] So, during the approval process — over 10 years — the Supreme Court took the unusual action of inviting the Attorney-General's Office, Crown Law, and the EPA to make submissions to the Court. It's very unusual, as I'm sure the Chair will acknowledge.

[1043] The Attorney-General was granted leave by the Supreme Court to intervene on legal issues in an appeal between the project manager, TTR, and iwi, fishing, environment, and conservation groups opposed to the project — South Taranaki iwi, Ngāti Ruanui.

[1044] A submission by the Attorney-General's Office to the Supreme Court was said to have bolstered the project — and was criticised as an attempt to prop up the mining industry.

[1045] Ngāti Ruanui suggested that the Attorney-General's intervention risked an environmental disaster.

[1046] Hopefully, myself and the experts have explained that we don't think there's any environmental disaster out here to be found.

[1047] Their submissions covered the Treaty of Waitangi, Māori customary interests, and the application of te ao Māori and taonga principles to marine discharge consents under the EEZ Act — this is in the Supreme Court. This is Crown Law.

[1048] We agreed with them — and we believe those submissions supported our position. They're there for anybody to read — they're in our information, and I think most of those decisions are all sitting in the application. If not, they're certainly publicly available.

[1049] So that's about me.

[1050] It's an opportunity to develop a $1 billion export industry. It propels New Zealand into the top range of producers of critical and essential minerals — and green steel feed. I've told you about that — low-carbon steel. In fact, this material, with hydrogen in the future, can decarbonise steel and avoid the use of coal. That's another story.

[1051] It's a proven technology solution with experienced operators — 300-odd years from Royal IHC, and 35 years — going on 40 — of seabed mining. TMC Marine was built to commission, operate, and train people to operate this technology offshore. That's the agreement we have with them.

[1052] We've got a world-class resource with low operating costs. You've got to have low operating costs — or you'll get knocked out of business by the rest of the world. We've got that.

[1053] We've got a small footprint, and we believe it's environmentally sustainable. And it's for us to convince this panel — and the community, importantly — that that is the case. And we won't resile from that.

[1054] We'll go out there, we'll give them the information, we're transparent, and we'll deliver it.

[1055] It'll be one of New Zealand's largest export earners, a major employer of high-value jobs. The average salary in the New Zealand mining industry is $101,000 a year. The average salary in New Zealand is $66,000 a year — that's current stats.

[1056] These are high-value jobs. We pay well. We want people to work well, and we want to look after their wellbeing.

[1057] It's not a low-care industry with picks and shovels. We use really high-tech gear — IT people, economists, geologists, engineers, ecologists, marine researchers. That's who we're using. And that's who's employed and engaged in this industry.

[1058] So we'd like that green light. We make no apologies — we're here to get through an approval process. We're not here to educate — or particularly to listen to me.

[1059] We think we've provided the information — a very comprehensive application. It is not yesterday's application — it's current. And we think we've got a good set of operating conditions and management plans proposed.

[1060] And we believe that seabed mining and recovery is part of the solution.

[1061] Because my final statement is:

[1062] We live in the metal age and the technology age.

[1063] We do not live in the Stone Age.

[1064] If you want to go back to that, that's fine — but I'm not going down. I'm not taking my children and my grandchildren there.

[1065] We have the highest standard of living because of metals. Everything we use, everything you do, is dependent on metals and technology. And New Zealand should be part of that — not exporting pollution somewhere else, if that's what's happening.

[1066] We should be part of that — and proud of what we do.

[1067] There's nothing that you do — from your glass of water, to flushing your toilet, to your fridge, to getting your food — your food is no longer gathered in the fields with a stick.

[1068] Your food is produced by GPS, satellites, and John Deere tractors. It is transported by high-tech trucks, refrigeration, supermarkets, packaging — to preserve that food. A lot of it is irradiated using nuclear science to make it last longer.

[1069] We live in a technology age.

[1070] The highest conservation in the world is not where you don't have mining.

[1071] I've worked in Asia, Africa, and South America — where you don't have mining, and you don't have a high standard of living.

[1072] Have a look at your conservation. Have a look at the rivers. Have a look at your coastline. Have a look at your sanitation. Have a look at your national parks. They are polluted — because people need to be in there doing things.

[1073] New Zealand has magnificent state parks and national parks — they're fabulous — because we can afford them. And we can afford to look after our waste. And we can afford to have a high standard of living — based on metals.

[1074] I'm not going back — and I don't believe my grandchildren should have to.

[1075] Kit Toogood (Chair):

[1076] Thank you. Thank you very much, Mr Eggers. I greatly appreciate that.

[1077] We'll take a break for lunch.

[1078] Kit Toogood (Chair):

[1079] After lunch, we'll have Paul Majurey, who has patiently sat through Mr Eggers' monologue.

[1080] So, 12... so, 10 past one. We'll resume then.

[1081] Thank you very much.

End of part two

Start of part three

[1082] Morgan Slyfield:

[1083] Just before Mr Majurey speaks, there's one matter I wanted to clarify — in response to your question this morning with Dr Giles about where you might find the updates and some direction.

[1084] I don't know if you've seen this, but one of the memoranda filed by TTR with the Panel Convener includes a summary of the relevant sections within the IA — the Impact Assessment — that contain the references.

[1085] That's the 4 August memorandum.

[1086] Hopefully that gives you exactly what you're after — but if you need more direction than that, please come back to us.

[1087] Paul Majurey:

[1088] As you may have seen in the PowerPoint, there's a series of bullet points I'll speak to — recognising that this is a presentation opportunity, not the merits hearing itself.

[1089] There are a number of crisp points I can make in addressing the framework. Just to set the scene: I wear various hats, and I've practised in this area for a number of years. I'll address matters relevant to my role, particularly in relation to Treaty jurisprudence and tikanga Māori.

[1090] Starting with the Supreme Court decision — as the Panel is likely aware, under the EEZ Act, the Supreme Court addressed two key matters:

[1091] Treaty principles

[1092] Tikanga Māori

[1093] By way of reference, paragraphs 8 and 9 of the Supreme Court decision summarise those matters.

[1094] This was relevant because the EEZ Act includes:

[1095] Section 12: Treaty principles

[1096] Section 59: Existing interests and other applicable law, which brought tikanga into the merits consideration

[1097] To round out the context: the TTR memorandum dated 4 August — also reflected in the Panel's minutes — highlights that the legal framework before the Supreme Court is very different from what is before this Panel under the Fast-track Approvals Act.

[1098] For example, paragraph 7 of that memorandum addresses this point directly.

[1099] As the Panel is aware, the Fast-track Approvals Act does not include a Treaty principles clause. Instead, section 7 outlines relevant considerations, including obligations under existing Treaty settlements and recognised customary rights under other legislation.

[1100] TTR's position is that none of those considerations apply in this case — there are no overlapping existing settlements or recognised interests within the application area. Therefore, sections 82 and 84 do not apply.

[1101] To assist the Panel, I'll reference two recent decisions under the Fast-track Act:

[1102] Ngāti Kuku Hapu Trust v Environmental Protection Authority

[1103] Judicial review of the acceptance of a fast-track application

[1104] Citation: 2025 NZHC 2046

[1105] (Justice Gendall)

[1106] Ports of Auckland Panel decision — regarding Bledisloe Wharf, which addressed section 7 considerations

[1107] I can speak further to these if the Panel wishes during questions.

[1108] In terms of Treaty principles, the High Court decision by Justice Gendall (paragraph 46) makes it clear:

[1109] "The principles of the Treaty of Waitangi are not referred to in the Fast-track Approvals Act. Instead, the Act provides that those exercising functions, powers, and duties under it must act consistently with obligations under existing Treaty settlements."

[1110] The Court makes a similar point about tikanga Māori in the next sentence:

[1111] "Tikanga appears only to be referred to in relation to conducting a hearing on a fast-track application."

[1112] These are two key examples of how the legislative context before this Panel is very different from that under the EEZ Act.

[1113] Turning to consultation — as the Panel has heard extensively, section 11 outlines the consultation requirements.

[1114] TTR's position is that it has met the requirements of section 11.

[1115] Finally, regarding decision-making parameters — section 85 clearly defines the scope of reasons the Panel may rely on in making its decision, which differs from the broader scope under the EEZ Act or RMA.

[1116] These matters will be live during the merits phase, and parties will make their representations accordingly. But I wanted to set the framework for any discussion the Panel may wish to have.

[1117] Kit Toogood (Chair):

[1118] Can I ask a procedural question?

[1119] What would you suggest is the best way for us to engage with the applicants and commenters on a discrete issue — the legislative differences and the application of tikanga or Treaty principles — which is essentially a legal issue?

[1120] Would you envisage a hearing on that issue as a discrete matter?

[1121] Or would it be more appropriate for the Panel to state the issues and receive written responses?

[1122] What's your view?

[1123] Paul Majurey:

[1124] The legislation makes clear that the Panel has discretion and jurisdiction over the conduct of the process.

[1125] As you've touched on, I'm not aware of how other parties wish to approach these considerations at this stage. But just for context:

[1126] There are a variety of ways to address this, as you've indicated.

[1127] In the applications I've reviewed — not personally involved in — panels have approached this contextually.

[1128] This is a very different type of application, given the background Mr Eggers has outlined.

[1129] Many of these matters have already been ventilated in substance — but recognising the different regime, and the clear intent of Parliament, it's important to consider how these matters are traversed.

[1130] Substance and efficiency are clearly relevant to how matters proceed.

[1131] So my suggestion is: the Panel should adopt a process that allows parties to express their views in a way that is efficient and effective — that's the best way forward.

[1132] Now, that's going to be context-dependent — on when the Panel gets to the point of making an assessment of how it wishes to proceed.

[1133] Kit Toogood (Chair):

[1134] I think the guidance shared by the conveners makes the comment that sometimes a hearing is a much more efficient way of addressing a particular issue, rather than exchanging memoranda and all that.

[1135] So I'm just wondering whether you have a view — I know we'll have to ask participants as well — on whether or not it might be appropriate to have a discrete hearing.

[1136] Because one of the unusual features of this application, of course, is the fact there's been so much consideration of the project on different grounds.

[1137] So how far can we go in taking account of what the Supreme Court said — or what some other hearings have said — given that we're in a materially new environment?
[1138] So that's the issue.

[1139] Yes, yes — and I wonder whether that might not be usefully wrestled with by some law in front of this Panel, as a discrete area.

[1140] Paul Majurey:

[1141] Two further things occur to me on that, which I hope are helpful to your guidance.

[1142] First, there's a cascade of approaches that could be taken — starting on the papers and seeing how the Panel feels about that.

[1143] Related to that is a question for the Panel: how clear is the topic, in terms of the two sets of legislation being very, very different?

[1144] If the answer is quite clear in terms of how the Panel sees it, then the question becomes — is a hearing really necessary?

[1145] Hence why a cascade approach could be the way to navigate that.

[1146] Kit Toogood (Chair):

[1147] Yes, yes — I think probably if we were to have a hearing, we'd ask for some material first, to start everybody off.

[1148] All right — that's helpful. Thanks.

[1149] Paul Majurey:

[1150] Okay, thank you. And with your leave, Chair, I'll depart at this point.

[1151] Really nice to see you.

[1152] Kit Toogood (Chair):

[1153] You too — see you soon. Thank you.

[1154] Dr Alison MacDiarmid:

[1155] Good afternoon.

[1156] I thought I'd just introduce myself a little more.

[1157] My name is Alison MacDiarmid. I'm a Regional Manager at the Wellington campus of Earth Sciences New Zealand, which came into effect on 1 July. This new institute is the

result of a merger between NIWA and GNS Science — two sister Crown Research Institutes.

[1158] Over the next 12 months, we'll also be welcoming the New Zealand Meteorological Service into our institution.

[1159] I was awarded a PhD in Zoology by the University of Wellington in 1988, and I have 38 years of professional experience in marine ecology and fisheries.

[1160] I've led NIWA's involvement in TTR's project since 2010, undertook some of the fieldwork, and co-authored or reviewed many of the NIWA reports. I also led the review undertaken for the 2016 application, identifying which areas of marine science needed updating for the 2025 application.

[1161] There's a lot to get through, so I'll briefly outline what I'll cover.

[1162] Presentation Overview:

[1163] Physical description of the Proposed Project Area (PPA) and the South Taranaki Bight (STB) — to provide ecological context

[1164] Core effects:

[1165] Shoreline stability, waves, and surf

[1166] Sediment plume: model and modelling

[1167] Underwater light effects on primary productivity

[1168] Benthic habitat impacts and recovery

[1169] Fish and fishing

[1170] Seabirds

[1171] Marine mammals

[1172] Underwater noise (especially re: marine mammals)

[1173] Proposed monitoring programmes

[1174] Here's the Proposed Project Area — located on a shallow shelf often called the Pātea Shoals, as previously outlined.

[1175] It's 22 to 36 kilometres offshore — well offshore, but still in shallow water: 25 to 40 metres depth.

[1176] As Alan indicated, this PPA is outside the Coastal Marine Area, in the Exclusive Economic Zone (EEZ).

[1177] The surface sediments in this area are dominated by fine to medium sands. Further offshore, there are muds, which increase in deeper areas (>50 m). Nearshore, close to river mouths, muds are deposited due to sediment carried downriver.

[1178] In the sediment pie charts, orange segments indicate muds.

[1179] Gravels and coarse sands occur more frequently to the east, south, and west of the PPA — falling off the southern flank of the Pātea Shoals and further out on the western flank.

[1180] But over the PPA itself, it's predominantly medium sands, with fine sands closer to shore.

[1181] The seabed is dominated by fine sands in shallower areas. Toward Pātea and Hāwera, there's an increasing amount of rocky reef in particular areas.

[1182] Currents:

[1183] The area is subject to very strong currents — twice-daily lunar tidal currents account for 48% of measured current strength and variability, both within the PPA and across the South Taranaki Bight in depths <50 m.

[1184] Peak ebb and flood current speeds range between 0.13 and 0.25 m/s — relatively fast.

[1185] The orientation of tidal flow is longshore — northwest to southeast — which has important implications for sediment plume dispersion.

[1186] Current direction and strength can be substantially affected — up to 1 m/s — by surface wind.

[1187] Predominant wind directions are west and southeast — strong winds can produce currents in a constant direction for more than 24 hours.

[1188] Broader Current Systems:

[1189] Under calm conditions, there's a prevailing current coming off the northwest tip of the South Island — Farewell Spit — influenced by the D'Urville Current, which flows up the West Coast, past Farewell Spit, into the South Taranaki Bight, and southeast toward Cook Strait.

[1190] During moderate to strong west and northwest winds, the southward drift is enhanced.

[1191] However, during southeast winds, the drift can reverse — turning northwest temporarily.

[1192] Wave Environment:

[1193] This figure shows orbital velocities on the seafloor.

[1194] The coastal zone and out to 50 m depth is a high-energy environment.

[1195] Significant wave heights in excess of 2 metres are routinely experienced.

[1196] Instruments laid on the seafloor during TTR's oceanographic studies recorded wave heights up to 7.1 metres during storm events.

[1197] These waves generally came from the southeast or south-southeast.

[1198] Further into the South Taranaki Bight — toward Whanganui and Foxton — the waves and energy levels are smaller.

[1199] So the seafloor sediments on the Pātea Shoals are subject to both strong current flows and wave orbital velocities — that's the bottom part of the wave where it actually interacts with the seafloor?

[1200] Is that actually a circular motion felt on the seafloor during storm events?

[1201] Kit Toogood (Chair):

[1202] Yes — please excuse me — that means sediments are being picked up from the seabed?

[1203] Dr Alison MacDiarmid:

[1204] It does?

[1205] Yes. Those wave events can suspend and resuspend sediments from the seafloor, and then they get carried depending on the current strength and direction at that time.

[1206] Kit Toogood (Chair):

[1207] Thank you.

[1208] Dr Alison MacDiarmid:

[1209] Storm events can typically generate wave orbital speeds several times the average, as you might expect.

[1210] What is shown here are the mean orbital velocities — so the average.

[1211] A little note about background suspended sediments:

[1212] As indicated earlier, measurements taken around the project area and across the Pātea Shoals — as part of oceanographic studies carried out by NIWA — recorded typical maximum concentrations of up to 25 mg/L of suspended fine sediment near the sea surface, with higher peaks inshore after significant rainfall or following significant wave activity.

[1213] These peaks are either caused by:

[1214] Flood events bringing sediment down rivers and along the shoreline

[1215] Or storm events resuspending sediments from the seafloor

[1216] Offshore, near the 50 m water depth, near-surface suspended fine sediment concentrations were typically less than 10 mg/L, with small peaks occurring during or just after significant rainfall — indicative of river inputs.

[1217] Inshore, suspended fine sediment concentrations of up to 1900 mg/L were recorded close to the seabed, mostly associated with high wave activity — so resuspension of sediments already on the seafloor.

[1218] This is all background — without mining.

[1219] Further offshore, over the proposed mining area and adjacent areas, seabed suspended fine sediment concentrations were typically less than 10 mg/L, but were recorded up to 80 mg/L.

[1220] The highest concentrations were not always associated with rainfall or large wave activity — they could also result from advectional movement of water masses from upcurrent areas into the proposed project area.

[1221] So I'm just trying to paint a picture of how dynamic this particular area is.

[1222] These suspended sediments impact optical water quality, which has consequences for primary productivity — both from phytoplankton in the water column and also on the seafloor:

[1223] Microphytobenthos, as mentioned earlier

[1224] And seaweeds growing on reef-form structures

[1225] NIWA undertook two boat surveys and collected water samples from 11 nearshore sites across the South Taranaki Bight.

[1226] There was also a six-week deployment of instruments on NIWA moorings in approximately 10 metres of water, to assess temporal variability and establish relationships between optical properties and suspended sediment concentrations.

[1227] The boat surveys showed:

[1228] Suspended sediment concentrations and diffuse light attenuation were greatest closest to shore

[1229] Visual clarity increased rapidly with depth and distance offshore

[1230] So: dirtier inshore, cleaner further offshore and in deeper water.

[1231] There was also a reduction in suspended sediment concentrations — and a subsequent increase in visual clarity — in the south-southeast direction, travelling down past Whanganui toward Foxton.

[1232] Both coloured dissolved organic matter (CDOM) — a component of seawater, especially in coastal areas — and chlorophyll concentrations decreased with increasing water depth and distance offshore.

[1233] So there are three components that make up optical water quality:

[1234] Suspended sediments

[1235] Coloured dissolved organic matter

[1236] Chlorophyll from plants in the water column

[1237] Suspended sediment concentrations also increased as a result of increased river flows and related sediment load inputs, with high concentrations resulting in reduced visual clarity.

[1238] In some inshore areas, increases in suspended sediment concentrations occurred during high wind speeds and low river discharges — typically due to wave stirring, entraining seafloor sediment into the water column and affecting water clarity.

[1239] I think that's a pretty clear picture.

[1240] Now turning to some of the potential effects of the mining operations.

[1241] To assess shoreline processes and coastal stability, extensive field investigations were conducted by NIWA over two years, including:

[1242] Oceanographic measurements

[1243] Shoreline monitoring

[1244] These are outlined in sections 3.3.3 and 3.2.4 of the application document.

[1245] Key findings:

[1246] The natural landforms and geomorphic character of beaches and cliffs are unlikely to change as a result of the project

[1247] These areas are subject to large natural background variation — sand is pulled offshore depending on wave conditions

[1248] Changes in shoreline stability are highly unlikely

[1249] The grain size of beach sediment is unlikely to change — beach sediments primarily come from cliff erosion and river outwash

[1250] TTR engaged NIWA to undertake nearshore wave modelling to consider the impacts of the project on wave characteristics.

[1251] They also engaged eCoast Marine Consulting and Research to investigate the impact of the project on surf breaks in the South Taranaki Bight.

[1252] Although the deposition of dewatered sediments will fill the majority of the extracted areas, it results in a mound and pit at either end of the mining track — as Alan attempted to outline earlier.

[1253] You asked a question about where those features would be:

[1254] At the start of each 900 m mining track, there will be a small mound, probably at the western end

[1255] At the end, a pit at the southeastern end

[1256] Kit Toogood (Chair):

[1257] What happens to those features over time?

[1258] Dr Alison MacDiarmid:

[1259] They're eroded over time.

[1260] There's a study that specifically looks into that — documented in the list of reports you have in front of you.

[1261] The largest pits will last for years before they're completely filled in — eventually they'll smooth out, but won't completely disappear until a period of years has passed.

[1262] That's documented in the report by McDonald and Goring, I believe.

[1263] An assessment also examined whether the resulting pits and mounds have the potential to:

[1264] Alter the direction of wave approach

[1265] Change wave height nearshore in the South Taranaki Bight

[1266] And therefore alter longshore sediment transport and patterns of erosion and accretion on the shoreline

[1267] On page 160 of the Impact Assessment, there's a figure showing the difference in significant wave heights and existing bathymetry over the model domain — for a scenario with a mound on the western edge and pits on the southeastern edge of the mining area.

[1268] Key findings under the worst-case scenario — with an 8 to 9 metre mound and a 9 to 10 metre pit — were:

[1269] Increase in wave height of approximately 100 mm around the Manawapou River

[1270] Decrease in wave height of approximately 100 mm around Pātea

[1271] Increase in wave period of less than 0.5 seconds north of Pātea

[1272] Decrease in wave period of less than 0.1 seconds at Pātea itself

[1273] So, three minor effects.

[1274] Residual pits and mounds will occur at the ends of the lanes where iron sand recovery and deposition occurs. However, it is likely that depths and mound heights will be significantly smaller than the case presented here — this is a worst-case scenario.

[1275] Natalie Hampson:

[1276] So if you're doing one metre or five metre mounds, this one's the extreme?

[1277] Dr Alison MacDiarmid:

[1278] That's right — this was the worst-case modelled to determine what the maximum effects on waves inshore would be.

[1279] The conclusion from this work is that overall, the impacts of the project operations on the wave and surf environment within the project area and at the coast are considered to be insignificant, especially given the highly variable background.

[1280] Now I'll move on to sedimentation and sediment plume effects, starting with a quick outline of the Regional Ocean Modelling System (ROMS) model that was developed.

[1281] This refers to paragraphs starting at 132 in your Impact Assessment document.

[1282] The sediment plume model uses ROMS — a widely accepted ocean/coastal model with optional embedded modules for:

[1283] Suspended sediment

[1284] Sediment bed processes

[1285] The model can track and display sediment concentrations that are too small to be seen in the water column, but nonetheless can be traced to determine origin and dispersion.

[1286] Model Setup:

[1287] Model grid resolution varies between domains:

[1288] Outer domain: 2 km grid

[1289] Inner domain: 1 km grid

[1290] High-resolution zone: 500 m grid (used to test sensitivity of results)

[1291] This is documented in Hadfield & MacDonald (2015).

[1292] The model requires input of many parameters, including:

[1293] Sediment classes, grain size, density

[1294] Porosity of the seabed

[1295] Background sediment inputs from rivers and seabed

[1296] Settling velocity of particles

[1297] Critical bed shear stress for erosion

[1298] Erosion rate parameters

[1299] Suspended sediment from mining operations:

[1300] At the suction face (vacuum head)

[1301] From the hydrocyclone overflow (onboard processing)

[1302] Additionally, HR Wallingford (UK) conducted lab tests using seven samples from the South Taranaki Bight to define how dewatered sediments behave in the near field — particularly:

[1303] Flocculation potential (clumping of fine particles)

[1304] Settling rates in dense discharge streams

[1305] These factors are critical to understanding sediment plume behaviour.

[1306] You've seen diagrams like these — Alan showed a version earlier.

[1307] Shown here on the left is the median near-surface concentration of suspended sediment from mining at Location A.

[1308] Location A = northern end (inshore) of the proposed mining area

[1309] Location B = southwestern end (offshore)

[1310] These diagrams — found throughout the reports — often refer to Area A or B to illustrate plume extremes.

[1311] Extensive modelling (Hadfield & MacDonald 2015; MacDonald & Hadfield 2017) indicates:

[1312] Background suspended sediment concentrations are high inshore, and decline offshore — consistent with field sampling

[1313] The mining plume travels east-southeast from the source

[1314] Note: the coastline has been flipped in some diagrams — and the scale is logarithmic:

[1315] Each step = 10× increase

[1316] From 0.1 to 1 mg/L, then 10, 100, 1000

[1317] Plume Behaviour:

[1318] Highest concentrations occur within 1–2 km of the mining site

[1319] Magnitude decreases rapidly with distance

[1320] Background values increase as the plume travels toward the coast

[1321] Comparing background vs background + mining shows:

[1322] A movement offshore of the 1 mg/L threshold by about 6 km over the Pātea Shoals

[1323] Focusing on the 1 mg/L contour (purple line):

[1324] In the background, it just touches the northwest corner of the PPA

[1325] With mining, it extends about a third of the way down the PPA

[1326] This is the median — meaning:

[1327] Half the time, the plume will be smaller

[1328] Half the time, it will be larger

[1329] Natalie Hampson:

[1330] Alison, will we find in the documentation any modelling of when the wind/current is going the other way — during storm events?

[1331] Dr Alison MacDiarmid:

[1332] Yes — there's an excellent video created by Dr MacDonald. I believe it was submitted as part of the evidence.

[1333] Natalie Hampson:

[1334] Was it submitted?

[1335] Alan Eggers:

[1336] I don't think it was formally submitted as evidence, but we could provide it.

[1337] Dr Alison MacDiarmid:

[1338] It shows a year-long simulation using real climate-driven modelling, and demonstrates how storm events impact plume movement.

[1339] It's probably the best way to get a real feel for how dynamic the area is — because these diagrams can give the impression of something quite static.

[1340] Kit Toogood (Chair):

[1341] We'll need to adopt a proper process for the admission of that. I might get some information from Elliott about how we handle that.

[1342] Would that be a request from the Panel for further information?

[1343] Yes — could you flag that, please?

[1344] Natalie Hampson, we might need to formulate an inquiry for that information.

[1345] And that means it'll go on the website and everyone will have an opportunity to see it?

[1346] Gavin Kemble

[1347] Yes — just thinking about it, that would be relevant.

[1348] It's a swell height space of four metres — you won't be operating in that?

[1349] Dr Alison MacDiarmid:

[1350] That's true.

[1351] Gavin Kemble

[1352] It's relevant —

[1353] Dr Alison MacDiarmid:

[1354] Yes, that's true.

[1355] Gavin Kemble:

[1356] So that is in the model?

[1357] Dr Alison MacDiarmid:

[1358] Yes — the model won't be operating in that. So that's irrelevant, correct.

[1359] Natalie Hampson:

[1360] Can you hear a wind direction going to the southeast, where you don't have a swell?

[1361] Dr Alison MacDiarmid:

[1362] From the southeast — blowing up through Cook Straite toward that area. Without a swell, depending on the angle, it could become more oblique off the Manawatu, I guess — without a particularly large swell.

[1363] Yes — so that video covers the whole range of wind and rainfall events. It's driven by the actual climate recorded at the time, and the particular climate slice is documented.

[1364] It includes a weather bomb — a very large storm that occurred in the South Taranaki Bight during the simulated period — so you can see the impact of that.

[1365] The last point I wanted to make on this slide is:

[1366] Suspended sediment concentrations from the project will be moderate near the project area and closer to the coast.

[1367] The project-derived suspended sediments will be much lower than background levels and not discernible.

[1368] So it'll be impossible to see where the mining operations actually impact the coast — it'll be lost in the background.

[1369] **Dr Hilke Giles**:

[1370] Does the model also predict actual sedimentation?

[1371] Dr Alison MacDiarmid:

[1372] It does — although

[1373] **Dr Hilke Giles**:

[1374] there's a bit of mixed referencing across the documents.

[1375] Dr Alison MacDiarmid:

[1376] In the Hatfield & MacDonald 2015 report, there's a whole section on sedimentation — the deposition of sediment on the seafloor.

[1377] But it's very, very small — generally less thick than a human hair over a large area and long period.

[1378] It's a very minor effect — probably too small to measure. That's why I haven't mentioned it today — it's negligible.

[1379] The suspended sediments are the more important effect.

[1380] Despite the low concentrations, it's the fine particles that get carried any distance. Even in low concentrations, they affect the light environment.

[1381] An updated assessment of optical water quality impacts was provided based on the worst-case sediment plume modelling — you can refer to pages 145–150 in the main document.

[1382] Light Effects and Primary Productivity:

[1383] The light effects are discussed in terms of the euphotic zone depth — the depth at which downwelling irradiance falls to 1% of its surface value.

[1384] This is often taken (somewhat arbitrarily) as the depth at which photosynthesis ceases.

[1385] Modelling shows that with mining at Site A or B (inshore or offshore), the median euphotic zone depth northeast of the mining site will be considerably shallower than in the background case.

[1386] Discernible effects are predicted at The Traps and Grand Bank — two reef locations identified during feedback as particularly important.

[1387] Grand Bank = location G

[1388] The Traps = location T

[1389] There are other rocky reefs inshore of the mining site — we'll get to those later.

[1390] In contrast, mining is predicted to have very small effects on euphotic zone depths nearshore, where light levels are already dominated by sediment from river discharge and coastal erosion.

[1391] The sediment plume will result in absorption and scattering of light, reducing light availability for:

[1392] Phytoplankton

[1393] Benthic plants

[1394] But these effects are small.

[1395] Primary Production Impacts:

[1396] Water column primary production, averaged over the modelling domain, would reduce by:

[1397] ~1% at Site A

[1398] ~0.8% at Site B

[1399] Largest reductions are close to the extraction site

[1400] However, the impacts on primary producers are considered negligible because:

[1401] They are resilient to short-term light fluctuations via photo-adaptation

[1402] Primary production in the South Taranaki Bight is likely nutrient-limited, not light-limited

[1403] Many microalgae can also perform heterotrophic production — absorbing dissolved organic matter

[1404] Macroalgae on reefs can store photosynthetic products for extended periods — allowing them to withstand low-light conditions

[1405] Effects on light levels will be intermittent at sites further from the mining point.

[1406] In MacDonald & Hatfield 2017, there are figures showing how the plume's effect on light levels — and therefore primary production — will be very transient at various locations.

[1407] It won't be a continuous period of lower light or raised sediment concentrations — it'll be fluctuating, and adaptable.

[1408] Kit Toogood (Chair):

[1409] Is there any evidence about how long the sediment plume effects will persist after mining stops?

[1410] For example, if mining stops for a period — how long does the effect continue before there's no impact?

[1411] Dr Alison MacDiarmid:

[1412] Well, the larger particles settle out almost immediately.

[1413] If we're talking about fines, some will stay in the water column until they're carried out through Cook Strait — over a period of days.

[1414] Kit Toogood (Chair):

[1415] So the current takes over?

[1416] Dr Alison MacDiarmid:

[1417] Yes — the current quickly transports them through the area.

[1418] Some settle on the seafloor — albeit in a very thin layer — but most sediments will fall and be contained within the mining pits.

[1419] Benthic Ecology:

[1420] Now I'll turn to the effects on the benthos — the seafloor ecology.

[1421] Shown here is a map of the South Taranaki Bight, showing:

[1422] The Proposed Project Area

[1423] Sampling locations undertaken by NIWA

[1424] You'll see there are many sampling points.

[1425] Key things to note:

[1426] Rocky outcrops (shown in brown) lie inshore or to the east of the proposed mining area

[1427] This map shows random sampling locations — we know there are many more rocky reefs closer to the coast that are not well mapped

[1428] There is a more recent report by NIWA, led by Mark Morrison, that provides updated mapping and ecological data.

[1429] It's listed in the main report in front of you — I forget what page that's on, but it'll be in your list — and that identifies a series of more recent discoveries of rocky reefs inshore of the proposed mining area.

[1430] There may be other locations known to fishermen and divers, but still to be formally charted.

[1431] I understand that TTR will be engaging in further seabed surveying in the areas immediately around the northern edge of the mining area, to ensure that the location of the most vulnerable rocky reefs is properly documented and known to everyone.

[1432] Gavin Kemble:

[1433] When will that occur?

[1434] Dr Alison MacDiarmid:

[1435] I presume that will occur in the pre-commencement monitoring period.

[1436] Alan Egger

[1437] There were one or two sites identified during the hearing process by various groups. We took that on board, proposed conditions, and we will survey those sites and include them for monitoring.

[1438] Obviously, we won't go out and do that now — because we don't have any consents — but as soon as we do, it's in that two-year period before production.

[1439] Luke Faithfull

[1440] There's a table that identifies that — I'll come to it in my presentation.

[1441] Dr Alison MacDiarmid:

[1442] On this diagram here, you can see that in the Proposed Project Area, the inner half is dominated by sand ripples (shown in yellow). It's still sandy in the remainder, but tends to be dominated by a short-lived, high-density polychaete worm community.

[1443] These are small worms — about so long — which live in the top part of the seabed.

[1444] Further offshore, where the shelf starts to slope down beyond 50 metres, there are live and dead dog cockle beds:

[1445] Live beds are shown in orange

[1446] Dead shell beds are shown in orange with a red dot

[1447] These are large, robust shells that can accumulate on the seafloor and last hundreds — even thousands — of years. There are published reports of some shell ages being several thousand years old.

[1448] Natalie Hampson:

[1449] Do those organisms originate in that area, or do the shells just end up there?

[1450] Dr Alison MacDiarmid:

[1451] No — there are lots of live animals there. They originate from that area and live on the margins of the shelf, where it starts to fall off the plateau.

[1452] Well offshore, beyond 50 metres, there's an area of bryozoan rubble — probably formerly much larger. You can still see trawl tracks in that area — visible in the diagram Alan showed earlier — where trawls have gone through and broken that bryozoan environment down.

[1453] There are still live bryozoans there.

[1454] Gavin Kemble:

[1455] What are bryozoans?

[1456] Dr Alison MacDiarmid:

[1457] They're colonial filter-feeding animals — they look a little like coral and are sometimes called coral beds, but they're not actually coral. They're a group called bryozoa.

[1458] These bryozoan assemblages are also dominated by crustal or mobile taxa, such as crabs and gastropods.

[1459] So the environment on the top of the shelf in the central areas is low-diversity, whereas the shelf margins are much richer and more biodiverse.

[1460] Alan Eggers:

[1461] But I think it's important to note — we're not operating out there. That's upstream from where we're operating, and any plume will be in the opposite direction.

[1462] Dr Alison MacDiarmid:

[1463] Yes — that's true.

[1464] Direct Impacts on Benthic Communities:

[1465] The main direct physical impact on the benthic community from mining operations will be the physical removal and death of:

[1466] All sessile and sedentary taxa

[1467] Relatively immobile taxa (e.g. starfish, large gastropods)

[1468] Very close to the mining operations — at the suction face and within 1–2 km of the sediment return point — the effects of suspended sediments will be extreme.

[1469] However, these effects will not occur across the entire project area at once — they will occur sequentially and gradually, within a short distance of the mining ship, as it progresses across the project area over 20 years.

[1470] As I mentioned earlier, the Proposed Project Area and adjacent areas are high-energy, dynamic sandy environments, subject to frequent episodic disturbances from wave events and river inputs during high rainfall.

[1471] Consequently, the existing benthic community is dominated by:

[1472] Short-lived, opportunistic, early-successional colonisers

[1473] Very low abundance of longer-lived organisms

[1474] This community is well-adapted to disturbance — because it experiences it frequently from natural storm events.

[1475] Natalie Hampson:

[1476] Just before you move on — in that first point, you mentioned "all fauna." Does that mean, for example, if a starfish is sucked up — is there a chance it could survive?

[1477] Dr Alison MacDiarmid:

[1478] There's potential for some of the larger organisms — like large snails or starfish — to be screened out.

[1479] There's a coarse screen to prevent large items — rocks, shell hash, etc. — from entering the entrainment process. These would be discharged over the side.

[1480] So there's a chance they may survive — but worst case, they'll be dead.

[1481] On a conservative basis, we assume that all fauna and flora on the seabed in the mined area will die at some stage.

[1482] The key question then becomes: how fast will those populations recover?

[1483] Recovery and Worst-Case Modelling:

[1484] As I've said, the community consists of short-lived, fast-growing opportunists — because that's the environment they live in.

[1485] So if you suck everything up — all the polychaete worms and other organisms — how fast will they recolonise?

[1486] Dr Hilke Giles:

[1487] In terms of the worst-case modelling scenario, how was that determined?

[1488] Was it the largest plume, or the most sensitive habitat, or...?

[1489] Dr Alison MacDiarmid:

[1490] That was developed by an expert group during the 2017 hearing.

[1491] They took the plume model, which has 13 different parameters, each with a range — and selected the top of the range for each one to create a worst-case scenario.

[1492] **Dr Hilke Giles**:

[1493] So the intention was to make the plume as big as possible?

[1494] Dr Alison MacDiarmid:

[1495] Yes — but still within realistic bounds. It's the largest feasible plume, not an unrealistic one.

[1496] Dr Hilke Giles:

[1497] So it's not necessarily the worst case in terms of impacts on sensitive habitats, because it's not necessarily the worst-case direction?

[1498] Dr Alison MacDiarmid:

[1499] Correct — it's not necessarily the worst-case ecological impact. It's the largest plume, but still applied in the modelled domain.

[1500] Dr Hilke Giles:

[1501] So hypothetically, a smaller plume in a different direction could have a more adverse effect?

[1502] Dr Alison MacDiarmid:

[1503] Yes — that's hypothetically possible. But the worst-case scenario was taken through the full simulation.

[1504] Alan Eggers

[1505] And the worst-case scenario also included oceanographic conditions at their most extreme — so:

[1506] Strong storm currents

[1507] High winds

[1508] Worst-case plume parameters

[1509] As I said, in those circumstances, we wouldn't be operating. We've briefed that we won't operate in four-metre swell conditions — and that's what would happen.

[1510] But the question was: what would happen if these conditions occurred? So that's what we modelled.

[1511] Dr Alison MacDiarmid:

[1512] To get the detail you're after, I can't recall it off the top of my head — you'll need to look at MacDonald & Hadfield (2017). They detail exactly what went into the worst-case.

[1513] There are probably also minutes from the expert conferencing that helped define the model inputs. I wasn't part of that, so I'd need to check the report and get back to you.

[1514] So this is a nice segue into recovery, which I think is a really important point.

[1515] The time it will take for the benthic community to recover can't be stated with precision — because recovery rates can only be inferred from studies in more sheltered or deeper areas.

[1516] Seabed mining in this environment has never been undertaken before, so there are no good global analogues for this sandy shelf in such a dynamic area.

[1517] We can draw inferences from other studies, but they're not directly comparable.

[1518] Some general points:

[1519] Communities associated with sand and high-energy environments are frequently disturbed

[1520] They are continually in early successional stages

[1521] Recovery is likely to occur on the scale of months to a year for most species

[1522] Longer-lived species (e.g. large starfish, gastropods) could take several years to fully recover

[1523] Some may migrate in from adjacent areas

[1524] And remember — it's a small area being mined at any one time, so there's opportunity for recolonisation from surrounding habitat.

[1525] Effects on Fish and Kai Moana Species

[1526] Now I'll move on to the effects on fish species — including kai moana.

[1527] One of the reports I led covers kai moana species as well as commercial and recreational fish.

[1528] That's the MacDiarmid et al. (2015) report:

[1529] "Assessment of the Scale of Marine Ecological Effects" — a key reference for potential effects on kai moana and fish.

[1530] That review, and the report on the spatial and foraging ecology of fish in the South Taranaki Bight, found that for most commercial, recreational, and customary fish species, there should be negligible effects from the mining operations.

[1531] This is because:

[1532] The scale of the mined area and the elevated suspended sediment zones are small compared to the distribution ranges of these species

[1533] Fish are likely to be displaced or experience reduced prey availability only over a very small part of their range

[1534] We did identify one species — the eagle ray — that may be affected to a moderate extent, because its core distribution in the South Taranaki Bight overlaps substantially with the mining area.

[1535] Kit Toogood (Chair):

[1536] How would you describe "moderate extent"?

[1537] Dr Alison MacDiarmid:

[1538] It means that some of the area the species uses will be affected.

[1539] In the report — and I believe also in the Impact Assessment — there's a useful table that defines consequence levels for impact intensity.

[1540] Moderate = 5–20% of the habitat area is affected

[1541] Minor = less than 5%

[1542] Negligible = less than 1%

[1543] That's Table 2.2 in MacDiarmid et al. (2015).

[1544] Kit Toogood (Chair):

[1545] Where's that from?

[1546] Dr Alison MacDiarmid:

[1547] It's based on a large number of Australian studies — particularly from Fletcher. I can't give you the exact reference right now, but I can get that for you.

[1548] Suspended Sediment Thresholds and Fishing Effort

[1549] The last point on this slide is that acute and chronic impacts on fish would only occur at very high suspended sediment concentrations — above 500 mg/L — which are highly unlikely, even at the point of discharge.

[1550] This slide shows a diagram from MacDiarmid (2024) — the latest review of fishing in the South Taranaki Bight.

[1551] It shows:

[1552] Number of fishing events, aggregated into 0.2° squares

[1553] For Fishery Management Area 8 — from Cook Strait to North Taranaki Bight, and further offshore

[1554] Yellow = Proposed Project Area

[1555] Orange = Area where suspended sediment concentrations may reach 2 mg/L

[1556] Green/Blue = 99th percentile of modelled sediment concentrations at Sites A and B

[1557] The 2 mg/L threshold is used because it's the lowest recorded concentration that mobile fish may avoid.

[1558] From this figure — summarising fishing from 2008 to 2023 — we can see:

[1559] Fishing effort in the South Taranaki Bight occurs offshore, in deeper water

[1560] This reflects the midwater trawl fishery for jack mackerel

[1561] There's also set netting near Foxton

[1562] Fishing effort in the Proposed Project Area and Pātea Shoals is less intense.

[1563] For example, in one grid square, there were 200–300 fishing events over 15 years — about one event per week.

[1564] The report notes that the overall number of fishing events in the project area has declined over time, suggesting minimal spatial displacement of commercial fishing if mining proceeds.

[1565] From time to time, suspended sediment concentrations above 2 mg/L will occur within those areas. Will fish move to adjacent areas?

[1566] if fish respond to the 2 mg/L threshold and move away from higher sediment zones, they'll move into adjacent areas with lower concentrations, where they can still be caught.

[1567] They'll still be alive — just avoiding the sediment.

[1568] So, overall, the project is unlikely to affect the abundance of fish species in the project area or beyond.

[1569] Seabirds

[1570] Just a brief summary of the effects on seabirds:

[1571] NIWA studies indicate that the South Taranaki Bight supports a relatively modest seabird assemblage, occurring throughout the area. It does not support large breeding colonies for any species.

[1572] A review of the spatial and foraging ecology of five typical seabird species in the South Taranaki Bight was included in MacDiarmid et al. (2015). One of the co-authors was seabird specialist Dr David Thompson.

[1573] The review concluded that there should be negligible effects from mining 50 million tonnes per annum, according to standard evaluation criteria — referring again to the impact consequence table mentioned earlier.

[1574] This is because:

[1575] The scale of the mined area and the elevated suspended sediment zones are small compared to the areas utilised by these species

[1576] Seabirds may be displaced or experience reduced prey availability only over a very small part of their distribution

[1577] For wide-ranging species — such as petrels, albatrosses, and mollymawks — the South Taranaki Bight is only a tiny part of their broader distribution.

[1578] Marine Mammals

[1579] Elevated suspended sediments in general are unlikely to affect marine mammals.

[1580] The South Taranaki Bight has low inshore to moderate offshore suitability for cetaceans (whales and dolphins).

[1581] Here's a diagram showing cetacean richness:

[1582] Red = high richness

[1583] Blue = low richness

[1584] You can see that inshore areas of the South Taranaki Bight are low richness zones.

[1585] The highest cetacean richness in New Zealand is found:

[1586] Offshore around the Chatham Rise

[1587] Parts of the West Coast

[1588] In deeper waters, where up to 10 species may occur

[1589] However, the South Taranaki Bight is still an important area for marine mammal conservation — as a feeding and breeding location for different species at different times.

[1590] For example, it's an important area for blue whales.

[1591] But there is a low likelihood of marine mammals being present in the Proposed Project Area.

[1592] Effects from localised increases in suspended sediments due to mining operations are expected to be negligible, again based on the same consequence criteria.

[1593] This is because:

[1594] The mined area and elevated sediment zones are small compared to the distribution ranges of marine mammals

[1595] They may be displaced or experience reduced prey availability only over a very small part of their range

[1596] Another figure shows the probability of occurrence of blue whales in the South Taranaki Bight.

[1597] You can see that the most likely areas are in deeper offshore zones.

[1598] Gavin Kemble

[1599] Are blue whale the marine mammal of most concern?

[1600] Dr Alison MacDiarmid:

[1601] There's increasing evidence that the pygmy blue whale is a New Zealand resident, and the South Taranaki Bight is an important part of its distribution — though not the only part.

[1602] When we say pygmy, we don't mean small — just slightly smaller than the Antarctic blue whale by a few metres. It's still a very large marine mammal.

[1603] Kit Toogood (Chair):

[1604] What is the evidence that leads you to that third bullet point conclusion — that the area is low suitability?

[1605] Is that because the environment doesn't support feeding?

[1606] Where do you draw that conclusion from?

[1607] Dr Alison MacDiarmid:

[1608] These and other similar distribution models are based on the DOC cetacean sighting database.

[1609] The environmental parameters associated with each sighting point are used to model between those points — essentially to fill in the gaps.

[1610] That modelling helps identify key areas around the New Zealand EEZ that are more or less important for cetaceans.

[1611] Kit Toogood (Chair):

[1612] So the sighting data is just random reports?

[1613] Dr Alison MacDiarmid:

[1614] Yes — it's opportunistic data. People out on boats see a species and report it.

[1615] It's not as robust as detailed survey data collected by experts, but it has its strengths.

[1616] It should be viewed as complementary to other types of cetacean data.

[1617] Alan Eggers

[1618] We also did our own aerial surveys over several years.

[1619] Our opponents — I think Alison mentioned this — also did surveys. They conducted whale surveys in the area, and all of that was included in the summary graphics I showed earlier.

[1620] There have been number of microphones sighted out there to detect whales.

[1621] One point to note: sound travels a long way underwater, so hydrophones can detect marine mammals even if they're not visible.

[1622] Kit Toogood (Chair):

[1623] It occurs to me that if this is an inhospitable area for recreation — windy, lots of wave action — there are likely to be fewer people out there able to spot whales.

[1624] Dr Alison MacDiarmid:

[1625] Absolutely — yes, that's right.

[1626] The sighting density in the South Taranaki Bight is lower than in places like the Hauraki Gulf, for exactly that reason.

[1627] There are fewer people, and the conditions for being out there to observe are much more challenging.

[1628] So these modelling exercises take that into account?

[1629] Yes — they try to correct for observational bias. There are specific modelling techniques to account for that.

[1630] And as you mentioned, hydrophones on the seafloor are very effective.

[1631] Alan Eggers

[1632] I think the depth of the ocean is important too. These are large animals, and we're mostly operating on the continental shelf edge.

[1633] Yes — it drops off steeply, and the deep water currents — like the subtropical convergence — come down the east coast of the North Island into the Kaikōura area.

[1634] That's where they are — off Cape Farewell, going north-east of the continental shelf, not in 20 to 30 metres of water.

[1635] Dr Alison MacDiarmid

[1636] So in general, habitat models should be seen as complementary to field surveys. Even repeated population surveys over seasons and years can never monitor all locations at all times.

[1637] These models use associated environmental variables to fill in gaps in space and time. They provide a broad area overview that you can't get from surveys alone.

[1638] Kit Toogood (Chair):

[1639] Alright, thank you.

[1640] Dr Alison MacDiarmid:

[1641] Now, I'll probably need some help here — something's happened to my screen. It seems to be my computer — it's not responding...

[1642] Where did that come from? I don't know — I'll get rid of it.

[1643] There we go... but we need that back on.

[1644] Okay — good. Thank you.

[1645] Underwater Noise Effects on Marine Mammals

[1646] Now turning to the effects of underwater noise on marine mammals.

[1647] This is not my area of expertise, so I'm relying on the evidence of Dr Simon Childerhouse. You can ask me questions — I might be able to answer some — but for detailed queries, we'll need to refer to his reports.

[1648] Kit Toogood (Chair):

[1649] Today is really about understanding the nature of the evidence and identifying where to find it.

[1650] Dr Alison MacDiarmid:

[1651] There's a recent report by Dr Childerhouse from 2023 and 2024, and a final report this year — both are listed in the documentation.

[1652] Underwater noise was identified early on as a potential risk to marine mammals from the proposed operations.

[1653] The estimated underwater noise comes from:

[1654] Suction devices underwater

[1655] Pumps and machinery on the vessels

[1656] These are mechanically driven — and understandably, quite loud.

[1657] When comparing the estimated noise levels with the thresholds for:

[1658] Temporary Threshold Shift (TTS)

[1659] Permanent Threshold Shift (PTS)

[1660] The modelling indicates:

[1661] No risk of either effect for any species at 500 metres or further from the operation — even if exposed for 24 hours.

[1662] You'll find this in the Childerhouse reports.

[1663] To have noise impacts at the individual or population level, marine mammals would need to be present in the immediate area of operations.

[1664] This is possible, but the evidence suggests it's not probable — due to the low likelihood and low abundance of marine mammals in the area.

[1665] Additionally, the proposed conditions include:

[1666] Permanent observers on the mining vessel

[1667] Monitoring up to 500 metres around the operations

[1668] If marine mammals are sighted, operations are shut down immediately

[1669] They do not resume until the animals have moved away

[1670] Natalie Hampson:

[1671] Does that mean ceasing operation and turning off the sources of noise?

[1672] Alan Eggers:

[1673] Yes — everything is switched down at that point, and we wait for the animals to leave.

[1674] Our partners on the southwest coast of Africa — where they do seabed mining for diamonds — use a similar vessel with core anchors and big chains.

[1675] They've had some trouble with whales approaching the vessel and scratching their backs on the anchor chains. So they just wait until the whales finish scratching and move off.

[1676] It's a similar marine environment to the West Coast of New Zealand — similar oceanic conditions, slightly deeper (60–100 metres), and further offshore.

[1677] They have whale migrations down that coast, just like we do here.

[1678] Dr Hilke Giles:

[1679] Would you shut down operations for any marine mammal?

[1680] Alan Eggers:

[1681] Yes — I think that's the case. Though if we saw a penguin flying by, I'm not sure...

[1682] Dr Alison MacDiarmid:

[1683] Penguins aren't mammals.

[1684] Right — one's a bird, one's a mammal.

[1685] Alan Eggers:

[1686] That just shows I'm a rock dog, not a biologist!

[1687] Dr Alison MacDiarmid:

[1688] Sorry, Alan — that was a cheap joke.

[1689] Marine Monitoring Plan

[1690] There will be a marine monitoring plan, and the independent observers will report to the Technical Working Group regularly.

[1691] Alan Eggers:

[1692] They'll review operations and any shutdowns triggered by sightings.

[1693] We're accounting for all of those issues — including the 48% shutdown period where operations won't be running.

[1694] Dr Hilke Giles:

[1695] Another question — in the application document, the effects assessment has two separate sections relating to marine mammals:

[1696] A marine mammal section

[1697] A noise effects section (focused solely on mammals)

[1698] Is there a combined?

[1699] Because the marine mammal section draws overall conclusions, and the noise section is quite detailed — but there's no combined assessment.

[1700] Luke Faithfull:

[1701] Yes — we can talk through that further another time.

[1702] Essentially, it's a separation of sediment concentration effects and noise effects.

[1703] Each has its own consequence rating, and once you consider the implementation of conditions and management controls, the risks are mitigated.

[1704] But you're right — there's no cumulative assessment of combined effects on marine mammals.

[1705] Dr Hilke Giles:

[1706] It's unusual to see those two effects separated.

[1707] Luke Faithfull:

[1708] Yes — I guess it's because they're driven by different mechanisms.

[1709] Dr Hilke Giles:

[1710] There could be effects from both sources — sediment and noise — at the same time?

[1711] Dr Alison MacDiarmid:

[1712] Yes — we concluded that the effects of suspended sediment on whales and dolphins are negligible. It's impossible to measure — it's going to be so tiny, if any.

[1713] So I think one very small effect, plus another very small effect, is still very small.

[1714] Pre-Commencement Environmental Monitoring Plan (PCEMP)

[1715] I'll now briefly talk about the monitoring plan, though Luke will be available shortly to speak more fully about this.

[1716] The Pre-Commencement Environmental Monitoring Plan is covered under Conditions 47 to 51, and detailed on pages 265 to 273 of the main document.

[1717] The PCEMP is a fundamental component of the project, with the overarching purpose of:

[1718] Building on the existing environmental information collected for this application

[1719] Running for a minimum of two years

[1720] Validating the planned operational sediment plume model

[1721] You've heard about the plume model used to predict potential effects.

[1722] The plan is to develop an operational sediment plume model — similar to a weather forecast, but for sediment dispersion.

[1723] It will use:

[1724] Mining location and timing

[1725] Sediment characteristics

[1726] Currents and wave activity

[1727] River inputs

[1728] Background sediment concentrations

[1729] All of this will be fed into the model to project plume movement hours to days ahead.

[1730] If the model predicts that mining at a certain location will impact a vulnerable site — like The Traps — then mining can be paused or relocated until conditions change.

[1731] The goal is to have a real-time or near-real-time predictive model running 24/7.

[1732] This monitoring program will help build the predictive model by collecting the necessary data.

[1733] Dr Hilke Giles:

[1734] The plan is to develop the model within six months, which is ambitious.

[1735] Is it effectively an operational version of the existing model, or built from scratch?

[1736] Dr Alison MacDiarmid:

[1737] It will be built from scratch, but based on the experience and data from the existing model.

[1738] Kit Toogood (Chair):

[1739] What does that mean for mitigation of adverse effects?

[1740] Dr Alison MacDiarmid:

[1741] It means we'll have a heads-up — hours or days in advance — if there's going to be an substantive impact.

[1742] So we can cease mining before the impact occurs.

[1743] Dr Hilke Giles

[1744] So what are the key inputs that create this

[1745] Dr Alison MacDiarmid:

[1746] weather — local wind direction, wave conditions, and sediment sources.

[1747] Dr Hilke Giles:

[1748] So you're checking and testing before mining?

[1749] Dr Hilke Giles:

[1750] Exactly — it's a real-time system. The idea is to test and plug into the model and get real-time predictions.

[1751] Alan Eggers

[1752] It's not quite adaptive management — we've stayed away from soft limits.

[1753] We have hard limits — and if those are exceeded, we stop mining.

[1754] We then reassess, and if the environmental validation confirms it's safe, we resume.

[1755] The model will help identify problems before they happen, and ideally avoid them altogether.

[1756] Dr Hilke Giles:

[1757] If something does happen, we'll review and improve — so it doesn't happen again.

[1758] Alan Eggers

[1759] Coming out of previous hearings — including one at Hāwera — I don't think I explained our original mining plan clearly.

[1760] We had planned to start nearshore at Site A and head toward Site B.

[1761] But what's come out of the hearings is that Site B, being deeper, has minimal plume effects.

[1762] So now we plan to start offshore at Site B, demonstrate our performance for 2–3 years, and then move inshore once everyone is confident.

[1763] That's a better approach than starting inshore and risking early issues.

[1764] The model won't be as good early on — so starting offshore is lower risk.

[1765] We have flexibility in our mining plan — and remember, Site A to Site B is 14 km — so it's a significant distance.

[1766] Dr Alison MacDiarmid:

[1767] PCEMP Objectives

[1768] The Pre-Commencement Environmental Monitoring Plan will also:

[1769] Refine methodologies and management thresholds for the Post-Commencement Environmental Monitoring and Management Plan (EMMP)

[1770] Key objectives of the PCEMP:

[1771] Establish up-to-date background environmental data, accounting for seasonal variation

[1772] Provide a means to quantify potential project effects

[1773] Confirm understanding of seasonality and natural variability

[1774] Validate the operational sediment plume model

[1775] Verify that suspended sediment values are appropriate

[1776] Confirm that sampling locations are best suited for ongoing monitoring

[1777] Confirm that parameters and methodologies are appropriate

[1778] Ensure compliance with regulatory requirements

[1779] Monitoring Design

[1780] This diagram shows the basic outline of the pre-commencement monitoring:

[1781] It uses a Before-After Gradient Design

[1782] Sampling locations are set at increasing distances from the mining area

[1783] This design will be used for:

[1784] Water quality

[1785] Sedimentation

[1786] Primary productivity

[1787] Zooplankton monitoring

[1788] Subtidal benthos

[1789] Intertidal reef monitoring

[1790] This design allows TTR to:

[1791] Continue monitoring during extraction

[1792] Facilitate direct comparison between pre-commencement and operational periods

[1793] The overall monitoring program is made up of multiple subsets, each focused on a specific environmental parameter.

[1794] Each subset will use data analysis methods appropriate to the species or parameter being monitored.

[1795] For each of these monitoring programs, an annual and final monitoring report will be prepared. These will be:

[1796] Provided to the Technical Review Group

[1797] Made publicly available

[1798] Used to inform the Environmental Monitoring and Management Plan (EMMP)

[1799] This is covered under Conditions 54 to 56.

[1800] The EMMP is the overarching document for the monitoring and management of project-related effects. It sets out the processes for ongoing environmental monitoring once extraction activities begin.

[1801] The final form of the monitoring program will reflect the findings and recommendations from the final pre-commencement monitoring report, which will have been reviewed by the Technical Working Group.

[1802] Purpose of the Environmental Monitoring Program

[1803] The overall purpose is to ensure that any project-related effects are:

[1804] Effectively and efficiently monitored

[1805] Managed throughout the life of the project

[1806] Key objectives include:

[1807] Ensuring compliance with regulatory requirements

[1808] Stating clear environmental objectives

[1809] Implementing monitoring programs

[1810] Verifying environmental performance

[1811] Detailing data analysis and processing methods

[1812] Outlining reporting methods and frequency

[1813] Identifying operational responses if suspended sediment or water quality limits are exceeded

[1814] This will be a key document for the project.

[1815] Environmental Management Strategy

[1816] This diagram shows how all components interact:

[1817] The Environmental Management Strategy (EMS) is part of the EMMP

[1818] It is essential for:

[1819] Compliance

[1820] Highlighting key environmental objectives

[1821] Defining reporting requirements

[1822] If anomalies or unexpected results are found during monitoring, the EMS provides a framework for addressing them.

[1823] Its objective is to undertake a science-based, systematic approach to monitoring and managing effects in the South Taranaki Bight — a highly dynamic environment.

[1824] Dr Hilke Giles:

[1825] What's the likelihood that causation could be established if something unexpected happens?

[1826] Dr Alison MacDiarmid:

[1827] That depends on the level of detail established during pre-commencement and post-mining monitoring.

[1828] We expect high variability in sand communities due to storm events.

[1829] The operational sediment plume model should give a reasonable expectation of whether a sediment event occurred at a particular place.

[1830] There will also be fixed water quality monitoring stations.

[1831] Causation is always difficult to pin down, but the monitoring programs and modelling should assist as much as possible.

[1832] We'll also consider cumulative effects — for example, if there's a perfect storm of mining and natural disturbance.

[1833] That's why we're using a gradient design — rather than a simple "impacted vs non-impacted" comparison.

[1834] We expect any mining-related impact to be strongest near the source, and the gradient design — with monitoring stations at various distances — should help detect that.

[1835] If the effect is too small to be measured, then it's probably too small to be significant.

[1836] Gavin Kemble:

[1837] Is there a draft of the EMMP in the documentation?

[1838] Dr Alison MacDiarmid:

[1839] Yes — it's around page 279.

[1840] Thresholds and Percentile-Based Limits

[1841] This final slide shows how environmental performance thresholds will be incorporated into the monitoring of suspended sediment concentrations in the South Taranaki Bight.

[1842] These thresholds are expressed as:

[1843] 25th percentile

[1844] 50th percentile (median)

[1845] 80th percentile

[1846] 95th percentile

[1847] The 95th percentile is a fixed limit — see Condition 5A.

[1848] The 25th, 50th, and 80th percentiles are covered under Condition 5C, which allows for variation of up to 10% over any 12-month period.

[1849] If these limits are exceeded, as determined by monitoring and the operational sediment plume model, then:

[1850] Extraction activities must cease until TTR can demonstrate compliance to the satisfaction of the EPA.

[1851] Would that go through the Technical Working Group first, then to the EPA?

[1852] Dr Alison MacDiarmid:

[1853] I believe so — though Luke may be able to clarify that.

[1854] Gavin Kemble:

[1855] What does “TIG” mean in the context of these technical review processes?

[1856] Luke Faithfull:

[1857] Technical review group

[1858] Dr Alison MacDiarmid:

[1859] That’s something Luke can explain in more detail.

[1860] Some of the threshold values were introduced late in the process, and three sites — Crack 1, Crack 2, and Project Reef — were added after the initial modelling.

[1861] So an important part of the pre-commencement monitoring is to develop those values — we don’t have them yet.

[1862] Luke Faithfull:

[1863] The TIG references were a result of input by the Decision-Making Committee (DMC) in the 2017 process.

[1864] At that time, we didn’t have measurements aligned with those three new sites — they were introduced during the hearing process by submitters.

[1865] These conditions provide a framework for determining those limits.

[1866] The percentiles are fixed, but the numerical values associated with them will be determined through:

[1867] Pre-commencement monitoring

[1868] Operational sediment plume modelling

[1869] These will be validated and verified to establish the hard limits for each site.

[1870] Gavin Kemble:

[1871] So those three additional sites and percentile thresholds were introduced in the 2017 decision?

[1872] Yes — the 2024 process didn't result in a new decision, but provided further direction.

[1873] It's summarised in Section 6.4.6 of the Impact Assessment, and the response process is detailed in Section 65.

[1874] Dr Alison MacDiarmid:

[1875] That's my last slide.

[1876] Kit Toogood (Chair):

[1877] Excellent — a nice few time.

[1878] Okay, great. So we'll take a break for 15 minutes.

[1879] We want to hear everything you've got to say, so we're not constrained by time. But can you give us an indication of how long the rest of the presentation may take?

[1880] Luke Faithfull:

[1881] There are probably some intricacies in the conditions that might be helpful to understand, and I imagine we may ask some questions around that process.

[1882] I probably wouldn't expect too many questions — 45 minutes to an hour maximum.

[1883] Morgan Slyfield:

[1884] I'm aiming to be relatively brief — 20 minutes, probably.

[1885] Kit Toogood (Chair):

[1886] Okay, that sounds fine — thank you.

[1887] And then there may be a couple of other issues we want to hear from Mr Eggers about — a bit more on the proposed site visit.

[1888] All right — thank you. We'll just knock off for 15 minutes.

End of part three

Start of part four

[1889] Luke Faithfull:

[1890] Kia ora koutou — my name is Luke Faithful.

[1891] I'm a partner at Mitchell Daysh, the environmental consultants engaged by TTR to advise on the planning framework and the development of the consent applications.

[1892] Together with Dr Phil Mitchell, I co-authored the original Impact Assessment in 2016, and I also assisted Dr Mitchell in drafting the conditions and evidence documents as part of that process.

[1893] We've had a long-standing relationship with TTR and have carried that through to the current framework under which the application is being considered.

[1894] I'm proposing to cover:

[1895] The consent framework

[1896] A brief overview of effects, building on Dr MacDiarmid's presentation

[1897] A more detailed focus on the conditions set

[1898] Consent Framework

[1899] As set out in Section 4 of the Impact Assessment, the proposal seeks all necessary marine consents under the EEZ Act.

[1900] Activities include:

[1901] Disturbance

[1902] Extraction

[1903] Deposition

[1904] Alteration of the seabed

[1905] Discharges of sediment and substances associated with extraction

[1906] We're seeking a term of 35 years as a discretionary activity under the EEZ Act.

[1907] As Mr Eggers and others have described, the mining activity itself is shorter than 35 years — but the term allows for:

[1908] Pre-commencement environmental monitoring

[1909] Post-benthic recovery monitoring

[1910] Construction of components

[1911] And other preparatory and concluding activities

[1912] There are no additional consents sought through this process.

[1913] However, there may be minor RMA-based consents later — for example, related to port operations, once those details are confirmed.

[1914] There is no direct project consent for discharge or disturbance under the RMA or other legislation.

[1915] Summary of Effects

[1916] There's a general summary of effects related to the substantive application.

[1917] Alan has highlighted:

[1918] Environmental effects
[1919] Sedimentation

[1920] Coastal processes

[1921] Marine ecology — covered by Dr MacDiarmid

[1922] Other effects include:

[1923] Visual, seascape, and natural character — addressed in Section 5.11

[1924] Cultural effects — discussed by Mr Majurey, including Treaty settlements and tikanga

[1925] Mitigation summary — in Section 5.13.1

[1926] Other matters — air quality, health, environmental monitoring, disturbance — covered in Section 5.13

[1927] As Mr Slyfield noted, these assessments have been updated since the 2016 application.

[1928] Where updates have occurred, they are referenced in the TTR memorandum dated 4 August, in response to Direction B.

[1929] Dr Hilke Giles:

[1930] We had a question about the list of application documents.

[1931] The titles of the documents are very different from how they're referred to in the memorandum or the Impact Assessment.

[1932] Would it be possible for you to produce a list — basically reproduce the list of application documents, with the names as referred to in your documents?

[1933] It's also on the website, but this would make it easier for us to find.

[1934] Luke Faithfull:

[1935] No problem at all.

[1936] Dr Hilke Giles:

[1937] And specifically, the MacDiarmid et al. 2024 report — I couldn't find the PDF as part of the application. It might be a naming issue. Could you check whether that PDF is actually provided?

[1938] Luke Faithfull:

[1939] Absolutely — I'll check and confirm that.

[1940] Management of Effects

[1941] The management of effects is set out in Section 6 of the Impact Assessment.

[1942] The primary mechanism is a comprehensive monitoring and management framework, established through:

[1943] The Pre-Commencement Environmental Monitoring Plan (PCEMP)

[1944] The Environmental Monitoring and Management Plan (EMMP)

[1945] This framework is provided for through the consent conditions, and it's a multi-staged approach to ensure that project effects are effectively and efficiently monitored and managed.

[1946] I guess I'll just pause there for a minute and explain the basis of the structure of the conditions and where they've landed throughout the moment. So the starting point for the conditions as we spoke to you earlier is the 2017 decision from the EPA.

[1947] So that was a process through which the EPA, DOC, technical reviewers, planners on behalf of the EPA and other parties had been involved in conferencing review of those documents and then put it to the controls and the management measures that are set out and those conditions.

[1948] We use those basically as the base set because they were familiar to the process familiar to stakeholders in iwi groups and other parties who had engaged on the process.

[1949] So what we were conscious that while they order of those conditions might not necessarily reflect a logical order of process.

[1950] They were familiar, so we were conscious about changing things too much to attract a criticism that might come from all you've actually significantly changed what has already been considered and assessed through the process.

[1951] We did revisit the language around some of the conditions, to the management plans, incorporated purposes and better objectives than some of the management plans to better reflect what's accepted for conditions best practice, that's moves somewhat sort within the 10 years, nearly.

[1952] We've been as we say, we've been conscious of the change of that structure and have tried to avoid confusion of broader parties that who would be looking at those conditions again.

[1953] The approach provided for within the condition has some quite clear controls and provisions in place.

[1954] I'll go through them in a bit more detail, but the collective approach in our opinion that addresses the mechanism through which the effects can be appropriately managed throughout the course of the mining up activities.

[1955] In terms of effects conclusions.. So regarding environmental effects, we think that the effects are driven by the best available information that we further validated through the free commencement environmental monitoring programs and also monitored and managed through the process by the EMMP.

[1956] In terms of cultural effects, it's well acknowledged that there is fundamental opposition in a cultural sense to the proposal.

[1957] However, in respect to the physical elements of cultural impacts, we believe there are crossovers with the Western science aspects of marine ecology — such as fisheries impacts and related elements.

[1958] In TTR's opinion, based on advice from our cultural and ecological advisors, those physical impacts, mitigation measures, and management tools are well understood.

[1959] So the effect process — controlling and managing outcomes — is well provided for through the conditions, design, and operational controls.

[1960] Where there is likely a difference, is in the metaphysical aspects of cultural effects. These are less well understood from an applicant perspective.

[1961] But in a broad context, we understand that Te Ao Māori world views kaitiaki responsibilities, mauri, and other values as encompassing those metaphysical elements.

[1962] What we've tried to do through the effects framework is provide a mechanism through which the relationship is recognised, and a tool for iwi representation to be involved in the process going forward.

[1963] We believe this is achieved through:

[1964] The Kaitiaki Reference Group

[1965] Involvement in the Technical Review Group (TRG)

[1966] Other participatory mechanisms

[1967] The intention of these conditions — beyond the physical elements — is to provide visibility and recognition of cultural values, and an enabling mechanism for continued representation.

[1968] Summary of Effects and Conditions

[1969] Overall, the effects are expected to be:

[1970] Localised

[1971] Not significant beyond the active area

[1972] Based on technical evidence, the South Taranaki Bight will not be materially harmed

[1973] The conditions have been developed through a cumulative process:

[1974] Input from other parties

[1975] Input from the Department of Conservation

[1976] Agreements from joint witnesses in previous hearings

[1977] This has led to the base set of conditions.

[1978] From a framework perspective, the conditions provide for:

[1979] Operational and activity controls

[1980] Environmental monitoring plans

[1981] Technical and cultural oversight

[1982] Community and stakeholder relationships

[1983] Reporting and review requirements

[1984] There's a pre-commencement startup package — covering the first three years — which includes:

[1985] Establishment of the Technical Review Group (TRG)

[1986] Establishment of the Kaitiaki Reference Group

[1987] Offers to iwi to be involved

[1988] Development of the Pre-Commencement Environmental Monitoring Plan (PCEMP)

[1989] Development of the Operational Sediment Plume Model

[1990] Finalisation and certification of management plans

[1991] Vessel safety controls

[1992] Development of an Operational Assessment Report — a 12-month forward-looking summary of the mine plan

[1993] Following that, there are commencement operations conditions, covering:

[1994] Operational controls

[1995] Discharge limits

[1996] Environmental limits

[1997] Continuation of monitoring

[1998] Application of operational controls — e.g. discharge buffers, depth cuts, CA boundary offsets

[1999] There's also a monitor–forecast–response loop, which includes:

[2000] Reporting through the EMMP

[2001] Validation of the Operational Sediment Plume Model

[2002] Kai moana monitoring

[2003] Kaitiaki Reference Group involvement

[2004] TRG oversight

[2005] Then there's the reporting and notification process, which includes:

[2006] Quarterly operations reports

[2007] Annual reporting

[2008] Notifications to fisheries, iwi, and stakeholders

[2009] Finally, there's the post-extraction recovery monitoring and surveying program.

[2010] Condition Structure and Technical Detail

[2011] Let me know if this level of detail is useful — I can summarise or speed up if needed.

[2012] Kit Toogood (Chair):

[2013] Some of the panel members with technical expertise may be interested in the detail. But if you've already summarised the conditions, you don't need to repeat what's on the slides.

[2014] Luke Faithfull:

[2015] No problem — I'll focus on key points and broader explanations, especially around how pre-commencement monitoring ties into the Operational Sediment Plume Model and other elements.

[2016] Hard Limits and Key Conditions

[2017] At the front end of the conditions, we have hard limits identified through:

[2018] Technical assessments

[2019] Operational requirements

[2020] These are covered in:

[2021] Condition 3

[2022] Condition 4

[2023] Condition 5

[2024] Condition 6

[2025] Condition 7

[2026] Condition 8

[2027] These conditions control the effects and define the boundaries of the project's environmental footprint.

[2028] Condition 5 and 6: Sediment limits

[2029] Refer to Schedule 2 and 3

[2030] Schedule 2: Identifies gaps in sediment limit data

[2031] Schedule 3: Describes how PCEMP fills those gaps and feeds into the Operational Sediment Plume Model

[2032] Condition 7: Benthic ecology

[2033] Percentage reduction measured against pre-commencement monitoring data

[2034] This dataset is critical for:

[2035] Establishing baseline

[2036] Guiding the EMMP

[2037] Setting benchmarks for recovery assessment

[2038] Conditions 9 and 10: Seabirds and marine mammals

[2039] These are environmental limits

[2040] Intended as hard limit indicators

[2041] Aligned with NZCPS Policy 11:

[2042] No adverse effects on threatened species

[2043] Minimised effects on other species

[2044] You may note that the wording changed from “no adverse effects at a population level” to simply “no adverse effects” — this was agreed through joint witness conferencing during the 2017 hearing.

[2045] Excuse me — joint witness conferencing was used to better align the conditions with NZCPS Policy 11

[2046] the population-level language was challenged and further explored through the subsequent hearing processes.

[2047] There was agreement — and the justification is set out in the evidence and rebuttal evidence from:

[2048] Dr David Thompson

[2049] Dr Simon Childerhouse

[2050] Dr Phil Mitchell

[2051] All on behalf of TTR during the Hāwera hearing.

[2052] The extraction of the "population level" qualifier from the condition was considered appropriate, and the intent and structure of the condition still provides the same overall protection for those species.

[2053] Gavin Kemble:

[2054] Was NZCPS applied?

[2055] Luke Faithfull:

[2056] Yes — it was stated that NZCPS Policy 11 applies in a broad sense under Section 59 of the EEZ Act.

[2057] Morgan, do you remember the exact clause?

[2058] Morgan Slyfield:

[2059] Marine management regime.

[2060] Luke Faithfull:

[2061] Yes — it's a broad application under one of the Section 59 matters.

[2062] Marine Mammal Noise Limits and DOC Involvement

[2063] We've spoken to the noise limits — Alison touched on these.

[2064] I just want to add that the noise limits and marine mammal controls in the condition documents were developed closely with DOC during the 2016 process.

[2065] As Alan mentioned, DOC supported the application in that form — and as we understand, they continue to support it in its current form.

[2066] DOC played a key role in identifying the appropriate controls for marine mammals in this area.

[2067] Vessel and Operational Controls

[2068] There are a number of vessel and operational controls identified.

[2069] These include:

[2070] Thruster operation, anchoring, and vessel management — focused on reducing benthic sediment concentrations and discharge effects

[2071] Marine mammal management procedures

[2072] Anchoring protocols — to control interactions with other vessels

[2073] Transshipment controls — set out in Condition 26 and further detailed in the Collision Management Plan

[2074] This plan addresses interactions between:

[2075] The floating storage vessel

[2076] The IMV (Integrated Mining Vessel)

[2077] Other vessels operating in the area

[2078] Dr Hilke Giles:

[2079] Sorry — we have a discharge limit of greater or equal to 4 metres above the seabed. Does that mean...?

[2080] Luke Faithfull:

[2081] That might be the other way around — it should be no closer than 4 metres to the seabed.

[2082] Thanks for picking that up — I'll check the condition wording.

[2083] Spill Response and Risk Management

[2084] Further operational controls include:

[2085] Spill response protocols — for unplanned spill events

[2086] Actions to be taken in the event of a spill

[2087] To clarify — this is not an activity for which consent is sought through this process, but given the nature of operations, it's part of the broader considerations.

[2088] Condition 107 talks about risk management, including:

[2089] A requirement for $500 million personal indemnity insurance

[2090] This would be triggered by events such as:

[2091] A large-scale fuel or oil discharge

[2092] A collision event resulting in environmental harm

[2093] Pre-Commencement Environmental Monitoring Plan (PCEMP)

[2094] I won't go into too much detail here — Alison has already provided a good summary.

[2095] Just to clarify:

[2096] The draft PCEMP was submitted as the Baseline Environmental Monitoring Plan in the application appendices

[2097] It was based on the 2016 application document

[2098] We didn't update it for this process because:

[2099] The final version must be submitted after consent is granted

[2100] It will be certified by the EPA

[2101] It will be reviewed by the TRG and other parties

[2102] Updating it now would risk having to redo it again post-hearing — so we've held off until the process is complete.

[2103] The PCEMP is intended to:

[2104] Provide additional data to validate and verify the current dataset

[2105] Inform the Operational Sediment Plume Model (OSPM)

[2106] Help establish the missing numerical values for TSS limits (Total Suspended Sediment)

[2107] This process is set out in:

[2108] Section 6.4.6 of the Impact Assessment

[2109] Schedule 3 of the conditions

[2110] Schedule 3 and Condition 51

[2111] Condition 51 requires a review of Schedule 3, which sets the suspended sediment limits.

[2112] The OSPM is the key driver for identifying the numerical values that sit under the percentile thresholds.

[2113] To reiterate:

[2114] The percentiles (25th, 50th, 80th, 95th) are the fixed thresholds

[2115] The numerical values beneath them are determined through:

[2116] Pre-commencement monitoring

[2117] Operational modelling

[2118] Live monitoring data

[2119] These values may change over time, but the percentiles remain constant — they are the directive for environmental effects.

[2120] Dr Hilke Giles:

[2121] Does that mean there's a risk of creeping baseline, if new data is affected by the operation?

[2122] Luke Faithfull:

[2123] One of the roles of the Operational Sediment Plume Model is to distinguish between background and mining-related data.

[2124] It will provide a dataset that clearly separates:

[2125] Base environmental conditions

[2126] Operational impacts

[2127] Luke Faithfull

[2128] So you shouldn't receive an ever-increasing percentile limit, just because you're continuously feeding sediment into the environment?

[2129] the purpose of the Operational Sediment Plume Model (OSPM) is to:

[2130] Distinguish between background sediment levels and mining-related discharges

[2131] Demonstrate the contribution of mining activity

[2132] Maintain a clear separation between natural variability and operational effects

[2133] Dr Hilke Giles

[2134] You feed the data into the model, and then use the model to inform compliance limits.

[2135] Dr Alison MacDiarmid:

[2136] There will be times when no mining is taking place, and the data collected during those periods will be used to inform potential changes to compliance limits.

[2137] So while data is being constantly collected, the baseline is protected by ensuring that only non-operational data is used to inform those thresholds.

[2138] Dr Alison MacDiarmid:

[2139] This will be a key area of deliberation by the Technical Review Group (TRG) — to ensure the limits don't drift over time.

[2140] Luke Faithfull:

[2141] Environmental Management and Monitoring Plan (EMMP)

[2142] The EMMP sets both:

[2143] The monitoring framework, and

[2144] The management framework

[2145] As outlined in Section 6.5.3.3.2 of the Impact Assessment, the EMMP includes:

[2146] Operational responses if there's a 10% change in percentile limits (below the 95th percentile)

[2147] This triggers an investigation, not an immediate shutdown

[2148] If the 95th percentile is exceeded:

[2149] Mining must cease immediately

[2150] The cause must be determined

[2151] Activities can only resume after EPA certification

[2152] The EMMP must be:

[2153] Independently prepared

[2154] Peer reviewed

[2155] Reviewed by the TRG

[2156] Certified by the EPA

[2157] There is also a role for Mātauranga Māori input through:

[2158] The Kaitiaki Reference Group, or

[2159] Direct iwi engagement, depending on how iwi choose to participate if consent is granted

[2160] Operational Sediment Plume Model (OSPM)

[2161] The OSPM:

[2162] Protects the background

[2163] Predicts suspended sediment concentrations from extraction

[2164] Forecasts plume spread and location

[2165] It is the primary tool for understanding sedimentation effects.

[2166] It must be:

[2167] Developed within six months

[2168] Calibrated and validated every six months during:

[2169] The PCEMP period, and

[2170] The first three years of extraction

[2171] Dr Giles, that might give you a clearer picture:

[2172] The model is developed early

[2173] Refined during the pre-commencement monitoring period

[2174] Continuously revisited, calibrated, and validated

[2175] It is also informed by the Operational Assessment Report (OAR) — which:

[2176] Sets out the mine plan for the next 12 months

[2177] Includes grade control drilling results

[2178] Identifies fine sediment areas

[2179] Details the schedule and location of extraction

[2180] The OAR is required under Condition 87.

[2181] Post-Extraction Benthic Recovery Monitoring

[2182] The Post-Extraction Benthic Recovery Plan is set out in Condition 57.

[2183] It outlines:

[2184] What must be monitored

[2185] How results are assessed and analysed

[2186] How recommendations are made

[2187] That the plan must be:

[2188] Prepared by an expert

[2189] Peer reviewed by the TRG

[2190] Certified by the EPA

[2191] If recovery is not occurring as intended, the plan provides for response mechanisms.

[2192] The PCEMP sets the baseline against which the 5% recovery threshold is measured.

[2193] Technical Review Group (TRG)

[2194] The TRG provides independent, multidisciplinary oversight.

[2195] Correction: There is a bullet point in the documentation that refers to “adaptive management” — that should read “process management”.

[2196] I want to be very clear: this is not adaptive management in the traditional sense.

[2197] We are not relying on uncertainty. The technical team has confidence in the data and assessments.

[2198] Fixed limits have been identified through the consent process

[2199] Pre-commencement monitoring will validate and verify those limits

[2200] The OSPM will be consistently calibrated and verified

[2201] The percentile thresholds will remain constant

[2202] There is an independent oversight process

[2203] There are hard limits with clear triggers and responses

[2204] The TRG includes representatives from:

[2205] TRC

[2206] Fisheries and aquaculture groups (e.g. Sanford, Te Ohu Kaimoana)

[2207] Te Tai Hauāuru Fisheries Forum

[2208] DOC

[2209] Kaupapa Māori representatives

[2210] Other specialists

[2211] The TRG's role includes:

[2212] Reviewing monitoring and management plans

[2213] Comparing results against pre-commencement data

[2214] Recommending new monitoring if needed

[2215] Supporting Mātauranga Māori integration

[2216] Holding regular meetings and providing independent review

[2217] As Mr Kemble and others will know, TRGs are a common tool in complex RMA processes.

[2218] In terms of the cultural conditions — set out in Conditions 72 to 80 — as I mentioned earlier, TTR acknowledges the opposition from iwi groups.

[2219] We've spoken about the overlaps between environmental effects and physical cultural effects, particularly in relation to:

[2220] Fisheries

[2221] Kai moana species

[2222] Marine ecology

[2223] Dr MacDiarmid addressed some of these during her presentation.

[2224] Based on the technical information available, we believe that where there are crossover physical-cultural effects, the condition set ensures those effects are appropriately managed.

[2225] For metaphysical effects, the conditions aim to:

[2226] Acknowledge the relationship between iwi and the marine environment

[2227] Provide for the Kaitiaki Reference Group

[2228] Enable representation and input through hui and other engagement mechanisms

[2229] As discussed earlier with Mr Majurey, there may be further input into the tangata whenua conditions — but in the absence of specific direction, we've developed a set that:

[2230] Addresses the physical aspects of cultural effects

[2231] Goes some way toward recognising metaphysical values

[2232] These are developed as OGA conditions due to the lack of direct input from iwi groups during this phase.

[2233] The mitigation measures are outlined in Section 5.13.4 of the Impact Assessment.

[2234] Key Components of Cultural Conditions

[2235] Recognition of relationship

[2236] Opportunity to form a Kaitiaki Reference Group

[2237] Embedding kaitiakitanga into monitoring

[2238] Cultural input and liaison

[2239] Kaitiaki Monitoring Program — led by iwi, supported by TTR

[2240] If the group is not stood up, TTR must continue to invite participation annually

[2241] This table outlines the difference between:

[2242] Kaitiaki Reference Group — an iwi forum, funded and facilitated by TTR

[2243] Kaitiaki Monitoring Program — a requirement regardless of group formation

[2244] Community and Fisheries Coordination

[2245] The conditions also support:

[2246] Community and fisheries relationships

[2247] Transparency and trust-building

[2248] Regular engagement opportunities

[2249] Tangible community benefits — e.g. training facilities, job creation

[2250] Operational support infrastructure — to be confirmed

[2251] These conditions aim to:

[2252] Coordinate activities

[2253] Avoid crossover impacts

[2254] Share operational information with fisheries

[2255] Mr Eggers confirmed that fisheries vessels can operate within 300 metres of mining operations — so coordination is key.

[2256] Fishing quotas cover large areas, so information sharing should help avoid conflicts.

[2257] Project Management Plans

[2258] There are a range of project management plans to ensure:

[2259] Environmental protection

[2260] Operational safety

[2261] These include:

[2262] Marine mammal protection plan

[2263] Seabird protection plan

[2264] Simultaneous operations plan

[2265] Collision contingency management plan

[2266] Biosecurity management plan

[2267] Each is detailed in the consent conditions.

[2268] Reporting Requirements

[2269] There are two main reporting streams:

[2270] Quarterly Reports

[2271] Provide operational transparency

[2272] Track compliance

[2273] Annual Reports

[2274] Build on quarterly reports

[2275] Include performance evaluation

[2276] Set out future extraction planning

[2277] Include data review

[2278] Submitted to the TRG

[2279] There's also a notification requirement for changes in operations — to inform other users in the South Taranaki Bight.

[2280] The EPA has a review mechanism to respond to unanticipated risks or changes.

[2281] Final Summary Slide

[2282] The intent of the framework is to ensure operations are:

[2283] Tightly controlled

[2284] Transparent

[2285] Science-led

[2286] The conditions provide for:

[2287] Robust monitoring — pre-, during, and post-extraction

[2288] Independent review

[2289] Cultural input — through the TRG and Kaitiaki Reference Group

[2290] Responsive management — if unexpected results occur

[2291] Community and iwi outcomes — alongside environmental safeguards

[2292] EPA and stakeholder oversight — across the life of the consent

[2293] The conditions package delivers a comprehensive, multi-layered framework that balances:

[2294] Environmental protection

[2295] Cultural recognition

[2296] Community benefits

[2297] Accountability

[2298] It ensures operations are kept within a clear and measurable framework, with:

[2299] Boundaries

[2300] Limits

[2301] Reporting mechanisms

[2302] It incorporates:

[2303] Science

[2304] Mātauranga Māori (if iwi choose to be involved)

[2305] Protection of existing interests

[2306] Control zones

[2307] Full life-cycle coverage

[2308] That's all from me. I'm happy to take any questions if there are specifics.

[2309] Gavin Kemble:

[2310] Just one — were the project management plans also intended to deal with marine mammal protection?

[2311] Luke Faithfull:

[2312] Yes — absolutely. That's covered within the marine mammal protection plan, as part of the broader suite.

[2313] Morgan Slyfield Introduction

[2314] Yes — the marine mammal and seabird management plans have both been updated since the 2016 application.

[2315] Let me just flip back to those...

[2316] Yes — they are included in the appendices. I can provide the exact reference numbers.

[2317] The Baseline Environmental Monitoring Plan and Environmental Monitoring Plan have not been updated since 2016, but the management plans have.

[2318] Morgan Slyfield:

[2319] Good afternoon — at last.

[2320] We're getting shorter as we go through the day, and I'll be the shortest of all the presenters — with the possible exception of Mr Majurey.

[2321] Just by way of introduction:

[2322] My name is Morgan Slyfield

[2323] I'm a barrister based in Wellington

[2324] I've been practising law for 29 years

[2325] I have experience in marine consenting, starting with TTR's first application in 2013

[2326] I was engaged by the EPA as a special advisor to the Decision-Making Committee (DMC) for that first application.

[2327] Later, I was re-engaged by the EPA as an advisor to the DMC for the Chatham Rock Phosphate application.

[2328] When TTR brought its second application in 2016, I had no involvement in the EPA process — but I joined the legal team assisting TTR through the High Court, Court of Appeal, and Supreme Court proceedings.

[2329] I also contributed to the reconsideration process, which was ultimately withdrawn in 2024.

[2330] I'm the lead author of the legal components in the Impact Assessment — specifically Section 8, which deals with the statutory framework. It was reviewed by other legal team members and informed by relevant experts.

[2331] Clarification on Document Naming

[2332] Before I move to my slides, I want to check I understood Dr Giles' request about document naming.

[2333] You mentioned difficulty in matching document titles — is that correct?

[2334] Dr Giles:

[2335] Yes — the list of documents on the website uses different names than those referred to in the memorandum or Impact Assessment.

[2336] For example, the evidence of Dr Childerhouse is referenced, but it's hard to identify the specific linked PDF.

[2337] Morgan Slyfield:

[2338] As the author of the memorandum, I can confirm that the names we used are the names from the website.

[2339] However, you have to scroll down to the section dealing with 2023 and 2024 evidence submitted as part of the application.

[2340] Dr Giles:

[2341] But then we only have the evidence, not the technical reports — for example, I couldn't find MacDonald & Hatfield, or MacDiarmid.

[2342] Morgan Slyfield:

[2343] Got it — that's very helpful. Otherwise, we all end up doing the same search loop.

[2344] Fast-track Approvals Act (FTA) Overview

[2345] As you're well aware, you're dealing with a new piece of legislation — the Fast-track Approvals Act (FTA).

[2346] It establishes a new hierarchy for decision-making, where at the top sits the purpose of the Act:

[2347] "To facilitate the delivery of infrastructure and development projects with significant regional or national benefits."

[2348] This must be given the greatest weight.

[2349] That directive is found in:

[2350] Section 81 of the FTA

[2351] Clause 6 of Schedule 10 (specific to this consent)

[2352] Subordinate Matters

[2353] All other matters are subordinate — they must be taken into account.

[2354] Some of the key matters include:

[2355] The purpose of the EEZ Act — protection of the environment from material harm

[2356] The decision-making criteria under the EEZ Act — Sections 59 and 60

[2357] The information principles under the EEZ Act — including the requirement to favour caution and environmental protection

[2358] Let me be clear: subordinate does not mean disregarded.

[2359] All matters must be given due consideration — but "take into account" is a lesser standard than other statutory phrases like:

[2360] "Recognise and provide for"

[2361] "Give effect to"

[2362] "Not be inconsistent with"

[2363] Gavin Kemble:

[2364] So "take into account" is similar to the Resource Management Act (RMA)?

[2365] Can we apply the jurisprudence around that phrase?

[2366] Morgan Slyfield:

[2367] Yes — you can use that jurisprudence.

[2368] There has also been additional guidance that I'll point you to shortly, which helps clarify how to apply this hierarchy.

[2369] The key point is that the purpose of the FTA sits above all other considerations — and that leads into the proportionality test at the grant/decline level, which I'll come to next.

[2370] This hierarchy — with the purpose of the FTA at the top — influences how you apply the other matters that must be taken into account.

[2371] A useful case to be aware of is the recent decision by Justice Boldt, issued on 27 August 2025:

[2372] Ngāti Kuku Hau Trust v Environmental Protection Authority

[2373] Citation: 2025 NZHC 24453

[2374] This case concerned a Fast-track application under the RMA-style framework, not the EEZ Act — but it provides valuable commentary on how the FTA overlays other statutory regimes.

[2375] In paragraph 65, Justice Boldt states:

[2376] "FTA applications must include an assessment of the activity against sections 5, 6, and 7 of the RMA, but decision makers are not directed to recognise and provide for Section 6 matters, nor are they required to have particular regard to the factors listed in Section 7. Nor are they required to consider the principles of the Treaty (Section 8)."

[2377] Then in paragraph 66, he adds:

[2378] "In enacting the FTA framework, Parliament made a deliberate decision to de-emphasise factors which might militate against approval. For example, the Cabinet minute approving the inclusion of the 149 listed projects noted it was the Government's intention to establish a consenting and permitting process that makes it substantially easier for projects to be approved than the status quo — with a high bar needing to be reached for a panel to decline a project."

[2379] While this case doesn't concern the EEZ Act, it illustrates how the FTA framework is intended to interact with underlying approval regimes.

[2380] Kit Toogood (Chair):

[2381] Is there any reference in that judgment to a presumption of approval, just because an application has passed the initial gate?

[2382] Morgan Slyfield:

[2383] No — there's no presumption stated in the judgment. I agree with you — while there's general discussion about the intent to streamline approvals, there's no legal presumption that approval must follow.

[2384] Another case worth noting is the Bledisloe Wharf Fast-track Panel decision, which refers to the Court of Appeal's guidance in the Enterprise Miramar decision.

[2385] That case concerned the Housing Accords and Special Housing Areas Act, which had a prescribed hierarchy of assessment criteria under Section 34 — now repealed.

[2386] It required decision-makers to give effect to five criteria in descending order of importance.

[2387] The Bledisloe Wharf decision attempts to translate those principles into the Fast-track context, and I commend it to you as a useful example of how to apply weighting in a multi-criteria framework.

[2388] No Environmental Bottom Lines Under the FTA

[2389] This brings me to the second key feature that differentiates this process from TTR's prior applications:

[2390] There are no environmental bottom lines under the Fast-track Approvals Act.

[2391] This is significant because the Supreme Court, in its 2021 decision, found that TTR's previous application had exceeded environmental bottom lines, or that the EPA's decision had failed to properly address them.

[2392] The three bottom lines identified were:

[2393] Protecting the environment from material harm — from Section 10(1)(b) of the EEZ Act

[2394] Favouring caution and environmental protection — from Section 61(2) of the EEZ Act

[2395] Avoiding adverse effects on natural character and outstanding natural features — from the NZCPS

[2396] Does the NZCPS apply in the EEZ?

[2397] Short answer: No, not directly.

[2398] But the Supreme Court found that because Section 59 of the EEZ Act refers to "other marine management regimes", and the definition is broad enough to include the NZCPS, the avoidance policies in the NZCPS were relevant.

[2399] They found a synergy or lockstep between:

[2400] The NZCPS avoidance policies, and

[2401] The "avoid material harm" provision in Section 10(1)(b) of the EEZ Act

[2402] So while the NZCPS doesn't apply directly, its principles were imported via the marine management regime reference.

[2403] Under the FTA, however, these provisions — to the extent they are triggered — are only matters to be taken into account, not absolute thresholds.

[2404] That's the first reason why environmental bottom lines don't apply here.

[2405] The second reason why environmental bottom lines don't apply under the FTA is found in Section 85, which prescribes the limited grounds on which a consent can be declined.

[2406] None of the environmental bottom line provisions — such as material harm, precautionary principles, or NZCPS avoidance policies — are listed as grounds for declining.

[2407] And of course, a bottom line must operate as an on/off switch — but Section 85 does not allow for that.

[2408] Material Harm Test

[2409] I want to return to the material harm test, which I anticipate will be a crucial part of your deliberations.

[2410] The Supreme Court, in its 2021 decision, interpreted Section 10(1)(b) of the EEZ Act.

[2411] That section doesn't use the term "material harm" — it refers to protecting the environment from pollution.

[2412] The Court held that this means protecting from material harm, not all harm.

[2413] They defined material harm as:

[2414] Harm that is not trivial or negligible

[2415] Harm that cannot be avoided, remedied, or mitigated to a level where it is no longer material

[2416] The Court also emphasised that material harm must be assessed across multiple dimensions:

[2417] Qualitative — e.g. the flora, fauna, and natural characteristics of the area

[2418] Quantitative — e.g. the volume of sediment discharged

[2419] Temporal — e.g. how long the effect will last

[2420] Spatial — e.g. the size of the area affected

[2421] So it's a multidimensional analysis, and all aspects must be considered.

[2422] Definition of Environment under the FTA

[2423] Another important point: the environment under the Fast-track Approvals Act is not the same as under the Resource Management Act (RMA).

[2424] Under the RMA, the environment includes:

[2425] Natural and physical resources

[2426] Under the FTA, it includes only natural resources.

[2427] So cultural interests, for example, are not part of the environment under the FTA.

[2428] Gavin Kemble:

[2429] Does that rule out metaphysical issues?

[2430] Morgan Slyfield:

[2431] No — they can still be considered under Section 59 of the EEZ Act, which refers to existing interests and Treaty settlements.

[2432] Proportionality Test — Section 85

[2433] The core ground for declining consent under the FTA is the proportionality test in Section 85:

[2434] Whether the adverse impacts are sufficiently significant to be out of proportion to the project's regional or national benefits

[2435] Key features of this test:

[2436] Conditions must be considered — including those that manage adverse impacts

[2437] It is not a "no effects" standard — significant impacts may still be acceptable if benefits are high

[2438] It is a relative measure, not an exact one — things don't need to be equal to be in proportion

[2439] The test cannot be based on inconsistency with another Act or marine management regime

[2440] So, for example, even if the NZCPS applied and you found inconsistency with Policy 11, that cannot be a basis for declining under Section 85.

[2441] TTR's position is that:

[2442] The adverse impacts do not reach a level that would make this test difficult to apply

[2443] But of course, that's for the panel to assess on the evidence and merits

[2444] Other Potential Grounds for Declining

[2445] Aside from proportionality, there are two other potential grounds:

[2446] Inadequate information — under Section 61(1)(b) of the EEZ Act

[2447] Breach of Section 7 — which refers to Treaty settlements and obligations

[2448] However, there is complexity around Section 7.

[2449] Section 72 says that Section 71 does not apply to anyone exercising a judicial function.

[2450] But Sections 82 and 85 seem to suggest that Section 7 must be applied when considering whether to decline.

[2451] This creates an apparent ambiguity.

[2452] The Bledisloe Wharf Fast-track Panel identified this ambiguity and proceeded on the basis that:

[2453] They did need to apply Section 7, but

[2454] To cover themselves, they also stated what their decision would be if they didn't need to apply it

[2455] Either way, they granted the approvals.

[2456] Kit Toogood (Chair):

[2457] Did they assume that panels under the Act are performing a judicial function?

[2458] Morgan Slyfield:

[2459] Yes — they made a clear statement to that effect.

[2460] Key Legal Issues for Deliberation

[2461] To conclude, here are some core legal issues you'll need to work through:

[2462] Whether you have the best available information — about:

[2463] The existing environment in the South Taranaki Bight

[2464] The impacts of the project

[2465] This comes from Section 61(1)(b) of the EEZ Act.

[2466] Whether there will be material harm to the environment — under Section 10(1)(b) of the EEZ Act

[2467] Continuing the list of key legal issues for your deliberation:

[2468] Will there be an adverse impact on existing interests?

[2469] This comes from Section 59(2) of the EEZ Act

[2470] Will granting consent with conditions and management plans adequately favour caution and environmental protection?

[2471] This is one of the information principles in the EEZ Act

[2472] It is only triggered if there is uncertainty or inadequacy in the information

[2473] TTR's position is that:

[2474] There is no inadequacy in the information

[2475] But there is inherent uncertainty in this environment

[2476] For example:

[2477] Some effects assessments rely on modelling, which inherently carries uncertainty

[2478] As the saying goes: "All models are wrong, but some are useful"

[2479] So TTR acknowledges that this part of the information principles is triggered, and the panel must assess whether the precautionary approach is adequately provided for.

[2480] How significant are the regional and national benefits?

[2481] This will be a key matter for your assessment

[2482] It sits on the other side of the scales in the proportionality test

[2483] Would granting approval breach Section 7?

[2484] TTR acknowledges strong opposition from iwi

[2485] There may be debate about whether Section 7 applies, and what it means

[2486] TTR does not consider this a linchpin, but expects it to be contested

[2487] Taking into account all proposed conditions, will the adverse impacts be out of proportion to the project's benefits?

[2488] This is the core proportionality test under Section 85

[2489] That concludes my overview of the legal framework.

[2490] I'm happy to take any questions.

[2491] Kit Toogood (Chair):

[2492] Thank you, Morgan.

[2493] Can I ask the same question I asked Mr Majurey?

[2494] Would you suggest that a discrete hearing on these legal issues — for example, the application of Section 7 — would be helpful?

[2495] Morgan Slyfield:

[2496] It could be, depending on what further information you receive from commenters.

[2497] If there's contest in this space, a focused hearing could be an efficient way to resolve it.

[2498] It wouldn't need to be lengthy — just:

[2499] Identification of the issue

[2500] Who the parties and stakeholders are

[2501] Pre-submission of written material

[2502] Then a short hearing

[2503] Kit Toogood (Chair):

[2504] Thank you. That's very helpful.

[2505] Now, can we just address you on the site visit proposal?

[2506] In your letter to the panel dated 22 August, you suggested a full-day site visit by vessel from Port Taranaki out to the site.

[2507] You said the visit would:

[2508] Give the panel a greater sense of the project's purpose

[2509] Show how you intend to recover and ship the VTM concentrates

[2510] Provide an opportunity to view the seabed within the proposed area

[2511] Allow inspection of the recovery equipment on board

[2512] We're wondering whether going out there would add significantly to the panel's understanding — beyond what's already available in the large volume of material and what we may receive from commenters.

[2513] Alan Eggers:

[2514] I understand where you're coming from — thank you.

[2515] When I say it puts things in perspective and context, I mean:

[2516] There's been a lot of commentary and questions around effects

[2517] Seeing the seabed and the remoteness of the site helps

[2518] It's one thing to read a report — it's another to see the location

[2519] It's a long day — four hours out, two or three hours on site, four hours back.

[2520] But it helps appreciate how remote the operation is, and how unlikely it is to affect things like:

[2521] Surf breaks

[2522] Shellfish gathering

[2523] Coastal recreation

[2524] I asked Alison if she'd go — she laughed and said, "No thanks, I've been out there many times."

[2525] But I thought you might want to ask marine scientists questions while on site.

[2526] Kit Toogood (Chair):

[2527] That raises a fundamental difficulty.

[2528] We're very grateful for the offer — but if we did go out there, what we learn would be evidence.

[2529] What we see and what we're told would be evidence related to the application.

[2530] To be fair to other participants, they would need to share in that evidence.

[2531] It wouldn't be consistent with natural justice for the panel to be out on the vessel, learning things about the proposed operation, without that information being available to other participants.

[2532] Alan Eggers:

[2533] A couple of things about that — and yes, that's true.

[2534] This was recommended by the panel convener, so we addressed it.

[2535] Kit Toogood (Chair):

[2536] I'm not suggesting it was wrong to make the proposal — just thinking through the practical implications.

[2537] Kit Toogood (Chair):

[2538] So for example, if we take the context of a civil case in the High Court, where there's an argument over a boundary or the height of trees affecting a view, a judge might go out and view the location.

[2539] But in those situations, the other parties — and their counsel — would be present, because what's taking place is effectively the giving of evidence to the decision-maker.

[2540] From a practical point of view, we would have to offer the same opportunity to everyone who has commented.

[2541] That's one of the fundamental problems I see with the proposed site visit.

[2542] Alan Eggers:

[2543] A number of them say they've been out there.

[2544] Kit Toogood (Chair):

[2545] I realise that — but I'm talking about process.

[2546] You're taking a practical view — I have to take a procedural and legal view.

[2547] Alan Eggers:

[2548] We're entirely in your hands on this, of course. It's up to the panel to decide whether or not you wish to take a site visit.

[2549] We've offered it, and given the rationale for it, I think it's entirely appropriate.

[2550] Kit Toogood (Chair):

[2551] We appreciate the offer, and we haven't decided yet what we'll do about it.

[2552] I just wanted to raise these issues so you appreciate the discussion we're having.

[2553] Morgan Slyfield:

[2554] Only a view driven by my RMA experience, which is:

[2555] It's very common for decision-makers in an RMA setting to undertake a site visit

[2556] The process is often less formal than in a High Court setting

[2557] The Environment Court is not bound by the rules of evidence — that's explicit in the RMA

[2558] So if this were an RMA hearing, and you thought it would be useful, it wouldn't be uncommon to do it.

[2559] Whether it's useful is your call — but there would need to be restrictions around:

[2560] Who accompanies you

[2561] What is said or shown

[2562] How it's treated as evidence

[2563] Kit Toogood (Chair):

[2564] Yes — if we're entering the mining area just to have a look, and no one is telling us anything, there's not much point.

[2565] I'm not suggesting the site visit is a bad idea, but in this almost unique situation, the practical difficulties of being fair to all participants render it somewhat impractical.

[2566] Morgan Slyfield:

[2567] I hear that, sir. I don't think I can add anything further.

[2568] Kit Toogood (Chair):

[2569] We're grateful for the offer, but we'll need to weigh the practical implications against the potential benefits.

[2570] Alan Eggers:

[2571] I was going to ask — I think it's important — and we seek your guidance on who you would want on the vessel with you.

[2572] You might not want me onboard!

[2573] Kit Toogood (Chair):

[2574] We would put conditions around the visit — including:

[2575] Who should attend

[2576] What the purpose is

[2577] How it's conducted

[2578] We appreciate that.

[2579] Kit Toogood (Chair):

[2580] All right — thank you.

[2581] Do you have any other questions or matters you want to raise?

[2582] Panel Members:

[2583] No — I'm good, thank you.

[2584] Kit Toogood (Chair):

[2585] Can I just conclude by thanking you all for the presentation.

[2586] We've remarked during adjournments how helpful this has been to our understanding of the application — and where to find the information — and to get a better feel for what you have in mind with the project.

[2587] You've clearly put in a considerable amount of work, and we appreciate that very much.

[2588] As I've said, the transcript of today's presentation will be made available on the website, so that those who couldn't attend can read it.

[2589] We may also undertake a similar exercise once we've received the comments and want to hear from those who have things to say about your application.

[2590] Thank you all very much.

[2591] Alan Eggers:

[2592] Thank you for taking the time and giving us the opportunity.

End of part four

End of Conference