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## EPA Analysis of Conditions Report

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Trans-Tasman Resources Limited offshore iron sand extraction and processing project – application for marine consents and marine discharge consents

May 2017

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## List of abbreviations

ABS	America Bureau of Shipping
BMP	Biosecurity Management Plan
CCMP	Collision (Loss of Position) Contingency Management Plan
CMA	Coastal marine area
DMC	Decision-making Committee
DOC	Department of Conservation
EEZ Act	Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012
EMMP	Environmental Monitoring and Management Plan
EPA	Environmental Protection Authority
HNZ	Heritage New Zealand Pouhere Taonga
Hz	Hertz
IMO	International Maritime Organisation
IMV	Integrated Mining Vessel
ISQG	ANZECC Interim sediment quality guidelines
Kupe Operator	Operator of the Kupe Petroleum Mining License #38146
m	Metre(s)
m <sup>3</sup> /hr	Cubic metres per hour
MMMP	Marine Mammal Management Plan
MNZ	Maritime New Zealand
OSPM	Operational Sediment Plume Model
PCEMP	Pre-commencement Environmental Monitoring Plan
PEMP	Post-extraction Monitoring Plan
RMS	Root Mean Square
SCMP	Spill Contingency Management Plan
SEMMP	Seabird Effects Mitigation and Management Plan
SIMOPP	Simultaneous Operations Plan
SSC	Suspended sediment concentration
t/hr	Tonnes per hour
TAM	Thruster Assisted Mooring
TRG	Technical Reference Group
µm	Micron (micro-metre)
µPa	Micro-Pascal

## 1. Introduction

1. My name is Rob Lieffering. I am a Technical Advisor to the Environmental Protection Authority (EPA) and was engaged in June 2016 to assist the EPA on various matters, including preparation of this Analysis of Conditions Report.
2. I hold the degrees of PhD, MSc (Hons), and BSc, all in Earth Sciences. I currently work for MWH, now part of Stantec, as a Senior Environmental Consultant and also work privately as an independent hearings commissioner (under the Resource Management Act 1991). My previous work experience includes holding the position of Consents Manager at Northland Regional Council and also Tasman District Council. In 2014 I worked for the EPA (on contract) as the decision support writer for two marine consent applications associated with offshore exploratory drilling in the Taranaki Basin.
3. I have read Trans-Tasman Resources Limited's (TTRL) application forms, the impact assessment (IA) and its appendices, the supporting technical documents, and the EPA's technical expert reviews. I previously prepared the Key Issues Report and the first Conditions Report for TTRL's application.

### 1.1. Background

4. On 23 August 2016 TTRL lodged an application for marine consents and marine discharge consents for various activities associated with a proposal to extract and process iron sand offshore within the area covered by Minerals Mining Permit (MMP) #55581, which is located within the South Taranaki Bight (STB).
5. As outlined in Section 1.1 (page 1) of TTRL's IA, in 2013 TTRL applied to the EPA for marine consents to extract and process iron sand from the same area but the applications were refused.

### 1.2. Purpose and scope of this conditions report

6. This Analysis of Conditions Report has been requested by the Decision-making Committee (DMC) and provides a detailed analysis of TTRL's latest set of proffered conditions – these being those attached to Dr Mitchell's Expert Supplementary Evidence dated 2 May 2017. In addition, this Analysis of Conditions Report recommends additional conditions should the DMC decide to grant the marine consents and marine discharge consents. The analysis presented is both my personal assessment, however I have drawn on advice provided to me by EPA staff, Maritime New Zealand, and Worksafe New Zealand.
7. It is important to note that the preparation of this Analysis of Conditions Report should not be interpreted by any party as the author recommending that the marine consents and marine discharge consents sought by TTRL should be granted.

## 2. Analysis of Conditions

### 2.1. Introduction and General Comments

8. TTRL has prepared a number of iterations of volunteered conditions. The changes have been made to the conditions in light of evidence presented during the hearing and also recommendations made in my earlier Conditions Report.
9. I consider that the latest set of conditions are presented in a much more logical order and are therefore easier to follow. There are, however, some reporting conditions included within the 'Environmental Limits' and 'Environmental Monitoring' sections and these would be better placed in the 'Reporting Requirements' section of the conditions.
10. A number of the conditions result in the EPA fulfilling the role of an arbitrator and such conditions should not be imposed. Proposed conditions 6(c), 8, and 9 all use the words '*...as determined by the EPA following advice from the TRG...*' in respect of making a decision on whether a '*significant*' change in the SSC statistics or species diversity and abundance has occurred (for conditions 6(c) and 8, respectively) and whether the macroinfauna benthic community has recovered (condition 9). These are critical matters in respect of compliance and it should not be left up to the EPA to make such determinations. What constitutes a '*significant*' change needs to be clearly specified in the conditions so that the EPA, as the consent authority, can enforce the conditions and check compliance with them.
11. The conditions require TTRL to prepare a large number of management and monitoring plans. In respect of the various monitoring plans, I consider that the monitoring locations, frequency and duration of monitoring, and what is to be monitored (i.e. where, what, and when) should be 'hard coded' in the conditions rather than embedded in the respective plan. Further, TTRL's proposed conditions would allow the locations, frequency, and duration to be amended through the conditions (with the approval of the EPA), however I consider that any changes to these should be by way of a formal application to change conditions provided for by section 87 of the EEZ Act. This would ensure that there is full transparency in respect of any changes and does not result in EPA staff acting as an arbitrator in respect of approving any such changes.
12. TTRL's conditions require various management and monitoring plans to be submitted to the EPA and almost all of them require the EPA to 'approve' the plans. Firstly, I consider that the term 'approve' needs to be changed to 'certify' because conditions should not be subject to secondary (or third party) approvals. Secondly, I do not consider that those plans that are either prepared under other Marine Management Regimes (MMRs) or are prepared in consultation with other parties or agencies need to be certified by the EPA. I do, however, recommend that these plans first be independently reviewed by a suitably qualified and experienced person and that they then be submitted to the EPA so that the EPA has a copy of the plan. The EPA can then monitor compliance through its compliance monitoring function and can take enforcement action if plans are found lacking. The only plans which the EPA should certify are the Pre-commencement Environmental Monitoring Plan (PCEMP), Environmental

Monitoring and Management Plan (EMMP), Post-extraction Monitoring Plan (PEMP), and the Operational Sediment Plume Model (OSPM). EPA staff have confirmed that they agree with this recommendation.

13. I support the approach of the latest set of conditions of including both discharge limits and receiving environment limits and the DMC will need to be satisfied that compliance with these will result in acceptable environmental effects. The discharge standards are drafted such that they are certain and enforceable, however some of the environmental limits (those discussed in paragraph 10 above) are currently ambiguous and need to be amended to make the conditions both certain and enforceable. Further, the DMC will need to be satisfied that the SSC statistics approach at the compliance sites is appropriate or whether some other SSC limit/standard should be applied instead.
14. The conditions do not include either 'The Crack' or 'The Project Reef' as compliance sites and if the DMC considers that these (or any other sites) should be included then changes need to be made to the conditions and schedules accordingly.
15. There are a large number of volunteered, or 'Augier', conditions which TTRL has included to presumably address concerns of various third parties with whom TTRL has consulted. It is still my view that many of these could be better accommodated by way of side agreements rather than being imposed as consent conditions. Such conditions, if imposed, become enforceable by the EPA and ensuring or checking compliance could become problematic. If the DMC considers that such conditions should be imposed then it must be satisfied that the following four elements have been met before imposing them:
  - a) A clear and unequivocal undertaking is given to the DMC and/or the other parties;
  - b) Receipt of the grant of consent is reliant on that undertaking;
  - c) The imposition of a condition which broadly encompasses the undertaking; and
  - d) Detriment to the other parties if the undertaking is not complied with.
16. The TTRL's conditions use various terms for both the material that is to be extracted/removed from the seabed<sup>1</sup> as well as the material that is to be returned to the seabed<sup>2</sup> following processing on the IMV. I recommend that a consistent terminology is used to avoid confusion. I recommend using the term 'seabed material' to cover the material extracted (of which iron sand is a component) and 'de-ored sediment' to cover the material returned to the seabed.
17. The TTRL conditions include a large number of timeframe references or requirements and these are variously expressed as days, working days, weeks, months, and years. I recommend that where such periods are less than two months that 'working days' is used, with the exception of the discharge and excavation limits specified in Conditions 5(c)(ii) and (d) where a weekly compliance limit is specified.

<sup>1</sup> The terms used include 'iron sand', 'sediment from the seabed', 'seabed material', and 'sediment'.

<sup>2</sup> The terms used include 'sediment', 'discharge', and 'de-ored sediment'.

## 2.2. Detailed Analysis of Conditions

18. An detailed analysis of TTRL's proposed conditions is presented in Table 1. It should be noted that I have not included Schedules 1 to 4 attached to TTRL's conditions and have not included the latitude/longitude table of Condition 33.
19. The first column presents TTRL's condition number and the second column presents the proposed wording together with my recommended changes. In some case I have highlighted words or terms which I consider require further consideration by the DMC or which require clarification from TTRL. Where I have formulated alternative wording for the condition I include that using ~~strikethroughs~~ to show recommended deletions and underlines to show recommended insertions. In the third column I provide comments regarding the highlighted words or terms and/or information/rationale for my suggested amendments.
20. Where I consider additional conditions should be included, I have inserted them where I think they best fit within TTRL's numbering and have given the new conditions suffixes (e.g. 66A) rather than attempting to renumber the entire set of conditions.
21. A number of TTRL's conditions and my suggested amendments make reference to various sections of the EEZ Act. A copy of those sections is presented in Appendix 1.

**Table 1. Analysis of TTRL Conditions**

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
<b>General Conditions</b>		
1	<p>Pursuant to <u>sections 73(1)(a) and 87H(1)</u> of the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (“EEZ Act”):</p> <ul style="list-style-type: none"> <li>a. The marine consents for <u>section 20</u> activities; and</li> <li>b. The marine discharge consents for <u>section 20B and section 20C</u> activities;</li> </ul> <p><del>will</del> <u>shall</u> expire 35 years after the date on which they <del>commence</del> <u>are granted</u>.</p>	<p>Section 73 of the EEZ Act states that the maximum duration is 35 years after the ‘<i>date of the granting of the consent</i>’ and this is different to when a consent ‘<i>commences</i>’ – the latter being defined in section 71 of the EEZ Act.</p> <p>Section 73 of the EEZ Act only applies to marine consents and reference needs to be made in this condition to section 87H of the EEZ Act in respect to the duration of the marine discharge consents.</p>
2	<p><u>Pursuant to section 85 of the EEZ Act</u>, <del>these</del> consents shall lapse ten (10) years after the date of their commencement unless the consents are given effect to prior to that date</p>	<p>Minor edits to ensure consistency in respect of referencing relevant section of the EEZ Act.</p>
3	<p>Subject to compliance with these consent conditions, the activities authorised by these consents shall be undertaken in general accordance with the application and supporting documents submitted as part of the <b>application</b> lodged on 22 August 2016 <del>and in addition to the requirements of the Maritime Transport Act and Marine Protection</del></p>	<p>As drafted, the condition only requires TTRL to undertake the activity in accordance with ‘the application’. The DMC will need to consider whether this condition needs to make reference to other material/reports which have been presented by TTRL during hearing.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><del>Rules.</del> Where information contained in the application documents is contrary to the conditions of these consents the conditions will prevail</p>	<p>The condition cannot require compliance with other legal requirements so reference to these should be deleted. This amendment is supported by MNZ.</p>
<b>Discharge Limits</b>		
4	<p>The Consent Holder shall not <del>remove</del> <u>extract</u> more than 12.5 million tonnes of seabed material during any three (3) month period, and 50 million tonnes of seabed material during any twelve (12) month period for the term of these consents.</p> <p>The Consent Holder shall continuously record the <del>amount</del> <u>mass</u> of seabed material <del>removed</del> <u>extracted</u> and report on this as part of the Quarterly Operational Report required by Condition 98.</p>	<p>Minor edits to ensure consistency in terminology used in other conditions (extract/extracted rather than remove/removed).</p> <p>The removal limits are expressed in ‘tonnes’ which is a measure of mass rather than ‘amount’.</p> <p>Note: The drafting of this condition means that the extraction limits will be assessed over a ‘rolling’ period(s).</p>
5	<p>The following limits shall apply:</p> <ul style="list-style-type: none"> <li>a. The rate of extraction of <del>sediment from the</del> seabed <u>material</u>, averaged over any monthly period, shall not exceed 8,000 tonnes per hour (“t/hr”); and</li> <li>b. The rate of discharge of de-ored sediment onto the seabed, averaged over any monthly period, shall not exceed 7,190 t/hr; and</li> </ul>	<p>Minor edits to ensure consistency in terminology.</p> <p>Note: drafting of this condition means that the limits will be assessed over fixed specified periods rather than ‘rolling’ period(s) and this differs to the way the limits in Condition 4 are expressed.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>c. The rate of discharge of de-ored sediment having a size of <b>&lt;38 microns ("µm")</b> shall not exceed:</p> <ul style="list-style-type: none"> <li>i. 130 cubic metres per hour ("m<sup>3</sup>/hr"), averaged over any 48 hour period; and</li> <li>ii. 83 m<sup>3</sup>/hr, averaged over any seven (7) day period; and</li> <li>iii. 66 m<sup>3</sup>/hr, averaged over any three (3) month period.</li> </ul> <p>d. Averaged over any one (1) week period, the extraction of <del>sediment</del> seabed material having a size of <b>&lt;8µm</b>, shall not exceed 1.8% of the total <del>sediment</del> seabed material extracted.</p> <p>For the purpose of (c) of this condition, the average value shall be derived from the analysis of one daily composite sample.</p> <p>For the purpose of (d) of this condition, the average value shall be derived from the analysis of a minimum of 20 representative samples of the excavated seabed material.</p> <p>The Consent Holder shall record Particle Size Distribution, and the rate and <del>volume</del> mass of the discharge of de-ored sediment continuously.</p> <p><u>The Consent Holder shall advise the EPA of any exceedance of the discharge limits specified in clauses (b) or (c) within 24 hours of any exceedance.</u></p>	<p>Clause (d) limits the amount of ultra fine (&lt;8 µm) seabed material that may be extracted, however clause (c) limits the discharge of &lt;38 µm de-ored sediment. The DMC should consider whether there needs to be a limit on the rate of ultra-fine (&lt;8 µm) de-ored sediment discharged back to the seabed. I note that this approach was contemplated during the 2013 TTRL application proceedings and a total mass per hour (mass flux) discharge rate limit as well as mass per hour discharge rate (mass fluxes) limits for fine sediment (&lt;90 µm) and ultra-fine sediment (&lt;8 µm) were included in Appendix A (Proposed Conditions) of that earlier decision.</p> <p>The DMC will need to be satisfied that these limits will result in acceptable effects on the environment and on existing interests.</p> <p>Including the information collected in accordance with this condition in the Quarterly Operational Report will mean that compliance with the specified limits will only be reported to the EPA every three months. I recommend that a new clause be included which requires TTRL to advise the EPA within 24 hours of any exceedances that are recorded as part of the continuous monitoring.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>The information collected in accordance with this condition shall be reported on as part of the Quarterly Operational Report required by Condition 98.</p>	
<b>Environmental Limits</b>		
6	<p><i>Sediments</i></p> <p>The activities authorised by these consents shall not result in:</p> <ol style="list-style-type: none"> <li>a. An exceedence of a Suspended Sediment Concentration Limit (“SSC Limit”) specified in Schedule 2; or</li> <li>b. An exceedence of any modified numerical values of an SSC Limit determined in accordance with Condition 46 (in which case a. above will no longer apply);or</li> </ol> <p>As determined by the EPA following advice from the TRG, any significant change of the 25<sup>th</sup>, 50<sup>th</sup>, 80<sup>th</sup> and 95<sup>th</sup> percentile Suspended Sediment Concentrations (“SSC”) at any of the seven monitoring sites identified in Schedule 2 when compared to the baseline SSC at those sites as determined by the validated OSPM (Condition 48) following the completion of PCEMP (Condition 43), but taking into account any wider environmental changes not related to mining activities.</p>	<p>As discussed in Paragraph 10 of this Report, the EPA should not be put in a position of making a determination as to what constitutes a “significant” change in the SSC statistics at the compliance sites.</p> <p>What constitutes a ‘significant’ change needs to be specified in this condition so that the EPA can check whether it is being complied with. I note that in paragraph 11(f)(i) of Dr Longdill’s ‘Comment on Sediment Plume Related Conditions’ (dated 28 March 2017) he states: ‘...the actual percentile values at the key sites is significantly greater than those “naturally occurring” values predicted by the OSPM (i.e. significant adverse effect if there is ANY measurable contribution due to the mining activity)’. I take this to mean that Dr Longdill is of the view that should be no allowable change in the SSC statistics rather than a ‘significant’ change in them. The modelling undertaken by TTRL clearly shows that there will be increases in the median SSC (and other statistics) at a number of the Schedule 2 sites.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
		<p>The seven sites listed in Schedule 2 do not include 'The Crack' or the 'Project Reef' and the DMC will need to decide whether these two sites (or any others) should be added to Schedule 2.</p>
7	<p>The activities authorised by these consents shall not result in an exceedance of any Interim Sediment Quality Guideline-High ("ISQG-High") value in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 ("ANZECC 2000"), or any subsequent versions thereof, at any of the seven monitoring sites identified in Schedule 2.</p> <p>For the purpose of these consents, any reference herein to either ISQG-High is deemed to be a reference to the ISQG-High values for metals, metalloids, organometallic and organic compounds provided in the ANZECC 2000, or any subsequent versions thereof.</p>	<p>The seven sites listed in Schedule 2 do not include 'The Crack' or the 'Project Reef' and the DMC will need to decide whether these two sites (or any others) should be added to Schedule 2.</p> <p>I recommend that the current ISQG-High concentrations be attached to these consents for easy reference.</p>
8	<p><i>Benthic Ecology</i></p> <p>The activities authorised by these consents shall not, as determined by the EPA following advice from the TRG, result in an ecologically significant change in the species diversity and abundance at the following monitoring sites when compared against the pre-commencement monitoring data as determined in accordance with</p>	<p>As discussed in Paragraph 10 of this Report, the EPA should not be put in a position of making the determination as to what ecological change is deemed to be 'significant'. What constitutes an ecologically significant change should be clearly specified in the condition as this is a key matter in respect of what the acceptable effects on the environment of allowing the activity are.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>Condition 43, but taking into account any wider environmental changes not related to mining activities:</p> <ul style="list-style-type: none"> <li>a. Rolling Grounds (WGS 1984 - 39 57 22.58780 S, 174 22 29.90885 E)</li> <li>b. Graham Bank (WGS 1984 - 39 53 16.22020 S 174 24 40.68384 E)</li> <li>c. Source A to Whanganui 20 km (WGS 1984 - 39 53 14.34932 S 174 27 08.62846 E)</li> <li>d. South Traps (WGS 1984 - 39 51 53.21010 S 174 32 48.75387 E)</li> <li>e. North Traps (WGS 1984 - 39 51 02.22374 S 174 31 10.63364 E)</li> </ul> <p>Tuteremoana (WGS 1984 - 39 55 00.03802 S 174 47 41.29085 E)</p>	<p>The monitoring sites listed in this condition do not include 'The Crack' or the 'Project Reef' and the DMC will need to decide whether these two sites (or any others) should be added to the list.</p>
9	<p><i>Benthic Recovery</i></p> <p>No later than five (5) years following the completion of all <del>iron sand</del> <u>seabed material</u> extraction within two (2) km of the location where extraction has first occurred, the Consent Holder shall be required to demonstrate that recovery of the macroinfauna benthic community at that location has occurred, provided that, <b>as determined by the EPA</b> following advice from the TRG, the annual monitoring results for that</p>	<p>As discussed in Paragraph 10 of this Report, the EPA should not be put in a position of making such a determination. The level of acceptable/allowable adverse effects on the environment of allowing the activity should be clearly defined in the conditions.</p> <p>It is unclear how any '<i>wider environmental changes not related to the mining activities</i>' will be determined.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>area (Condition 49) indicate that that such recovery is on track to be achieved.</p> <p>For the purpose of this condition, “recovery of the benthic environment” will have occurred when the macroinfauna communities at a specified location are within 15% of the average pre-mining total abundance, biomass and species richness, but taking into account any wider environmental changes not related to mining activities.</p>	<p>Of more importance is the fact that this condition does not specify what actions TTRL is required to take if recovery has not occurred or is not on track to be achieved.</p>
10	<p><i>Seabirds</i></p> <p>At all times during the term of these consents, the Consent Holder shall comply with the following:</p> <ul style="list-style-type: none"> <li>a. There shall be no adverse effects at a population level of seabirds of the species classified under the New Zealand Threat Classification System as “Nationally Endangered”, “Nationally Critical” or “Nationally Vulnerable” or classified “Endangered” or “Vulnerable” in the International Union for the Conservation of Nature “Red List”; and</li> <li>b. Adverse effects on seabirds, including but not limited to effects arising from: <ul style="list-style-type: none"> <li>i. Lighting;</li> </ul> </li> </ul>	<p>It is unclear what constitutes an adverse effect on seabirds at a population level and therefore what level of adverse effect on the environment has been authorised. Ongoing compliance monitoring will also be difficult for all parties given this ambiguity. The condition should define how this is to be assessed.</p> <p>Clauses (b) and (c) will also difficult to enforce as the highlighted words are ambiguous (not certain). However, I understand the intent is that the Seabird Effects Mitigation and Management Plan (“SEMMP”) required by Condition 61 would outline how the activities will achieve these requirements.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>ii. Spills; and</p> <p>iii. The effect of sediment in the water column on diving birds that forge visually, shall be avoided to the greatest extent practicable; and</p> <p>Adverse effects on seabirds from vessel lighting including the Integrated Mining Vessel (“IMV”), Floating Storage and Offloading Vessel and other support vessels shall be mitigated, and where possible practicable, avoided.</p>	<p>Suggested change because ‘...where possible...’ would mean that TTRL would need to exhaust all possible options, irrespective of their practicality or cost to avoid adverse effects.</p>
11	<p><del>Marine</del> <u>Marine Mammals</u></p> <p>Notwithstanding the requirements of Conditions 12, 32, 62 and 83, with respect to marine mammals (excluding seals), the Consent Holder shall ensure that:</p> <p>a. There are no adverse effects at a population level on:</p> <p>i. Blue whales; or</p> <p>ii. Marine mammal species classified under the New Zealand Threat Classification System as “Nationally Endangered”, “Nationally Critical” or “Nationally Vulnerable”; or</p>	<p>Minor edits, including to correct spelling.</p> <p>It is unclear what constitutes an adverse effect on marine mammals at a population level and therefore what level of adverse effects on the environment has been authorised. Ongoing compliance monitoring will also be difficult for all parties given this ambiguity. The condition should define how this is to be assessed.</p> <p>Clauses (b) will also be difficult to enforce as the highlighted words are ambiguous (not certain). However, I understand the intent is that the Marine Mammal Management Plan (“MMMP”) required by Condition 62 would outline how the activities will achieve these requirements.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>iii. Marine mammal species classified as “Endangered” or “Vulnerable” in the International Union for the Conservation of Nature “Red List”;</p> <p>b. Adverse effects on marine mammals, including but not limited to effects arising from:</p> <ul style="list-style-type: none"> <li>i. Noise;</li> <li>ii. Collision and entanglement;</li> <li>iii. Spills; and</li> <li>iv. Sediment in the water column, <b>are avoided to the greatest extent practicable.</b></li> </ul> <p>c. At all times during the exercise of these consents, at least one (1) designated and trained marine mammal observer is on-board each of the operational vessels, but not including bulk carriers. While the vessel is in motion, the observer shall be in a <del>position</del> <u>position</u> where a clear field of vision is provided over the forward section of the vessel and beyond the bow;</p> <p>d. A video camera is placed in a prominent position on all operational vessels where a clear field of vision is provided over the forward section of the vessel, beyond the bow and to the sides of the bow, and is recording at all times while the</p>	<p>I also note that clauses (c) to (m) do not strictly constitute ‘Environmental Limits’ and could be moved to their respective sections of the consent.</p> <p>The minimum standards to become a “qualified observer” are defined in the DOC Code of Conduct. I recommend that this should be the default standard for marine mammal observers.</p> <p>Advice notes are not conditions and therefore not enforceable. The two advice notes beneath this condition should form part of the condition in my view.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>vessel is in motion. Further to the camera, a monitoring screen shall be installed on the bridge of each vessel and the video feed from each of the cameras will be made available on the Consent Holder's website or such other website as may be established from time to time (Condition 76). The purpose of the cameras is to record passage of the vessels and any contact with marine mammals while in motion;</p> <p>e. All employees and contractors undertaking airborne, seagoing and watch-keeping duties are informed of their obligations under the Marine Mammals Protection Act 1978 and Marine Mammals Protection Regulations 1992 or any subsequent Regulations;</p> <p>f. All employees and contractors record any sightings of whales or dolphins including the date, time and, where possible, GPS position of the vessel;</p> <p>g. Any sightings of Maui's or Hector's Dolphins are immediately reported to the Department of Conservation ("DOC");</p> <p>h. Masters of all vessels are instructed to reduce speed to a safe minimum within 500 m of any large cetaceans and feeding aggregations of blue whales, and take all necessary steps to avoid contact with the animals by detouring around</p>	

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	<p>and, where practicable, maintaining a distance of at least 500 m from the animal/s;</p> <p>i. Helicopters servicing the operation (subject to compliance with Safety and Civil Aviation Authority requirements) maintain a minimum altitude of 600 m (2,000 feet) except when landing and taking off;</p> <p>j. Any marine mammal strikes, entanglements, injuries or deaths are reported to DOC and the EPA as soon as practicable, <u>but no later than five (5) working days</u>, following any such event;</p> <p>k. If a, strike, entanglement, injury or death involves Maui's or Hector's Dolphin, the carcass is recovered, DOC and the EPA are notified immediately of that recovery and the carcass is returned to shore as soon as <del>possible</del> <u>practicable, but no later than five (5) working days</u>, for collection by DOC subject to the Consent Holder's obligations under the Marine Mammals Protection Act 1978 or any subsequent Regulations;</p> <p>l. Records are kept of all sightings of marine mammals (except seals). All records shall be contained in an Observation Log</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>and be made available to EPA and / or DOC staff upon request and Annual Report required by Condition 99; and</p> <p>m. <del>Any other relevant operational response in relation to marine mammals that has been approved by the EPA is undertaken.</del></p> <p><u>For the purpose of this condition, any observer engaged by the Consent Holder shall be a qualified observer as defined in the 2013 Department of Conservation Code of Conduct for Minimising Acoustic Disturbance to Marine Mammals from Seismic Survey Operations (or any subsequent updated Code of Conduct). For the purpose of these consents, any observer engaged by the Consent Holder shall first be approved by the EPA in accordance with s67(3) of the EEZ Act.</u></p> <p><u>For the purpose of this condition, the term 'in motion' shall mean any period when the Consent Holder's operational vessels are moving under the power of their own engines, but shall not apply to the movement of the IMV at those times when it is anchored to the seabed.</u></p> <p><u>For the purpose of this condition, the term 'large cetaceans' shall mean any of the following marine mammal species:</u></p> <ul style="list-style-type: none"> <li><u>o All members of the <i>Mysticeti</i> group (i.e. Baleen whales); and / or</u></li> <li><u>o All members of the <i>Physeterioda</i> group (i.e. Sperm whales); and /</u></li> <li><u>or</u></li> <li><u>o All members of the <i>Ziphiodea</i> group (i.e. Beaked whales); and / or</u></li> </ul>	

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	<p><u>o All members of the <i>Globicephala</i> group (i.e. Pilot whales); and / or</u></p> <p><u>o All members of the <i>Orcinus</i> group (i.e. Killer whales).</u></p> <p><i>Advice note: For the purpose of this condition, the term 'in motion' refers to any period when the Consent Holder's operational vessels are moving under the power of their own engines, but does not apply to movement of the IMV at those times when it is anchored to the seabed.</i></p> <p><i>Advice note: For the purpose of this condition, the term 'large cetaceans' refers to any of the following marine mammal species:</i></p> <p><del>o All members of the <i>Mysticeti</i> group (i.e. Baleen whales); and / or</del></p> <p><del>o All members of the <i>Physeteridae</i> group (i.e. Sperm whales); and /</del></p> <p><del>o</del></p> <p><del>o All members of the <i>Ziphiidae</i> group (i.e. Beaked whales); and / or</del></p> <p><del>o All members of the <i>Globicephala</i> group (i.e. Pilot whales); and / or</del></p> <p><del>o All members of the <i>Orcinus</i> group (i.e. Killer whales).</del></p>	
12	<p><b>Underwater Noise</b></p> <p>At all times during the operation of marine vessels and / or project equipment, the Consent Holder shall comply with the following requirements in relation to underwater noise:</p> <p>a. The combined noise from the IMV and the Seabed Sediment Extraction Device ("Crawler") operating under representative</p>	<p>The DMC will need to be satisfied that these noise limits provide acceptable environmental protection. New evidence has been provided by TTRL (Dr Childerhouse and Mr Humpheson) on this matter.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>

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	<p>full production conditions shall be measured at a nominal depth of ten (10) m below the sea surface and at 300 m, 500 m, 750 m and 1,000 m from the port or starboard side of the IMV;</p> <p>b. The overall combined noise level at 500 m shall not exceed 130 dB re 1µPa RMS linear in any of the following frequency ranges: low frequency 10-100 Hz, mid-frequency 100-10,000 Hz, and high frequency &gt;10,000 Hz;</p> <p>c. The overall combined noise level at a nominal depth of ten (10) m below the sea surface and 500 m from the IMV, across all frequencies shall not exceed a sound pressure level of 135 dB re 1µPa RMS linear;</p> <p>d. Measurements shall be undertaken in calm sea conditions (e.g. Beaufort sea state less than 3 (beginning of white-capping)), with no precipitation and no external noise sources (e.g. passing ships);</p> <p>e. The monitoring equipment shall be calibrated before and after measurements; and</p> <p>f. The combined noise shall be monitored:</p> <p style="padding-left: 40px;">i. Within <del>one (1) month</del> <u>twenty (20) working days</u> of commencement of <del>iron sand</del> <u>seabed material</u></p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>extraction activities and if less than 80% of full production condition, a further measurement will be made within <del>one (1) month</del> <u>twenty (20) working days</u> of <del>iron sand seabed material</del> extraction activities reaching 90% of full production conditions;</p> <p>ii. An additional two times in the first twelve (12) months of the commencement of 90% of full production. Each measurement being separated by a period of at least six (6) months;</p> <p>iii. Annually for the following four (4) years;</p> <p>iv. Every five (5) years thereafter; and</p> <p>v. At any time reasonably requested by the EPA.</p> <p>Should the operation of the IMV and Crawler be altered in any way which may change the magnitude or character of the underwater noise production, the noise shall be monitored within <del>one (1) month</del> <u>twenty (20) working days</u> of the change to demonstrate compliance with Condition 12 (b) has been maintained.</p> <p><i>Advice note: For the purpose of this condition, the reference to “full production conditions” equates to an operational extraction of 8,000 tonnes per hour.</i></p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
13	<p>Within twenty (20) working days of any noise monitoring undertaken in accordance with Condition 12, the Consent Holder shall provide a detailed report on the monitoring and results to the EPA. As a minimum, this report shall include:</p> <ul style="list-style-type: none"> <li>a. Details of the equipment used and calibration methods used;</li> <li>b. A description of the measurement conditions and location; and</li> <li>c. A summary of the noise levels measured, including broadband and one third octave band frequency data and compliance of the operation with respect to the noise standards specified in Condition 12.</li> </ul>	<p>This condition requires a report to be prepared so it would be more appropriately located within the 'Reporting Requirements' section of these conditions.</p>
14	<p>Notwithstanding Conditions 4 - 13 above, the Consent Holder shall ensure that the activities authorised by these consents do not result in any adverse effects that were not anticipated at the time of the granting of these consents.</p>	<p>Enforcement will be difficult for the EPA. All relevant matters relating to allowable effects levels should be specified in separate conditions and I do not believe this condition adds anything to the consent.</p>
15	<p><b>Archaeological Remains (Shipwrecks)</b></p> <p>If any of the following:</p> <ul style="list-style-type: none"> <li>a. Steel;</li> <li>b. Brass;</li> </ul>	<p>The 'discovery area' should be defined by way of a spatial distance/area around the location of the find.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>c. Other metals in solid state;</p> <p>d. Manufactured or worked timbers; or</p> <p>e. Other material not naturally found in the <del>iron sand seabed</del> <u>material</u> extraction area,</p> <p>are discovered during <del>iron sand seabed material</del> extraction activities that are of potential historical or cultural importance, the Consent Holder shall immediately stop <del>iron sand</del> extraction activities within the <b>discovery area</b>.</p>	
16	<p>The Consent Holder shall record all discoveries made under Condition 15 and as a minimum record:</p> <p>a. GPS location and depth of the find;</p> <p>b. Photos of the find; and</p> <p>c. A detailed description of the find.</p> <p>This record shall be provided to an appropriately qualified and experienced archaeologist for interpretation and identification, and provided to the EPA and Heritage New Zealand Pouhere Taonga (“HNZ”) upon completion.</p>	
17	<p>Further to the requirements of Condition 16, the Consent Holder shall notify the EPA <u>within five (5) working days</u> of any discoveries made in accordance with Condition 15.</p>	<p>Timeframe for notification of discoveries to the EPA added.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>Additionally, the Consent Holder shall consult with HNZ and <b>iwi representatives</b> to confirm the origin and any other relevant information to the discovery including, as a minimum:</p> <ul style="list-style-type: none"> <li>a. What it is that has been discovered; and</li> <li>b. What the age of the discovery is.</li> </ul>	<p>It is unclear which iwi representatives need to be consulted. This should be specified in the condition by referring to representatives of all iwi in the Taranaki and Whanganui regions that have an interest in the South Taranaki Bight.</p> <p>MNZ notes that there is an independent obligation to notify it of any wrecks found but this does not need to be included in this condition.</p>
18	<p>If the discoveries under Condition 15 are found to be a legally protected archaeological site (origins pre-dating 1900), the Consent Holder shall obtain the relevant Archaeological Authority from HNZ prior to any <del>iron sand</del> <u>seabed material</u> extraction activities recommencing within the discovery area.</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
19	<p>The Consent Holder shall not recommence <del>iron sand</del> <u>seabed material</u> extraction activities in the discovery area until HNZ has confirmed the discovery does not qualify as a legally protected archaeological site (pre-1900 shipwreck) as described under the Heritage New Zealand Pouhere Taonga Act 2014 or the relevant Archaeological Authority has been obtained in accordance with Condition 18.</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>The Consent Holder shall inform the EPA of the outcome of any engagement with HNZ as soon as practicable, <u>but no later than five (5) working days</u>, following the completion of any engagement process.</p>	
<b>Operational Controls</b>		
20	<p><b><i>Vessel and Operational Management</i></b></p> <p>The Consent Holder shall ensure that when extracting seabed material using the Crawler, the cut depths shall not be deeper than eleven (11) m below the pre-mined seabed level and that only one (1) Crawler is in use, or in place, on the seabed at any time.</p> <p>The Consent Holder shall continuously record the cut depth of the Crawler and report on this as part of the Quarterly Operational Report required by Condition 98.</p>	
21	<p>The IMV shall be anchored to the seabed at all times when the Crawler is operating.</p> <p>Upon each resetting of any anchor, the Consent Holder shall undertake a 'proof-load test' for the anchor and keep a record of each test. In addition to recording the proof-loading tests, each test <del>should</del> <u>shall</u> be witnessed by the relevant Class society or Marine Warranty Surveyor.</p> <p>The record of all tests undertaken shall be made available to the EPA upon request following a review by a suitably qualified expert.</p>	<p>Minor edits to wording to provide more certainty.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>In situations where the mooring or thruster assistance of the IMV is in a degraded capability situation and is deemed unsafe by the Captain of the IMV, all Floating Storage and Off-loading transshipment operations <del>will</del> <u>shall</u> be ceased immediately and the IMV <del>will</del> <u>shall</u> be removed to a safe location until the capability situation is, in the opinion of the Captain of the IMV, deemed operationally safe.</p> <p><i>Advice note: In this condition, "safe location" is defined as "safe for the Consent Holder's personnel and assets, the Kupe assets, and shipping</i></p>	
22	<p>The discharge of all de-ored sediment from the IMV, shall take place by means of a dedicated pipe which discharges at a <del>nominal</del> distance of <u>not more than</u> four (4) m above the seabed.</p> <p>The height and GPS position of any mounds created on the seabed during the deposition of de-ored sediments shall be recorded and reported on in the Quarterly Operational Report required by Condition 98. Re-deposition mound heights shall be recorded with an accuracy for both height and location of +/- one (1) m.</p> <p><u>For the purpose of this condition, the 'seabed' is the area immediately below the point of discharge, whether that be the natural seabed or the base of the mining pit.</u></p>	<p>Checking compliance as to what a 'nominal distance of four (4) metres' is will be difficult and I recommend this be changed to make this more certain.</p> <p>I recommend the Advice Note form part of the condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><i>Advice note: For the purpose of this condition, the 'seabed' refers to the area immediately below the point of discharge, whether that be the natural seabed or the base of the mining pit.</i></p>	
23	<p>The direct deposition of de-ored sediment onto the seabed shall not occur within 300 m of the seaward boundary of the Coastal Marine Area.</p>	<p>A map showing the location of the Coastal Marine Area boundary and/or its GPS location details should be included to provide certainty as to the location of this boundary.</p>
24	<p>All pits remaining at the end of each mining lane shall be no deeper than ten (10) m maximum depth and five (5) m average depth below the pre-mined seabed level.</p> <p>The average and maximum depth and GPS position of any unfilled pits remaining after completion of a mining lane shall be recorded and reported in the Quarterly Operational Report required by Condition 98.</p> <p><i>Advice note: For the purpose of these consents, the term 'pit' refers to the pit that remains following the extraction of seabed materials by the Crawler.</i></p>	
25	<p>Consent Holder shall ensure that:</p> <ol style="list-style-type: none"> <li>a. Pits created by the removal of seabed material, other than those at the end of each mining lane, are backfilled using de-ored sediments; and</li> </ol>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>b. Other than at the commencement of each mining lane, all de-ored sediment is backfilled into the mining lanes.</p>	
26	<p>At all times during the term of these consents, the Consent Holder shall, to the greatest extent practicable, mitigate and where <del>possible</del> <u>practicable</u> avoid, any adverse effects on the environment or on existing interests (including infrastructure and operations of licences) as a result of mooring failure or loss of position.</p>	<p>Suggested change because '<i>...where possible avoid any adverse effects...</i>' would mean that TTRL would need to exhaust all possible options, irrespective of their practicality or cost to avoid adverse effects.</p>
27	<p>At all times during the term of these consents, the Consent Holder shall:</p> <p>a. Mitigate, and where <del>possible</del> <u>practicable</u> avoid, adverse biosecurity effects resulting from activities being undertaken by the IMV, Floating Storage and Offloading Vessel and other support vessels; and</p> <p>b. Ensure that there are effective procedures in place to manage biosecurity risk from overseas and domestic vessels.</p>	<p>Suggested change because '<i>...where possible...</i>' would mean that TTRL would need to exhaust all possible options, irrespective of their practicality or cost to avoid adverse effects.</p>
28	<p>The Consent Holder shall manage all activities associated with the <del>iron sand seabed material</del> extraction operations, including the project vessels and their operation, to ensure that the activities authorised by <del>this</del> <u>these consents</u> do not result in any adverse effects on the Operator</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	of the Kupe Petroleum Mining License #38146 (“the Kupe Operator”) Kupe assets and Infrastructure.	
29	<p><b>Spill Prevention</b></p> <p>At all times during the term of these consents, the Consent Holder shall undertake all necessary measures to ensure that there are no discharges or spills of oils or fuels from any of the operational vessels into any environment.</p>	MNZ has confirmed that condition does not conflict with MNZ managed requirements.
30	<p><del>Notwithstanding Condition 29, in the event that there is a discharge or spill of oil or fuels, the Consent Holder shall implement all necessary operational responses, including the measures set out in the Spill Contingency Management Plan (Condition 63), to ensure that any adverse effects associated with such event/s are remedied or mitigated.</del></p> <p><del>As soon as practicable, but no later than twenty four (24) hours following any spill or discharge of oil or fuels, the Consent Holder shall notify the EPA of any such event. Notification shall include a description of the event, its location and the Consent Holder’s response.</del></p>	MNZ has advised that this condition duplicates requirements under Marine Protection Rule (MPR) Parts 131 and 130A. It considers that compliance with this condition may result in a conflict between the two regimes. I recommend this condition be deleted accordingly.
31	<b>“Soft Starts”</b>	Minor edits to ensure consistency in terminology used in other conditions.

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>The Consent Holder shall ensure that any start-up, whether related to commencement or re-commencement after a break, of the <del>iron sand seabed material</del> extraction activities shall be completed as a “soft start” whereby equipment shall be gradually increased in power over a minimum of twenty (20) minutes. For clarity, a “soft start” includes noise from the IMV, Crawler and any associated plant.</p> <p>Soft starts may only commence in daylight hours and during good sighting conditions (visibility to at least 500 m).</p>	
32	<p>Prior to each start-up, the Consent Holder shall use suitably trained marine mammal observer(s), in accordance with Condition 83, to conduct pre-start observations over a 500 m radius (mitigation zone) surrounding the IMV for at least thirty (30) minutes to ensure no whales or dolphins are present within the mitigation zone.</p> <p>If any whales or dolphins are observed in the mitigation zone during pre-start observations, then the soft start shall be delayed until the mammals are seen to leave the mitigation zone or have not been detected within the mitigation zone for a further thirty (30) minutes from the last sighting.</p> <p>A record of pre-start observations shall be kept and made available to the EPA on request and included in the Quarterly Operational Report</p>	<p>The minimum standards to become a “qualified observer” are defined in the DOC Code of Conduct. I recommend that this should be the default standard for marine mammal observers.</p>

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	<p>required by Condition 98 and the Annual Report required by Condition 99.</p> <p><u>For the purpose of this condition, any observer engaged by the Consent Holder shall be a qualified observer as defined in the 2013 Department of Conservation Code of Conduct for Minimising Acoustic Disturbance to Marine Mammals from Seismic Survey Operations (or any subsequent updated Code of Conduct).</u></p> <p><del>Any observer engaged by the Consent Holder shall first be approved by the EPA in accordance with s67(3) of the EEZ Act.</del></p>	
33	<p><b><i>Mooring of the Integrated Mining Vessel</i></b></p> <p>All mooring lines and associated anchors for the IMV shall be located within the area bounded by the co-ordinates set out below and within the boundary shown in Schedule 4:</p> <p>[TABLE OF COORDINATES NOT REPEATED HERE]</p>	
34	<p>If any equipment or machinery greater than one (1) m x one (1) m in size is lost overboard from any project or operational vessel, the Consent Holder shall collect it from the seafloor as soon as practicable, <u>but no later than five (5) working days from the time it is lost overboard.</u></p> <p>Where it is not practicable to recover the item, the Consent Holder shall provide a description of the item (including dimensions) and record the</p>	<p>I recommend a five working day limit be imposed to remove equipment or machinery lost overboard.</p> <p>I understand that LINZ issues Notices to Mariners for matters affecting navigational safety so it should be notified rather than the Coastguard.</p>

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	<p>location and depth that the item was lost overboard. This information shall be provided to the EPA, <del>the Coastguard</del> <u>Land Information New Zealand (LINZ)</u>, and the Harbour Master (if within the twelve (12) nautical mile limit) and placed on the Consent Holder's website (Condition 76) within twenty four (24) hours of the item going overboard.</p>	
35	<p>Notwithstanding the requirements of Condition 34 the Consent Holder shall ensure that any equipment or structures involved with the extraction operations are removed from the seabed, no later than <del>one (1) month</del> <u>twenty (20) working days</u> following the cessation of the <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents.</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
36	<p><b><i>Other Discharges from Operational Vessels</i></b></p> <p>The Consent Holder shall not dispose of, or discharge, any chemicals or harmful substances at sea.</p> <p>All hazardous and/or oily waste shall be stored on board each project vessel for transport in suitable containers or packaging to <del>an authorised</del> <u>a shore side reception facility that is authorised to accept such material.</u></p> <p><u>The Consent Holder shall keep a record of all such material and the reception facility/facilities and make this information available to the EPA upon request.</u></p>	<p>MNZ advises that the condition duplicates maritime law for ships but does not consider this condition to be in conflict with MNZ managed regimes.</p> <p>I consider that TTRL should keep a record of this material and where this material is taken, including a requirement to provide this information to the EPA upon request.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	For the purpose of this condition, 'harmful substances' do not include any 'mining discharges' from the <del>iron sand</del> <u>seabed material</u> extraction activities as defined by <u>section 4</u> of the EEZ Act or any biodegradable hydraulic fluid / oils from the Crawler.	Minor edits to ensure consistency in terminology used in other conditions.
37	<p>All fuel used in the operational vessels shall have a sulphur content no greater than 3.5% (w/w) by weight.</p> <p>A record of all fuel used in, and the sulphur content of, any of the project vessels shall be kept and provided as part of the Annual Report required under Condition 99 and shall be made available to the EPA upon request.</p>	MNZ notes that New Zealand is not a party to MARPOL Annex IV, which requires fuel to have a maximum sulphur content of 0.5% m/m by 2020.
38	<p><b>Biosecurity Management</b></p> <p>All operational vessels carrying ballast water that travel to and from overseas ports, including bulk carriers, shall be required to have a shipboard ballast water treatment system as part of their charter agreements with the Consent Holder. The ballast water treatment system shall be in the Ministry for Primary Industry List of Approved Ballast Water Treatment Systems, or be an equivalent system approved by the International Maritime Organization.</p> <p>Any vessel that does not comply with the above requirements shall not be used for any part of the <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents, unless the vessel's Master can</p>	<p>I consider that TTRL should keep a record of the ballast management system of all vessels, including a requirement to provide this information to the EPA upon request.</p> <p>MNZ advises that new marine protection rules come into force on 8 September 2017 meaning that reference to the Ministry for Primary Industries' (MPI) Import Health Standard: Ballast Water from All Countries will not be relevant by the time TTRL starts operating. The requirement for a treatment system off the MPI list will be more stringent than Part 300 also referenced in this condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>demonstrate that the vessel complies with additional ballast water management options listed in the Ministry for Primary Industries' Import Health Standard: Ballast Water from All Countries, 16 December 2015, or any replacement rule or standard, including the Maritime New Zealand ("MNZ") Marine Protection Rules (Part 300: Ballast Water Management).</p> <p><u>The Consent Holder shall keep a record of the approved ballast water management for each vessel and shall provide this information to the EPA upon request.</u></p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
39	<p>The Consent Holder shall ensure that:</p> <ol style="list-style-type: none"> <li>a. All overseas <u>long-term stay</u> vessels that are to be <del>permanently</del> located <b>in the vicinity of the project area</b>, including but not limited to the IMV and Crawler; and</li> <li>b. All vessels servicing the <del>iron sand</del> <u>seabed material</u> extraction operation that regularly travel to and from overseas ports, including bulk carriers,</li> </ol> <p>meet the 'Clean Hull' for 'long-stay vessels' requirement specified in the Ministry for Primary Industries Craft Risk Management Standard: Biofouling on Vessels Arriving to New Zealand, 15 May 2014 ("the CRMS"), or any subsequent version thereof. For vessels permanently located <b>in the vicinity of the project area</b>, special measures to minimise</p>	<p>The term 'permanently' implies that the vessels will never leave the project area. It is recommended that this be change to capture 'long-stay vessels'.</p> <p>The term 'in the vicinity of the project area' is ambiguous and needs to be defined by way of a spatial distance or area measure.</p> <p>I recommend a change to the wording of this condition to provide more certainty that the measures to minimise biofouling risk are actually included, and not just 'considered as part of a' Biosecurity Management Plan.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>biofouling risk shall be <del>considered as part of a</del> <u>included in the</u> Biosecurity Management Plan (“BMP”) developed under Condition 66.</p> <p>Any vessel that does not comply with the above requirements shall not be used for any part of the <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents.</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
40	<p>Within twenty (20) working days of each anniversary of the commencement of these consents, the Consent Holder shall provide a copy of the ‘Biofouling Record Book’ (Condition 66 (b)(iv)) to a nominated representative of the Aquaculture Industry, as appointed by Aquaculture New Zealand, <del>and to the EPA.</del></p> <p><u>The Consent Holder shall provide a copy of the Biofouling Record Book to the EPA upon request.</u></p>	<p>Minor change to require a provision of this information to the EPA on request.</p>
41	<p>Vessels associated with operations authorised by these consents shall only enter and anchor in Admiralty Bay for the purpose of seeking shelter in adverse weather or vessel safety requirements, and under no circumstances shall any operational or maintenance activities, including the discharge of ballast water, be undertaken at this location unless:</p> <ol style="list-style-type: none"> <li>a. An emergency situation arises and, in the opinion of the vessel’s Master, there is no <del>realistic</del> <u>practicable</u> alternative; and</li> </ol>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p> <p>Additional requirement for TTRL to keep a record of any notification required under this condition and to make this information available to the EPA upon request. This will enable the EPA to check that TTRL has complied with the requirements of the condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>b. MNZ, the Marlborough District Council, Aquaculture New Zealand and a nominated representative of Ngati Koata are notified as soon as practicable, <u>but no later than five (5) working days</u>, following the occurrence of any such emergency event.</p> <p><u>The Consent Holder shall keep a record of all notifications required by this condition and shall provide this information to the EPA upon request.</u></p> <p><u>The Consent Holder does not need to comply with this condition in the event that the Director of MNZ directs a vessel to enter Admiralty Bay as a safe anchorage in accordance with the Maritime Safety Act 1994.</u></p>	<p>MNZ has requested that the condition be amended to ensure that if the Director of MNZ instructs a vessel to enter Admiralty Bay (as a safe anchorage) that such an instruction does not conflict with the requirements of this condition.</p>
42	<p>Prior to any vessels associated with operations authorised by these consents entering and anchoring in Admiralty Bay in accordance with Condition 41, the Consent Holder shall notify Ngati Koata as soon as reasonably practicable, <u>but no later than five (5) working days</u>, and, to the extent practicable:</p> <p>a. Provide the opportunity for a nominated representative from Ngati Koata to have input in the anchoring location within the bay; and</p> <p>b. Provide the opportunity for a nominated Ngati Koata iwi observer to monitor the presence of marine mammals.</p>	<p>Additional requirement for TTRL to keep a record of any notification required under this condition and to make this information available to the EPA upon request. This will enable the EPA to check that TTRL has complied with the requirements of the condition.</p> <p>Minor edits to ensure consistency in terminology used in other conditions</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><u>The Consent Holder shall keep a record of all notifications required by this condition and shall provide this information to the EPA upon request.</u></p>	
	<p><b>Pre-Commencement Monitoring</b></p>	
43	<p><b><i>Pre-commencement Environmental Monitoring Plan</i></b></p> <p>Prior to the commencement of any <del>iron sand seabed material</del> extraction activities, the Consent Holder shall ensure that a minimum of two (2) years of environmental monitoring has been undertaken <u>in accordance with the details provided in Schedule 5 (Pre-commencement Environmental Monitoring Requirements) attached to these consents</u> and shall, as a minimum, include monitoring of:</p> <ul style="list-style-type: none"> <li>• <del>Suspended sediment concentrations;</del></li> <li>• <del>Sediment quality;</del></li> <li>• <del>Subtidal and intertidal biology;</del></li> <li>• <del>Optical water quality;</del></li> <li>• <del>Physio-chemical parameters;</del></li> <li>• <del>Heavy metals;</del></li> <li>• <del>Seafood resources;</del></li> <li>• <del>Marine mammals;</del></li> </ul>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p> <p>I recommend that this condition be changed to either include the details of the pre-commencement monitoring that is required to be undertaken (like the details set out in Condition 12 above for noise) or, alternatively, that a Schedule which outlines the required monitoring be attached to these consents and referenced in this condition. My suggested amendments reflect the second option of attaching a Schedule (referenced as Schedule 5) to these consents, however I have not drafted the contents of this new Schedule. The details outlined in the Schedule should include:</p> <ul style="list-style-type: none"> <li>• The location of monitoring sites (GPS positions) – the DMC may decide it is appropriate to include additional sites not currently in the draft PCEMP such as ‘The Crack’ and ‘The Project Reef’;</li> </ul>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<ul style="list-style-type: none"> <li>• <del>Underwater noise;</del></li> <li>• <del>Seabirds;</del></li> <li>• <del>Commercial fishing;</del></li> <li>• <del>Beach profiles; and</del></li> <li>• <del>Recreational fishing.</del></li> </ul> <p>The Consent Holder shall prepare, and undertake pre-commencement environmental monitoring, in accordance with the procedures and methods, at the locations (including representative points around the Kupe Well Head Platform and along the pipeline and umbilical route), and for the duration and frequency detailed in the approved Pre-commencement Environmental Monitoring Plan (“PCEMP”) the <u>The purpose of which the pre-commencement environmental monitoring is to:</u></p> <ol style="list-style-type: none"> <li>a. Establish a set of environmental data that identifies natural background levels while taking into account spatial and temporal variation;</li> <li>b. Confirm the current understanding of the seasonality and natural variability of environmental parameters that will be monitored during <del>iron sand</del> seabed material extraction activities;</li> </ol>	<ul style="list-style-type: none"> <li>• What is to be monitored, including details of determinands (e.g. not just ‘heavy metals’); and</li> <li>• Frequency and duration of monitoring.</li> </ul> <p>The PCEMP should then outline the details of how the prescribed monitoring programme will be undertaken (e.g. methodologies, equipment, levels of accuracy etc). The PCEMP should also be reviewed by a suitably qualified and experienced person before it is submitted to the EPA for certification.</p> <p>Any changes to Schedule 5 would need to be formally through a request to change conditions of consent under section 87 of the EEZ Act.</p> <p>Change in terminology to reflect the EPA role as certifier rather than approver.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>c. Provide data to validate the background data used in the Operational Sediment Plume Model (Condition 47), which predicts the sediment transportation processes in the South Taranaki Bight; <del>and</del></p> <p>d. Provide data to verify that the 'SSC Limit' values in Schedule 2 are appropriate following the validation of the Operational Sediment Plume Model (Condition 47); <u>and</u></p> <p>e. Ensure compliance with all regulatory requirements and guidelines.</p> <p><u>The Consent Holder shall prepare a Pre-commencement Environmental Monitoring Plan ("PCEMP") which shall</u> <del>The PCEMP shall also</del> include:</p> <p>a) The roles and responsibilities of parties who are to undertake the pre-commencement environmental monitoring;</p> <p>b) Objectives for the pre-commencement environmental monitoring associated with these consents;</p> <p>c) All parameters being monitored, including sampling design, methodology, frequency, duration and monitoring locations;</p> <p>d) Details of data analysis and processing for all parameters being monitored; and</p> <p>e) Report methods for all parameters being monitored.</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>The PCEMP shall be prepared by a suitably qualified and experienced person(s) in general accordance with the draft PCEMP dated YYYY. The PCEMP shall then be independently peer reviewed <u>by a suitably qualified and experienced person(s)</u> and then reviewed by the Technical Review Group (“TRG”) (Condition 56) to confirm that the intended monitoring <u>will comply with the requirements specified in Schedule 5 attached to these consents</u> <del>meets the purposes of the PCEMP as set out in this condition.</del></p> <p>The PCEMP together with comments and recommendations of the TRG including, where necessary, an explanation as to why a TRG recommendation has not been accepted, shall be submitted to the EPA for <del>approval</del> <u>certification</u> in a technical certification capacity that the PCEMP meets the requirements of this condition.</p> <p>If within thirty (30) working days the EPA has not <del>approved</del> <u>certified</u> the PCEMP, or advised the Consent Holder that it has not yet been <del>approved</del> <u>certified</u>, the PCEMP will be deemed to have been so <del>approved</del> <u>certified</u>.</p> <p>The pre-commencement monitoring required by these consents shall be undertaken in accordance with the <del>approved</del> <u>certified</u> PCEMP.</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
44	<p>The Consent Holder may amend the PCEMP at any time, <del>but</del>. <u>Any PCEMP amendments shall be prepared by a suitably qualified and experienced person(s). The PCEMP amendments shall then be independently peer reviewed by a suitably qualified and experienced person(s).</u> <del>Any</del> changes will only come into effect once they have been <del>approved</del> <u>certified</u> by the EPA, acting in a technical certification capacity that such amendment is consistent with purposes of, and follows the preparation and review processes of, Condition 43, <del>and that the monitoring locations, duration and frequency of monitoring are representative and relevant to each of the environmental components being monitored.</del></p> <p>If within twenty (20) working days the EPA has not <del>approved</del> <u>certified</u> the amended PCEMP, or advised the Consent Holder that it has not yet been <del>approved</del> <u>certified</u>, the amended PCEMP will be deemed to have been so <del>approved</del> <u>certified</u>.</p> <p>Where <del>approval</del> <u>certification</u> for an amended plan is not received, the Consent Holder shall continue to use the plan which was in place prior to the lodgement of the amended plan.</p> <p><u>Minor amendments that take into account unforeseen circumstances, or that address circumstances that require immediate action on site do not need to be submitted in advance of the work being undertaken.</u></p>	<p>Any amendments to the PCEMP should be prepared and reviewed by suitably qualified and experienced persons before being submitted to the EPA for certification.</p> <p>Minor edits to ensure consistency in terminology used in other conditions</p> <p>Change in terminology to reflect the EPA role as certifier rather than approver.</p> <p>The monitoring locations, duration and frequency of monitoring should not be able to be amended without a formal change being applied for pursuant to section 87 of the EEZ Act. See also the comments above on Condition 43.</p> <p>I recommend that the Advice Note be included as part of the condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><u>provided the effects of such amendments are no greater than those provided for under these consents. The Consent Holder shall submit any such minor amendments to the EPA for certification as soon as practicable but no later than 5 working days of the minor amendments being made.</u></p> <p><i>Advice note: Minor amendments that take into account unforeseen circumstances, or that address circumstances that require immediate action on site do not need to be submitted in advance of the work being undertaken, provided the effects of such amendments are no greater than those provided for under the consents. The Consent Holder should submit any such amendments as soon as practicable.</i></p>	
45	<p>For the purpose of all monitoring in accordance with the conditions of these consents, the Consent Holder shall undertake monitoring at all required times except:</p> <ol style="list-style-type: none"> <li>a. During a mechanical or technical breakdown or malfunction of monitoring equipment; or</li> <li>b. Where monitoring equipment has been damaged or is being replaced; or</li> <li>c. Due to unforeseen circumstances.</li> </ol>	Minor edits to ensure consistency in terminology used in other conditions.

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>If any of the above situations occur the Consent Holder shall <del>immediately</del> <u>as soon as practicable</u>, but no later than twenty-four (24) hours following, notify the EPA of any such occurrence identifying:</p> <ul style="list-style-type: none"> <li>a) What monitoring was affected and for how long; and</li> <li>b) When the monitoring will recommence.</li> </ul>	
46	<p>Prior to the commencement of the <del>iron sand</del> <u>seabed material</u> extraction activities and following completion of the pre-commencement environmental monitoring required under Condition 43, the Consent Holder shall determine updated numerical values of the SSC Limits in Schedule 2 of these consents utilising the methodology specified in Schedule 3 <del>to the satisfaction of the EPA</del>. The review of the numerical values <del>must</del> shall be undertaken by suitably qualified and experienced person(s) and submitted to the TRG for review and comment prior to being submitted to the EPA.</p> <p>In the event that the <u>updated</u> numerical values of the SSC Limits as a result of monitoring are different from the numerical values of the SSC Limits in Schedule 2 of these consents, then the updated numerical values shall supersede the numerical values of the SSC Limits in Schedule 2 for the purpose of these consents</p> <p>Any change to the numerical values in accordance with this condition shall not require a change of consent conditions but are to be identified</p>	<p>The DMC will need to be satisfied that the SSC limits in Schedule 2 provide acceptable environmental protection. The limits are statistically derived and not necessarily 'hard' environmental threshold limits.</p> <p>If the DMC considers the statistically derived SSC limits approach to be appropriate then it needs to also satisfy itself that the review methodology specified in Schedule 3 is appropriate. If that is the case then there is no need for the EPA be further satisfied and hence my recommended deletion of this requirement in this condition.</p> <p>The insertion is a minor edit. Other minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	in the Environmental Monitoring and Management Plan (“EMMP”) required under Condition 50.	
	<b>Operational Sediment Plume Model</b>	
47	<p>At all times during the term of these consents, the Consent Holder shall maintain an Operational Sediment Plume Model (“OSPM”), in order to ensure that activities authorised by these consents comply with the conditions of these consents and to provide an effective mechanism to assist in:</p> <ol style="list-style-type: none"> <li>a. Predicting background and extraction derived Suspended Sediment Concentrations to inform the management of the <del>iron sand</del> <u>seabed material</u> extraction activities;</li> <li>b. Distinguishing operationally derived contributions to Suspended Sediment Concentrations from background processes; and</li> <li>c. Forecasting, as accurately as <del>possible</del> <u>practicable</u>, sediment plume dynamics including but not limited to: <ul style="list-style-type: none"> <li>• Intensity; and</li> <li>• Geographic spread.</li> </ul> </li> </ol> <p>The OSPM shall be run in real time forecast mode using up to date Met Ocean three (3), five (5), seven (7) or ten (10) day forecasts to inform</p>	<p>I suggest that ‘...<i>as accurately as possible</i>...’ be changed to ‘<i>as accurately as practicable</i>’. Extreme accuracy is presumably ‘possible’ but costs to achieve such accuracy could also be extreme.</p> <p>I consider that seabed material extraction should not commence until the OSPM has been reviewed and updated following the pre-commencement monitoring programme and it has been certified by the EPA.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p> <p>Change in terminology to reflect the EPA role as certifier rather than approver.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>the day to day mine operations and ensure that compliance with the SSC Limits specified in Condition 6 is maintained.</p> <p>The OSPM shall be developed and maintained by a suitably qualified and experienced person(s).</p> <p>The OSPM <del>is to</del> shall be updated and independently peer reviewed by a suitably qualified and experienced person at the following intervals:</p> <ul style="list-style-type: none"> <li>a) Once at the conclusion of the PCEMP period prior to any <del>iron sand</del> <u>seabed material</u> extraction activities; and</li> <li>b) During <del>iron sand</del> <u>seabed material</u> extraction activities immediately following each calibration and validation exercise at the frequencies defined in Condition 48.</li> </ul> <p>The scope of the OSPM independent review shall include the model, its calibration, validation, availability and applicability of data and the use of the OSPM in management of the <del>iron sand</del> <u>seabed material</u> extraction activities. The predictive fine sediment identification methods and sampling density (Condition 82) shall be included within the review scope.</p> <p>An OSPM report shall be prepared that summarises the establishment, calibration, validation, operation and updating of the OSPM. The OSPM report, including that updated OSPM, shall, together with the</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>independent peer review, be provided to the TRG for review prior to lodgement with the EPA.</p> <p>The OSPM report, including the updated OSPM, the comments and recommendations of the peer reviewer and the TRG, and explanations as to why any recommendation has not been accepted; shall be provided to the EPA for <del>approval</del> <u>certification</u> in a technical certification capacity, that the updated OSPM satisfies the requirements of this Condition 47. <u>If within thirty (30) working days the EPA has not certified the updated OSPM, or advised the Consent Holder that it has not yet been certified, the updated OSPM will be deemed to have been so certified.</u></p> <p><u>No <del>iron sand</del> seabed material extraction shall commence until the EPA has certified the updated OSPM required following the pre-commencement environmental monitoring period.</u></p> <p>The Consent Holder shall at all times operate an EPA <del>approved</del> <u>certified</u> OSPM. If <del>approval</del> <u>certification</u> of an updated OSPM is not received, the Consent Holder shall continue to use the <u>certified</u> OSPM that was in use prior to lodgement of the updated OSPM.</p>	
48	The Consent Holder shall calibrate and validate the OPSM at least:	Any changes to monitoring locations should be through a formal request to change conditions, not through the consent conditions.

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>a. Every six (6) months during the PCEMP and for the first three (3) years of <del>iron sand</del> <u>seabed material</u> extraction activities; and</p> <p>b. Every twenty-four (24) months thereafter, utilising the sediment data from the PCEMP (Condition 43), the Operational Assessment Report (Condition 82) and the on-going monitoring information collected in accordance with Conditions 49.</p> <p>The calibration and validation exercise shall review the modelled and measured sediment plume properties. The Consent Holder shall review whether the benthic ecology and SSC monitoring sites are appropriately located to detect any adverse effect of SSC and report the outcome of that review to the TRG under Condition 56(A)(b). Any change to the location of benthic ecology <u>or SSC</u> monitoring sites shall be by way of an <u>application to change conditions pursuant to section 87 of the EEZ Act amendment to the EMMP in accordance with Condition 54.</u></p>	<p>Minor edits to ensure consistency in terminology used in other conditions and cross reference to condition.</p>
<b>Environmental Monitoring Requirements</b>		
49	<p>Following the completion of the pre-commencement monitoring <del>provided for in</del> <u>required by</u> Condition 43 and the review of the SSC Limits under Condition 46, the Consent Holder shall <u>undertake</u> <u>environmental monitoring in accordance with the details provided in</u></p>	<p>For the same reasons discussed above for Condition 43, I consider that a Schedule 6 (Operational Environmental Monitoring Requirements) should be attached which defines the monitoring locations, what is to be monitored, and frequency/duration of the ongoing environmental</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><u>Schedule 6 (Operational Environmental Monitoring Requirements)</u> attached to these consents, as a minimum, <b>undertake monitoring of:</b></p> <ul style="list-style-type: none"> <li>• <del>Suspended Sediment Concentrations, as measured from grab samples and as calculated from continuous turbidity measurements;</del></li> <li>• <del>Sediment quality;</del></li> <li>• <del>Subtidal and intertidal biology;</del></li> <li>• <del>Optical water quality;</del></li> <li>• <del>Physio-chemical parameters;</del></li> <li>• <del>Heavy metals;</del></li> <li>• <del>Seafood resources;</del></li> <li>• <del>Marine mammals;</del></li> <li>• <del>Underwater noise;</del></li> <li>• <del>Beach profiles; and</del></li> <li>• <del>Recreational fishing.</del></li> </ul> <p>The Consent Holder shall prepare, and undertake environmental monitoring in accordance with the procedures and methods, at the locations, and for the duration and frequency detailed in the approved EMMP required by Condition 50.</p>	<p>monitoring. The DMC may decide it is appropriate to include additional sites such as “The Crack” and “The Project Reef” in Schedule 6. The EMMP would then outline how the required monitoring would be undertaken (e.g. methodologies, equipment, levels of accuracy etc).</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
50	<p>The Consent Holder shall ensure that monitoring required by Condition 49 is appropriate to ensure that the activities authorised by these consents do not result in any adverse effects that were not anticipated at the time of the granting of these consents.</p> <p>The Consent Holder shall prepare an Environmental Monitoring and Management Plan (“EMMP”) which shall, as a minimum:</p> <ol style="list-style-type: none"> <li>a. Identify the sampling design and methodology for all monitoring required to be undertaken in accordance with Schedule 6 attached to these consents for each of the parameters being monitored, including the frequency, duration and monitoring locations;</li> <li>b. Describe how the results of the pre-commencement environmental monitoring programme provided for in the PCEMP has been incorporated into the EMMP (Condition 43);</li> <li>c. Outline the process for the on-going validation of the OSPM including the calibration and validation of the plume component of the model (Condition 47);</li> <li>d. Identify all the limits specified in the conditions of these consents contained in the ISQG-High values (Condition 7);</li> </ol>	<p>The EMMP should outline how the monitoring required by Condition 49 and Schedule 6 will be undertaken.</p> <p>In relation to clause (d), this should include all ‘limits’ specified in the conditions of these consents.</p> <p>The EMMP should be reviewed by a suitably qualified and experienced person before being submitted to the EPA for certification.</p> <p>No seabed material extraction should be allowed until the EMMP has been certified by the EPA.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p> <p>Incorrect reference to PCEMP corrected.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<ul style="list-style-type: none"> <li>e. Specify procedures for comparing the monitoring data against the background data that assist in determining if any activities authorised by the consents have resulted in adverse effects that were not anticipated at the time of the granting;</li> <li>f. Identify the TRG membership, and their evaluation process in accordance with Conditions 56 - 60;</li> <li>g. Identify the operational responses to be undertaken if unanticipated adverse effects are identified;</li> <li>h. Detail data analysis and processing for all parameters being monitored; and</li> <li>i. Define the reporting methods and schedule for all parameters being monitored.</li> </ul> <p>The EMMP shall be prepared by a suitably qualified and experienced person(s) in general accordance with the draft EMMP dated YYYYYY. The EMMP shall then be independently peer reviewed <u>by a suitably qualified and experienced person(s)</u> and then reviewed by the TRG (Condition 56) to confirm that the intended monitoring meets the purposes of the EMMP as set out in this condition.</p> <p>The EMMP together with comments and recommendations of the TRG including, where necessary, an explanation as to why a TRG</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>recommendation has not been accepted, shall be submitted to the EPA for approval <u>certification</u> in a technical certification capacity that the <u>PCEMP EMMP</u> meets the requirements of this condition.</p> <p><del>The environmental monitoring required by these consents shall be undertaken in accordance with the approved EMMP and shall commence no later than one (1) month prior to the commencement of the iron sand extraction activities authorised by these consents.</del> [CLAUSE MOVED TO LATER IN THIS CONDITION]</p> <p>If within <del>twenty (20)</del> <u>thirty (30)</u> working days the EPA has not <del>approved</del> <u>certified</u> the EMMP, or advised the Consent Holder that it has not yet been <del>approved</del> <u>certified</u>, it will be deemed to have been so <del>approved</del> <u>certified</u>.</p> <p><u>No seabed material extraction shall commence until the EMMP has been certified by the EPA.</u></p> <p><u>The environmental monitoring required by these consents shall be undertaken in accordance with the EPA certified EMMP and shall commence <del>no later than one (1) month</del> at least twenty (20) working days prior to the commencement of the seabed material extraction activities authorised by these consents.</u></p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
51	<p>The Consent Holder may amend the EMMP at any time, <del>Any</del> <u>amendments to the EMMP shall be prepared by a suitably qualified and experienced person(s). The amendments to the EMMP shall then be independently peer reviewed by a suitably qualified and experienced person(s).</u> <del>but a</del> Any changes will only come into effect once they have been <del>approved</del> <u>certified</u> by the EPA, acting in a technical certification capacity that:</p> <ul style="list-style-type: none"> <li>a. Such changes are consistent with the requirements of Conditions 49 and 50; and</li> <li>b. The processes set out in Condition 50 have been followed; and</li> <li><del>c. The monitoring locations, and the duration and frequency of monitoring, continue to be representative and relevant to each of the environmental components being monitored; and / or</del></li> <li>d. <del>The change in monitoring location or timing of monitoring is necessary to reflect operational changes, or c</del> <u>Changes in methodology are necessary or appropriate</u> due to advances in technology or scientific understanding.</li> </ul> <p>If within twenty (20) working days the EPA has not <del>approved</del> <u>certified</u> the amended EMMP, or advised the Consent Holder that it has not yet</p>	<p>Any amendments to the EMMP should be prepared and reviewed by suitably qualified and experienced persons before they are submitted to the EPA for certification.</p> <p>Any changes to the monitoring locations, duration or frequency should be made by way of a formal application to change conditions pursuant to section 87 of the EEZ Act, not through conditions of consent.</p> <p>The Advice Note should be included in the condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>been <del>approved</del> <u>certified</u>, the amended EMMP will be deemed to have been so <del>approved</del> <u>certified</u>.</p> <p>Where <del>approval</del> <u>certification</u> for an amended plan is not received, the Consent Holder shall continue to use the plan which was in place prior to the lodgement of the amended plan.</p> <p><u>Minor amendments that take into account unforeseen circumstances, or that address circumstances that require immediate action on site do not need to be submitted in advance of the work being undertaken, provided the effects of such amendments are no greater than those provided for under these consents. The Consent Holder shall submit any such minor amendments to the EPA for certification as soon as practicable but no later than 5 working days after the minor amendments are made.</u></p> <p><del>Advice note: Minor amendments that take into account unforeseen circumstances on site, or that address circumstances that require immediate action do not need to be submitted in advance of the work being undertaken, provided any effects of such amendments are no greater than those provided for under these consents. The Consent Holder should submit any such amendments as soon as practicable.</del></p>	
52	<b>Post-Extraction Benthic Recovery Monitoring</b>	For the same reasons discussed above for Condition 43, I consider that a Schedule 7 (Post-construction Environmental Monitoring

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>Following the completion of the <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents, the Consent Holder shall undertake <u>at least five (5) years of post-extraction monitoring in accordance with the details provided in Schedule 7 (Post-construction Environmental Monitoring Requirements) attached to these consents of the biological environment, including heavy metal concentrations, within the consent area and its surrounds</u>, the purpose of which is to <del>demonstrate that</del> <u>assess whether the</u> recovery of the benthic environment, as defined in Condition 9, has been achieved.</p> <p>At least three (3) months prior to the completion of the <del>iron sand</del> <u>seabed material</u> extraction activities, the Consent Holder shall provide to the EPA for <del>approval</del> <u>certification</u> in a technical certification capacity, a Post-extraction Monitoring Plan ("<u>PEMP</u>") which shall, as a minimum, include:</p> <ol style="list-style-type: none"> <li>a. The roles and responsibilities of parties who are to undertake each aspect of the environmental monitoring;</li> <li>b. Objectives for the post-extraction monitoring associated with these consents;</li> <li>c. A description of the TRG, their role and their evaluation process in accordance with Conditions 56 - 60;</li> </ol>	<p>Requirements) should be attached which defines the monitoring locations, what is to be monitored, and frequency/duration of the post-extraction environmental monitoring. The PEMP would then outline how the required monitoring would be undertaken.</p> <p>It is recommended that clause (e) of this condition include all the relevant environmental limits set in the conditions of these consents to determine there has been no unanticipated adverse effects.</p> <p>Clause added requiring the PEMP to be prepared by a suitably qualified and experienced person and that it gets independently peer reviewed by a suitably qualified and experienced person and then reviewed by the TRG. This is consistent with the preparation requirements of the PCEMP and EMMP.</p> <p>Clause added to confirm that all post-extraction monitoring must be undertaken in accordance with the EPA certified PEMP.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>d. Identification of the sampling design and methodology for each of the parameters being monitored, <del>including the frequency, duration and monitoring locations;</del></p> <p>e. Procedures for comparing the monitoring data against the background data, <u>and relevant environmental limits specified in the conditions of these consents</u> that will assist in determining if the biological environment within the extraction area is recovering following the completion of the extraction activities;</p> <p>f. Details of data analysis and processing for all parameters being monitored; and</p> <p>g. Reporting methods for all parameters being monitored.</p> <p><u>The PEMP shall be prepared by a suitably qualified and experienced person(s). The PEMP shall then be independently peer reviewed by a suitably qualified and experienced person(s) and then reviewed by the TRG (Condition 56) to confirm that the intended monitoring meets the purposes of the PEMP as set out in this condition.</u></p> <p>If within <del>twenty (20)</del> <u>thirty (30)</u> working days the EPA has not <del>approved</del> <u>certified</u> the <del>PEMP Post-extraction Monitoring Plan</del>, or advised the Consent Holder that it has not yet been <del>approved</del> <u>certified</u>, it will be deemed to have been so <del>approved</del> <u>certified</u>.</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><u>The post-extraction monitoring shall be undertaken in accordance with the certified PEMP.</u></p>	
53	<p>Within twenty (20) working days of each anniversary of the commencement of the post-extraction monitoring programme, the Consent Holder shall, following consultation with the TRG, prepare and lodge with the EPA, an Annual Post-extraction <b>Monitoring Report</b> that includes as a minimum:</p> <ol style="list-style-type: none"> <li>a. The monitoring undertaken in the previous twelve (12) month period;</li> <li>b. The monitoring to be undertaken in the next twelve (12) month period;</li> <li>c. Data collected from the monitoring undertaken <u>and a comparison against all the relevant environmental limits specified in the conditions of these consents;</u></li> <li>d. Any remediation undertaken and the results of any such remediation;</li> <li>e. A summary of any commentary or recommendations from the TRG and, where necessary, an explanation as to why any TRG recommendation has not been accepted; and</li> </ol>	<p>As this conditions requires a Report to be prepared it may be better placed in the “Reporting Requirements” section of these conditions.</p> <p>Regarding clause (c) It is recommended that the report include a comparison against all relevant environmental limits set in the conditions of these consents.</p>

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	<p>f. A summary report of the findings of the monitoring undertaken with conclusions drawn as to the recovery and overall biological health of the extraction area.</p>	
54	<p>Within <del>sixty (60) working days</del> <u>three (3) months</u> of the completion of the post-extraction monitoring programme, the Consent Holder shall, following consultation with the TRG, prepare and lodge with the EPA, a Final Post-extraction <b>Monitoring Report</b> that includes as a minimum:</p> <p>a. A summary of all of the monitoring undertaken in the previous <del>forty-eight (48) months</del> <u>four (4) year</u> period;</p> <p>b. A summary report of the findings of the monitoring undertaken, <u>including a comparison against all the relevant environmental limits specified in the conditions of these consents, and with</u> conclusions drawn as to the recovery and overall biological health of the <del>iron sand seabed material</del> extraction area; and</p> <p>c. Identification of any commentary or recommendations from the TRG and, where necessary, an explanation as to why any TRG recommendation has not been accepted.</p>	<p>As this conditions requires a Report to be prepared it may be better placed in the “Reporting Requirements” section of these conditions.</p> <p>Regarding clause (b), it is recommended that the report include a comparison against the environmental limits set in the conditions of these consents in drawing conclusions about biological health.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>
55	<b>Laboratory Accreditation</b>	

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	All laboratory based analyses undertaken in conjunction with the requirements of these consents shall be performed by an IANZ accredited laboratory or, where applicable, any other accredited laboratory.	
<b>Technical Review Group</b>		
56	<p>A) At least six (6) months prior to the commencement of the PCEMP required by Condition 43, the Consent Holder shall provide for the formation of a TRG, the role of which is to provide technical advice to the Consent Holder, including but not limited to the following:</p> <p>a. Prior to their lodgement with the EPA, review and advise on the appropriateness of the monitoring provided for in the PCEMP and <del>EEMP</del> <u>EMMP</u> (Conditions 43 and 50), and any review of the PCEMP and <del>EEMP</del> <u>EMMP</u> (Conditions 44 and 51);</p> <p>b. Compare the monitoring data against the pre-commencement data in order to assist in determining if any activities authorised by these consents have resulted in adverse effects on the marine environment that were not anticipated at the time of the granting;</p>	<p>I recommend that this condition be better split in to (A) to (F) as there are multiple requirements within the condition.</p> <p>Corrections made to EMMP references.</p> <p>The Consent Holder cannot review the conditions of consent, only the EPA can do this pursuant to section 76 of the EEZ Act (and as provided for in Condition 101 of these consents). Therefore clause (f) needs amending so that the TRG can recommend that the Consent Holder request that the EPA instigate a review of conditions in accordance with Condition 101. Other amendments to clause (f) reflect the wording of section 76 of the EEZ Act.</p>

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	<p>c. Consider and make recommendations on the need for any new parameter to be monitored in accordance with Conditions 49 and 50;</p> <p>d. Community knowledge and “matauranga maori” issues when reviewing the monitoring data;</p> <p>e. The environmental management component of the <del>iron sand</del> <u>seabed material</u> extraction activities by an annual data review whereby each year’s monitoring results will be tabulated, reviewed, and compared against the previous monitoring data collected; and</p> <p>f. Make recommendations to the Consent Holder that <u>it recommends to the EPA that a review of the consent conditions in accordance with Condition 101 of these consents be instigated</u> <del>be undertaken</del> for the purpose of <del>avoiding, remedying or mitigating</del> <u>dealing with any</u> adverse effects on the environment which may arise from the exercise of these consents and which it is appropriate to deal with at a later stage.</p> <p>B) The Consent Holder shall invite the following parties to nominate one suitably qualified and experienced representative to be involved in the TRG:</p>	<p>I have included a new Advice Note (and a reference to it in Clause (C) of this condition) which refers to the Consent Holders obligations under new Condition 76A.</p> <p>Additional words added to require TTRL to have the TRG membership covering all the specified expertise fields.</p>

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	<ul style="list-style-type: none"> <li>• The Consent Holder;</li> <li>• Taranaki Regional Council;</li> <li>• Fisheries Inshore New Zealand;</li> <li>• The Kaitiakitanga Reference Group (Condition 68);</li> <li>• Te Tai Hauauru Regional Fishing Forum;</li> <li>• DOC; and</li> <li>• The Kupe Operator.</li> </ul> <p>Each representative shall have specialist expertise in one or more of the key environmental, ecosystem, matauranga maori (Maori traditional knowledge) and engineering components being monitored.</p> <p>C) In the event that a Kaitiakitanga Reference Group, as specified in Condition 68, is not formed the Consent Holder is not required to extend an invitation to any alternative party <u>(refer also to the Advice Note below this condition)</u>.</p> <p>D) In the event that Fisheries Inshore New Zealand do not accept the invitation to nominate a representative, the Consent Holder shall invite Sanford Limited to do so.</p> <p>E) At any time during the term of these consents, any party who appoints a representative to the TRG may change that</p>	

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	<p>representative on the basis that any new representative also has the relevant qualifications and experience.</p> <p>F) At any time during the term of these consents, including if any party is not able, for whatever reason, to provide a representative to the TRG, the TRG may recommend to the Consent Holder that other suitably qualified and experienced specialists be seconded, or technical studies be commissioned for the proper exercise of the TRG functions. The decision on whether to act on such a recommendation will rest with the Consent Holder after consultation with the EPA, <u>however the Consent Holder shall ensure that the TRG always has a membership which includes specialist expertise in all of these specified fields.</u></p> <p><i><u>Advice Note: In respect of clause (C), the Consent Holder is still required to comply with Condition 75A.</u></i></p>	
57	<p>The Consent Holder shall maintain the TRG for the duration of these consents, and beyond as necessary, to provide for the review and commentary on any post-extraction monitoring undertaken in accordance with these consents.</p>	

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58	<p>The Consent Holder shall convene meetings of the TRG:</p> <ul style="list-style-type: none"> <li>a. Annually, following the completion of each year of monitoring, during the pre-commencement environmental monitoring period;</li> <li>b. Then, for the first five (5) years following the commencement of the <del>iron sand</del> <u>seabed material</u> extraction activities, on a quarterly basis (during the months of January, April, July and October of each year) with one meeting to occur following completion of each annual monitoring period;</li> <li>c. Then annually, following completion of each annual monitoring period, for the duration of these consents;</li> <li>d. Then annually, following the completion of each annual post-extraction monitoring period; and</li> <li>e. At any other time requested by the Consent Holder.</li> </ul> <p>For the purpose of this condition, the 'annual monitoring period' is the twelve (12) month period commencing in the month in which the pre-commencement environmental monitoring or the operational environmental monitoring commenced. Further, the 'annual post-extraction monitoring period' is the twelve (12) month period</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>

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	commencing in the month following the month that the <del>iron sand</del> <u>seabed material</u> extraction activities ceased.	
59	The Consent Holder shall fund the administration of each meeting of the TRG and shall meet all actual and reasonable costs incurred by any other specialists seconded to the TRG, as provided for in Condition 56.	
60	Minutes of each of the TRG meetings, including the identification of any disagreements between the TRG members and any recommendations provided by the TRG to the Consent Holder, shall be taken and forwarded to its members, the Consent Holder, the Kaitiakitanga Reference Group, and the EPA, and provided on the Consent Holder's website (Condition 76), within ten (10) working days of any meeting being held.  <u>Minutes of each meeting shall also be summarised in the Annual Report required by Condition 99.</u>	Additional clause added which would require a summary of the minutes to be included in the Annual Report.
<b>Management Plans</b>		
61	<b><i>Seabird Effects Mitigation and Management Plan</i></b>	Minor edits. Implementation of the SEMMP is specified in the later part of this condition so does not need to be stated in the first part of the condition.

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	<p>The <del>e</del>Consent <del>h</del>Holder shall prepare, and implement, a Seabird Effects Mitigation and Management Plan (“SEMMP”) that has been prepared following consultation with DOC, which shall, as a minimum, set out:</p> <ul style="list-style-type: none"> <li>a. How compliance with Condition 10 will be achieved;</li> <li>b. Set out indicators of adverse effects due to mortality or injury of seabirds of the species classified under the New Zealand Conservation Status as “Nationally Endangered”, “Nationally Critical” or “Nationally Vulnerable” or classified “Endangered” or “Vulnerable” in the International Union for the Conservation of Nature “Red List”;</li> <li>c. Identify responses / actions to be undertaken by the Consent Holder if the indicators in (b) are reached; and</li> <li>d. Outline any monitoring requirements for bird strike due to vessel lighting and, where necessary, provide for procedures to alter vessel lighting and vessel operations to reduce the incidence of bird strike.</li> </ul> <p>The SEMMP shall be prepared by a suitably qualified and experienced person(s) in general accordance with the draft SEMMP dated YYYYYY, <del>and</del>. <u>The SEMMP shall then be independently peer reviewed by a suitably qualified and experienced person(s) to ensure that the requirements of this condition have been met before it is submitted to</u></p>	<p>New clause added which prevents seabed material extraction commencing until the peer reviewed SEMMP has been submitted to the EPA.</p> <p>I recommend that the SEMMP should be peer reviewed by a suitably qualified and experienced person before it is submitted to the EPA.</p> <p>The EPA does not consider it necessary for the SEMMP to be certified by the EPA. This is because a clear outcome has be set (i.e. condition 10(a)), it relates to another MMR, it will be developed in consultation with DOC, and also independently peer reviewed. The plan can be monitored for compliance as part of the EPA’s compliance monitoring function.</p>

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	<p><del>the EPA for approval in a technical certification capacity that the requirements of this condition have been met.</del></p> <p><u>No seabed material extraction shall commence until the independently peer reviewed SEMMP has been submitted to the EPA.</u></p> <p><del>Any amendments to the SEMMP shall be submitted to the EPA for approval in a technical certification, and shall only be implemented following confirmation from the EPA that the amended SEMMP meets the requirements of this condition. Where approval for an amended plan is not received, the Consent Holder shall continue to use the plan which was in place prior to the lodgement of the amended plan.</del></p> <p><u>The Consent Holder may amend the SEMMP at any time provided such amendments have been prepared in consultation with DOC, and such amendments are consistent with the purpose of this condition. <del>but any changes will only come into effect once they have been approved by the EPA, acting in a technical certification capacity that such amendment is consistent with purposes of this condition.</del></u></p> <p>The activities authorised by these consents shall be undertaken in accordance with the latest <del>approved</del> SEMMP.</p> <p>A copy of the <del>approved latest</del> SEMMP, <del>or any subsequent amendment,</del> shall be held on-board each of the Consent Holder's project vessels</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	and at the Consent Holder's head office, <u>and provided to the EPA upon request.</u>	
62	<p><b><i>Marine Mammal Management Plan</i></b></p> <p>The Consent Holder shall prepare, <del>and implement</del>, a Marine Mammal Management Plan ("MMMP") that has been prepared <del>and implemented</del> following consultation with DOC, which shall, as a minimum, set out:</p> <ol style="list-style-type: none"> <li>a. How compliance with Condition 11 will be achieved; and</li> <li>b. Procedures and protocols to minimise the risk of whale and dolphin entanglement; and</li> <li>c. A training framework relating to marine mammal operational responses; and</li> <li>d. Integrate any obligations under the Marine Mammals Protection Act 1978 and Marine Mammals Protection Regulations 1992, or any superseding legislation.</li> </ol> <p>The MMMP shall be prepared by a suitably qualified and experienced person(s) in general accordance with the draft MMMP dated YYYY, <del>and</del> <u>The MMMP shall then be independently peer reviewed by a suitably qualified and experienced person(s) to ensure that the requirements of this condition have been met before it is</u> submitted to</p>	<p>Similar changes as recommended for the SEMMP discussed above for Condition 61.</p> <p>The EPA does not consider it necessary for the MMMP to be certified by the EPA. This is because a clear outcome has be set (i.e. condition 11(a)), it relates to another MMR, it will be developed in consultation with DOC, and also independently peer reviewed. The plan can be monitored for compliance as part of the EPA's compliance monitoring function.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><del>the EPA for approval in a technical certification capacity that the requirements of this condition have been met.</del></p> <p><u>No seabed material extraction shall commence until the independently peer reviewed MMMP has been submitted to the EPA.</u></p> <p><del>Any amendments to the MMMP shall be submitted to the EPA for approval in a technical certification capacity, and shall only be implemented following confirmation from the EPA that the amended MMMP meets the requirements of this condition. Where approval for an amended plan is not received, the Consent Holder shall continue to use the plan which was in place prior to the lodgement of the amended plan.</del></p> <p><u>The Consent Holder may amend the MMMP at any time provided such amendments have been prepared in consultation with DOC, and the amendments are consistent with the purpose of this condition.</u></p> <p>The activities authorised by these consents shall be undertaken in accordance with the <u>latest EPA approved</u> MMMP.</p> <p><del>and a</del> <u>A</u> copy of the approved <u>latest</u> MMMP, <del>or any subsequent amendment,</del> shall be held on-board each of the Consent Holder's project vessels and at the Consent Holder's head office, <u>and provided to the EPA upon request.</u></p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
63	<p><b><u>Oil Spill Contingency Management Plan</u></b></p> <p>The Consent Holder shall, following consultation with MNZ, prepare and implement, a <u>Oil Spill Contingency Management Plan</u> (“<u>OSCMP</u>”) which shall, as a minimum set out:</p> <ul style="list-style-type: none"> <li>a. How compliance with Condition 30 will be achieved; and</li> <li>b. Outline the protocols, methods and responses to be implemented after any unplanned discharge or spill to the environment; and</li> <li>c. Identify the measures to be taken to avoid, remedy or mitigate, to the greatest extent practicable, any adverse environmental effects resulting from the discharge or spill.</li> </ul> <p>The <del>SCMP</del> <u>OSCP</u> shall be prepared by a suitably qualified and experienced person(s) <del>and</del>. <u>The OSCP shall then be independently peer reviewed by a suitably qualified and experienced person(s) to ensure that the requirements of this condition have been met before it is submitted to the EPA for approval in a technical certification capacity that the requirements of this condition have been met.</u></p> <p><u>No seabed material extraction shall commence until the independently reviewed OSCP has submitted to the EPA.</u></p> <p><del>Any amendments to the SCMP shall be submitted to the EPA for approval in a technical certification capacity, and shall only be</del></p>	<p>MNZ considers that the requirements for a SCMP (as far as oil is concerned) may result in a conflict with Maritime Protection Rules Parts 131 or 131A. For oil spill response plans MNZ would prefer to see this condition require an Oil Spill Contingency Plan (OSCP) as prescribed by Part 131 or a Shipboard Marine Oil Spill Contingency Plan (SMOSCP) as required by Part 130A.</p> <p>My recommendations are based on an OSCP being required.</p> <p>Similar changes as recommended for the SEMMP discussed above for Condition 61.</p> <p>I do not consider that it needs to be certified by the EPA as will be developed in consultation with MNZ and also independently peer reviewed. The plan can be monitored for compliance by the EPA using its compliance monitoring function.</p>

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	<p><del>implemented following confirmation from the EPA that the amended SCMP meets the requirements of this condition. Where approval for an amended plan is not received, the Consent Holder shall continue to use the plan which was in place prior to the lodgement of the amended plan.</del></p> <p><u>The Consent Holder may amend the OSCP at any time provided such amendments have been prepared in consultation with MNZ, and are consistent with the purposes of this condition.</u></p> <p>The activities authorised by these consents shall be undertaken in accordance with the <u>latest EPA approved SCMP OSCP</u> and a copy of the <u>approved SCMP OSCP, or any subsequent amendments</u>, shall be held on-board each of the Consent Holder's project vessels and at the Consent Holder's head office <u>and provided to the EPA upon request.</u></p>	
64	<p><b><i>Collision (Loss of Position) Contingency Management Plan</i></b></p> <p>The Consent Holder shall <del>develop</del> <u>prepare</u> a Collision (Loss of Position) Contingency Management Plan ("CCMP") following consultation with <del>MNZ and</del> the Kupe Operator.</p> <p>The purpose of the CCMP is to demonstrate how the objectives set out below will be achieved and to outline the specific operating procedures to be implemented during the <del>iron sand</del> <u>seabed material</u> extraction operations. The CCMP shall, as a minimum, identify the following:</p>	<p>Similar changes as recommended for the SEMMP discussed above for Condition 61.</p> <p>MNZ has advised that this would not be a function that it is responsible for and has requested that references to MNZ involvement in preparing the CCMP be deleted.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<ul style="list-style-type: none"> <li>a. How compliance with Conditions 26 and 28 will be achieved;</li> <li>b. The processes, methods, procedures and responses to be implemented after any unplanned / emergency event that potentially results in mooring failure or loss of position;</li> <li>c. The measures which will be taken to avoid, remedy or mitigate any adverse environmental effects or effects on existing interests such as the infrastructure and operations of the licensee of Petroleum Mining License #38146;</li> <li>d. How the IMV will be operated to 'sit out' severe environmental conditions such that the risk of collision between the Consent Holder's assets and the Kupe assets is as low as reasonably practicable;</li> <li>e. The emergency procedures to be implemented in the event of a mooring failure / loss of station-keeping by the IMV;</li> <li>f. The protective measures / procedures proposed should any aspect of the thruster system, and its associated systems, be rendered out of service by accident or planned maintenance, such that they are immediately available in the event of a mooring leg failure;</li> </ul>	<p>Advice notes are not enforceable and the proposed wording includes 'shall' which suggests the actions are mandatory and would be better included as a condition. However, if included as a condition it would put the EPA in a position of arbitrator in deciding the appropriate independent peer reviewer. This advice note (or condition) would be better dealt with by way of a side agreement and I recommend that it be deleted.</p> <p>It is recommended that the plan does not need to be certified by the EPA. The plan can be monitored for compliance by the EPA using its compliance monitoring function.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<ul style="list-style-type: none"> <li>g. The procedure for ensuring that, when the IMV is operating in any position where a station keeping failure may result in a potential collision of the IMV or its dragged mooring system with the Kupe assets, the thruster system be fully operational and active to enable immediate control of the IMV in the event of an incident. This shall include having such power generation capacity on line at these times;</li> <li>h. The procedures for the recovery and setting of the IMV anchors such that the required anchor holding capacity is achieved including an operability assessment assessing the likelihood that an anchor handling operation cannot be completed due to a fast rising storm;</li> <li>i. The measures to address the reduced station keeping integrity of the mooring whilst recovering, running and re-setting anchors;</li> <li>j. The planned inspection regime for the safety critical TAM systems including the discard criteria for the mooring wires;</li> <li>k. The detailed emergency response procedure (including communication requirements and notification periods) addressing incidents such as mooring leg failure, loss of heading control, thruster drive off, and disablement of thruster system. The response must address the risk of</li> </ul>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>collision between the Consent Holder's assets and the Kupe assets to ensure the risk is 'As Low As Reasonably Practicable';</p> <p>i. The procedure for recovering and resetting of the mooring line and anchor buffer zone with regard to the requirements for the Anchor Handling Tug to recover and set anchors; and</p> <p>m. The joint operating procedures for the trans-shipment of ore between the IMV and the Floating Storage and Off-loading Vessel.</p> <p>All operational procedures <del>must</del> <u>shall</u> be developed to reflect the safe operating requirements outlined in the final version of the CCMP with clear descriptions on when each procedure is applicable (i.e. normal operations, or under emergency trigger conditions).</p> <p>The CCMP shall be prepared by a suitably qualified and experienced person(s) and submitted to the EPA <del>for approval in a technical certification capacity that the requirements of this condition have been met.</del></p> <p>Prior to being finalised, the CCMP shall be independently reviewed by a suitably qualified and internationally recognised person or body. The review shall confirm that the CCMP is fit for purpose and demonstrates</p>	

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	<p><del>how that</del> the objectives above will be achieved, including sufficient detail as to the operating procedures required to achieve them. The recommendations of the review shall be incorporated into the final version of the CCMP.</p> <p><u>No seabed material extraction shall commence until the independently reviewed CCMP has been submitted to the EPA.</u></p> <p>The <u>Consent Holder may amend the CCMP</u> <del>may be amended</del> at any time <del>during the term of these consents</del> following consultation with <del>MNZ</del> and the Kupe Operator. <del>At the request,</del> <u>If so requested by the Kupe Operator's request,</u> the proposed amendments to the CCMP shall be subject to a further independent peer review. The Consent Holder shall consult with <del>MNZ</del> <u>the Kupe Operator</u> on the recommendations of that <u>peer review</u> prior to them being incorporated into the final amendments to the CCMP <u>that are lodged with the EPA.</u></p> <p><u>Any changes to the CCMP will only come into effect once consultation with the Kupe Operator has occurred and any such amendment is consistent with purposes of this condition.</u></p> <p><del>The most up to date</del> A copy of the <u>latest CCMP</u> <del>is to</del> <u>shall</u> be held on all operational vessels and at the Consent Holder's head office and shall be provided to the EPA and the Kupe Operator upon request.</p>	

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	<p><del>Advice note: The reviewer shall be mutually agreed between the Consent Holder and the Kupe Operator. In the event that the Consent Holder and the Kupe Operator cannot reach agreement, each party shall recommend one suitably qualified independent reviewer to the Chief Executive of the EPA who will decide on the reviewer to be appointed from the two recommendations. The costs of the review will be met by the Consent Holder.</del></p>	
65	<p><b>Simultaneous Operations Plan</b></p> <p>The Consent Holder shall prepare a Simultaneous Operations Plan (“SIMOPP”) in accordance with the requirements of IMCA M 203 Guidance on Simultaneous Operations (SIMOPS) following consultation with the Kupe Operator.</p> <p>The purpose of the SIMOPP is to:</p> <ol style="list-style-type: none"> <li>a. Define the procedures to be followed when two or more vessels are operating in the same general area and in close proximity to each other;</li> <li>b. Outline the consultation framework under which the Kupe Operator may provide input into the Consent Holder’s design and execution of the mining operations;</li> </ol>	<p>The condition does not require the SIMOPP to be certified by the EPA – I agree that this plan does not need EPA certification.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>c. Identify how the Consent Holder will operate within the guidelines as specified in IMCA M 203, Guidelines on Simultaneous Operations; and</p> <p>d. Identify how the operations of both the Consent Holder and the Kupe Operator within the area of Petroleum Mining Licence #38146 will be conducted for the duration of the <del>iron</del> <u>sand seabed material</u> extraction operations.</p> <p>The SIMOPP shall, as a minimum, set out:</p> <p>a) How mining operations will be managed in the event that a 'Jack-up Drill Rig' is being moved into position or temporarily moored adjacent to the Kupe platform prior to spudding in or jacking down of a rig;</p> <p>b) How the Consent Holder shall confer with the Kupe Operator regarding the sequence of blocks of areas to be mined to ensure that any proposed pipeline corridor or location for a 'Jack-up Drill Rig' has time to consolidate, based on the geotechnical data relevant to that block.</p> <p>c) How the Consent Holder shall confer with the Kupe Operator with regards to the planning of maintenance activities undertaken by the Kupe Operator on the Kupe assets.</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>Prior to being finalised, the SIMOPP shall be independently reviewed by a suitably qualified and internationally recognised person or body. The review shall confirm that the SIMOPP is fit for purpose, and identifies how the Consent Holder will operate within the guidelines as specified in IMCA M 203, Guidelines on Simultaneous Operations. The recommendations of that review shall be incorporated into the SIMOPP.</p> <p>The SIMOPP <del>must</del> <u>shall</u> be finalised and provided to the EPA and the Kupe Operator at least three (3) months prior to the commencement of any <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents.</p> <p>The SIMOPP may be amended at any time during the term of these consents following consultation with the Kupe Operator. At the Kupe Operator's request, proposed amendments to the SIMOPP shall be subject to a further independent peer review.</p>	
66	<p><b><i>Biosecurity Management Plan</i></b></p> <p><del>Notwithstanding the requirements of Conditions 38 – 39, t</del>The Consent Holder shall, <del>prior to the commencement of iron sand extraction activities, and</del> following consultation with the Ministry for Primary Industries and a nominated representative from Aquaculture New</p>	<p>Similar changes as recommended for the SEMMP discussed above for Condition 61.</p> <p>It is recommended that the BMP does not need to be certified by the EPA as it will be developed in consultation with Ministry for Primary Industries and a nominated representative from Aquaculture NZ, and</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>Zealand, prepare, and implement, a Biosecurity Management Plan (“BMP”) which shall, as a minimum, contain or require the following:</p> <ul style="list-style-type: none"> <li>a. For overseas vessels, describe the ‘acceptable measures’ for biofouling management that will be implemented to meet the ‘Clean Hull’ requirement of the CRMS, or demonstrate an equivalent level of risk;</li> <li>b. For all vessels, both overseas and domestic, prepare a vessel-specific ‘Biofouling Management Plan’, in accordance with the International Marine Organisation 2011 ‘Guidelines for the Control and Management of Ships’ Biofouling to Minimize the Transfer of Invasive Aquatic Species’ (“the IMO Guidelines”), or any subsequent version thereof. The Biofouling Management Plan shall include or require the following: <ul style="list-style-type: none"> <li>i. Details of the anti-fouling systems and operational practices or treatments to be used, including those for niche areas (e.g. ‘sea chests’);</li> <li>ii. Identification of hull locations susceptible to biofouling, and a schedule of planned inspections, repairs, maintenance and renewal of anti-fouling systems;</li> </ul> </li> </ul>	<p>also independently peer reviewed. The plan can be monitored for compliance by the EPA through its compliance monitoring function.</p>

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	<ul style="list-style-type: none"> <li>iii. Details of the recommended operating conditions suitable for the chosen anti-fouling systems and operational practices;</li> <li>iv. Other relevant details as described in Appendices 1 and 2 of the IMO Guidelines, including maintenance of a 'Biofouling Record Book', which records details of all inspections and biofouling management measures undertaken on the vessel;</li> <li>c. For overseas vessels that are to be permanently located in the vicinity of the project area, the BMP shall consider additional special measures that can be implemented to minimise biosecurity risk. These could include, but are not limited to, any of the following:               <ul style="list-style-type: none"> <li>i. Using new-build vessels that have appropriate anti-fouling systems;</li> <li>ii. Minimising the time vessels spend idle in water before departure from the overseas source port, in order to minimise the risk of colonisation by biofouling organisms;</li> </ul> </li> </ul>	

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	<p>iii. Ensuring appropriate measures are in place for sources of risk in addition to biofouling, such as cleaning and removal of sediment; and</p> <p>iv. Acquiring vessels from regions that are not 'climatically matched' to the project area, in order to further mitigate any residual risk.</p> <p>The BMP shall be prepared by a suitably qualified and experienced person(s). <u>The BMP shall then be independently peer reviewed by a suitably qualified and experienced person(s) to ensure that the requirements of this condition have been met before it is</u> and submitted to the EPA <del>for approval in a technical certification capacity that the requirements of this condition have been met.</del></p> <p><u>No seabed material extraction shall commence until the independently reviewed BMP has been submitted to the EPA.</u></p> <p><del>The BMP shall be updated as necessary to reflect the most up-to-date marine standards and guidelines, and any amendments to the BMP shall be submitted to the EPA for approval in a technical certification capacity, and shall only be implemented following confirmation from the EPA that the amended BMP meets the requirements of this condition.</del></p> <p><del>Where approval for an amended plan is not received, the Consent</del></p>	

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	<p><del>Holder shall continue to use the plan which was in place prior to the lodgement of the amended plan.</del></p> <p><u>The Consent Holder may amend the BMP at any time provided such amendments have been prepared in consultation with the Ministry for Primary Industries and a nominated representative from Aquaculture New Zealand, and the changes are consistent with purposes of this condition.</u></p> <p>The activities authorised by these consents shall be undertaken in accordance with the <u>latest EPA-approved BMP</u> and a copy of the <u>approved latest BMP, or any subsequent amendment</u>, shall be held on-board each of the Consent Holder's project vessels and at the Consent Holder's head office, <u>and provided to the EPA upon request.</u></p>	
66A [NEW]	<p><b><u>Safety Case</u></b></p> <p><u>The Consent Holder shall, following consultation with Worksafe New Zealand, prepare a Safety Case which shall, as a minimum identify:</u></p> <ol style="list-style-type: none"> <li>a. <u>What the major hazards associated with this activity are from a safety and environmental perspective; and</u></li> <li>b. <u>What control measures are necessary to prevent harm arising from these hazards; and</u></li> </ol>	<p>Worksafe has provided a letter to the DMC (dated 2 May 2017) which confirms that the proposed activities do not fall within the scope of either the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016 or the Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016. Accordingly, a permissioning document is not a legal requirement for the proposed activity under health and safety legislation.</p> <p>Despite this, Worksafe confirms that the Health and Safety at Work Act 2015 would apply to the proposed activities and it provides comprehensive</p>

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	<p>c. <u>The standards that such control measures would need to meet.</u></p> <p><u>The Safety Case shall include the matters set out in Appendix 1 and Appendix 2 attached to Worksafe New Zealand's letter to the EPA dated 2 May 2017 presented during the hearing process.</u></p> <p><u>The Safety Case shall be prepared by a suitably qualified and experienced person(s). The Safety Case shall then be independently peer reviewed by a suitably qualified and experienced person(s) to ensure that the requirements of this condition have been met before it is submitted to the EPA.</u></p> <p><u>No seabed material extraction shall commence until the independently reviewed Safety Case has been submitted to the EPA.</u></p> <p><u>The Consent Holder may amend the Safety Case at any time provided such amendments have been prepared in consultation with Worksafe New Zealand, and any changes are consistent with purposes of this condition.</u></p> <p><u>The activities authorised by these consents shall be undertaken in accordance with the latest Safety Case and a copy of the latest Safety Case shall be held on-board each of the Consent Holder's project vessels and at the Consent Holder's head office, and provided to the EPA upon request.</u></p>	<p>duties and regulatory mechanisms for managing the health and safety risks arising from the activity. Worksafe concludes that the Health and Safety at Work Act 2015 requirements are sufficiently comprehensive to not require the DMC to impose a condition in regard to environmental matters.</p> <p>However, Worksafe considers that whilst a permissioning document is not legally required, such a document could <i>'bring clarity and efficiency to regulation of the proposed operation, which is important given that the activity can move between regulatory regimes quickly and frequently'</i>. Worksafe recommends that, if the DMC considers that such a permissioning document is desirable then it may wish to consider utilising selective provisions of the Safety Case requirements of the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016.</p> <p>I have recommended a wording for such a condition which includes reference to the suggested contents of such a permissioning document. I have used the term 'Safety Case' for such a document as this is consistent with the terminology used in the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016 from which the Worksafe suggested contents originates.</p> <p>It is recommended that the plan does not need to be certified by the EPA as it will be developed in consultation with MNZ, it relates to</p>

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		another MMR, and also will be independently peer reviewed. The plan can be monitored for compliance by the EPA using its compliance monitoring function.
	<b>Relationship With Tangata Whenua</b>	
67	<p>The relationship of tangata whenua, including but not limited to Ngati Ruanui, Ngaa Rauru Kiihahi and Ngaruahine, with the South Taranaki Bight <del>is to</del> <u>shall</u> be recognised and provided for by the Consent Holder through:</p> <ul style="list-style-type: none"> <li>a. Provision for the establishment and maintenance of a Kaitiakitanga Reference Group (Condition 68);</li> <li>b. Provisions for involvement of the Kaitiakitanga Reference Group, in accordance with their defined role, in: <ul style="list-style-type: none"> <li>i. The TRG (Condition 56); and</li> <li>ii. The Kaimoana Monitoring Programme (Condition 72).</li> </ul> </li> </ul>	I do not consider that this is a condition, it is more of a statement which then makes reference to other conditions which need to be complied with irrespective of this condition being imposed. In my view this condition could be deleted or included as an Advice Note.
68	<p>Within <del>one (1) month</del> <u>twenty (20) working days</u> of the commencement of these consents, the Consent Holder shall provide to tangata whenua, including but not limited to Ngati Ruanui, Ngaa Rauru Kiihahi and Ngaruahine, a written offer to establish and maintain a Kaitiakitanga Reference Group, the purpose of which is to:</p>	Minor edits to ensure consistency in terminology used in other conditions.

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	<ul style="list-style-type: none"> <li>a. Recognise the kaitiakitanga of tangata whenua, including but not limited to Ngati Ruanui, Ngaa Rauru Kiitahi and Ngaruahine, and their relationship with the South Taranaki Bight;</li> <li>b. Review and advise the Consent Holder on the suitability of the Kaimoana Monitoring Programme (Condition 72);</li> <li>c. Provide for the on-going involvement of tangata whenua, who have a relationship with the South Taranaki Bight as kaitiaki, in monitoring the effects of the activities authorised by these consents, including a process for considering any future change to the membership of the Kaitiakitanga Reference Group;</li> <li>d. Provide for kaitiaki responsibilities and values to be reflected in the monitoring of the <del>iron sand</del> <u>seabed material</u> extraction area and of the surrounding marine environment undertaken under these consents, including: <ul style="list-style-type: none"> <li>i. To advise the Consent Holder on monitoring for changes to risk, or threat to, the cultural values of the South Taranaki Bight;</li> <li>ii. To evaluate the data obtained from physical monitoring insofar as it relates to the cultural</li> </ul> </li> </ul>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>values of the South Taranaki Bight and the effects on those values from the <del>iron sand seabed</del> <u>material</u> extraction and, in the event that changes to effects are identified, advise the Consent Holder on possible monitoring or operational responses;</p> <p>iii. To advise the Consent Holder on the appropriateness of any operational responses as they relate to cultural values, proposed by others;</p> <p>iv. To provide a means of liaison between tangata whenua, including but not limited to Ngati Ruanui, Ngaa Rauru Kiihahi and Ngaruahine, and the Consent Holder through providing a forum for discussion about the implementation of these consents; and</p> <p>e. Be responsible for receiving requests for, and facilitating the provision of, any cultural ceremonies by tangata whenua, including but not limited to Ngati Ruanui, Ngaa Rauru Kiihahi, Ngaruahine, and other tangata whenua groups who have a relationship with the South Taranaki Bight.</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><i>Advice note: The Consent Holder records its commitment to implementing this condition in good faith and to using the services of an independent mediator, as necessary, in doing so.</i></p>	
69	<p>Once the Kaitiakitanga Reference Group is formed the Consent Holder shall provide details of its membership, and any subsequent changes, to the EPA.</p>	
70	<p>The Consent Holder shall:</p> <ol style="list-style-type: none"> <li>a. Be entitled to appoint one member of the Kaitiakitanga Reference Group <u>provided that person has a relationship with the South Taranaki Bight.</u></li> <li>b. Facilitate and fund the administration of each formal meeting of the Kaitiakitanga Reference Group. The first Kaitiakitanga Reference Group meeting shall convene within three (3) months of the formation of the Kaitiakitanga Reference Group. As a minimum, meetings shall be held at a sufficient frequency to ensure that the obligations of the Kaitiakitanga Reference Group are met, but in any event, shall not be less than one time per year.</li> <li>c. Take minutes of the Kaitiakitanga Reference Group meetings, which shall be forwarded to members and the</li> </ol>	<p>The group is to provide for the ongoing involvement of tangata whenua who have a relationship with the South Taranaki Bight and therefore TTRL's appointment should also need to meet this criteria.</p>

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	<p>EPA, within twenty (20) working days of each meeting being held.</p> <p>d. Give members at least twenty (20) working days' notice of the date, time and location of the next Kaitiakitanga Reference Group meeting.</p> <p>e. Ensure that, where appropriate, the agreed outcomes from the Kaitiakitanga Reference Group meetings are available to other tangata whenua groups and the wider public</p>	
71	<p>The Consent Holder shall meet the actual and reasonable costs incurred by the Kaitiakitanga Reference Group for providing the services required of it by these consents, subject to normal business practice of invoicing and accounting.</p>	
72	<p>At least <del>one (1) month</del> <u>twenty (20) working days</u> prior to the commencement of any <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents, the Consent Holder shall prepare, and implement, a Kaimoana Monitoring Programme following consultation with the Kaitiakitanga Reference Group <u>if this Group has been established</u>.</p> <p>The objective of the Kaimoana Monitoring Programme is to provide for the monitoring of species important to customary needs, including from</p>	<p>I consider that the Kaimoana Monitoring Programme should still be developed and implemented irrespective of whether the Kaitiakitanga Reference Group is established or not.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>customary fishing grounds around the site, of Maori who have a relationship to the site and shall identify as a minimum:</p> <ol style="list-style-type: none"> <li>a. The roles and responsibilities of parties who are to conduct the kaimoana monitoring;</li> <li>b. The methodology to be employed in the kaimoana monitoring, including to minimise the risks to health and safety, and the environment;</li> <li>c. The kaimoana indicators to be monitored and any thresholds for desired actions that may arise from monitoring as a result of effects from the activities authorised by these consents;</li> <li>d. Any components of the EMMP that provide information on the kaimoana values and indicators; and</li> <li>e. A reporting mechanism for results of the kaimoana monitoring to the Consent Holder, who shall provide them to the EPA.</li> </ol> <p>The Kaimoana Monitoring Programme may be amended at any time during the term of these consents. Any proposed changes to the Kaimoana Monitoring Programme shall be prepared by the Consent Holder following consultation with the Kaitiakitanga Reference Group <u>if this Group has been established.</u></p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>The Consent Holder shall ensure that the EPA has a copy of the most update version of the Kaimoana Monitoring Programme at all times.</p>	
73	<p>The Consent Holder shall use its best endeavours to engage tangata whenua representatives, including but not limited to Ngati Ruanui, Ngaa Rauru Kiihahi, Ngaruahine and Te Tai Hauauru Regional Fishing Forum representatives, to undertake the monitoring identified in the Kaimoana Monitoring Programme (Condition 72).</p> <p>The Consent Holder shall meet the actual and reasonable costs of implementing the Kaimoana Monitoring Programme subject to the receipt of itemized invoices.</p>	
74	<p>Following the commencement of <del>iron sand</del> seabed material extraction activities, the Consent Holder shall provide Ngati Ruanui, Ngaa Rauru Kiihahi and Ngaruahine, an annual fund of [\$XX] per year to be used for environmental initiatives and/or for the cultural well-being of tangata whenua.</p>	<p>This condition would appear to be better suited to being included in a side agreement with the specified parties rather than a condition of these consents.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>
75	<p>In the event that a Kaitiakitanga Reference Group has not been established twelve (12) months following the date of the offer made by the Consent Holder required by Condition 68, and the Consent Holder has demonstrated, to the satisfaction of the EPA, that it has acted in</p>	<p>I consider that the Kaimoana Monitoring Programme should still be developed and implemented irrespective of whether the Kaitiakitanga Reference Group is established or not. Therefore, this condition should</p>

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	<p>good faith, the Consent Holder shall have no further obligation under Conditions 68 - <del>71 74</del>, and 74. <u>For the avoidance of doubt, the Consent Holder shall still comply with Conditions 72 and 73 in the event that the Kaitiakitanga Reference Group has not been established.</u></p>	<p>be changed so that Conditions 72 and 73 are still required to be complied with if the Group is not able to be established.</p>
<p>75A [NEW]</p>	<p><u>In addition to Condition 75, in the event that that a Kaitiakitanga Reference Group has not established twelve (12) months following the date of the offer made by the Consent Holder required by Condition 68, the Consent Holder shall, at least once every twelve (12) months, inform and seek to engage with relevant iwi entities on the general scope of the planned activities authorised by these consents. The Consent Holder shall keep a record of how it has complied with this condition and make this information available to the EPA upon request.</u></p> <p><i>Advice Note: The Consent Holder should seek advice from the EPA as to who the relevant iwi entities are. The Consent Holder is also encouraged to use this opportunity to investigate the involvement of the relevant iwi entities, as kaitiaki, in environmental management practices and the development of environmental indicators using both mātauranga Māori and western science.</i></p>	<p>I consider that even if the Kaitiakitanga Reference Group is not established that TTRL should be required to continue to inform and seek to engage with relevant iwi entities.</p>
<p><b>Community Relationships</b></p>		<p>I understand that Conditions 76 to 80 (below) are 'agreed' (Augier) conditions between TTRL and the South Taranaki District Council (and possibly other third parties). The DMC will need to decide</p>

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		<p>whether it is appropriate to impose these conditions or whether they are better dealt with by way of a side agreement (or similar).</p> <p>The suggested amendments below are provided in the event that the DMC decides to impose Conditions 76 to 80. Whilst these conditions are 'agreed' (i.e. Augier) conditions, if they are imposed then the EPA is still legally responsible to enforce them and check compliance. A number of minor amendments are recommended to enable the EPA to be able to check compliance.</p>
76	<p>The Consent Holder shall provide the public with up to date information on the <del>iron sand</del> seabed material extraction activities and environmental monitoring, including the pre-commencement environmental monitoring, undertaken in accordance with the conditions of these consents.</p> <p>The information shall be made available through a website maintained by the Consent Holder for the duration of these consents.</p> <p><u>The Consent Holder shall advise the EPA of the website address within five (5) working days of it going live.</u></p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>
77	<p>For the duration of these consents, the Consent Holder shall provide for and facilitate community meetings to keep the public informed of the <del>iron sand</del> seabed material extraction activities and any recent</p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p>

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	<p>monitoring results and / or actions, or other matters that may be of interest to the public.</p> <p>The community meetings shall be held six (6) monthly (during the months of February and July of each year) for the first five (5) years of the <del>iron sand</del> <u>seabed material</u> extraction activities and annually at all other times.</p> <p>At least <del>four (4) weeks</del> <u>twenty (20) working days</u> prior to the date of any community meeting, notice shall be placed on the Consent Holder's website (Condition 76) and by way of advertisements in the regional newspapers, including the Taranaki Daily News, the South Taranaki Star and the Wanganui Chronicle, and on local radio stations. Notice shall include the date, time and location of the meeting and contact details of the meeting facilitator.</p> <p><u>The Consent Holder shall keep a record of the details of each community meeting, including details of the notification mechanisms used for each meeting. A copy of these records shall be provided to the EPA upon request.</u></p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
78	<p>Following the commencement of <del>iron sand</del> <u>seabed material</u> extraction activities, the Consent Holder shall provide an annual fund of \$50,000 per year to be administered by the South Taranaki District Council in</p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p>

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	<p>collaboration with the Consent Holder. The annual fund shall be inflation adjusted.</p> <p>The purpose of the fund is to assist in the establishment of projects for the benefit of the South Taranaki community, in particular for the social and economic wellbeing of the community.</p> <p><u>The Consent Holder shall keep records of the annual contribution and provide a copy of these to the EPA upon request.</u></p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
79	<p>Within twelve (12) months of the commencement of the construction of the IMV associated with these consents, the Consent Holder shall establish and maintain a training facility located in the township of Hawera.</p> <p>The purpose of the training facility is to provide technical and marine skills based training to prospective trainee process operators and maintenance support staff from the South Taranaki communities who then can be employed by the Consent Holder as part of the <del>iron sand</del> <u>seabed material</u> extraction activities.</p> <p>In establishing the training facility, the Consent Holder shall consult with the Hawera business community, local iwi, South Taranaki District Council and Accredited Education providers to ensure that the purpose of the training facility is being met.</p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><u>The Consent Holder shall keep records of the consultation required by the condition and provide these to the EPA upon request.</u></p> <p><i>Advice note: The Consent Holder has confirmed that it will, where practicable, offer training positions to members of local iwi and the community.</i></p>	
80	<p>Prior to the commencement of any <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents, the Consent Holder shall establish and maintain a geotechnical and environmental monitoring base located in the port of Whanganui.</p> <p>The purpose of the base is to support the <del>iron sand</del> <u>seabed material</u> extraction activities by providing, as a minimum:</p> <ol style="list-style-type: none"> <li>a. A permanent berthing site for a vessel;</li> <li>b. A secure laydown area;</li> <li>c. A storage area and warehouse;</li> <li>d. An operation and maintenance workshop;</li> <li>e. Administration offices; and</li> <li>f. Scientific Laboratory.</li> </ol> <p><u>The Consent Holder shall provide written confirmation to the EPA that the base has been established.</u></p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>

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	<p><i>Advice note: The Consent Holder is committed to employing suitably qualified and experienced local residents at the base.</i></p> <p><i>Advice note: The Consent Holder is committed to acquiring any additional consents required to enable the construction and operation of the Support Base. Construction of the base and associated berthing site will occur subject to any such consents being granted</i></p>	
	<p><b>Fishing Industry Relationship</b></p>	
81	<p>The Consent Holder shall provide for six (6) monthly meetings between itself and representatives of the commercial fishing industry including any representatives nominated by Fisheries Inshore New Zealand. The purpose of the meetings shall be to enable both parties to share relevant information and to establish a coordinated approach between the <del>iron sand</del> <u>seabed material</u> extraction activities and commercial fishing activities, including communications protocols.</p> <p>The first meeting shall occur no later than six (6) months prior to the commencement of the <del>iron sands</del> <u>seabed material</u> extraction activities.</p> <p>The Consent Holder shall:</p> <ol style="list-style-type: none"> <li>a. Facilitate and fund the administration of each formal meeting; and</li> </ol>	<p>The minutes of these meetings can be provided to the EPA in the Annual Report rather than after each meeting.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>

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	<p>b. Take minutes of each meeting, which shall be forwarded to attendees <del>and the EPA</del>, within twenty (20) working days of each meeting being held. <u>The minutes shall be included in the Annual Report required by Condition 99.</u></p>	
82	<p><b><i>Operational Assessment Report</i></b></p> <p>No less than three (3) months prior to the commencement of any <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents, and every twelve (12) months thereafter the Consent Holder shall prepare, and provide to the EPA, an Operational Assessment Report which shall include but not be limited to:</p> <ul style="list-style-type: none"> <li>a. An outline of the area where removal of seabed material, targeting the extractable resource of titanomagnetite <del>iron sand seabed material</del>, will take place during the next twelve (12) month period, and the timing thereof;</li> <li>b. Bathymetry of the seabed in the area where removal of seabed material is planned;</li> <li>c. Bathymetry of the pits and mounds created during the extraction and deposition of sediments;</li> <li>d. Extraction plan schedules;</li> <li>e. Identification of the occurrence of fine sediments (&lt;8 µm) in the area subject to extraction via grade control drilling</li> </ul>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>conducted in accordance with the requirements for a 'measured' resource by "The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 or subsequent editions (the "JORC" standard) (see 1.1 Definitions). The Operational Assessment Report is to demonstrate how compliance with Condition 5 has been achieved; and</p> <p>f. Procedures for avoiding identified fine sediments to the extent necessary to meet the requirements of Conditions 5, 6 and 8.</p> <p>Where extraction activities within the following <u>twelve</u> (12) month period will occur within the area of Petroleum Mining Licence #38146, the Consent Holder shall also provide the Kupe Operator with a copy of the Operational Assessment Report at the same time the report is provided to the EPA.</p>	
83	<p><b><i>Training of Personnel</i></b></p> <p>Pursuant to <u>section 25(1)(b)(i)</u> of the EEZ Act, the Consent Holder shall ensure that all personnel on-board project related vessels receive the appropriate training prior to taking part in any duties related to any activity associated with these consents.</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>Training shall be appropriate to ensure compliance with the conditions of these consents is achieved, including but not limited to training on:</p> <ul style="list-style-type: none"> <li>a. The Consent Holder's obligations under these consent conditions, including any obligations under the EMMP and associated management plans;</li> <li>b. Their responsibilities under any condition, the EMMP or management plan and how to meet those responsibilities; and</li> <li>c. Their obligations under the Marine Mammals Protection Act 1978 and Marine Mammals Protection Regulations 1992, or any superseding legislation.</li> </ul> <p>A record of all training carried out in accordance with this condition shall be maintained by the Consent Holder and made available to the EPA upon request.</p>	
84	<p><b><i>Complaints Register</i></b></p> <p>The Consent Holder shall maintain a permanent register of any complaints received by any person or company about activities authorised by these consents.</p> <p>The register shall include:</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<ul style="list-style-type: none"> <li>a. The contact details of the complainant, including the name and address of the complainant;</li> <li>b. The nature of the complaint, and the time which it was received;</li> <li>c. The location, date and time of the complaint and of the event associated with the complaint;</li> <li>d. The cause or likely cause of the event and any factors, such as weather conditions (including wind direction and approximate wind speed, the real-time New Zealand Met Service forecast for the <del>iron sand</del> <u>seabed material</u> extraction area and any forecast warning for the area and the presence of precipitation, fog or any other weather related impact on visibility), that may have influenced its severity;</li> <li>e. The outcome of any investigation into the complaint, including the nature and timing of any measures implemented by the Consent Holder to remedy or mitigate any adverse effects, if associated with the event;</li> <li>f. Details of any steps taken to prevent the reoccurrence of similar events; and</li> <li>g. Any other relevant information.</li> </ul>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>This register shall be held in the form of a Complaints Log at the Consent Holder's head office and should be made available to the EPA upon request.</p> <p>The Log shall be updated within forty eight (48) hours following the receipt of any new complaint and should also be included as part of the Quarterly Operational Report required by Condition 98.</p>	
<b>Marine Safety Matters</b>		<p>Conditions 85 to 97 (below) are 'agreed' (Augier) conditions between TTRL and Origin (the Kupe Operator). The DMC will need to decide whether it is appropriate to impose these conditions or whether they are better dealt with by way of a side agreement (or similar) where the details more clearly fall under other regulatory regimes.</p> <p>However, the Kupe Operator is clearly a person with existing interests and given that these are agreed conditions it would appear that imposing them addresses potential adverse effects on the Kupe Operator.</p> <p>The suggested amendments below are provided in the event that the DMC decides to impose Conditions 85 to 97. Whilst these conditions are 'agreed' (i.e. Augier) conditions, if they are imposed then the EPA is still legally responsible to enforce them and check compliance. A</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
		number of minor amendments are recommended to enable the EPA to be able to check compliance.
85	<p>The Consent Holder shall ensure that the design and construction of the IMV complies with 'best practice' international marine standards and, as a minimum, shall include:</p> <ul style="list-style-type: none"> <li>a. A thruster assisted mooring system that meets the requirements of America Bureau of Shipping ("ABS") <del>✕</del>TAM-R notation with the system built, installed and commissioned to the satisfaction of ABS Survey;</li> <li>b. A thruster system, including power, distribution, control and position reference systems that meet the redundancy requirement of ABS DPS-2 with the system built, installed and commissioned to the satisfaction of ABS Survey. Additionally, a Failure Modes, Effects, and Criticality Analysis ("FMECA") of the system shall be completed as an extension of the FMEA process required by class for achieving many of the special or optional Classification notations ACC, ACCU and DPS-2. (Ref: ABS GUIDANCE NOTES ON FAILURE MODE AND EFFECTS ANALYSIS (FMEA) FOR CLASSIFICATION. 2015);</li> </ul>	Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<ul style="list-style-type: none"> <li>c. Compliance with the ABS notation for Station Keeping Performance (“SKP”) for the specified limiting environmental conditions in the South Taranaki Bight;</li> <li>d. A mooring system that complies with the design requirements for a permanent mooring system as specified in API 2SK, and that clearly defines the system's mode of operation, including its normal operating condition limits and performance in severe environmental conditions (including its proposed return period); and</li> <li>e. Incorporation of an operational vessel motion monitoring and forecasting software system.</li> </ul> <p><u>The Consent Holder shall provide documentation to the EPA which confirms that the IMV complies with all the requirements of this condition.</u></p>	
86	<p>Prior to the IMV being used in the <del>iron sand</del> <u>seabed material</u> extraction operations, the IMV’s mooring design shall be independently reviewed, in a technical capacity, by a suitably qualified and internationally recognised person or body. The review shall confirm that the IMV mooring is fit for purpose and complies with ‘best practice’ international</p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p> <p>Advice notes are not enforceable and the proposed wording includes ‘shall’ which suggests the actions are mandatory and would be better included as a condition. However, if included as a condition it would</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>marine standards and the standards specified in Condition 85 above.</p> <p>The review shall also:</p> <ol style="list-style-type: none"> <li>a. Confirm that approval from ABS for the IMV mooring concept has been provided;</li> <li>b. Consider the final mooring and thruster design assessment and confirm it is appropriate for the intended operational purposes (including in relation to proximity to the first de-ored sediment mound);</li> <li>c. Confirm that the thruster capacity is adequate to maintain the IMV position/heading in the event of a mooring failure;</li> <li>d. Confirm that the operational (limit) environmental conditions specified for the IMV are appropriate for / consistent with the mooring system design.</li> <li>e. Confirm that the location and design of the fairleads on the IMV are capable of accommodating the large changes expected in departure angle without the mooring rope clashing with deck structures or the articulation limits of the fairleads; and</li> <li>f. Confirm the operation of the TAM system and the segregation of thruster power supply, control and</li> </ol>	<p>put the EPA in a position of arbitrator in deciding the appropriate independent peer reviewer. This advice note (or condition) would be better dealt with by way of a side agreement and I recommend that it be deleted.</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>distribution from that required for mining operations is fit for purpose.</p> <p>The recommendations of the review shall be incorporated into the final design of the IMV mooring system.</p> <p><u>The Consent Holder shall provide documentation to the EPA which confirms that the IMV's mooring design complies with all the requirements of this condition.</u></p> <p><i>Advice note: The independent reviewer shall be mutually agreed between the Consent Holder and the Kupe Operator. In the event that the Consent Holder and the Kupe Operator cannot reach agreement, each party shall recommend one a suitably qualified independent reviewer to the Chief Executive of the EPA who will decide on the reviewer to be appointed from the two recommendations. The costs of the review will be met by the Consent Holder.</i></p>	
87	<p>Annually, on the anniversary of the commencement of the <del>iron sand</del> <u>seabed material</u> extraction operations, or where notice is received from the Kupe Operator providing confirmation of a commitment to deploy a 'Jack-up Drill Rig' within the Project Area identified in Schedule 1, the Consent Holder shall prepare a Geotechnical Report for the previous twelve (12) months <del>iron sand</del> <u>seabed material</u> extraction activities for</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p> <p>Change so that the EPA can request a copy of the Geotechnical Report from TTRL rather than making this mandatory.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>the identified location (where confirmation of a commitment to deploy has been received in accordance with this condition).</p> <p>Each Geotechnical Report shall report on the geotechnical properties of the backfilled mining lanes and include, as a minimum, the following information:</p> <ul style="list-style-type: none"> <li>a. A detailed explanation of the geotechnical investigations undertaken, including the location of the investigations and the methodology undertaken, for the previous <u>twelve (12)</u> month period;</li> <li>b. All of the data / results from the geotechnical investigations including but not limited to: <ul style="list-style-type: none"> <li>i. Particle / grain size distribution;</li> <li>ii. In-situ bulk density; and</li> <li>iii. Cone penetrometer or shear strength value.</li> </ul> </li> <li>c. A summary of the findings from the geotechnical investigations and the properties of the seabed investigated.</li> </ul> <p>The Consent Holder shall provide each Geotechnical Report to the <del>EPA and the Kupe Operator</del> within <del>ninety (90) working days</del> <u>three (3) months</u> of the completion of the annual geotechnical investigations or within <del>one hundred and eighty (180) working days</del> <u>six (6) months</u> of the</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>receipt by the Consent Holder of notice from the Kupe Operator providing the confirmation above. <u>The Geotechnical Report shall be made available to the EPA upon request.</u></p>	
88	<p>Annually, and within twenty (20) working days after each anniversary of the commencement of the <del>iron sand</del> <u>seabed material</u> extraction operations, the Consent Holder shall undertake an assessment of the impact of de-ored sediment discharges on the cathodic protection systems associated with the Integrated Mining Vessel's safety critical systems.</p> <p>The Consent Holder shall provide a copy of its assessment report to the Kupe Operator within twenty (20) working days of the completion of the assessment outlined above and will make the report available to the EPA upon request.</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
89	<p>Following the completion of the pre-commencement <u>environmental</u> monitoring required by Condition 43, the Consent Holder shall commission an assessment of the visibility limits at the Kupe Platform and at the inshore border of the Project Area identified in Schedule 1.</p> <p>The results of this assessment shall be provided to the Kupe Operator within twenty (20) working days of its completion <u>and make the assessment available to the EPA upon request.</u></p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
90	<p>The Consent Holder shall install and have operational, a Barge Management System for all of its vessels operating within the area of Petroleum Mining Licence #38146.</p> <p>A display from the Barge Management System shall be made available to the Kupe Operator's control room for the Kupe assets at all times.</p>	
91	<p>The Consent Holder shall ensure that no iron ore transhipments take place when any aspect of the thruster or mooring system of the IMV or the Floating Storage and Off-loading vessel is inoperative due to maintenance or failure</p>	
92	<p>The Consent Holder shall ensure that activities within the 'Kupe Platform Safety Zone' do not occur without prior approval in accordance with the requirements of the SIMOPP (Condition 65).</p> <p>Approval under this condition is not required during an emergency situation.</p> <p>The Consent Holder shall keep records of any related correspondence with the Kupe Operator and these records shall be made available to the EPA upon request.</p>	
93	<p>The Consent Holder shall undertake bathymetric surveys annually around the boundaries of the Kupe Operator's exclusion zones (existing or future), and representative points around the Kupe Well</p>	<p>Additional clause added so that the EPA is able to check that TTRL has complied with the requirements of this condition.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>Head Platform and along the pipeline and umbilical route, to determine any migration of the mound and pit bathymetry. Access by the Consent Holder to representative points around the Kupe Well Head Platform and pipeline and umbilical route will be agreed with the Kupe Operator in advance in accordance with the SIMOPP (Condition 65).</p> <p>The Consent Holder shall supply results of these surveys to the Kupe Operator within twenty (20) days of their completion <u>and provide the results to the EPA upon request.</u></p>	
94	<p>The Consent Holder shall ensure that the Kupe Operator retains all rights to explore and develop assets within the Petroleum Mining Licence area #38146 to the extent provided for in that permit where it overlaps with the Project Area identified in Schedule 1.</p>	
95	<p>The Consent Holder shall ensure that all operations proposed by the Kupe Operator within the area of Petroleum Mining Licence #38416 have precedence over the Consent Holder's operations provided that the Kupe Operator gives at least twelve (12) months' notice its intentions to undertake such operations and provides specific details not less than six (6) months prior to the scheduled commencement of such operations</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
96	<p>For the duration of this consent, the Consent Holder shall maintain a 500 m protection zone around all wellheads (except Kupe South 4 wellhead where the size of the protection zone will be sufficient to ensure that the Consent Holder's activities do not result in the well-casing being exposed at any time), and a 1.5 km protection zone around the Kupe Well Head Platform.</p> <p><i>Advice note: The Kupe South 4 wellhead refers to the abandoned wellhead located within the Consent Holder's Mineral Mining Permit area.</i></p>	<p>It is unclear what the purpose of the 'protection zone' is. If it is an exclusion area within which no vessels or activities may occur then this needs to be clarified.</p>
97	<p>Notwithstanding any of the requirements of the conditions above, the Consent Holder shall manage all activities associated with the <del>iron sand</del> seabed material extraction operations, including the project vessels and their operation, to ensure that the activities authorised by this consent do not result in any adverse effects on the Kupe assets.</p>	<p>Minor edits to ensure consistency in terminology used in other conditions.</p>
<b>REPORTING REQUIREMENTS</b>		
98	<p><b>Quarterly Operational Report</b></p> <p><u>Once seabed material extraction commences</u> <del>the</del> Consent Holder shall prepare a Quarterly Operational Report summarising the <del>iron sand</del> seabed material extraction activities undertaken for the previous</p>	<p>Minor edits to maintain consistency in terminology used in earlier conditions.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>quarter (three (3) months). The Quarterly Operational Report shall, as a minimum, include the following operational information:</p> <ol style="list-style-type: none"> <li>a. GPS positions of anchor placements on the seabed and coordinates illustrated on a map with the <del>iron sand seabed</del> <u>material</u> extraction area clearly marked;</li> <li>b. GPS positions of the Crawler placement and tracks during <del>iron sand seabed material</del> extraction activities and coordinates illustrated on a map with the extraction area clearly marked;</li> <li>c. Any bathymetry measurements of the seabed measured in the reporting period for the area where removal of seabed material has taken place. (Note: Bathymetry will be assessed on a six (6) monthly basis);</li> <li>d. <del>Quantity</del> <u>Volume, mass, and rate of removed and deposited</u> seabed material <del>excavated and volume, mass, and rate of de-ored sediment discharged</del> including the PSD data recorded to assess compliance with Condition 5;</li> <li>e. Maximum and average depth of seabed <del>material removed</del> <u>extracted</u> by the Crawler throughout each mining lane (from bathymetry);</li> </ol>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>f. Average and maximum depth, and GPS position of any unfilled pits remaining after completion of a mining lane (from bathymetry);</p> <p>g. Average and maximum height, and GPS position of any mounds created during the deposition of <del>seabed material</del> <u>de-ored sediment</u> (from bathymetry);</p> <p>h. Location and height above the seabed of discharge pipe whilst discharging <del>seabed material</del> <u>de-ored sediment</u>;</p> <p>i. Details of any complaints received, including the Complaints Log; and</p> <p>j. Details of any investigations, including recommendations, undertaken by the Consent Holder, the TRG or the Kaitiakitanga Reference Group including a summary of any commentary or recommendations from the TRG and, where necessary, an explanation as to why any TRG recommendation has not been accepted;</p> <p>k. Actual 25, 50, 80 and 95th percentile SSC values during the preceding three (3) month period, including a comparison with the “naturally occurring” values predicted by the validated OSPM;</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>I. A record of pre-start observations as required by Condition 32; and</p> <p>m. Any other components required by the conditions of these consents.</p> <p>The Consent Holder shall provide the Quarterly Operational Report to the EPA and the Kupe Operator within <del>forty (40) working days</del> <u>two (2) months</u> of each quarter ending (being 31 March, 30 June, 30 September and 31 December) during the <del>iron sand</del> <u>seabed material</u> extraction activities authorised by these consents</p>	
99	<p><b>Annual Report</b></p> <p><del>Notwithstanding</del> <u>In addition to</u> the requirements of Condition 98, or the reporting requirements outlined in the <u>certified</u> EMMP <del>provided in accordance with</del> <u>required by</u> Condition 50, the Consent Holder shall prepare an Annual Report for the previous twelve (12) month period from the commencement of <del>iron sand</del> <u>seabed material</u> extraction activities authorised under these consents. Subsequently, an Annual Report shall be prepared for each twelve (12) month period following the anniversary of commencement of the <del>iron sand</del> <u>seabed material</u> extraction activities.</p> <p>Each Annual Report shall, as a minimum, include the following information:</p>	<p>Minor edits for consistency. Also, last sentence of condition does not make sense. The EPA will have a copy of the latest Annual Report so I cannot see why it would need to request another copy.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>a. An Extraction Schedule detailing:</p> <ul style="list-style-type: none"> <li>i. The areas in which extraction and deposition is proposed to occur over the next twelve (12) month period;</li> <li>ii. The timing of proposed extraction and deposition activities in areas identified in Condition 99 (a)(i);</li> <li>iii. The volume, <del>and</del> mass, and rate of seabed materials extracted and <u>de-ored sediment</u> deposited during the previous twelve (12) month period;</li> <li>iv. GPS locations or chart references detailing the location of extraction and deposition in the previous twelve (12) month period;</li> <li>v. Depths of extraction that are scheduled to occur; and</li> <li>vi. All updates of the extraction schedule that were notified to the EPA.</li> </ul> <p>b. A summary report on all monitoring undertaken in the previous twelve (12) months in accordance with the EMMP required under Condition 50, <u>including identification of any trends in the results</u>;</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<ul style="list-style-type: none"> <li>c. Details of monitoring proposed for the next twelve (12) months in accordance with the EMMP required under Condition 50;</li> <li>d. Details of any exceedances of the limits as identified in Conditions 5, 6, 7, or 8, as well as any management / mitigation action(s) implemented in response to any exceedance including details of any investigations;</li> <li>e. A record of all fuel used, and the sulphur content of the fuel, for each project related vessel as required under Condition 37;</li> <li>f. A record of pre-start observations as required by Condition 32;</li> <li>g. Details of the TRG review of the annual monitoring data and the EMMP, along with recommendations for any actions or changes to the EMMP or the <del>iron sand</del> <u>seabed material</u> extraction activities, and how these were provided for as well as any reasoning as to why recommendations were not accepted; and</li> <li>h. Any other component required by the conditions of these consents.</li> </ul>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>The Consent Holder shall provide the Annual Report to the EPA and the Kupe Operator <del>within sixty (60) working days</del> <u>three (3) months</u> of the completion of each twelve (12) month monitoring period <del>and at any other times upon request, the Consent Holder shall provide a copy of any previously issued Annual Report.</del></p>	
100	<p>The Consent Holder shall inform the EPA of any modified operational extraction and deposition areas or periods which differ from those identified in the “the next twelve (12) month” period of any Annual Report required by Condition 99.</p> <p>Where any such changes are in the Petroleum Mining Licence area #38146, or the project area immediately adjacent to the Kupe assets, the Consent Holder shall also inform the Kupe Operator of any modified operational extraction and deposition areas or periods which differ from those identified.</p> <p>The EPA, and where necessary the Kupe Operator, shall be informed of any such changes no later than five (5) working days prior to commencement of works in the modified areas.</p>	
101	<p>Within <del>one (1) month</del> <u>twenty (20) working days</u> of the receipt of either the Quarterly Report or Annual Report, or <del>following</del> <u>within twenty (20) working days of the EPA receiving a recommendation from either the Consent Holder receiving a recommendation or</u> from the TRG,</p>	<p>I recommend that “one (1) month” be changed to “twenty (20) working days” because the latter is easier to calculate and apply as months are variable in their durations.</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>including any recommendations <u>from the TRG</u> not accepted or implemented by the Consent Holder, the EPA may serve notice on the Consent Holder, in accordance with <del>ss</del> <u>sections 76 and 77</u> of the EEZ Act, of its intention to review the conditions of these consents for the purpose of:</p> <ul style="list-style-type: none"> <li>a. Adding, amending or cancelling any discharge limits, environmental limits, or operational controls (Conditions 5 - 42); and / or</li> <li>b. Including any new discharge limits, environmental limits, or operational controls; and / or</li> <li>c. Dealing with any adverse effects on the environment that may arise from the exercise of the consents and which it is appropriate to deal with after the consent(s) have been granted; and / or</li> <li>d. Reviewing <del>the adequacy of monitoring or reporting required</del> <u>by any condition(s) of these consents.</u></li> </ul>	<p>Other changes make it clear that the EPA can initiate a review within twenty working days of receiving any recommendation from either TTRL or the TRG (including any recommendation of the TRG not accepted by TTRL).</p> <p>Minor edits to ensure consistency in terminology used in other conditions.</p>
<b>Risk Management</b>		
102	<p>The Consent Holder shall, while giving effect to these consents, maintain <b>public liability insurance</b> for a sum not less than NZ\$500,000,000 (2016 dollar value) for any one claim or series of</p>	<p>The DMC has previously sought legal advice on the matter of public liability insurance (Memorandum of Counsel Assisting the Decision-making Committee – Response to Minute 40, dated 13 April 2017).</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p>claims arising from giving effect to these consents to cover costs of environmental restoration and damage to the assets of existing interests (including any environmental restoration as a result of damage to those assets), required as a result of an unplanned event occurring during the exercise of these consents.</p>	<p>Such insurance would provide protection to the TTRL from legal liability, up to the insured value, for damage to property owned by a third party. Such conditions are able to be imposed as provided for by section 63(2)(a)(ii) of the EEZ Act, however the legal advice provided to the DMC considered that section 63(2)(a)(ii) is intended to deal with potential effects of low probability that nonetheless cannot be ruled out altogether (and which may have a high potential impact) and could help deal with such effects because, without it, there would be a risk of the consent holder negligently causing damage to a third party with an existing interest (for example), but having insufficient resources to compensate the third party for that damage. See also the discussion on Bonds below.</p> <p>MNZ notes that this condition duplicates requirements under the Marine Protection Rules Part 102 and it will consider an application under that Part independently of the requirements of this condition.</p>
103	<p>The Consent Holder shall submit a certificate demonstrating that it holds the insurance required by Condition 102 prior to giving effect to these consents and an updated certificate annually by 1 July of each year for the term of these consents to the EPA.</p>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
104 [NEW]	BOND CONDITION	<p>Section 63(2)(a)(i) of the EEZ Act expressly empowers the DMC to impose a condition on a marine consent requiring the consent holder to "provide a bond for the performance of any 1 or more conditions of the consent". Section 65 of the EEZ Act provides additional details regarding bond conditions.</p> <p>The DMC has previously sought legal advice on the matter of bonds (Memorandum of Counsel Assisting the Decision-making Committee – Response to Minute 40, dated 13 April 2017).</p> <p>If a consent holder is for some reason unable to ensure compliance with a bond requirement, such as the liquidation of a consent holder company, then a financial bond is available for the EPA to use to undertake those specific works. The value of the bond specified in the condition should be based on the estimated cost of the works subject to the bond. Bonds should not be used as a penalty for non-compliance. The purpose of a bond is to ensure that an event such as restoration occurs, not to solve compliance issues.</p> <p>In the event that the DMC considers that a bond conditions is appropriate in this case, then I recommend that the wording of such a condition be drafted by Legal Counsel advising the DMC.</p>
105 [NEW]	<u>Independent Audit</u>	

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><u>The Consent Holder shall engage the services of an independent person to undertake an audit of compliance with the conditions of these consents. The independent auditor shall be Lead Auditor Certified (e.g. ISO 9001 or ISO 14001). The audit shall cover all the conditions of these consent, including all supporting plans, systems, and process that are in place to ensure compliance with the conditions of these consents are being met.</u></p> <p><u>The first audit shall be undertaken within twelve (12) months of the seabed material extraction reaching 90% of full production. Audits shall then be undertaken at least every five (5) years thereafter.</u></p> <p><u>The Consent Holder shall submit a report outlining the results each audit to the EPA within three (3) months of the audit being completed.</u></p>	<p>Given complex and extensive nature of conditions of these consents it is recommended that an independent audit of compliance should be undertaken regularly.</p> <p>This supplements the EPA's compliance approach. It does not replace its compliance monitoring and/or enforcement functions.</p>
<p><b>Advice Note [NEW]</b></p>	<p><i><u>Where a condition requires the Consent Holder to submit a plan or document to the EPA "for certification" the EPA may, if it considers it necessary, seek the advice of a suitably qualified and experienced external expert(s) before it certifies the plan/document. In addition, the EPA may request further information/clarification from the Consent Holder after it submits the plan/document. In such cases the EPA will advise the Consent Holder that it has not yet certified the plan/document and the clause in the respective condition which states</u></i></p>	<p>I recommend that this advice note be included to make it clear that the EPA may need to obtain external assistance or request information from TTRL as part of its review of submitted plans before it can certify them. All the conditions that require EPA certification include a clause which deem the submitted plan to be 'certified' if the EPA has not certified the plan within a specified period or advised TTRL that it has not yet been certified within that period. This advice notes makes it clear that where the EPA advises TTRL that it has not yet certified the plan because it is obtaining external advice, or where it requests</p>

TTRL Condition Number	EPA Recommended Amendment(s)	Comments
	<p><u>that the plan is “deemed to be certified” after a specified time period will not apply.</u></p>	<p>further information from TTRL, then the “deemed to be certified” part of the conditions does not apply.</p> <p>This Advice Note could either be included at the end of the entire set of conditions or be inserted beneath each of the conditions that it pertains (with some minor consequential edits).</p>

### 3. Conclusions

22. Subject to the changes recommended and matters clarified as highlighted and discussed in Table 1, I consider the TTRL conditions to be generally acceptable and appropriate for the marine consents and marine discharge consents being sought. If imposed and complied with I believe that the conditions appropriately deal with the adverse effects of the proposed activities on the environment and on existing interests.



17 May 2017

Dr Rob Lieffering – Technical Advisor

## Appendix 1 Statutory provisions

### 63 Conditions of marine consents

- (1) *The Environmental Protection Authority may grant a marine consent on any condition that it considers appropriate to deal with adverse effects of the activity authorised by the consent on the environment or existing interests.*
- (2) *The conditions that the EPA may impose include, but are not limited to, conditions—*
  - (a) *requiring the consent holder to—*
    - (i) *provide a bond for the performance of any 1 or more conditions of the consent:*
    - (ii) *obtain and maintain public liability insurance of a specified value:*
    - (iii) *monitor, and report on, the exercise of the consent and the effects of the activity it authorises:*
    - (iv) *appoint an observer to monitor the activity authorised by the consent and its effects on the environment:*
    - (v) *make records related to the activity authorised by the consent available for audit:*
  - (b) *that together amount or contribute to an adaptive management approach.*
- (3) *However, the EPA must not impose a condition on a consent if the condition would be inconsistent with this Act or any regulations.*
- (4) *To avoid doubt, the EPA may not impose a condition to deal with an effect if the condition would conflict with a measure required in relation to the activity by another marine management regime or the Health and Safety at Work Act 2015.*

### 65 Bonds

- (1) *A bond required under section 63(2)(a)(i) may be given for the performance of any 1 or more conditions of a marine consent that the Environmental Protection Authority considers appropriate and may continue after the expiry of the consent to secure the ongoing performance of conditions relating to long-term effects, including—*
  - (a) *a condition relating to the alteration, demolition, or removal of structures:*
  - (b) *a condition relating to remedial, restoration, or maintenance work:*
  - (c) *a condition providing for ongoing monitoring of long-term effects.*

(2) A condition of a consent that describes the terms of the bond may—

(a) require that the bond be given before the consent is exercised or at any other time:

(b) provide that the liability of the holder of the consent be not limited to the amount of the bond:

(c) require the bond to be given to secure performance of conditions of the consent, including conditions relating to any adverse effects on the environment or existing interests that become apparent during or after the expiry of the consent:

(d) require the holder of the consent to provide such security as the EPA thinks fit for the performance of any condition of the bond:

(e) require the holder of the consent to provide a guarantor (acceptable to the EPA) to bind itself to pay for the carrying out of a condition in the event of a default by the holder or the occurrence of an adverse environmental effect requiring remedy:

(f) provide that the bond may be varied, cancelled, or renewed at any time by agreement between the holder and the EPA.

(3) If the EPA considers that an adverse effect may continue or arise at any time after the expiration of a marine consent, the EPA may require that a bond continue for a specified period that the EPA thinks fit.

## **67 Observers**

(1) A condition imposed under section 63(2)(a)(iv) that requires the holder of a consent to appoint an observer must specify in detail the observer's duties in relation to the activity.

(2) The consent holder may appoint a person to be an observer only if the person is approved by the EPA for that purpose.

(3) The EPA must approve a person to be an observer in relation to a consent if—

(a) the person has the appropriate training, skill, and experience to perform the duties; and

(b) the EPA is satisfied that the person is able to perform the duties independently of the consent holder.

## **71 When marine consent commences**

(1) A marine consent that has been granted commences—

(a) when the time for lodging an appeal against the grant of the consent expires and no appeal has been lodged; or

(b) when the High Court determines the appeal or all persons who lodged appeals withdraw their appeals.

(2) Subsection (1) does not apply if the marine consent specifies that the consent commences on a later date.

### **73 Duration of marine consent**

(1) The duration of a marine consent is—

(a) 35 years after the date of the granting of the consent; or

(b) a period less than 35 years that is specified in the consent.

(2) When determining the duration of the consent, the Environmental Protection Authority must—

(a) comply with sections 59 and 61; and

(b) take into account the duration sought by the applicant; and

(c) take into account the duration of any other legislative authorisations granted or required for the activity that is the subject of the application for consent.

### **76 Environmental Protection Authority may review duration and conditions**

(1) The Environmental Protection Authority may serve notice on a consent holder of its intention to review the duration of a marine consent or the conditions of the consent—

(a) at any time or times specified for that purpose in the consent for any of the following purposes:

(i) to deal with any adverse effect on the environment that may arise from the exercise of the consent and with which it is appropriate to deal after the consent has been granted:

(ii) any other purpose specified in the consent:

(b) if regulations take effect that prescribe standards, to ensure that the conditions are consistent with the standards, methods, or requirements:

(c) to deal with any adverse effects on the environment or existing interests that arise and that—

(i) were not anticipated when the consent was granted; or

*(ii) are of a scale or intensity that was not anticipated when the consent was granted:*

*(d) if the information made available to the EPA by the applicant for the consent for the purposes of the application contained inaccuracies that materially influenced the decision made on the application and the effects of the exercise of the consent are such that it is necessary to apply more appropriate conditions:*

*(e) if information becomes available to the EPA that was not available to the EPA when the consent was granted and the information shows that more appropriate conditions are necessary to deal with the effects of the exercise of the consent.*

*(2) The EPA must serve notice on a consent holder of its intention to review the conditions of a marine consent if required by an order made under section 133(5)(b).*

*(3) A notice of review must comply with section 77.*

### **77 Contents of notice of review**

*(1) A notice of review must—*

*(a) specify that the duration of the consent is to be reviewed, if that is the case; and*

*(b) identify the conditions to be reviewed; and*

*(c) give reasons for the review; and*

*(d) specify the information that the Environmental Protection Authority took into account in deciding to review the conditions, if the review is under section 76(1)(d) or (e); and*

*(e) tell the consent holder whether a charge is payable and, if so, the estimated amount of the charge.*

*(2) A notice of review may—*

*(a) propose new consent conditions; or*

*(b) propose a change in the duration of a consent; or*

*(c) invite the consent holder to propose new consent conditions within 20 working days after service of the notice.*

### **85 Lapsing of consent if not exercised**

- (1) A marine consent lapses on the date specified in the consent or, if no date is specified, 5 years after the date of commencement of the consent unless, before the consent lapses,—
- (a) the consent is given effect to; or
  - (b) an application is made to the Environmental Protection Authority to extend the period after which the consent lapses, and the EPA decides to grant an extension after taking into account—
    - (i) whether substantial progress or effort has been, and continues to be, made towards giving effect to the consent; and
    - (ii) whether the applicant has obtained approval from persons who may be adversely affected by the granting of an extension; and
    - (iii) relevant enactments.
- (2) The consent holder may object, under section 101, to a decision of the EPA under subsection (1)(b) not to extend the period after which the consent lapses.

### **87 Change or cancellation of consent conditions on application by consent holder**

- (1) The holder of a marine consent may request the Environmental Protection Authority to change or cancel a condition of the consent.
- (2) Sections 38 to 71 apply, with all necessary modifications, as if—
- (a) the request were an application for a marine consent; and
  - (b) the references to a marine consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively.
- (3) However, if the EPA considers that the requested change or cancellation is likely—
- (a) to affect the existing interests of only some of the persons described in subsection (4), it may notify those persons and may, but need not, give public notice of the request under section 45; or
  - (b) to be limited to minor matters, it may deal with the request under section 83.
- (4) For the purposes of determining who is adversely affected by the change or cancellation, the EPA must consider, in particular, every person who—
- (a) made a submission on the original application; and
  - (b) has an existing interest that may be affected by the change or cancellation.

- (5) *If the EPA decides, under subsection (3)(a), not to give public notice of the request, the EPA may, but need not, give public notice of its decision under section 70.*
- (6) *The consent holder may object, under section 101, if the EPA refuses to change or cancel the condition as requested by the consent holder.*

**87H Duration of marine discharge consents and marine dumping consents**

- (1) *The duration of a marine discharge consent or a marine dumping consent is the term specified in the consent.*
- (2) *However, the duration must not be more than 35 years.*
- (3) *If no duration is specified in a consent, its duration is 5 years.*
- (4) *When determining the duration of a consent, the Environmental Protection Authority must comply with sections 73(2)(b) and (c), 87D, and 87E.*