

Response ID ANON-URZ4-5FSH-B

Submitted to Fast-track approval applications
Submitted on 2024-04-25 16:37:12

Submitter details

Is this application for section 2a or 2b?

2B

1 Submitter name

Individual or organisation name:
Chatham Rock Phosphate (NZ) Limited

2 Contact person

Contact person name:
Chris Castle

3 What is your job title

Job title:
President & CEO

4 What is your contact email address?

Email:
s 9(2)(a)

5 What is your phone number?

Phone number:
s 9(2)(a)

6 What is your postal address?

Postal address:
s 9(2)(a)

7 Is your address for service different from your postal address?

Yes

Organisation:
Duncan Cotterill, s 9(2)(a)

Contact person:
Matt Yates

Phone number:
s 9(2)(a)

Email address:
s 9(2)(a)

Job title:
Partner

Please enter your service address:
s 9(2)(a)

Section 1: Project location

Site address or location

Add the address or describe the location:

Chatham Rock Phosphate NZ Limited (CRP) holds a granted 20 year mining permit for phosphate nodules and other minerals over an area of 820 square kilometres located in the central Chatham Rise seafloor plateau. The permit area is 450 km east of Christchurch, approximately 250 km west of the Chatham Islands and is in New Zealand territorial waters. The mining permit is attached

File upload:

CRP Mining Permit.pdf was uploaded

Upload file here:

No file uploaded

Do you have a current copy of the relevant Record(s) of Title?

No

upload file:

No file uploaded

Who are the registered legal land owner(s)?

Please write your answer here:

Not applicable. Our granted mining permit is in the ocean within New Zealand territorial waters

Detail the nature of the applicant's legal interest (if any) in the land on which the project will occur

Please write your answer here:

CRP holds a granted mining permit over the project area but not the additional Marine Consent also required before CRP can commence mining.

Section 2: Project details

What is the project name?

Please write your answer here:

Chatham Rock Phosphate (NZ) Limited

What is the project summary?

Please write your answer here:

Using a contract dredging company CRP expects to recover 1.5 million tonnes of rock phosphate a year which would be used as a fertiliser in New Zealand and also exported to nearby markets.

What are the project details?

Please write your answer here:

Rock phosphate mined from the Chatham Rise offers the opportunity to accelerate the transformation of New Zealand's agriculture to a more sustainable, environmentally responsible industry. Our rock phosphate is less soluble than other phosphate products. This gives it three advantages: it reduces runoff to waterways; it promotes a deeper, more resilient soil structure; and it is cheaper in the long term because it needs to be applied less often. Field trials and glasshouse tests have shown that Chatham rock phosphate is 85% as effective as triple super phosphate.

Cadmium in imported phosphate products accumulates in soils and poses a health risk to animals and humans. The phosphate from the Chatham Rise has extremely low levels of cadmium which makes its use much more sustainable. Most of the phosphate used in New Zealand is shipped halfway around the world from Morocco. Sourcing phosphate from the Chatham Rise would significantly reduce the carbon footprint of fertiliser. Much of the rock phosphate imported from Morocco is sourced from the Western Sahara; Morocco's annexation of Western Sahara is considered illegal under international law.

Mining rock phosphate from the Chatham Rise would have significant economic benefits for New Zealand. The in-situ value of the rock phosphate is more than \$10.3 billion. The deposit also hosts rare earth elements, and if they can be extracted then the value of the deposit would be much greater. Based on projected sales of 1.5 million tonnes of rock phosphate per year, Chatham Rock Phosphate would pay of the order of \$1.2 billion in income tax, \$475m in royalties and \$152 million in port charges over the initial 15-year project timespan. The company expects an annual tax paid profit of \$205 million. Chatham rock phosphate will be sold directly to farmers and other organic food producers to be used as a direct application, reactive rock phosphate. This will be both a domestic and export market with overseas buyers being particularly attracted by the very low cadmium content. Until recently the major international source of low cadmium rock phosphate to Europe was PhosAgro, a Russian company.

The mining permit covers an area of 820 km² in New Zealand's EEZ. It lies 450 km east of Christchurch and 250 km west of the Chatham Islands. The permit area represents a fifth of one percent of the Chatham Rise and an even tinier fraction of the NZ EEZ of 1.4 million square kilometres. The water depth is about 400 m. The rock phosphate is in a layer less than one metre thick, on and just below the seabed. Mining will be by suction dredging techniques, proven technology commonly used at shallower depths. Mining will recover rock phosphate from 30 km² per year for 15 years, a total of 450 km².

The mining process involves a single pass of the dredge, and dredging activity will occur for 3 days in a 12-day cycle, 30 times a year (90 days a year). This means the organisms in the vicinity will not be subjected to long term sedimentation or plume impacts. In the same locality the fishing industry annually bottom trawls (using weighted nets) 19,000 sq. kms. The fishing yields remain consistent.

The proposed recovery operation uses a suction dredge and a closed system to bring the nodules to the ship and to return the sediment and water to the seafloor. A plume will be generated by both the collection of the nodules and the return water. The extent of the plume has been extensively modelled and reviewed by world leaders in the plume monitoring industry including NIWA, Deltares (Netherlands) and HR Wallingford (United Kingdom). These experts all agreed that the plume (generated close to the seabed) would not extend far outside the boundaries of the mining permit.

The project was thoroughly reviewed by an EPA panel in 2014-15. Experts consulted at that time concluded that:

- The major environmental effects of the plume associated with the mining process would be confined to the area of the mining permit
- Mining is unlikely to have a significant impact on commercial fishing or on the nearby spawning grounds
- Marine mammals are unlikely to be affected
- Sea birds are unlikely to be affected
- Primary food chain productivity is unlikely to be affected
- Toxicology effects in the water column will be very low
- Uranium is not an issue

The environmental consent was declined because of uncertainties about the significance of the environmental effects and the economic benefits. These concerns can be addressed by gathering more baseline environmental and oceanographic data, validating the plume modelling and the effects on benthic organisms, and working with stakeholders to resolve the gaps in spatial planning and operational management of fishing and other marine activities.

Rare Earths & Critical Minerals

It's been known for at least a decade that the seafloor muds in the Chatham Rock Phosphate mining permit also include rare earths and other valuable minerals or elements. These include cerium, lanthanum, neodymium, praseodymium, yttrium, cobalt, rubidium, cesium, germanium, gallium, strontium, thallium and tungsten.

In a more recent development, we also established that the phosphate nodules themselves also contain rare earths and other valuable minerals.

These include 15 of the 17 recognised rare earths, as well as other valuable minerals including nickel, cobalt, chromium, vanadium, zirconium, elemental fluorine and strontium.

Describe the staging of the project, including the nature and timing of the staging

Please write your answer here:

Following the grant of the Marine Consent pursuant to the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 Royal Boskalis Westminster, the dredging company we would use to contract dredge the phosphate deposit, would then modify one of their existing vessels to operate at depths of 400 metres. The related planning and design work has already been undertaken by them in 2011 – 2013 and submitted to New Zealand Petroleum & Minerals in support of our mining permit application which was granted in December 2013.

What are the details of the regime under which approval is being sought?

Please write your answer here:

A Marine Consent pursuant to the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012

If you seeking approval under the Resource Management Act, who are the relevant local authorities?

Please write your answer here:

We are not seeking approval under the Resource Management Act as it does not apply to our project's location in the ocean.

What applications have you already made for approvals on the same or a similar project?

Please write your answer here:

We have not applied for any approvals under the Resource Management Act.

In 2014 we submitted a Marine Consent Application to a Decision Making Committee appointed by the Environment Protection Authority. We attach a link to that 2014 marine consent application and will attach the file in our response to Question 40.

EEZ000006-CRP-Marine-Consent-Application-EIA.pdf (epa.govt.nz)

Is approval required for the project by someone other than the applicant?

No

Please explain your answer here:

We own the project 100 % so there are no other parties involved.

If the approval(s) are granted, when do you anticipate construction activities will begin, and be completed?

Please write your answer here:

Royal Boskalis Westminster, the dredging company that we propose would mine the rock phosphate deposit, has already completed the design work required to be submitted prior to the grant of our mining permit in December 2013. This design work related to modifications to a standard trailer suction hopper dredge (TSHD) required for it to be able to dredge at water depths of 400 metres on the Chatham Rise. Upon the grant of an environmental permit under the Fast Track process the modification process would be initiated and is expected to take two years. With respect to the funding requirement this would be minimal as all mining and processing activities would be either contracted out to Royal Boskalis or undertaken by our fertiliser industry customers.

Section 3: Consultation

Who are the persons affected by the project?

Please write your answer here:

- relevant local authorities - Chatham Island Council, Ports of Timaru, Lyttleton, Marlborough, Wellington, and Napier
- relevant iwi authorities Ngāti Mutunga o Wharekauri, Ngāi Tahu, Moriori
- customary marine title groups Te Ohu Kai Moana (Māori Fisheries Trust). Deep Water Group, Sanford Ltd, Talley Group, Paua Industry Council, NZ Rock Lobster Industry Council

Detail all consultation undertaken with the persons referred to above. Include a statement explaining how engagement has informed the project.

Please write your answer here:

Chatham Rock Phosphate (CRP) Consultation – Excerpt from Marine Consent Application May 2014
Parties Consulted

Overview

In developing its consultation approach, CRP recognised that the level of interest in its proposed mining activities on the Chatham Rise was likely to be broad ranging. This is because it is one of New Zealand's first offshore seabed mining proposal within the EEZ and also one of the first marine consent applications, after Trans-Tasman Resources Limited's iron sand application, to be lodged with the EPA under the EEZ Act.

For this reason, CRP aimed to initiate consultation with all those whom it identified as likely to have an interest in the project. Several of the parties approached CRP following publicity about the project and were therefore included within the on-going consultation process. The consultation approach adopted by CRP reflects good practice. Therefore, the description of consultation outlined below relates to this broad consultation approach.

It is acknowledged that section 39(1)(e) of the EEZ Act requires impact assessments for marine consents to describe any consultation undertaken with existing interests (as identified by CRP in Section 9.2.2). CRP considers that good practice consultation and associated impact assessment processes should be broader than existing interests as defined by the EEZ Act. For this reason, this section of the EIA describes the consultation carried out with existing interests (i.e., the fishing industry, as discussed below) as well as other interested parties which are not considered by CRP to be within the statutory definition of an existing interest.

These other interested parties include Iwi and Imi (in terms of potential impacts on cultural interests and values), the Chatham Islands' community, the Government, other political parties and government agencies, non-governmental environmental organisations and other industry groups (i.e., other than the fishing industry).

An overview of these parties and the consultation undertaken is provided below.

Fishing industry

Introduction CRP has consulted with the Chatham Rise deep-water fishing industry (via the Deep Water Group Ltd) and with individual companies, including Iwi / Imi fishing interests, which either hold quota in the area or hold annual catch entitlements. This is in accordance with the requirements of the EEZ Act to identify possible adverse impacts on persons with 'existing interests'. The key existing interests are the quota holders, represented by the companies making up the Deep Water Group, and Iwi fishing companies. The existing interests associated with CRP's mining proposal are discussed in Section 9.2.2.

Deep Water Group Limited - Deep Water Group's website says it is committed to the sustainable management of New Zealand's deep-water fisheries. Formed in September 2005, the group is an amalgamation of EEZ fisheries' quota owners. Deep Water Group is working with the MPI (previously the Ministry of Fisheries) and other interest groups to ensure New Zealand gains the maximum economic yields from New Zealand's deep-water fisheries resources, managed within a long-term, sustainable framework. Fisheries managed by MPI and fished by the members of the Deep Water Group include orange roughy, oreo dory, hoki, hake, ling, squid and jack mackerel.

CRP has met with officers and board members of the Deep Water Group on a number of occasions over the past three years. In addition, CRP has maintained an ongoing dialogue by phone and email with representatives from the Group.

During the first two years of consulting with the Deep Water Group, CRP received strong signals of support. However, at a presentation to the Board of the Deep Water Group in Auckland in October 2012 several members of the group expressed concerns about potential impacts of the proposed mining activity on fish stocks, habitat and spawning.

CRP has followed up by providing more detailed information on the planned areas of mining, their distance to fishing areas, modelling of the sediment plume from proposed mining activities and a discussion of what potential impact the plume might have on the environment.

CRP paid for an independent review, commissioned by the Deep Water Group, and carried out by ERM New Zealand Limited (an international consultancy) of the Deltares' plume modelling work (discussed further below). In July 2013, so it could focus on gaining a mining permit, CRP withdrew the marine consent application that had been lodged with EPA but which had yet been accepted as complete. Towards the latter half of 2013, CRP and Deep Water Group recommenced dialogue and discussions, focussed initially around the information contained in CRP's withdrawn July 2013 marine consent application (a copy of which was provided to the Deep Water Group). CRP found that 'Existing interest' is defined in section 4 of the EEZ Act.

Imi, or Moriori, are the original inhabitants of the Chatham Islands. To engage with interested parties in a meaningful way was difficult without these parties having access to more detailed project information. It seemed that without a better understanding of the project, some parties could not discern how the proposal may potentially affect them, and what further information or clarification they required from CRP. Therefore, on balance, CRP reached the view that in order to provide for effective consultation and engagement it was appropriate to provide the withheld information (i.e., the July 2013 application document as a whole) to the public and interested parties. It was considered that this approach would reduce the continued risk associated with a potentially ineffective consultation approach. During February 2014, as part of the on-going consultation with Ngāi Tahu (refer to Section 7.3.3), CRP agreed to provide Ngāi Tahu with a copy of the July 2013 application, along with a summary of reports and information being incorporated into this EIA.

A copy of this information was subsequently provided to the Deep Water Group. In return, the Deep Water Group provided CRP with a copy of the peer review report prepared by ERM in relation to the modelling work carried out by Deltares.

CRP is now continuing to consult and engage with the Deep Water Group. This includes undertaking to continue to provide information relating to the project. CRP hope that the information provided will help Deep Water Group to identify its specific concerns and to identify ways that these potential concerns can be resolved or avoided, remedied or mitigated.

Ngāi Tahu fishing interests

CRP initially met with representatives of Te Runanga o Ngāi Tahu, including related fishing companies, in May 2013. While some concerns were raised relating to potential cultural impacts, specifically on taonga species such as marine mammal (which are continuing to be worked through – refer to Section 9.3), the principal area of interest for Ngāi Tahu was the potential environmental impacts on its fishing activities. In particular, these concerns related to potential impacts on long lining on the crest of the Chatham Rise and bottom trawling on the flanks of the Chatham Rise. This has been the focal point of consultation.

In late 2013, Ngāi Tahu provided CRP with a written summary of its areas of interest and concerns. While Ngāi Tahu provided this information, they advised that they needed access to detailed information to be able to engage in a useful way. In February 2014, after the provision of a response to the area of interest outlined in late 2013, and after a number of discussions and email exchanges, CRP agreed to provide Ngāi Tahu with a full copy of the July 2013 marine consent application.

Along with the copy of the July 2013 application, CRP also provided a summary of reports and information being incorporated into this EIA. Following this disclosure, Ngāi Tahu refined their summary of their areas of interest. Also, in February and March 2014, a teleconference and a technical meeting were held between Ngāi Tahu and CRP to discuss these areas of interest. The main concerns raised by Ngāi Tahu relate to the potential impacts from the plume, particularly on commercial fishing stocks and activities in the broader area, including long-line fishing for ling.

Other fishing industry representatives

Separately from the meeting with the Deep Water Group, CRP has met with representatives from Sanford Ltd (Sanford) and Talley's Group Ltd (Talleys) and continues to provide information to them. Their concerns centre on the impacts that CRP activities might have on fish spawning and juveniles, in particular hoki, as well as the implications of CRP operating in a BPA (benthic protection area). CRP is continuing to discuss these matters with both Sanford and Talleys.

In addition to Sanford and Talleys, CRP has consulted with: New Zealand Rock Lobster Industry Council. CRP met members of the Council on Chatham Island in October 2012. Their main concern was any detrimental impact on that fishery arising from the proposed mining operations. Since this meeting, CRP has emailed information to them regularly, including a NIWA report (contained in Appendix 31 (MacDiarmid 2013)) showing that there will be no impact on that fishery.

Paua Industry Council Ltd (PauaMac).

CRP met representatives from PauaMac during the Chatham Islands visit in October 2012. Seafood New Zealand (Seafood NZ). This umbrella organisation representing New Zealand's seafood industry includes representation from five key sectors, and consultation has focused on Deep Water Group, Paua industry and the Rock Lobster industry councils. CRP has talked to the new chief executive and briefed him on the project.

Te Ohu Kaimoana (Maori Fisheries Trust).

CRP briefed the trust in 2010 and continues to keep them apprised of progress with the project.

Koau Capital.

This organisation advises Māori enterprises on investment, including fishing. CRP has met with the organisation's principals and keeps them apprised of the project's progress. CRP intend to continue to consult with the above parties, and any other fishing industry parties that wish to discuss CRP's proposed mining operations on the Chatham Rise.

Iwi and Imi

Iwi and Imi who claim the Chatham Islands within their rohe, with whom CRP has engaged and consulted, are: Ngāti Mutunga o Wharekauri. Ngāti Mutunga are an iwi in the Chatham Islands.

Engagement with Ngāti Mutunga has entailed regular visits, emails and phone calls since early 2012. CRP first met local trustees during a visit to the Chatham Island in October 2012. Since that time, CRP has maintained regular contact with Iwi representatives.

Moriori (Rekohu).

Moriori are the Imi and original inhabitants of the Chatham Islands. CRP has also maintained contact following initial meetings with representatives in October 2012 CRP has retained Tuia Group (Tuia) to lead this engagement process.

Tuia has been principally responsible for organising and managing engagement with Iwi and Imi and their associated fishing interests, although CRP and Tuia have worked (and continue to work) closely together through this engagement process.

An overview of the consultation process relating to Iwi and Imi, and CRP's approach to addressing issues raised, are summarised in Section 9.3 of the Marine Consent Application (attached to this Fast Track application)

The issues raised by Iwi and Imi during consultation are also outlined in the CIA and letter, prepared in June 2013, appended to this EIA (Appendix 33). In addition, any issues raised during any meetings have been included, and associated comment provided, in Table 17 in Section 7.5 of the Marine Consent Application;

Engagement with Ngāti Mutunga and Moriori included visits to the Chatham Islands in April and October 2013 to identify and explore areas of interest. These revolved around fishing, cultural values, sovereignty issues and economic development. Additional matters raised included potential interference with sinkholes and underwater aquifers on the Chatham Rise, as well as any use of chemicals as part of the mining process. During this visit, and from subsequent conversations, CRP has committed to continuing to engage with Ngāti Mutunga and Moriori throughout the processing of the marine consent application and once mining commences.

Upload file here:

EEZ000006-CRP-Marine-Consent-Application-EIA.pdf was uploaded

Describe any processes already undertaken under the Public Works Act 1981 in relation to the land or any part of the land on which the project will occur:

Please write your answer here:

Not applicable

Section 4: Iwi authorities and Treaty settlements

What treaty settlements apply to the geographical location of the project?

Please write your answer here:

None that we are aware of.

Are there any Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019 principles or provisions that are relevant to the project?

No

If yes, what are they?:

Are there any identified parcels of Māori land within the project area, marae, and identified wāhi tapu?

No

If yes, what are they?:

Is the project proposed on any land returned under a Treaty settlement or any identified Māori land described in the ineligibility criteria?

No

Has the applicant has secured the relevant landowners' consent?

No

Is the project proposed in any customary marine title area, protected customary rights area, or aquaculture settlement area declared under s 12 of the Māori Commercial Aquaculture Claims Settlement Act 2004 or identified within an individual iwi settlement?

No

If yes, what are they?:

Has there been an assessment of any effects of the activity on the exercise of a protected customary right?

Yes

If yes, please explain:

We undertook a Cultural Impact Assessment at the request of and in conjunction with Ngai Tahu

Upload your assessment if necessary:

EEZ000006-Ngai-Tahu-Marine-Mammal-Cultural-Impact-Assessment-dated-July-2014.pdf was uploaded

Section 5: Adverse effects

What are the anticipated and known adverse effects of the project on the environment?

Please describe:

Please see uploaded file - an excerpt from the 2014 Marine Consent Application

Upload file:

Chatham Rise Rock Phosphate Project Assessment of Potential Environmental Impacts .docx was uploaded

Section 6: National policy statements and national environmental standards

What is the general assessment of the project in relation to any relevant national policy statement (including the New Zealand Coastal Policy Statement) and national environmental standard?

Please write your answer here:

None of these appear to be relevant to the Chatham Rise Phosphate project.

File upload:

No file uploaded

Section 7: Eligibility

Will access to the fast-track process enable the project to be processed in a more timely and cost-efficient way than under normal processes?

Yes

Please explain your answer here:

The existing Marine Consenting Process requires a lengthy and expensive hearing process that is required to be paid for by the applicant and which, even if successful, can be appealed repeatedly.

What is the impact referring this project will have on the efficient operation of the fast-track process?

Please write your answer here:

Minimal as it's a very straightforward and already well researched and presented project which can rapidly be assessed by reviewing the 2014 Application for the Marine Consent and the 2023 submission made to the Select Committee on Seabed Mining.

Has the project been identified as a priority project in a:

Central government plan or strategy

Please explain your answer here:

Yes – both the Minister of Resources and Ministry of Business Innovation and Employment officials have confirmed that they consider the Chatham Rise Rock Phosphate Project to qualify as a priority project.

Will the project deliver regionally or nationally significant infrastructure?

Not Answered

Please explain your answer here:

The answer is no to both as it's a marine mining project requiring little or no onshore infrastructure apart from wharf storage areas

Will the project:

Please explain your answer here:

No - it's a marine mining project unrelated to housing needs or the urban environment.

Will the project deliver significant economic benefits?

Yes

Please explain your answer here:

Recovering rock phosphate from NZ territorial water would significantly improve New Zealand's balance of payments by reducing imports as well as creating exports.

The project is expected to be highly profitable even after paying substantial port charges, royalties and income tax and is projected to earn an annual net profit after tax of \$205 million.

Our current forecasts indicate that during the initial 15-year project timeline Chatham Rock Phosphate would pay \$1.2 billion in income tax, \$475m in royalties and \$152 million in incoming port charges. Further significant port charges would be payable by export customers.

The home port (yet to be selected) would benefit significantly, both from port charges and from better utilisation of existing wharf facilities or construction of new ones.

Chatham rock phosphate will be sold directly to farmers and other organic food producers to be used as a direct application, reactive rock phosphate. This will be both a domestic and export market with overseas buyers being particularly attracted by the very low cadmium content. Until recently the major international source of low cadmium rock phosphate to Europe was PhosAgro, a Russian company. It will also be sold to farmers as an organic substitute for high grade triple super phosphate as independent field tests (conducted by the New Zealand Government in the 1980s) and more recent glass house trials (conducted by Lincoln University and Ag Research) have established that Chatham rock phosphate is 85% as effective as TSP.

The rock phosphate will also be sold to fertiliser manufacturers in Australasia and Asia, to be manufactured into single superphosphate and dicalcic phosphate.

The rock will also be packaged into retail packs to be sold through garden centres and retail chains such as Bunnings and Mitre 10 for home gardeners.

Will the project support primary industries, including aquaculture?

Yes

Please explain your answer here:

Rock phosphate predominantly consists of phosphorous pentoxide (P₂O₅) and calcium carbonate, is an important plant nutrient, and hence is a key raw material for fertilisers used widely in most primary industry aspects.

Direct application fertiliser supports a change to more sustainable, resilient farming practices in New Zealand. Direct application will improve soil qualities, reduce phosphate runoff in waterways and reduce total fertiliser application over time.

Independent field trials conducted by the NZ government in the 1980's and recent greenhouse trials have confirmed that Chatham rock phosphate is suitable for direct application.

The trials have also revealed that Chatham rock phosphate is 85% as effective as triple superphosphate.

This is significant as TSP is a highly concentrated product which is expensive to manufacture.

Chemical analyses also show Chatham rock phosphate is also exceptionally low in cadmium. Chatham rock phosphate will be sold directly to farmers and other organic food producers to be used as a direct application, reactive rock phosphate.

This will be both a domestic and export market with overseas buyers being particularly attracted by the very low cadmium content.

Until recently the major international source of low cadmium rock phosphate to Europe was PhosAgro, a Russian company.

The rock will also be packaged into retail packs to be sold through garden centres and retail chains such as Bunnings and Mitre 10 for home gardeners.

Will the project support development of natural resources, including minerals and petroleum?

Yes

Please explain your answer here:

Yes – the Chatham Rise rock phosphate deposit was first discovered in 1952 and an estimated \$75 million (in current dollar terms) has been invested subsequently on exploration and resource definition by means of 8 different research expeditions, each involving several weeks.

Much of the funding from this was provided by the New Zealand and German governments.

The data collected means the deposit is now very well defined. The best-sampled area of 380 sq km has an identified resource of 23.5 million tonnes with a present in situ market value of \$10.4 billion for the rock phosphate alone.

It's been known for at least a decade that the seafloor muds in the Chatham Rock Phosphate mining permit include rare earths and other valuable minerals or elements. These include cerium, lanthanum, neodymium, praseodymium, yttrium, cobalt, rubidium, cesium, germanium, gallium, strontium, thallium, and tungsten.

In a more recent development, it has also been established that the phosphate nodules also contain rare earths and other valuable minerals. These include 15 of the 17 recognised rare earths, as well as other valuable minerals including nickel, cobalt, chromium, vanadium, zirconium, elemental fluorine and strontium.

Will the project support climate change mitigation, including the reduction or removal of greenhouse gas emissions?

Yes

Please explain your answer here:

800,000 tonnes of rock phosphate locally sourced (rather than imported from the other side of the world) and needing to be applied less frequently results in 95% lower carbon emissions (80,000 tonnes reduced to 4,000 tonnes) per annum.

Will the project support adaptation, resilience, and recovery from natural hazards?

No

Please explain your answer here:

This is a marine mining project not directly or indirectly related to these onshore issues.

Will the project address significant environmental issues?

Yes

Please explain your answer here:

Yes. Rock phosphate mined from the Chatham Rise will result in improved water quality, improved soil health, lower carbon emissions and lower heavy metals entering the food chain.

1. Water quality – when Chatham Rise rock phosphate (a reactive phosphate rock or RPR) is applied to the soil in its natural form there is 80% to 90% less run off into waterways due to its slow-release characteristics.

2. Improved soil health – when directly applied Chatham rock phosphate works with plant root eco-systems. Manufactured fertilisers tend to bypass these and feed the top of the plant directly. As a result, the plant root eco-systems atrophy over time and the soils become inert.

3. Significantly reduced (95% lower) carbon emissions due to closer location to market and less frequent application to the land because of the slow release.

4. Chatham rock phosphate contains approximately 2 ppm cadmium, ultra-low by world standards. Most of the major exporting countries have levels well over 60 ppm. The European Union has just introduced a limit of 60 ppm eventually falling to 20ppm. This action is being taken as its now recognised that cadmium accumulates in red meat and is directly linked to cancer in humans.

Is the project consistent with local or regional planning documents, including spatial strategies?

No

Please explain your answer here:

Not that we have been made aware of during the 17 years since we first applied for an Exploration Licence on the Chatham Rise

Anything else?

Please write your answer here:

We would like to attach the 40 page submission made in 2023 to the Select Committee Review of Seabed Mining rather than cutting and pasting it into this box.

Does the project includes an activity which would make it ineligible?

No

If yes, please explain:

Section 8: Climate change and natural hazards

Will the project be affected by climate change and natural hazards?

No

If yes, please explain:

Section 9: Track record

Please add a summary of all compliance and/or enforcement actions taken against the applicant by any entity with enforcement powers under the Acts referred to in the Bill, and the outcome of those actions.

Please write your answer here:

There have been no compliance and/or enforcement actions taken against the applicant by any entity with enforcement powers under the Acts referred to in the Bill.

This is unrelated to the response above but I now take the opportunity to attach the Submission to the Select Committee Review of Seabed Mining.

Load your file here:

Submission by Chatham Rock Phosphate to Select Committee on Seabed Mining FV .pdf was uploaded

Declaration

Do you acknowledge your submission will be published on environment.govt.nz if required

Yes

By typing your name in the field below you are electronically signing this application form and certifying the information given in this application is true and correct.

Please write your name here:

Christopher David Castle

Important notes