

Image courtesy of GNS Science



WIDESPREAD ENERGY

ROCK PHOSPHATE ON THE CHATHAM RISE

Executive Summary

THE CHATHAM RISE IS A SUBMARINE TOPOGRAPHIC FEATURE LYING OFF THE EAST COAST OF NEW ZEALAND BETWEEN THE SOUTH ISLAND AND THE CHATHAM ISLANDS AND WITHIN NEW ZEALAND'S TERRITORIAL WATERS.

The Chatham Rise hosts economically significant deposits of rock phosphate and other potentially valuable minerals. The deposits comprise nodules lying on, or just below the surface of the seabed in shallow waters.

Rock phosphate is an essential ingredient of fertiliser and can be applied directly to pasture. There is a realistic opportunity the phosphate deposits could supply New Zealand's agricultural requirements for an estimated 100-year period at current rates of consumption.

Extensive exploration and scientific research in the 1970s and 80s helped delineate the deposit. Recent meteoric increases in the value of rock phosphate recently, coupled with significant advances in offshore extraction technology mean it is now economically feasible to harvest the resource.

Widespread Energy Limited (90%) and Widespread Portfolios Limited (10%) form a joint venture, which holds the prospecting rights, awarded by the New Zealand Government, over an area of 4726km. The prospecting licence has been awarded for two 2-year terms (2010 – 2014) and the joint venture has the priority rights to apply for a mining licence(s) after meeting all required exploration work programme obligations.

The initial phases of exploration are focussed on...

- Collating and assimilating extensive volumes of existing data.
- Further exploration to provide greater certainty around the resource.
- Scoping the applicable engineering options for a mining system.
- Assessing the project economics, understanding the existing environment and the potential impacts of mining and exploration.

What Te Ara (New Zealand Encyclopaedia) says about Chatham Rise phosphates...

“The potential use of phosphate nodules as a slow-release fertiliser for farmland has been recognised for over 30 years. This resource could supply New Zealand farms for 50–100 years. There have been successful trials of crushed phosphate nodules, especially on hill-country farms.”

Contact Details

Project owners	90% Widespread Energy and 10% Widespread Portfolios - NZX ticker symbols WEN and WID
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Geology and history of the deposit

The Chatham Rise is a large underwater plateau lying east of New Zealand. Extensive phosphate (P_2O_5) deposits occur along 400km of the crest of the Chatham Rise at water depths of 400 metres or less. The phosphate is formed in nodules from 1mm to over 150mm in diameter, but these are typically 10–40mm across and are in a layer up to 70 centimetres thick, within a sandy bed. Nodule concentration is greatest between 179° and 180° E longitude where an average of 66kg per square metre exists.

The deposit was formed 7–12 million years ago and was discovered by New Zealand scientists in 1952 and then subsequently investigated by various private companies and government researchers from 1975 to 1981. In current terms the cost of these exploration voyages is estimated at NZ\$20–50 million. Extensive sampling and geophysical surveys conducted during this period and the data collected means the deposit is now well defined.

The area most intensively sampled occurred over an area of 380km² where a resource of 30 million tonnes is estimated. This area lies within the company's licence, and forms the central part of an estimated 100 million tonne resource within the Widespread project area.

The average phosphate content of 21% (P_2O_5) has been determined from the historical field trials, and other potentially economic minerals (including Rare Earth Elements) could provide valuable additions to the project income.

The market opportunity

Virtually all rock phosphate used by the New Zealand fertiliser industry (approximately 1 million tonnes per annum) is imported from Morocco. A Moroccan state-owned company, OCP, essentially controls world trade in rock phosphate. Dramatic rises in world prices (from US\$40/tonne to a peak of nearly US\$500 in 2008), driven by OCP, evidenced the increasing dominance of this company over the world trade in rock phosphate.

Rock phosphate is the primary constituent of most fertilisers manufactured and distributed in New Zealand and it can also be applied directly to pasture. Ministry of Agriculture and Fisheries trials in the 1980s showed the direct application of rock phosphate can be more effective than super-phosphate for pasture growth and with fewer environmental impacts from runoff.

The price drivers for rock phosphate are increased requirements to support production of food in developing economies, reduced land availability and hence greater productivity required from remaining land and production of suitable vegetation for bio-fuel production.

Extraction of the Chatham Rise phosphate could provide a locally produced alternative to the Morocco sourced imports. It would enable the agricultural sector to be shielded from fluctuations in foreign exchange, lower high transport costs and reduce the carbon footprint in the process.

Comparison of Independent Valuation and Widespread JV Internal Valuation

Key Assumptions	Rockpoint Corporate Finance Model	Widespread internal Model
Revenue per tonne (US\$)	160	195
Operating costs per tonne (Euro)	92	68
Capex	NZ\$65 million	NZ\$15 million
Annual NPBT	NZ\$40 million	NZ\$80 – NZ\$110 million
Decision to proceed	2014	November 2011
Project value at start	NZ\$334 million	NZ\$778 million
Present project value	NZ\$20.9 million	NZ\$100 million +

Project economics

The project's economics have been scoped in an independent report which suggests annual tax paid earnings of NZ\$30 million. The basis for this is the resource of 30 million tonnes outlined from previous investigations, with recovery rates of 700,000 tonnes annually giving a 40 year project life.

The economic modelling assumes a forecast market price ex-Morocco (less a discount) plus forecast shipping costs to give an assumed price of NZ\$223 per tonne. The independent report also assume possible capital costs of NZ\$65 million – this being specialist equipment for recovery, land based port receipt, separation and storage. Annual operating costs are estimated at NZ\$117 million.

Present independent project valuation

The current independent value of NZ\$20.9 million (effectively that of the prospecting licence) is based on discounted future cash flows and risk analysis. The starting point is the discounted cash flow value, calculated at the time of decision to proceed with the project – currently assumed in the independent valuation to be 2014. The actual decision to proceed could be much earlier; possibly during 2011.

Alternatively an in-situ value of 100 million tonnes of rock phosphate at \$US1 per tonne (0.5% of the market price) is \$US100million or \$NZ5.46* per WEN share and \$NZ1.74* per WID share.

Managing the environment

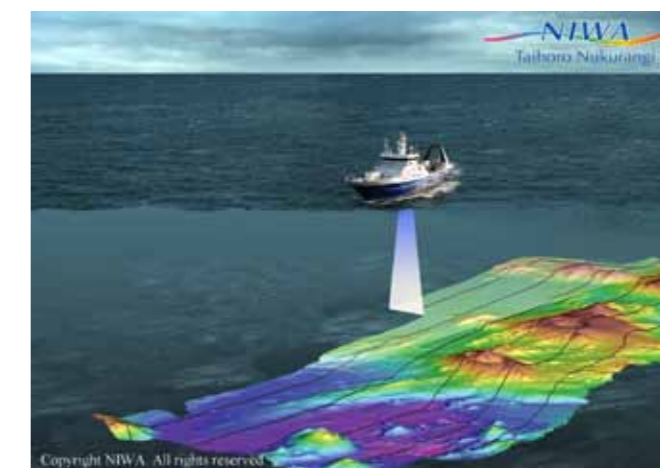
The Widespread JV is acutely aware of its responsibilities to conduct both mineral prospecting and subsequent extraction of rock phosphate, in a manner that seeks to minimise the impact on the environment.

The National Institute of Water and Atmospheric Research (NIWA) – a New Zealand Government research institute, and other environmental consultants have been engaged to assist Widespread's environmental objectives of ensuring our activities where practicable cause minimal disruption to the marine environment. NIWA has previously conducted several investigations on the Chatham Rise including the mapping of various habitats, and we anticipate using expert knowledge to further gather the appropriate baseline environmental information, assess the likely impacts from the activities and thereby provide a level of data required to make informed decisions.

As a matter of good business and a desire to be successful in our project objectives, the integration of environmental considerations in all stages of project planning is a standard process. Widespread will be adopting the environmental guidelines stipulated in the International Marine Minerals Society "Code for Environmental Management of Marine Mining".



Phosphate nodules



Top: The Tangaroa, Image courtesy of NIWA

Above: The Simon Stevin, owned by Belgian dredging group Jan de Nul, is a purpose-built ship capable of supporting seabed extraction at depths of up to 2,000 metres.

Key Numbers

Present Project Value	NZ \$20.9m
Projected Project Value at start-up	NZ\$330m+
Present value per WEN share	NZ\$0.78
Present value per WID share	NZ\$0.25
Estimated total resource size	100M/t
Estimated localised resource*	30M/t
Licence area	4,276km ²
Estimated localised resource area	380km ²

* Estimated resource in the most intensively sampled 380 km² area

Research into the available extraction options is already underway and many of the final costs will be determined once the appropriate mining solution is identified and contract structure is in place.

Project Summary / Wider Benefits

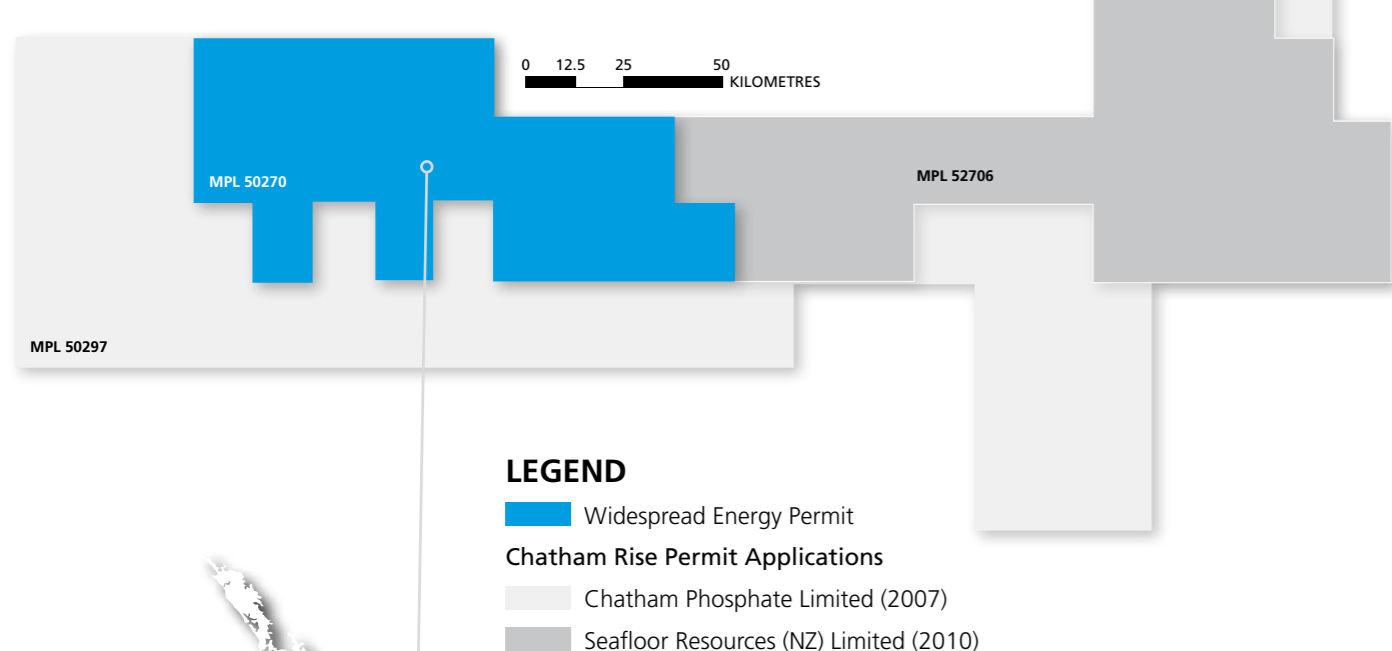
Known costs and technology: Current studies indicate existing technology could extract the resource from the seabed for much less than the cost of purchase and import from Morocco.

New Zealand owned and controlled: The Widespread Joint Venture holds 100% of the 4,726 sq km permit area estimated to contain a 100-year supply of rock phosphate for the New Zealand market.

Economic benefits: This project could significantly reduce New Zealand's carbon footprint and exposure to foreign exchange risk while improving its balance of payments position by reducing imports and/or generating export earnings.

Environmental benefits: Rock phosphate can be directly applied to pasture as more environmentally sustainable fertiliser. Extraction of the rock phosphate from the seabed would be carried out in accordance with international environmental guidelines.

Widespread Energy Chatham Rise Permit Area Neighbouring Applications



New Zealand

Chatham Islands

0 250 1000 km

Indicative Project Timeline

February 2010
Prospecting licence granted

March 2010
Environmental & pre-feasibility studies commence

May 2010
Pre-feasibility study and project valuation completed

June 2010
Draft environmental study completed

July 2010
Exploration planning, environmental baseline monitoring commence

November 2010
2011 exploration programme finalised

December 2010
Progress report to Crown Minerals

February 2011
Exploration programme starts

May 2011
Exploration results analysed

July 2011
Resource definition completed

October 2011
Environmental Impact Assessment completed

November 2011
Bankable Feasibility Study completed

December 2011
Apply for Mining Licence