



## TTR's World Class Vanadium Rich Titanomagnetite Iron Sands Project in STB Update 2019

TTR's offshore South Taranaki Bight (STB) vanadium rich titanomagnetite sand resources is one of the largest known drill defined vanadium deposits in the world.

TTR has undertaken extensive engineering development work and environmental research to establish a new low impact sustainable production and export operation that will deliver a range of significant environmental, social, economic and technological benefits to the region and New Zealand.

### ***Fact Sheets***

The attached STB Project 2019 Fact Sheet and media commentary summarises the key information regarding the economic benefits and environmental impact of the STB Project as provided to EPA hearing for our marine and discharge consent approvals. All the information has been prepared by independent experts and internationally peer reviewed.

### ***Strategic Minerals and Green Energy Renewables***

Major environmental benefits include the potential recovery of strategic minerals for the renewable energy sector. Vanadium is now in demand for use in vanadium batteries to store renewable energy and, with titanium, in high quality steel production, white goods and electronics.

The STB vanadium resource with 11 pounds per tonne of concentrate will generate up to 50 million pounds (22,700 tonnes vanadium pentoxide) and 300,000 tonnes titanium dioxide a year depending on recoveries.

### ***Actual Environmental Impact***

Despite fanciful claims to the contrary, the unchallengeable facts are that the operation, located 22km to 36km offshore over the horizon, will have minimal if any impact on the STB marine ecosystems, existing users or the near shore environments, recreational use or cultural values. The actual impacts and effects are outlined in the 2019 Fact Sheet and videos of the seafloor in the proposed mine area and the mining operation are available on our website at [www.ttrl.co.nz](http://www.ttrl.co.nz)

### ***Economic Benefits***

Based on the current JORC resource and commodity prices TTR's operation would generate direct payments in royalties and corporate taxes to NZ government in excess of \$200,000,000 a year (\$55m annual royalties and \$145m annual corporate taxes) along with foreign exchange earnings of around US\$370 million. The initial licenced and approved project has a mine life in excess of 20 years.

### ***Jobs and Infrastructure Created***

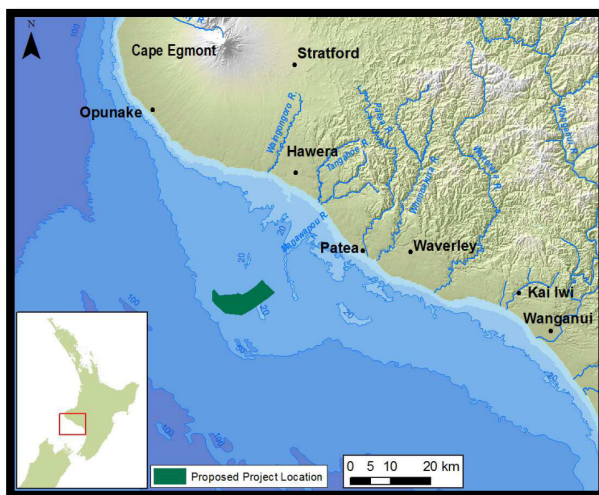
The operation will generate over 300 direct professional and skilled and jobs, a further 165 indirect in services and support in the region and up to 1,665 positions nationwide. Training and logistics facilities will be established in Hawera and service infrastructure in Port Taranaki and the Port of Whanganui.

### ***Major Boost for Region and NZ***

The key is the STB project, when in operation, will deliver these significant benefits and boost to the region and nation's GDP with no measurable impact or stress on NZ's existing infrastructure or environment. These significant employment opportunities and treasury receipts are generated without the government having to deliver any additional services or infrastructure.

**Alan J Eggers**  
**Executive Chairman**  
16 July 2019

### **TTR South Taranaki Bight Mining Licence Location**



### **About TTR**

*Trans-Tasman Resources Limited (TTR), a New Zealand company, was established in 2007 to explore and develop the North Island's offshore iron sand deposits. The Company is headquartered in Auckland and funded by New Zealand and international investment. Since inception TTR has spent more than \$80 million on defining the resource potential, environmental assessment of the proposed mining areas and possible impacts of the mining, mine engineering and process design, ore marketing, and the processing and shipping operations associated with the resource extraction and iron sands export operations in the South Taranaki Bight (STB).*

*TTR proposes to seabed mine up to 50 million tonnes (Mt) of iron rich sands per year in New Zealand's Exclusive Economic Zone, approximately 22 to 36 kilometres off the South Taranaki coast in water depths of 20 to 50 metres. The operation, when in full production, will produce 5Mt a year of vanadium rich titanomagnetite concentrate grading 0.5%V<sub>2</sub>O<sub>5</sub>, 8.5%TiO<sub>2</sub> and 57%Fe for export. 90% of the mined sands will be re-deposited on the seafloor in a controlled manner backfilling previous mined areas to enable immediate rehabilitation. The sands will be processed offshore aboard an integrated mining vessel (IMV) and transferred into cape size vessels for export.*

*The project will directly employ more than 250 New Zealand-based staff and operational personnel.*

*TTR has made a significant investment in, and commitment to, the development of its offshore STB iron sands mining project. The Company is now committed to completing the Bankable Feasibility Study to facilitate the financing, construction and commissioning of this technologically advanced, world-class marine mining operation, which will deliver substantial economic benefits to New Zealand while employing global best practice with sustainable environmental outcomes.*