

ASX RELEASE

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# MANNAR ISLAND MINERAL SANDS PROJECT 12 MONTH OUTLOOK

- Scoping study has commenced with expected completion early 2020.
- Initial phase of metallurgical test work for scoping study to be complete by end of April 2019.
- Offtake partner discussions commenced in the March 19 quarter and are ongoing.
- Process plant options study to commence in July 2019.
- Mining options study also to commence in July 2019.
- Resource infill drilling is continuing in support of a further resource update in June or September 2019 quarter.
- Exploration and resource extension drilling to commence with RC aircore drilling rig in early June 2019.

A scoping study has commenced for the Mannar Island mineral sands project focussed around high grade, low capital, low operating cost production of ilmenite, leucoxene, rutile and zircon in various combinations with a long project life.

The study will be on going throughout the remainder of 2019 with completion early next year. Progression of the study components will enable work and expenditure to focus in on the most economically attractive project development pathways at the earliest possible stage.

Process metallurgical test work components of the project scoping study have commenced at the Allied Mineral Laboratory (AML) in Perth, Western Australia. The initial test work will isolate potential product streams using conventional physical separation processes using composite sample material retained from earlier drilling programs. The test work will focus on the ilmenite, leucoxene, rutile, and zircon.

The ongoing metallurgical test work will enable early and meaningful engagement with potential offtake partners. Which will in turn assist in defining viable process plant options.

Mining option studies will be carried out in tandem with the process plant options study commencing in July 2019. This will enable the identification of viable mining and plant scenarios compatible with potential offtake partners.

Resource infill drilling is continuing. This is intended to support the proposed second resource update model planned for July or August 2019. This updated resource model is expected to provide the necessary resource definition for the Scoping Study.

Exploration and resource extension drilling programs will commence in early June 2019. An RC/aircore drilling rig has been acquired by the company and is being modified to an optimal configuration for the Mannar Island Project. The rig and a full suite of spares and drilling equipment is scheduled to arrive in Sri Lanka in mid-May. The drilling rig will supplement the shallow drilling being carried out by the company's local auger teams.

The rig is small enough to be tractor mounted enabling it to efficiently traverse the sands of Mannar Island. It has depth and penetration capabilities in excess of what local conditions require. The drilling rig and equipment will be shipped by container and mounted in Sri Lanka on a locally available tractor. A local drilling team will be trained by an experienced mineral sands driller over the course of this year's drilling programs.

Titanium Sands Ltd looks forward to regularly updating the market and its shareholders as these planned programs for the Mannar Island Project are progressed over the next 12 months.

2019							2020				
March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb

**Table 1 Current program schedules** 

#### **OVERVIEW OF THE MANNAR ISLAND HEAVY MINERAL SANDS PROJECT**

The Mannar ilmenite-leucoxene heavy mineral deposit is located on a 25 kilometre long by 5 kilometre wide sand island in the dry North West of Sri Lanka and the mainland coast up to 10 kilometres south(Figure 1). The island is joined to the mainland by a road and rail causeway. Mineral sand deposits occur elsewhere along the Sri Lankan coast but only the Government owned Lanka

Mineral Sands on the North East coast at Pulmoddai is operational. The known deposits vary in geology and mineral composition.

Mannar Island is a low lying young (less than 10,000 years old) largely unconsolidated sand island. Only locally are elevations 3m above mean sea level. The heavy mineral deposits are contained are within extensive sheets of 1 to 3m thick beach and back beach sands along the coast and up to 3 kilometres inland. The heavy mineral sand deposits are exposed at surface and extend down to the water table 1 to 3m below the land surface. No drilling has so far been conducted below the water table.

The heavy mineral assemblage at Mannar is dominated by ilmenite and higher value leucoxene. Even higher value rutile and zircon are present in minor concentrations. The host beach and back beach sequences are young and free running, there are no significant areas of calcareous or ferruginous cementation. The original depositional conditions of the beach face and back beach means that the deposit contains 1.12% slime and silt sized components.

Titanium Sands Ltd reported a (JORC) resource statement update to the Australian Securities Exchange on the 11<sup>th</sup> of February 2019\* (Table 2). The resource contains several high grade zones, Domain 0 (10.33Mt @11.33%THM) and Domain 2 (9.85Mt @ 9.06%THM

	Vol (Mm³)	Tonnes (Mt)	THM %	Silt %	Oversize %	Ilm %	Leu %	Rut %	Zir %
Total	30.27	53.08	6.66	1.12	8.02	3.21	0.59	0.14	0.15

Table 2 Summary of the inferred (JORC) resources.\*

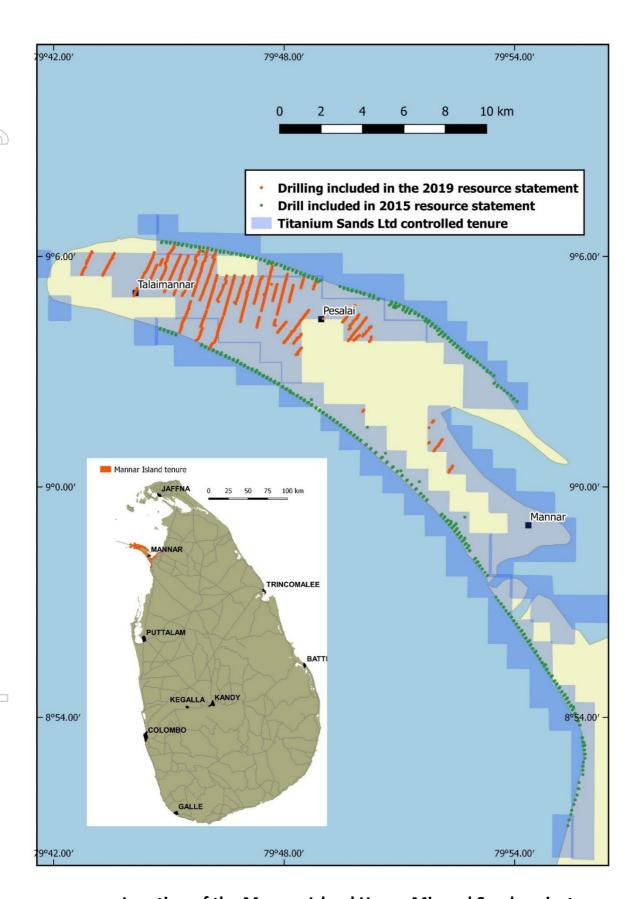
\*A full resource statement and JORC disclosure is contained in the announcement to the Australian Securities Exchange on the 11<sup>th</sup> of February 2019. The company confirms that it is not aware of any new information or data that materially affects the information included in the Mineral Resource Statement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

## **Competent Person's Statement**

Technical descriptions of the Mannar island Project and proposed programs have been prepared by James Searle BSc (hons), PhD, a Member of the Australian Institute of Mining and Metallurgy, with over 34 years of experience in metallic and energy minerals exploration and development, and as such has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Searle is the Managing Director of Titanium Sands Limited and consents to the inclusion of this technical information in the format and context in which it appears.

#### Forward-Looking Statements

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning the Company's planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "expect," "intend," "may", "potential," "should,", "further" and similar expressions are forward-looking statements. Although the Company believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that further exploration will result in additional Mineral Resources.



**Location of the Mannar Island Heavy Mineral Sand project**