



ASX RELEASE

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ASX: TSL

TSL MANNAR ISLAND PROJECT RESOURCE TONNAGE TRIPLED

- Mineral Resource estimates for the Mannar Island Project expands to 264.93Mt at 4.38% THM .
- The resource includes a continuous zone 8km long containing 92.56Mt @5.24% THM.
- The new resource is 2.94 times the tonnage previously reported resource of 90.03Mt @ 6.60% THM¹.
- The resource remains fully open at depth and partially laterally.
- Further exploration to continue on highly prospective adjacent areas.

Titanium Sands, Managing Director, Dr James Searle commented:

“This massive upgrade in resources for the Mannar Island Project makes a very long life large tonnage dredge mining operation a serious consideration ”.

Titanium Sands Ltd (“the Company”, ASX: TSL) is pleased to announce an updated Inferred and Indicated Mineral Resource at its Mannar Island Project in Sri Lanka of 264.93Mt at 4.38% THM based on a lower cut off of 2% THM. Mineral Resources were also estimated for no lower cut off and a 3% lower cut off (Tables 1 and 2) (Figure 1). The 2% lower cut off resource is considered most in keeping with the production economics of analogous projects.

Cut	Cat.	Tonnes M	Thm %	Silt %	Ovz %	Ilm %	Leu %	Rut %	Zir %
0%	Ind	88.39	4.46	0.76	13.80	1.98	0.37	0.08	0.08
	Inf	307.86	3.03	0.99	19.86	1.32	0.23	0.06	0.07
	Total	396.26	3.35	0.94	18.51	1.47	0.26	0.07	0.07
2%	Ind	66.14	5.54	0.83	11.63	2.48	0.46	0.10	0.10
	Inf	198.79	3.99	1.06	17.56	1.77	0.30	0.08	0.10
	Total	264.93	4.38	1.00	16.08	1.95	0.34	0.09	0.10
3%	Ind.	52.22	6.36	0.83	11.14	2.89	0.53	0.11	0.12
	Inf.	111.80	5.15	1.08	15.96	2.33	0.39	0.10	0.12
	Total	164.02	5.53	1.00	14.43	2.51	0.43	0.11	0.12

Table 1 Mineral Resource Estimates for 0%, 2% and 3% lower cut offs (summarised from Table 3,4,and 5 in the Mineral Resource Estimate statement below)

The mineral resource is exposed at surface and has no overburden. The previously reported resource of 90.03Mt @ 6.60% THM¹ was based on 3,704 auger holes drilled to water table at depth of 1 to 3m below surface. This new mineral resource estimate incorporates RC aircore drilling data from 473 holes drilled in 2019² down to 12m below surface and 216 new auger holes (Figures 1 and 2).

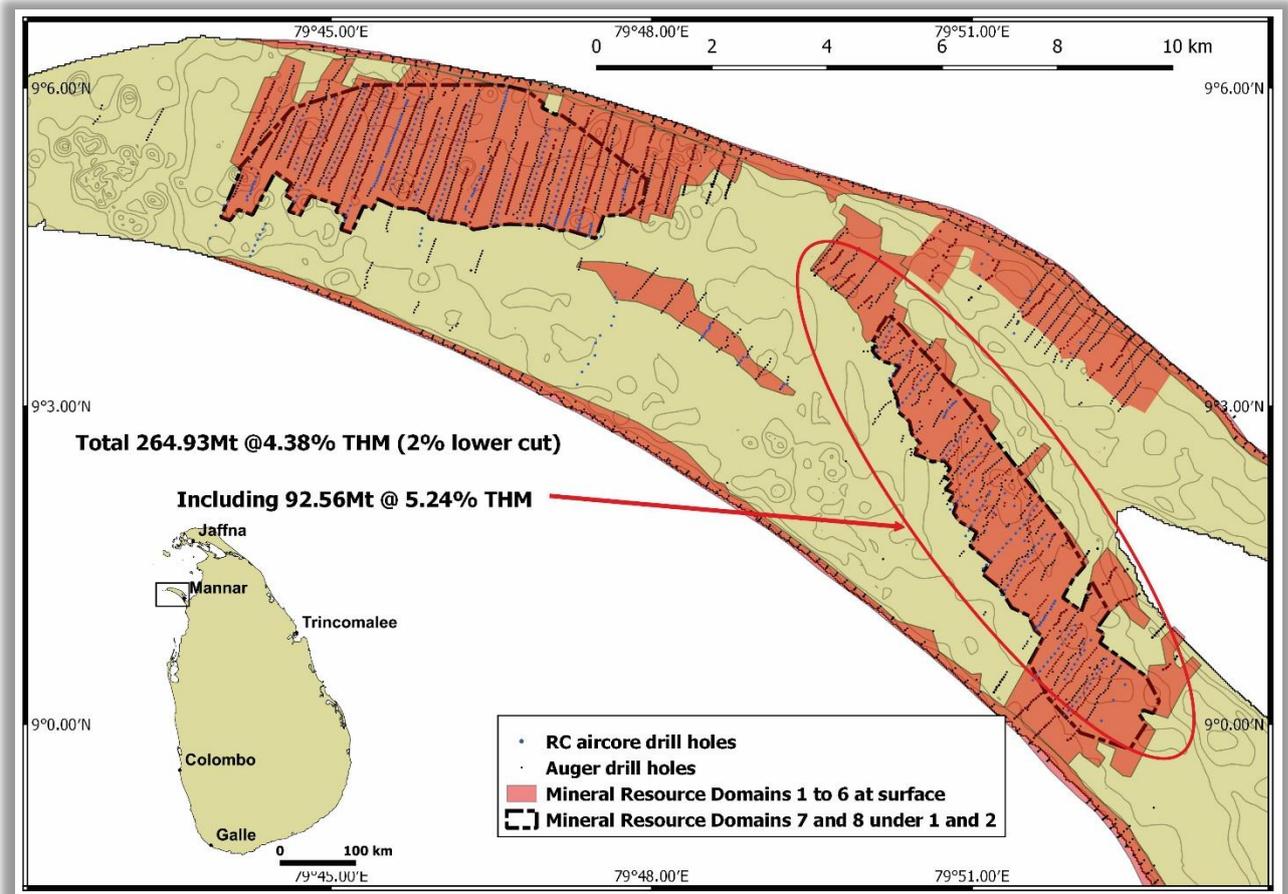


Figure 1 Mineral Resource Domains defined in this Mineral Resource Estimate. Note Domains 7 and 8 underly the surface exposed Domains.

This new mineral resource estimate includes a continuous zone over 10km, up to 2km wide and 8 to 10m thick (Figures 1 and 3) with a mineral resource of 92.56Mt at 5.24% (Table 2). This zone is being considered for initial dredge mining operations in the scoping study.

Domain	Cat.	Tonnes M	Thm %	Silt %	Ovz %	Ilm %	Leu %	Rut %	Zir %
2	Ind	29.51	7.25	0.75	20.39	3.25	0.62	0.10	0.12
2	Inf	12.46	7.07	1.46	19.84	3.04	0.58	0.10	0.12
8	Inf	50.59	3.61	0.88	26.40	1.50	0.27	0.06	0.07
	Total	92.56	5.24	0.92	23.60	2.27	0.42	0.08	0.09

Table 2 Mineral Resource Estimate Domains 2 and 8 extracted from Table 4 in the mineral resource estimate statement below for a 2% lower cut off.

The resource domains extend over a large part of the 26km long and 5km wide Mannar Island (Figure 2). The Island is composed of unconsolidated heavy mineral bearing nearshore, beach and dune sands 12-15m thick that have been accumulated over the last 8,000 to 6,000 years by riverine and coastal sediment transport processes. The mineralisation remains largely open at depth below limit of sampling in the RC aircore drilling and partially open laterally. Other prospective parts of the Island outside the mineral resource domains (Figure 1) remain unexplored except for a few initial exploration holes which in places have intersected heavy mineral bearing sands.

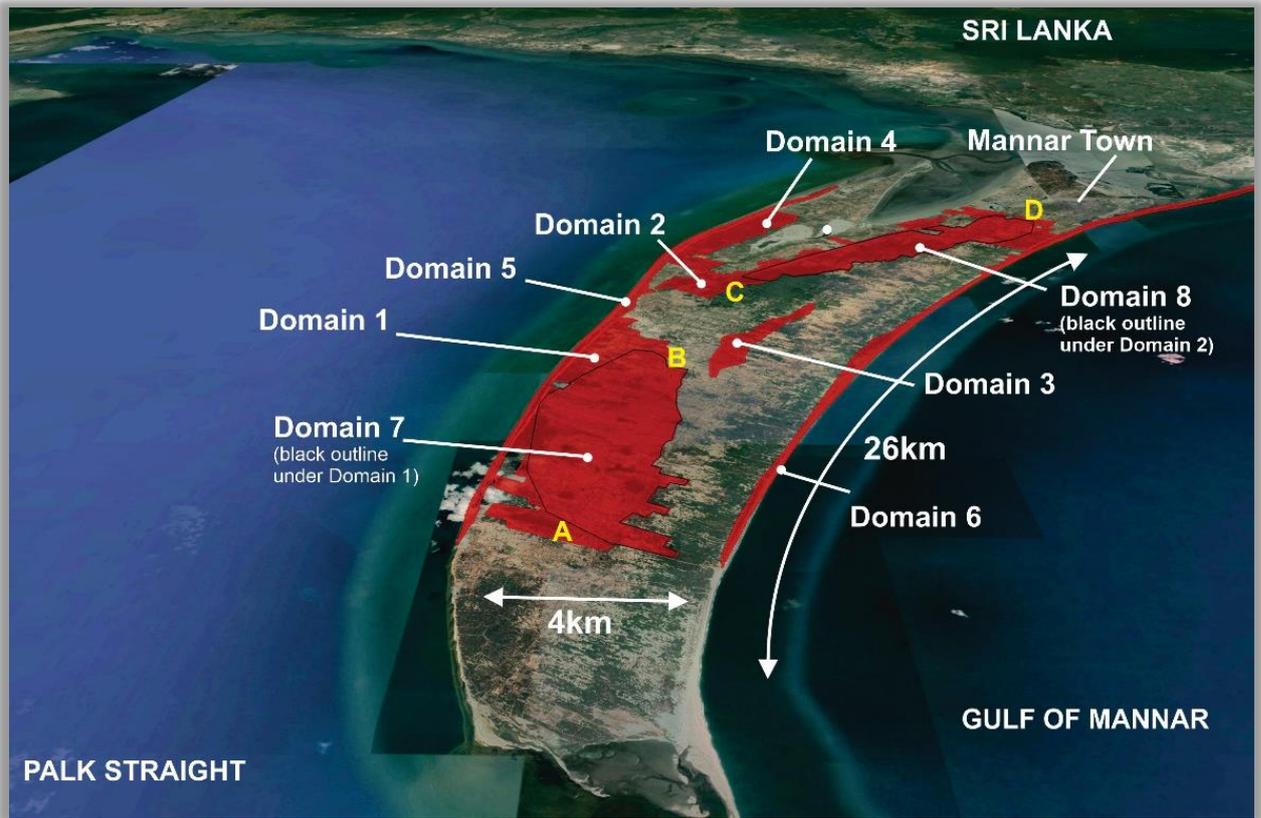


Figure 2 Mannar Island Project location and mineral resource estimate Domains 1 to 8. Note Domains 7 and 8 underlay respectively Domains 1 and 2. AB and CD are the schematic long sections shown in Figure 3

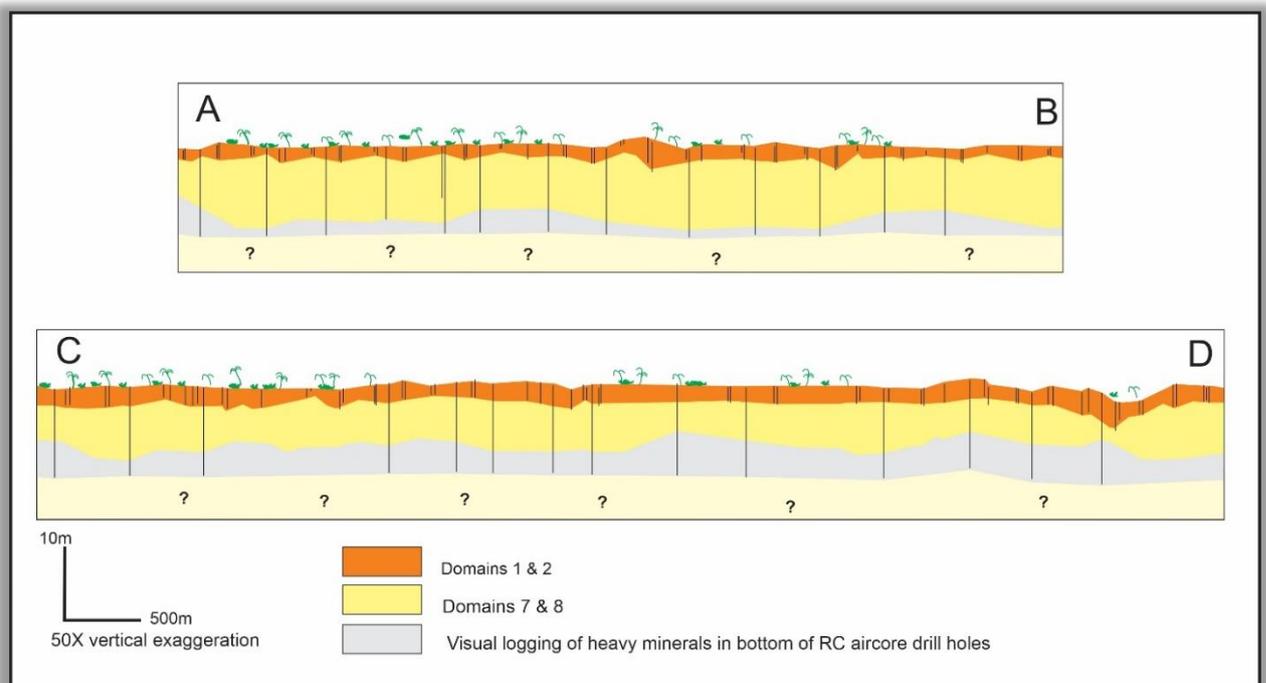


Figure 3 Schematic long sections across Domains 1 and 7 and 2 and 8, showing drill hole traces, locations A-B and CD shown in Figure 2.

Long sections of the mineralisation in Figure 3 show the relationship between the previous mineral resource estimate exposed at surface represented by Domains 1 and 2 and the underlying Domains 7 and 8 defined by the 2019 RC aircore drilling down to 12m below surface. As described in the previously reported RC aircore drilling announcement² the holes were sampled and analysed down to depths where increased water recovery with the samples was considered to have the potential to compromise the integrity of the samples. However all holes were logged to termination depth (12m) and heavy mineral concentrations were observed in almost all holes. The visual logging of heavy mineral concentrations below the mineral resource estimate Domains 7 and 8 are also shown in Figure 3.

Further resource extension and infill drilling is planned, with a 500 hole RC aircore program due to start when Sri Lankan COVID 19 related workplace restrictions enable the Company’s Sri Lankan team to recommence work. Sonic drilling is also being considered for later this year to test for further depth extensions based on the observed widespread heavy minerals in the bottom of the RC aircore drill holes to date.

The heavy mineral suite is dominated by ilmenite minerals (ilmenite, pseudorutile and leucoxene) with minor but valuable rutile and zircon components. It was intended to include garnet in this mineral resource estimate update but the laboratory work was not completed before COVID19 related temporary closures were implemented in South Africa. Garnet has been shown to be a significant minor component (8.7% of the heavy mineral assemblage by weight) of the metallurgical composite sample analysed. Garnet will be included in the mineral resource estimate block model at a later date.



Figure 4 Titanium Sands Ltd.’s RC aircore drilling rig, training of local crew at Mannar Island.

MANNAR ISLAND PROJECT MINERAL RESOURCE ESTIMATE

Overview

This Mineral Resource Estimate has been prepared by GeoActiv Pty Ltd a geological consulting and contracting company based in Johannesburg, South Africa by Bernhard Siebrits (Pr.Sci.Nat. MGSSA MAusIMM) and Kobus Badenhorst (Pr.Sci.Nat. MGSSA) in compliance with the JORC 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The mineral resource estimate has been summarised in this ASX announcement by James Searle BSc (Hons), PhD, MAIMM) Managing Director of Titanium Sands Ltd. All three qualify as "Competent Persons" as defined under the JORC 2012 code (see competent persons statement below).

The mineral resource estimate is tabulated in tables 3, 4 and 5 below correspond to lower grade cut offs of 0% (no lower grade cut off), 2% and 3%. A 2% lower cut off is considered most appropriate for this Mineral Resource Estimation in that it maintains satisfactory continuity of the resource zone and as far as can be determined at this project stage is not likely to be inconsistent with the economics of mining and treatment unconsolidated surface exposed low silt content mineral sand deposits in general. Appendix 1 contains Sections 1 and 2 information on the Mineral Resource Estimate and the project in full compliance with the JORC 2012 requirements.

The Mineral Resource Estimate has been carried out in Domains that are defined on the basis of spatial and geological continuity. Figure 5 summarises the drilling history and distribution over the 8 Domains defined to date. The Mineral Resource Estimate block models for the Domains are shown in Figures 6 and 7.

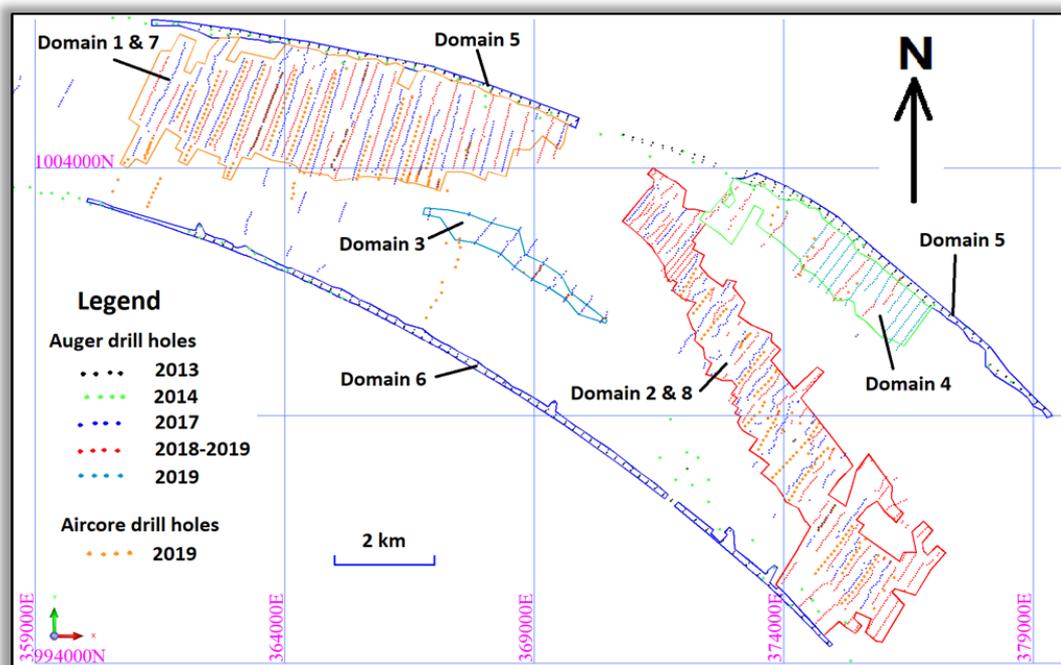


Figure 5 Mineral Resource Estimate Domains and drilling.

Category	Domain	Vol. (Mm ³)	Tonnes (M)	Thm %	Silt %	Ovz %	Ilm %	Leu %	Rut %	Zir %
Indicated	1	27.00	47.52	3.28	0.66	5.40	1.47	0.25	0.08	0.07
	2	21.55	37.49	5.97	0.72	24.01	2.64	0.51	0.08	0.10
	4	1.93	3.38	4.25	2.71	18.69	1.74	0.34	0.09	0.09
	Sub Total	50.48	88.39	4.46	0.76	13.80	1.98	0.37	0.08	0.08
Inferred	1	3.94	6.93	3.43	0.98	9.41	1.52	0.24	0.09	0.07
	2	10.02	17.43	5.42	1.60	23.97	2.30	0.44	0.08	0.09
	3	1.92	3.36	3.13	0.45	0.88	1.43	0.29	0.09	0.09
	4	4.66	8.15	4.42	3.07	20.09	2.02	0.36	0.09	0.09
	5	2.76	4.82	9.07	2.47	6.22	4.52	0.65	0.21	0.21
	6	4.01	7.02	6.78	1.98	9.29	3.46	0.51	0.09	0.13
	7	95.97	167.95	2.62	0.85	14.34	1.14	0.19	0.06	0.07
	8	52.69	92.20	2.58	0.81	32.13	1.05	0.20	0.04	0.05
	Sub Total	175.96	307.86	3.03	0.99	19.86	1.32	0.23	0.06	0.07
Total	226.44	396.26	3.35	0.94	18.51	1.47	0.26	0.07	0.07	

Table 3 Mineral Resource Estimate based on a 0% lower cut off*.

Category	Domain	Vol. (Mm ³)	Tonnes (M)	Thm %	Silt %	Ovz %	Ilm %	Leu %	Rut %	Zir %
Indicated	1	19.01	33.46	4.14	0.71	3.34	1.87	0.32	0.10	0.09
	2	16.96	29.51	7.25	0.75	20.39	3.25	0.62	0.10	0.12
	4	1.81	3.17	4.42	2.81	17.59	1.80	0.36	0.10	0.09
	Sub Total	37.78	66.14	5.54	0.83	11.63	2.48	0.46	0.10	0.10
Inferred	1	2.73	4.80	4.47	1.11	7.86	1.98	0.32	0.11	0.10
	2	7.16	12.46	7.07	1.46	19.84	3.04	0.58	0.10	0.12
	3	1.28	2.23	3.98	0.42	0.86	1.82	0.37	0.12	0.11
	4	3.77	6.60	5.15	2.83	18.17	2.34	0.42	0.10	0.11
	5	2.13	3.72	11.55	2.06	5.70	5.81	0.83	0.28	0.27
	6	2.14	3.75	11.70	3.37	12.10	6.17	0.88	0.15	0.23
	7	65.51	114.64	3.23	0.90	14.67	1.43	0.24	0.07	0.09
	8	28.91	50.59	3.61	0.88	26.40	1.50	0.27	0.06	0.07
	Sub Total	113.62	198.79	3.99	1.06	17.56	1.77	0.30	0.08	0.10
Total	151.40	264.93	4.38	1.00	16.08	1.95	0.34	0.09	0.10	

Table 4 Mineral Resource Estimate based on a 2% lower cut off*.

Category	Domain	Vol. (Mm ³)	Tonnes (M)	Thm %	Silt %	Ovz %	Ilm %	Leu %	Rut %	Zir %
Indicated	1	14.23	25.04	4.71	0.68	2.84	2.15	0.37	0.12	0.10
	2	14.15	24.62	8.19	0.76	19.04	3.73	0.70	0.11	0.14
	4	1.46	2.55	4.86	2.97	16.42	1.97	0.39	0.11	0.10
	Sub Total	29.84	52.22	6.36	0.83	11.14	2.89	0.53	0.11	0.12
Inferred	1	2.01	3.55	5.15	1.17	7.07	2.32	0.37	0.13	0.11
	2	5.38	9.37	8.57	1.45	18.38	3.74	0.70	0.12	0.15
	3	0.61	1.07	5.62	0.40	0.59	2.51	0.54	0.17	0.15
	4	2.91	5.09	5.94	2.91	16.96	2.68	0.49	0.12	0.12
	5	2.09	3.66	11.72	2.04	5.80	5.90	0.84	0.28	0.28
	6	2.06	3.60	12.40	1.91	12.19	6.61	0.94	0.16	0.24
	7	34.53	60.43	3.88	0.90	14.46	1.74	0.28	0.09	0.11
	8	14.31	25.05	4.75	0.77	22.39	2.00	0.36	0.08	0.10
	Sub Total	63.91	111.80	5.15	1.08	15.96	2.33	0.39	0.10	0.12
Total	93.74	164.02	5.53	1.00	14.43	2.51	0.43	0.11	0.12	

Table 5 Mineral Resource Estimate based on a 3% lower cut off*.

*Notes to tables:

- Mineral assemblage is reported as in situ weight percentage of the resource.
- Appropriate rounding of the numbers has been applied.

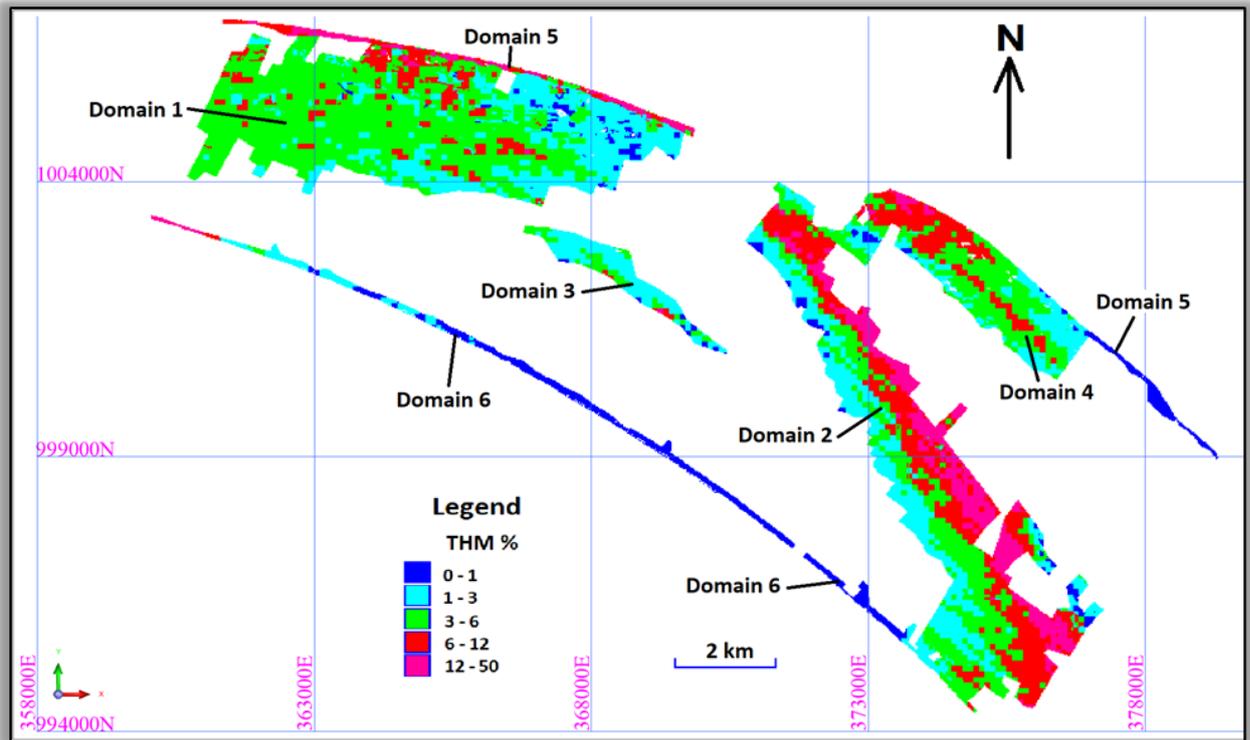


Figure 6 Mineral Resource Estimate block model for Domains 1 to 6 showing THM %.

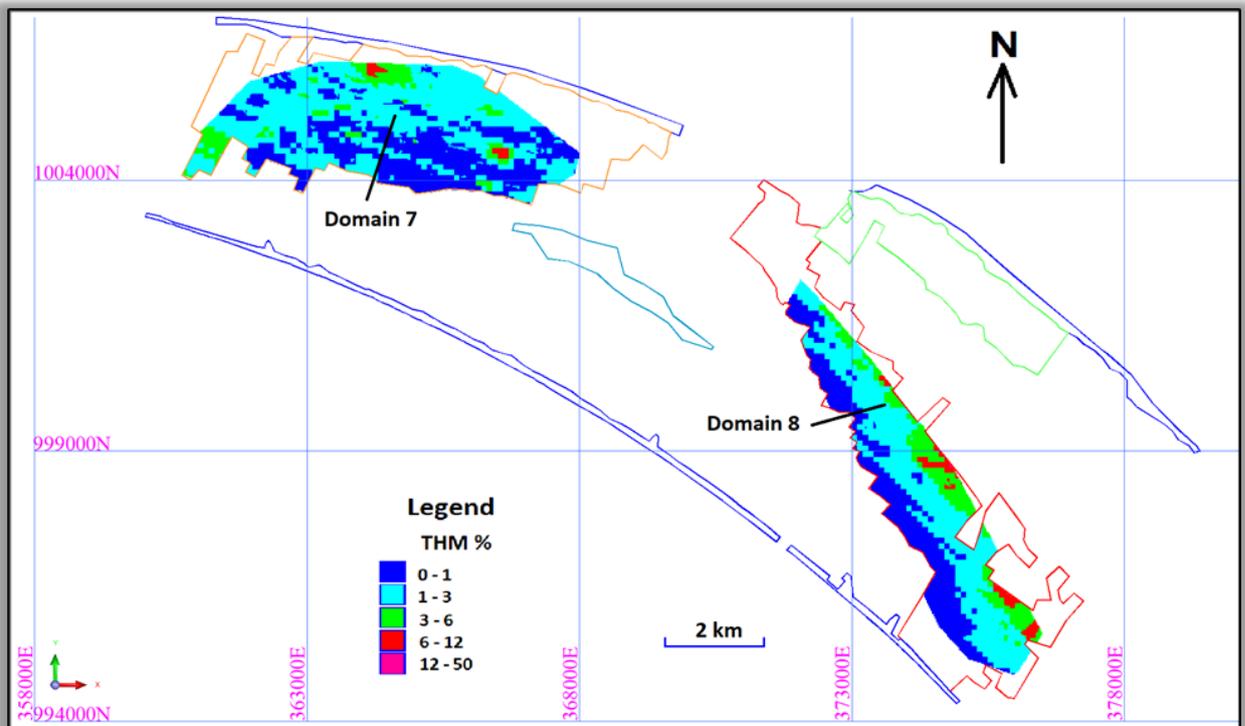


Figure 7 Mineral Resource Estimate block model for Domains 7 and 8 showing THM %.

Mineral Tenure

The tenure within which this Mineral Resource Estimate lies is held 100% by Titanium Sands Ltd under 9 exploration licenses covering 204km² (Table 6), which covers almost all of Mannar Island (Figure 8). The exploration licences are either current or in the process of being renewed with all necessary applications and submissions lodged with the Geological Survey and Mines Bureau, and the Company expects that they will be renewed in due course.

Exploration licence	EL validity		Area	Renewal date
EL 370	14.12.2017	13.12.2019	40km ²	13.10.2019
EL 180/R/3	05.03.2019	04.03.2021	45km ²	04.01.2021
EL 182/R/3	05.03.2019	04.03.2021	26km ²	04.01.2021
EL 372	26.02.2018	25.02.2020	51km ²	25.12.2019
EL 371	26.02.2018	25.02.2020	4km ²	25.12.2019
EL 351	13.12.2019	12.12.2021	15km ²	12.10.2021
EL 352	13.12.2019	12.12.2021	10km ²	12.10.2021
EL327/R/1	14.12.2018	13.12.2020	5km ²	13.10.2020
EL328/R/1	14.12.2018	13.12.2020	8km ²	13.10.2020
		Total	204km ²	

Table 6 Mannar Island Project tenure*.

**All necessary applications and submissions for the renewal of EL370 and 372 have been lodged and are is expected to be renewed in due course.*

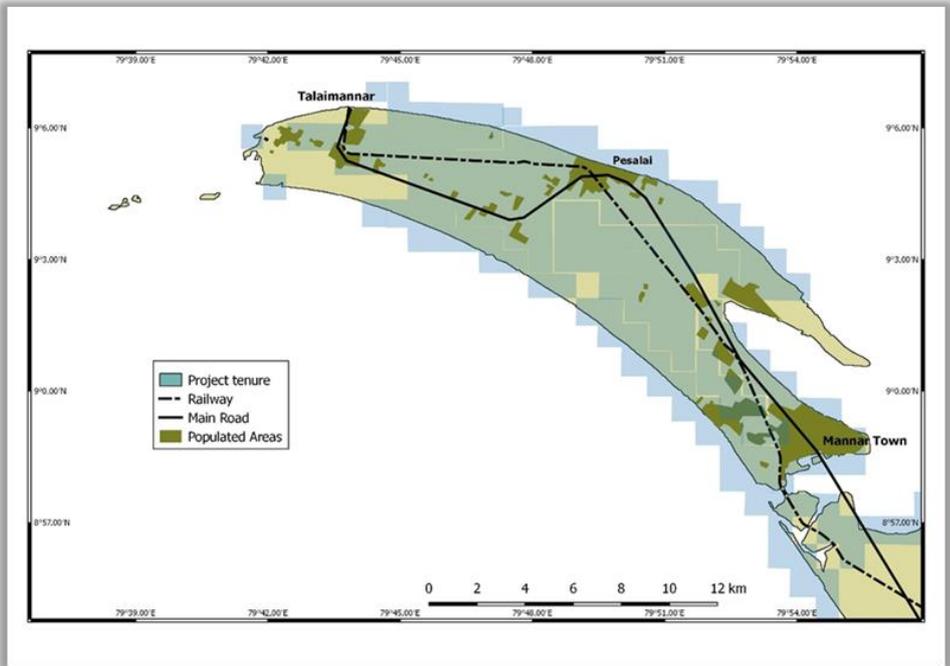


Figure 8 Titanium Sands Ltd exploration licence tenure on Mannar Island.

Geological Model

The geological model for the formation of the heavy mineral sands is for the supply of heavy mineral bearing sands from around 8,000 to 6,000 years ago to the present to form Mannar Island. As the sediment was supplied initially directly from a river source and later by coastal transport Mannar Island grew by progradation west across Palk Strait across an unconformity surface of Miocene to Pleistocene limestones, clays and marine sands.

As the sands were transported and deposited lighter sediment grains were winnowed out and heavy minerals concentrated. Winnowing and concentration occurred in the shallow nearshore, along the beach and by wind deflation along the back beach areas. The balance between sediment supply and heavy mineral concentration across the shoreface from the nearshore, the beach and back beach areas tended to form extensive zones of heavy mineral concentration rather than just narrow shoreline strands. Consequently continuous zones of heavy mineral concentration up to 3km wide , 8km long and up to 12m thick have been formed. This exceptional continuity of heavy mineral concentration means little or no zones of barren material within the interpreted resource block model.



Figure 9 Wind sorting and concentration of heavy minerals (dark grey) in beach ridges on the modern coast of Mannar island.

Resource Drilling and Sampling

To date 3,920 hand shell auger drill holes have been completed down to the water table at 1 to 3m below surface. Initially the areas of heavy mineral concentration over Mannar Island were out lined by drill lines 800m apart with hole separations of 50m. Line spacings in areas of heavy mineral concentration were then infilled firstly down to line spacings of 400m, then 200m and in some areas 100m. Auger holes were sampled at 0.5m intervals and the entire sample sent to the preparation laboratory.

During 2019 RC aircore drilling was used to test below the water table under the mineral resources defined by the auger drilling. In total 473 holes drilled to a target depth of 12m below surface. Only 19 holes failed to reach the 12m target depth. The RC aircore drill line were nominally drilled at 400m line spacings and 100m hole separations, however this was adjusted to provide infill and twin hole data with some of the auger drilling.

Above the water table the drill holes were sampled at 0.5 m intervals and below the water table at 1m intervals. The entire sample was collected and sent to the preparation laboratory. Samples were only collected when water volume recovered with the sample was sufficiently low to indicate the sample was not compromised. Water recovery increased with depth and the maximum depth of reliable sampling ranged from 8 to 11m below surface. All holes were logged to full depth.

Drill hole sections showing both the auger drilling and RC aircore drilling are shown in Figures 10, 11 and 12.

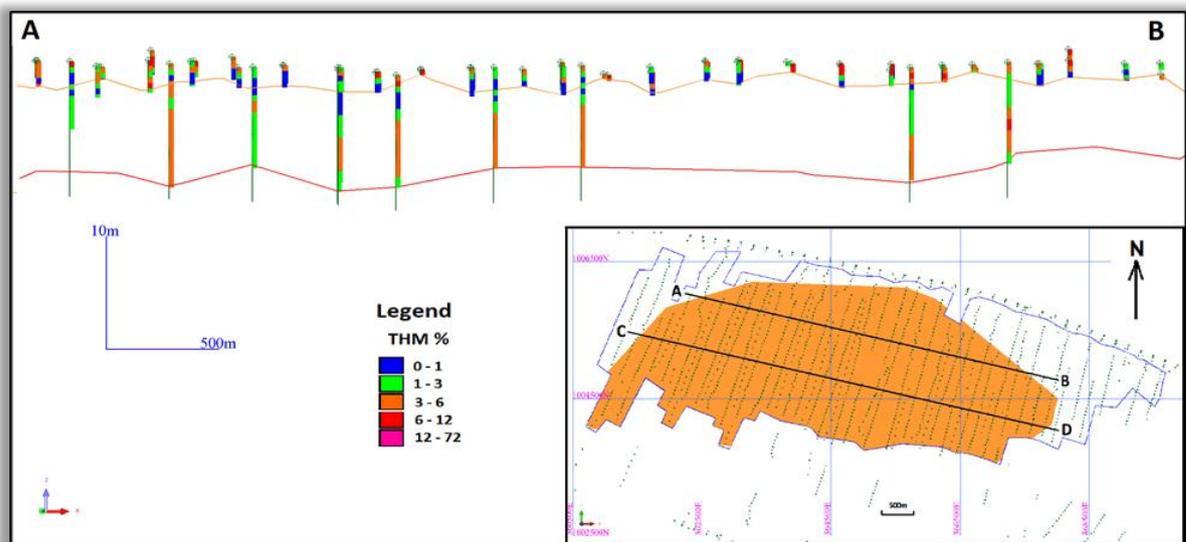


Figure 10 Long section A-B through Domains 1 and 7.

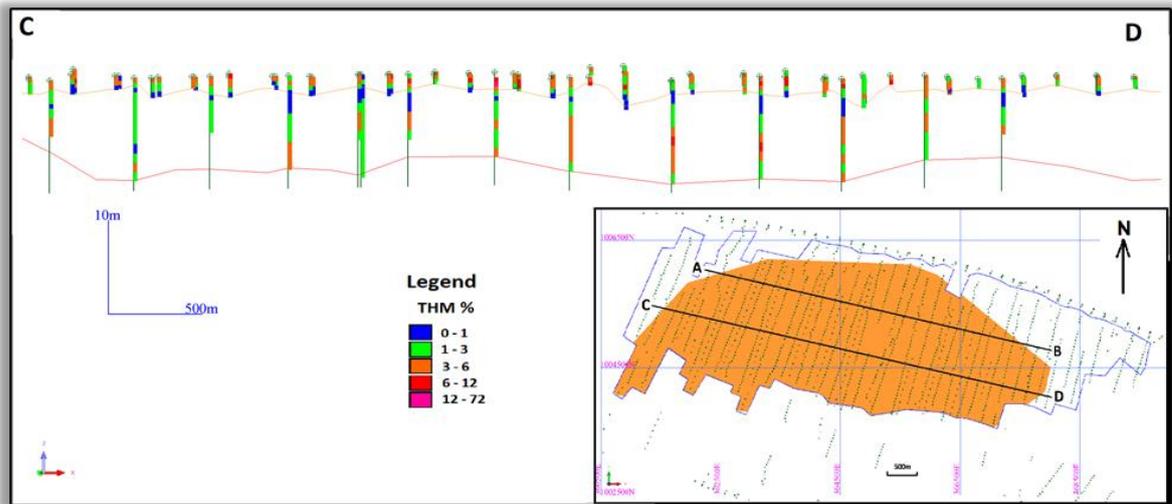


Figure 11 Long section C-D through Domains 1 and 7.

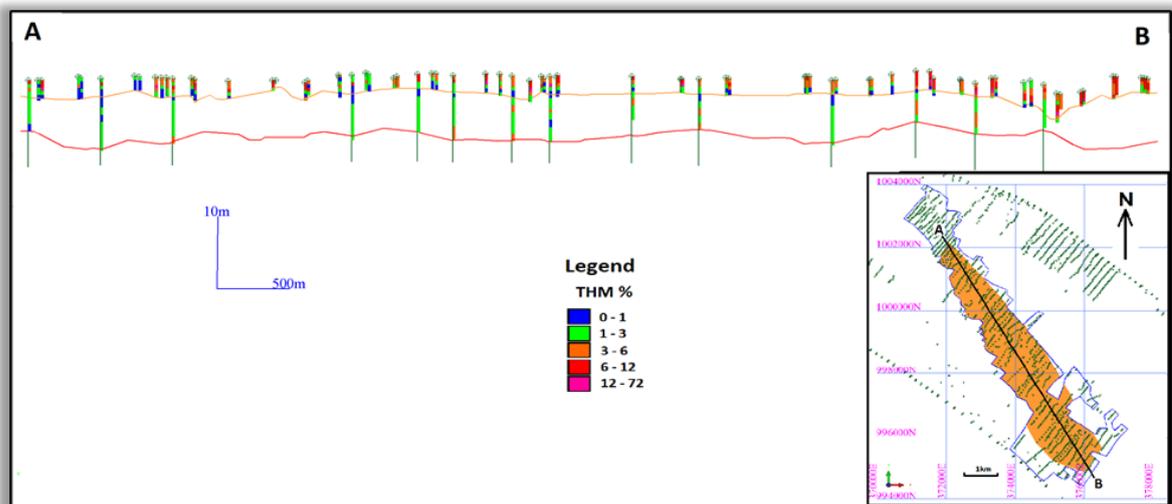


Figure 11 Long section C-D through Domains 1 and 7.

Laboratory and Mineralogical Analysis

Desliming (-45micron) and oversize(>1mm) removal was done with % silt and % oversize recorded in a project laboratory on Mannar Island. GeoActiv examined the facilities and procedures and reported them as satisfactory. The samples were then sent for THM analysis by heavy media separation (TBE) to a laboratory in Cape Town South Africa, Scientific Services Ltd a DEKRA certified geological laboratory (Deutscher Kraftfahrzeug-Überwachungs-Verein e.V.).

Scientific Services also prepared composite samples from 2.2% of the sample population for CARPCO (magnetic mineral separation) and XRF (x-ray fluorescence) analysis (Figure 12) . A series of 12 composites of the magnetic separations consisting of magnetic (M), magnetic-

others (MO) and non-magnetic (NM) fractions from selected samples were used for mineralogical examination by XRD (X-ray diffraction), automated SEM/MLA (scanning electron microscopy) and EDX (X-ray dispersive) analysis and optical microscopy (Figure 13).

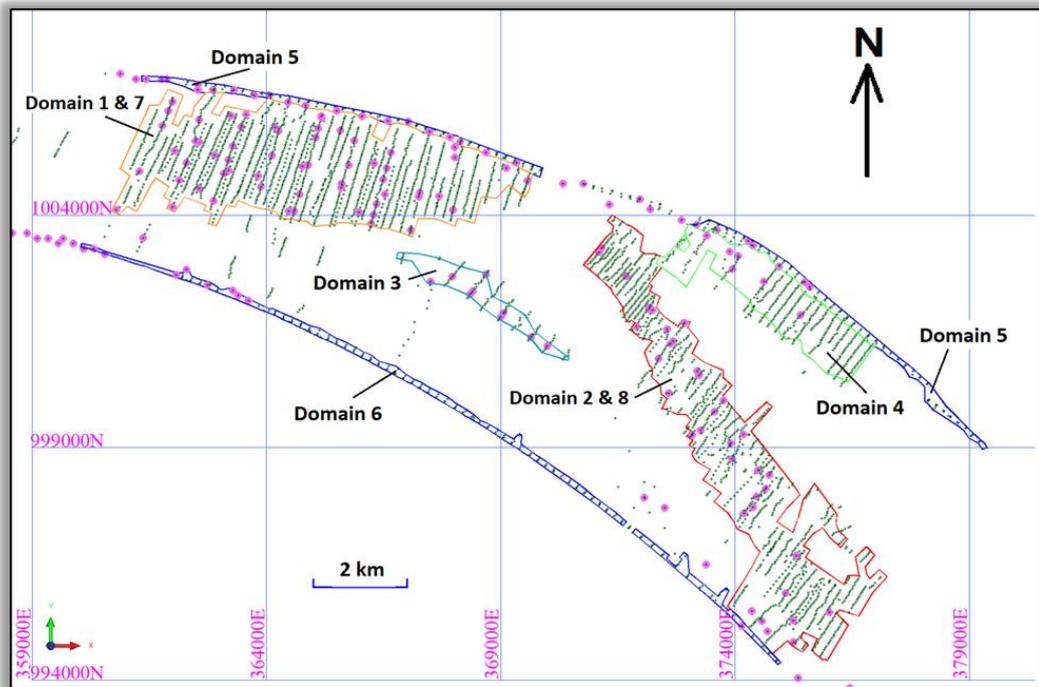


Figure 12 Samples positions (magenta dots) for the CARPCO high intensity magnetic separation on the drill positions (green dots).

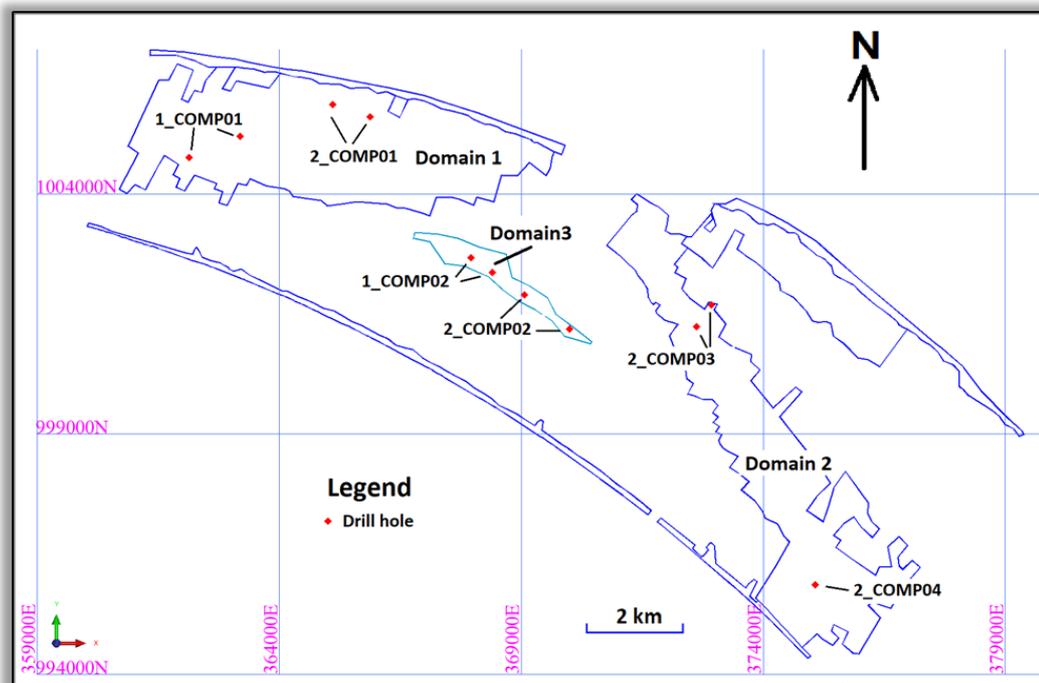


Figure 13 Location of magnetic composite samples for detailed mineralogical analysis.

The mineralogical analysis found the dominant heavy mineral was ilmenite, with lesser amounts of pseudorutile-leucoxene, rutile and zircon. Almandine garnet was also noted in significant quantities but was not included at this stage in the MRE modelling. A summary of the mineralogical compositions is shown in Figure 14.

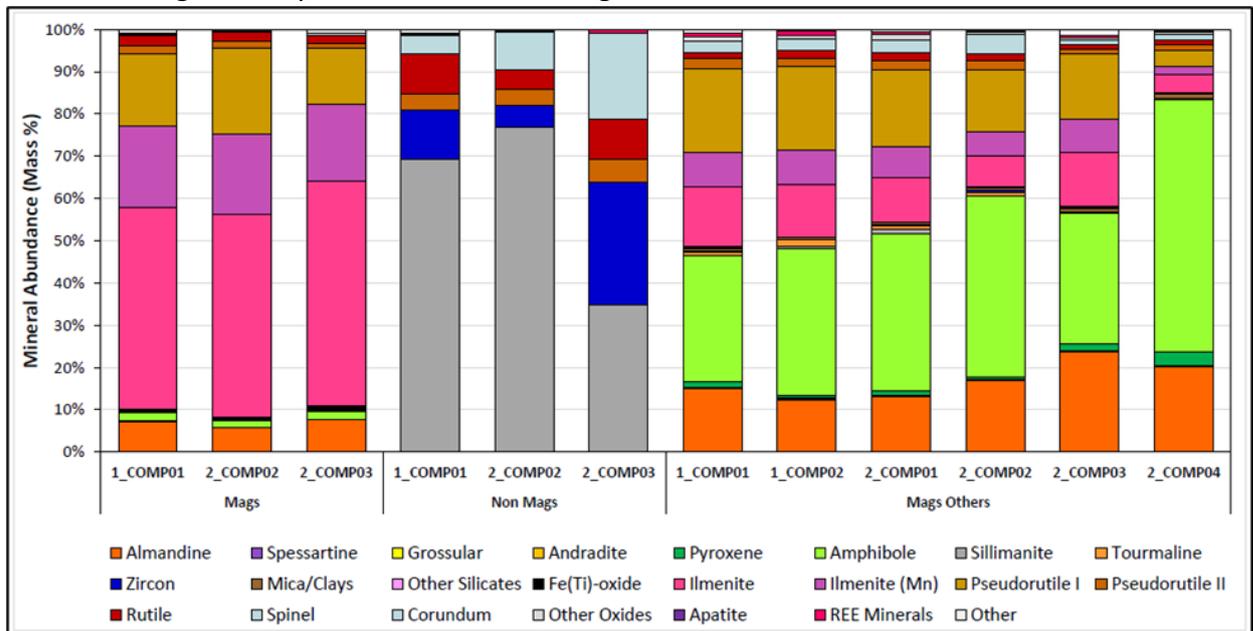


Figure 14. Results of the SEM/MLA analyses of the 12 composites. Note pseudorutile and weathered ilmenite are reported as leucoxene.

Resource Estimation Methodology

SURPAC software was used to develop a block model with block sizes of 100m (X) x 100m (Y) x 2m (Z) and minimum sub blocking of 25m x 25m x 0.5m. The block model was constrained by the DTM (Digital Terrain Model) of the land surface and the domain areas defined by THM content. Grade interpolation for all the variables (THM, silt, oversize) and the XRF data of composite data of the CARPCO magnetic separations (Cl_yield, MO_yield, NM_yield, Cl_TiO₂, MO_TiO₂, NM_TiO₂ and NM_ZrO₂) was by inverse distance to the power of 3. The minerals (ilmenite, leucoxene, rutile and zircon) were converted from the chemistry to mineralogy with calculated attributes with the ratios determined by the mineralogical analysis. Relative densities determined by field measurements were applied to the mineralised zones.

Block model validations included visual validations on section of input drill hole data and the block model (Figures 15 and 16), average grade conformance of global averages between composite input data (drill holes) with the block model output. Composite and estimated grade distributions were also compared.

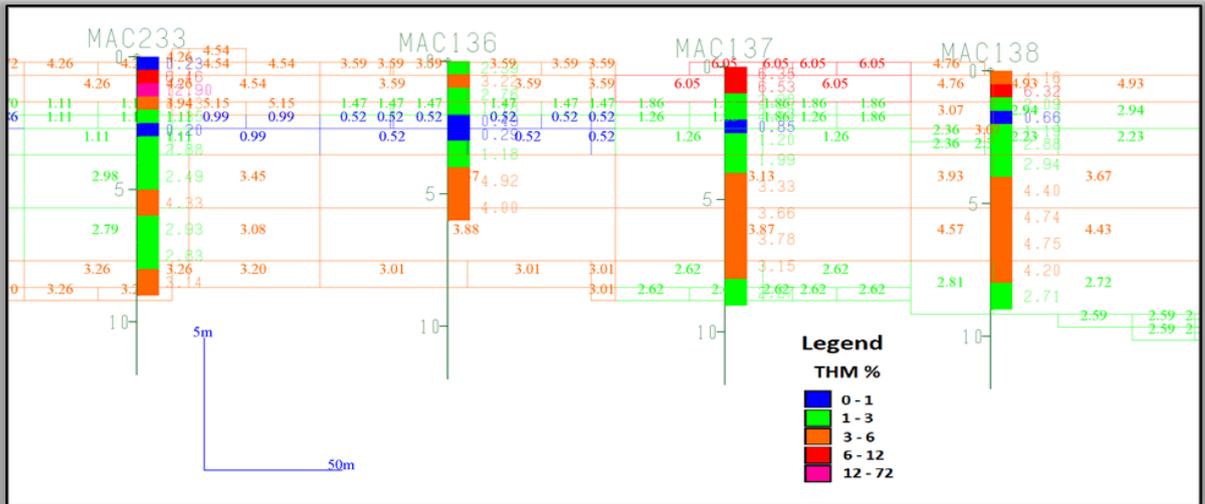


Figure 15 Section on Domain 1 and 7 on Mannar showing the input drill hole values of the THM% correlate well with the block model estimates. Vertical exaggerations 10X.

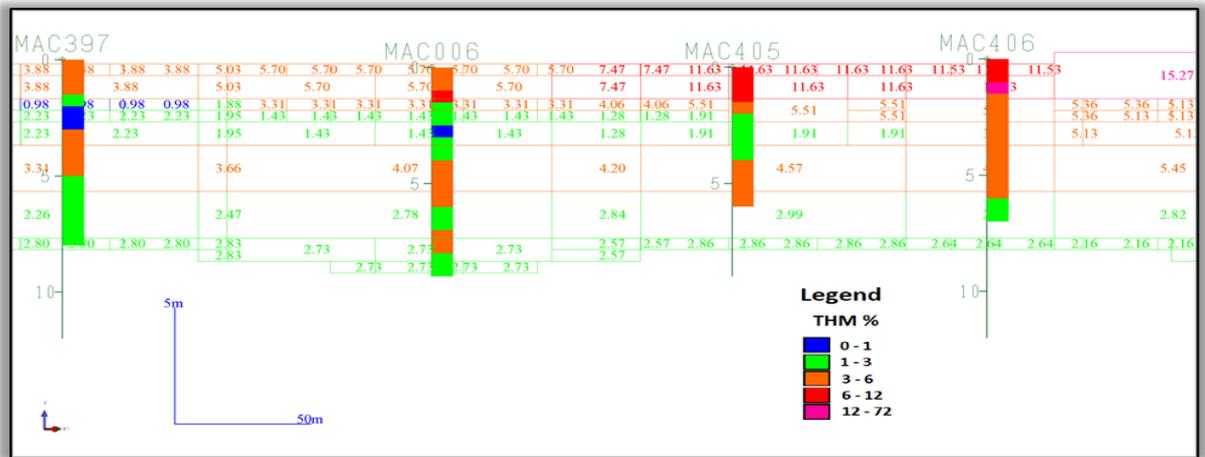


Figure 16 Section on Domain 2 and 8 on Mannar showing the input drill hole values of the THM% correlate well with the block model estimates. Vertical exaggerations 10X.

Conversion of resource volumes from the block models to tonnes was converted using 114 relative density measurements from 69 sites (Figure 17). Domains 1 was assigned 1.76, Domain 2 1.74 and 1.75 for Domains 3,4,5,6,7 and 8.

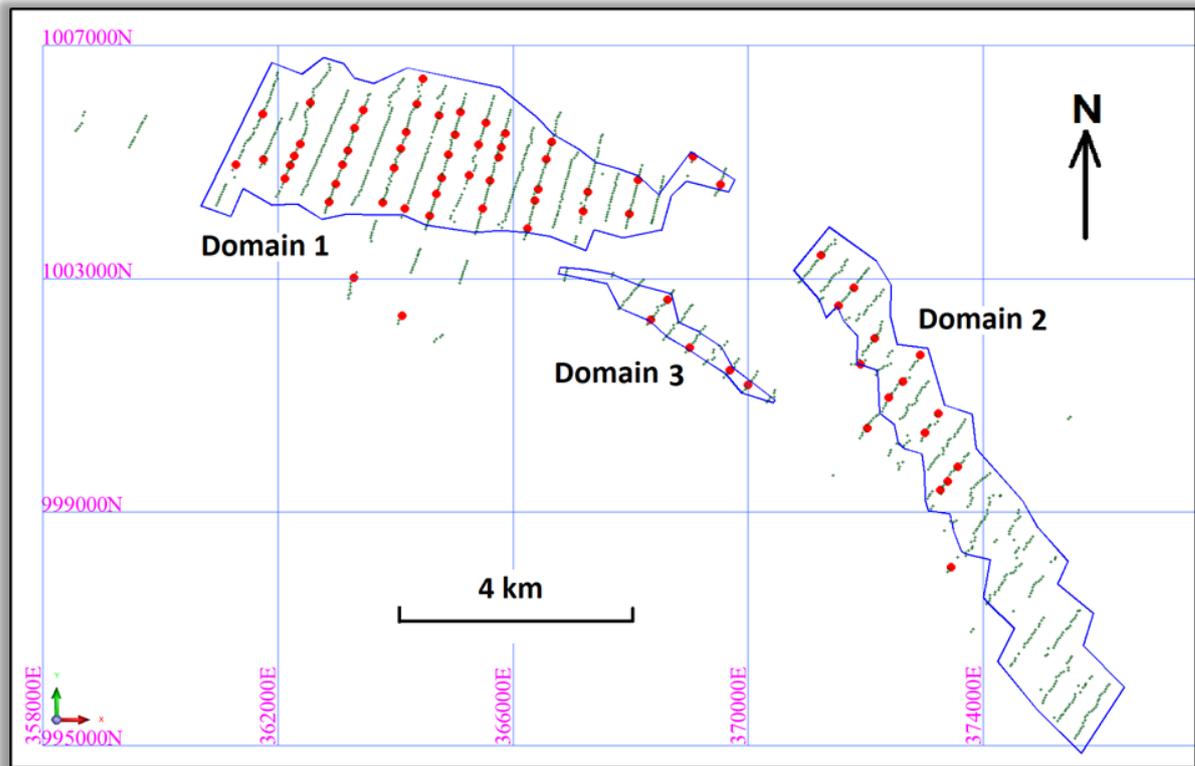


Figure 17 Relative density measurement sites.

Resource Reporting and Selection of Resource Lower Cut Off for reporting

The Mineral Resource statement tables above (Tables 3, 4 and 5) are for no lower cut-off grade of THM %, a 2% lower cut-off grade and a 3% lower cut-off grade. A 2% lower cut off is considered appropriate for this Inferred and Indicated Mineral Resource Estimation in that it maintains satisfactory continuity of the resource zone and as far as can be determined at this early project stage is not likely to be inconsistent with the economics of mining and treatment of shallow, surface exposed high grade, low silt mineral sand deposits in general.

However as the project progresses further studies of mining and treatment options will provide better analysis of mining and treatment economics. While the 2% lower cut off is considered conservative for a Inferred and Indicated mineral resource estimation more precise and potentially variable lower and higher cut offs may have to be applied in different parts of the resource to ensure optimal economic optimisation of the resource and access to some areas where there may be localised costs for movement of infrastructure. At this stage of the project definition the use of a lower cut off of 2% is considered consistent in material respects with the requirement of the JORC code sec20 that requires mineral resources to have reasonable prospects for eventual economic exploitation.

Resource Classification

The resource classification was primarily based on the drill hole density and the variability of the data. The drill hole lines were previously generally 400m apart and the drill holes 50m apart on the drilling lines and with the infill drilling in Domains 1, 2 and 4 the drill holes are now generally 200m by 50m. This gave a good coverage of the areas to be able to upgrade the classification in Domain 1, 2 and 4 to indicated mineral resources. The flagged blocks with the estimation passes 1 to 3 for the THM% and magnetic separation data (CI Yield%) were used together to classify the Mineral Resources to Indicated where the blocks were estimated with the 1st pass (Figure 18). Drill hole spacing for Domains 7 and 8 at this time only justifies classification as inferred mineral resources.

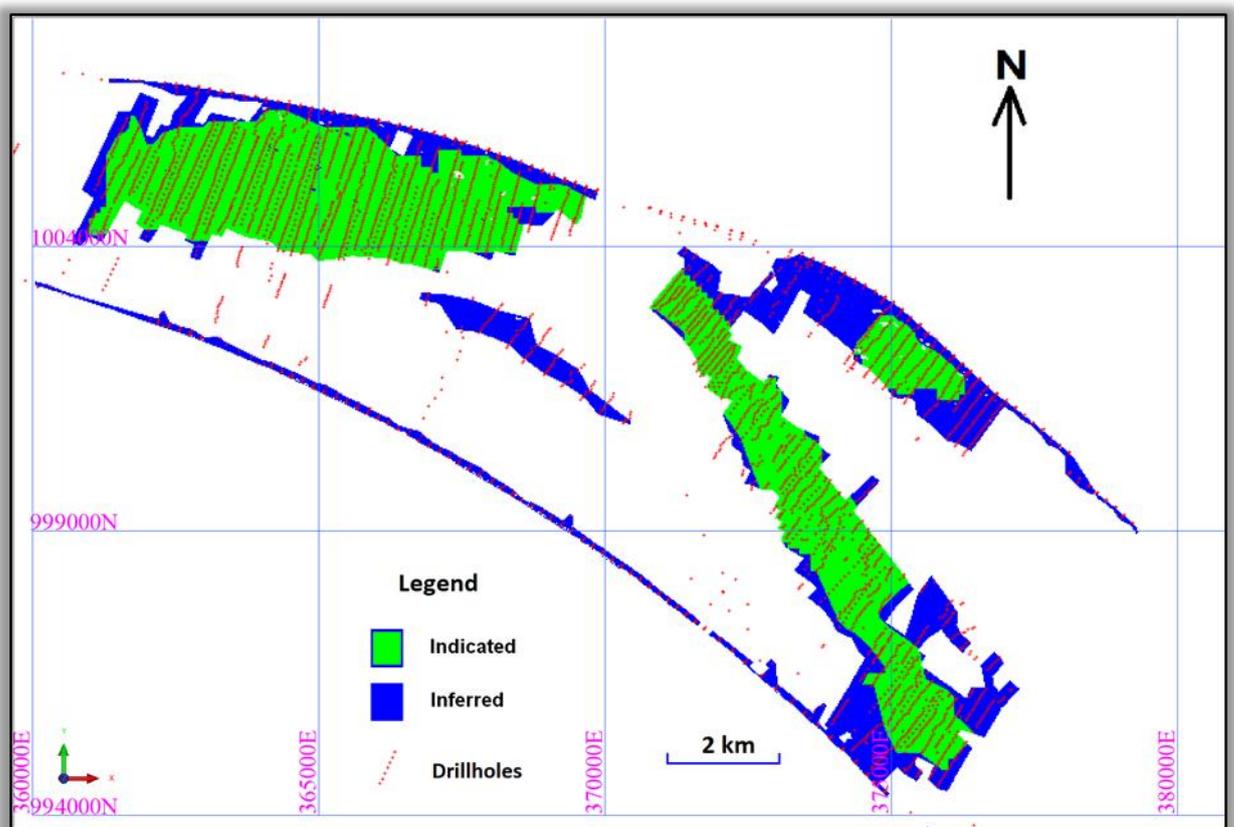


Figure 18 Distribution of Inferred and Indicated mineral resources, surface exposed Domains only.

ONGOING EXPLORATION AND RESOURCE POTENTIAL FOR THE MANNAR ISLAND PROJECT

The Mannar Island Project has substantial resource extension and exploration potential. As illustrated in Figure 19, this potential includes:

- Drilling further RC aircore holes beneath Domain 4 so that a below water table resource model can be developed in this locality.
- Drilling lateral extensions to the below water table Domains 7 and 8 which remain partially open.
- Using sonic drilling to drill below the depth of reliable sampling defining Domains 7 and 8. Currently the resources modelled in these domains extend down to between 8 and 10m. Sonic drilling has a high probability of deepening these resources over their entire extent to at 12m or possibly more.
- A large area shown in Figure 19 as a possible resource Domain 9 has several RC aircore drill lines that have intersected significant heavy mineral concentrations underneath 4 to 6m of barren cover. Further exploration would test to see how extensive the heavy mineral concentrations at depth are.

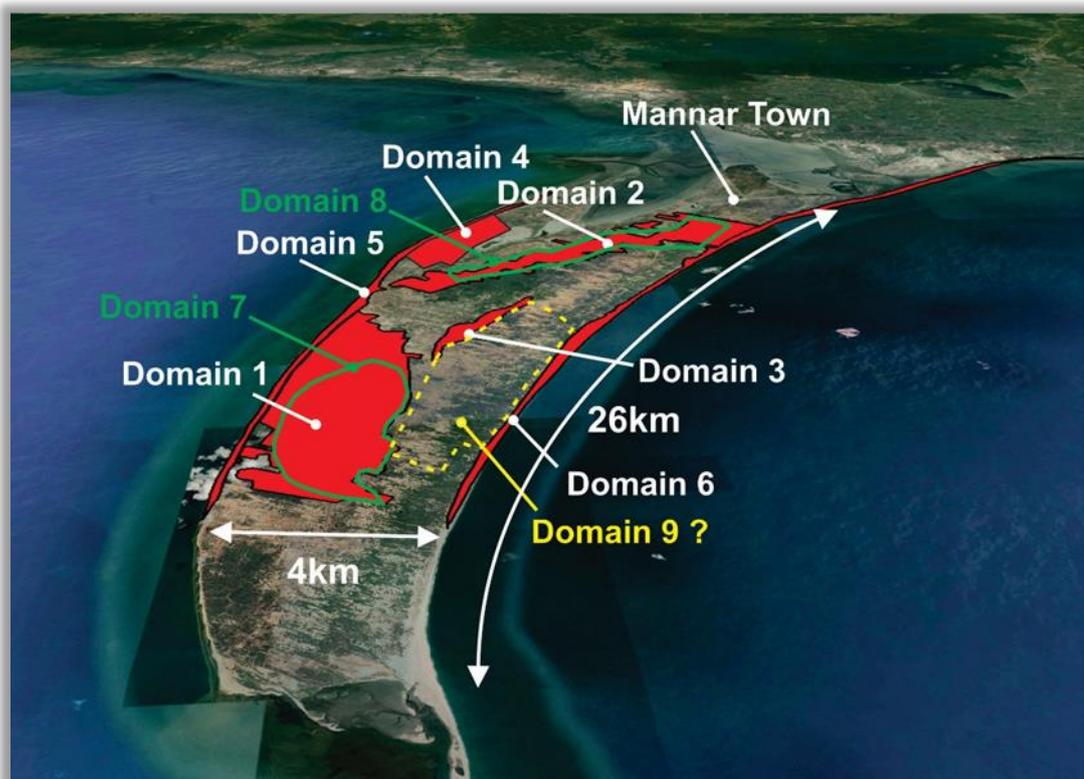


Figure 19 Resource extension and exploration potential Mannar island Project.

OVERVIEW OF THE MANNAR ISLAND HEAVY MINERAL SAND PROJECT

The Mannar Island Heavy Mineral Sands Project is located in the dry north west of Sri Lanka. Mannar Island is a 26 km long by 5 km wide sand island joined to the Sri Lankan mainland by a 3 km road and rail causeway (Figure 20).

Sri Lanka is a stable democratic nation of ~21m people. The country is very supportive of foreign investment and has a favourable tax regime. Power, rail and road infrastructure extends across the country and Mannar Island. The Government is actively enhancing infrastructure in many locations including the North West where Mannar Island is located (Figures 20 and 21).

Regionally Sri Lanka is ideally situated for product export to all parts of Asia including China. It is situated on one of the Chinese belt and road maritime routes and as part of this a major new port has been developed at Hambantota. Other major ports are located at Trincomalee (north east coast) and Colombo.



Figure 20 Rail track on Mannar Island that connects to the mainland network.



Figure 21 Road and power infrastructure leading to Mannar Island

Ends-

The Board of Directors of Titanium Sands Ltd authorised this announcement to be given to ASX.

Further information contact:

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Managing Director

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COMPLIANCE STATEMENTS

Competent Persons Statements

Except where indicated, exploration results above have been reviewed and compiled by James Searle BSc (hons), PhD, a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy, with over 37 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.

The Mineral Resources estimation reported above has been summarised by Dr James Searle. The Mineral Resources Estimate and related QA/QC investigations have been undertaken by Mr Kobus Badenhorst and Mr Bernhard Siebrits. Mr Kobus Badenhorst is a director of GeoActiv (Pty) Ltd. and is registered with the South African Council for Natural Scientific Professionals (SACNASP). Mr Siebrits is a consultant, registered with SACNASP and a Member of the Australasian Institute of Mining and Metallurgy. Mr Badenhorst and Mr Siebrits has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Badenhorst and Mr Siebrits consent to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Appendix 1 contains tables of detailing compliance with the JORC 2012 requirements for reporting of Mineral Resources. This information has been compiled in relation to the Mineral Resource Estimation summarised above by Mr Badenhorst and Mr Siebrits and reviewed by Dr Searle.

References to ASX Announcements included in this report:

- 1 Released to the ASX 28/1/2020 "TSL resource upgraded to indicated category as project continues to expand".*
- 2 Released to the ASX 6/3/2020 "Complete RC assay results confirm extensive depth resource potential".*

These announcements are available to be view on the Company's website www.titaniumsands.com.au

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.

Appendix 1

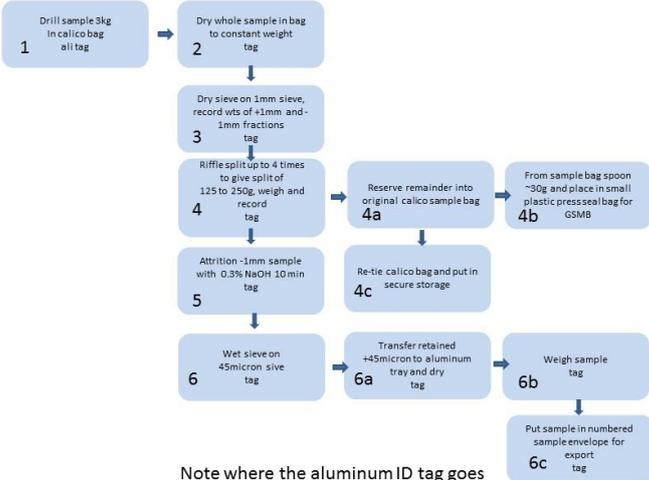
COMPLIANCE WITH THE JORC CODE ASSESSMENT CRITERIA

The compliance information contained below is in specific reference to the Mineral Resource Estimation (MRE) for the Mannar Island Project presented here was undertaken by Kobus Badenhorst of Geo Activ Pty Ltd a geological consultant registered with the South African Council for Natural Scientific Professions ('SACNASP') and Bernhard Siebrits a geological consultant also registered with SACNASP and a Member of the Australian Institute of Mining and Metallurgy MAusIMM). Dr James Searle of Titanium Sands Ltd has also reviewed this information (see Competent Persons Statement).

The JORC Code (2012) describes a number of criteria, which must be addressed in the Public Report of Mineral Resource estimates for significant projects. These criteria provide a means of assessing whether or not parts of or the entire data inventory used in the estimate are adequate for that purpose. The resource estimate stated in this document was based on the criteria set out in Table 1 of that Code. These criteria are discussed in the table below.

JORC Code Assessment Criteria	Comments
Section 1	Sampling techniques and data
<p>Sampling Techniques</p> <p><i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i></p>	<p>A Dormer hand-auger was used for auger drilling. The bucket was designed to be able to do 0.5 m samples per drill run.</p> <p>Sampling was therefore done on 0.5 m intervals, unless penetration problems caused incomplete samples at the end of holes. Where some minor penetration problems were experienced, smaller sample runs were done.</p> <p>The full sample from the auger bucket was collected in a calico sample bag and assigned an Alpha numerical sample number.</p> <p>For the RC aircore drilling samples were collected at 0.5m intervals above the water table and 1m intervals below the water table. All material discharged from the rig cyclone was collected and bagged. No samples were taken when RC drilling went beyond a depth where water influx was considered a risk to sample integrity.</p> <p>All samples were transported to the site office / Prep Lab sample prep facility in Pesalai on Mannar Island. The Prep Lab will receive samples up to c 2.4kg in weight / sample.</p> <p>All samples from the drilling program were prepped, even samples perceived to be low grade. Reference / residual samples for samples sent to the analytical laboratory are safely stored at the site office. Permits for the export of the samples were sourced in Sri Lanka, on receipt of the permits the samples were couriered via air freight to Johannesburg where clearance took place for the samples. They were then air freighted to Cape Town where a representative from the laboratory, Scientific Services CC, collected the samples.</p>

JORC Code Assessment Criteria	Comments
Drilling Techniques	A Dormer hand-auger was used for auger drilling.
<p><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.), and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></p>	<p>The bucket has a diameter of 75mm.</p> <p>The auger bucket was designed to drill 0.5 m samples per drill run. Larger samples would have become too heavy and would have resulted in sample falling out of the bucket.</p> <p>One-meter drill rod extensions were used, with sufficient extensions on site to drill to 9m. The deepest auger holes drilled were MA176 and MA302, both drilled to 6.00m.</p> <p>Reverse circulation aircore drilling utilises HQ gauge (96mm OD, 63.5mmID) drilling rods with inner tubes was used.</p>
Drill Sample Recovery	
<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	<p>Detailed measurements were done during drilling prior to and after the removal of the drill bucket during drilling. This was to ensure that there was no collapse of the sidewalls. Re-drilling took place where this was not the case, or the hole and sampling stopped where sample recovery or hole collapse became a problem. Recoveries were estimated and recorded for each 0.5m drill interval.</p> <p>The sample recovery or penetration problems were purely linked to the shallow water table.</p> <p>Sample recovery from the RC aircore drilling rig was from the rig cyclone. Recovery was logged from the sample volume collected and the volumes displaced by the drill string over the sample interval.</p>
Logging	
<p><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc), photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	<p>Each sample was geologically logged for mineral composition, grain size, sorting, visual Silt%, induration, and a rough visual estimate of the dark heavy mineral % component.</p> <p>Paper log information was transferred every night to an excel spread sheet.</p>
Sub-Sampling Techniques and Sample Preparation	
<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc, and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></p> <p><i>Measures taken to ensure that the sampling is representative of the in situ</i></p>	<p>The Prep Lab will receives samples up to c 2.4kg in weight / sample that have to be dried, sieved on a 1mm aperture vibrating sieve, the +1mm and -1mm fractions weighed, then the -1mm fraction riffle split to a sub-sample of c 125-250g and the remaining material retained in storage. The 125-250g sample is weighed then undergoes rotary light attritioning in a 0.3-0.5% NaOH solution. The subsample will then be wet sieved on a 45-micron vibrating sieve with retained +45 micron material being dried then weighed and packaged for export.</p> <p>A duplicate sample was riffled from every 20th sample, i.e. 5% of the total.</p> <p>The riffler was thoroughly cleaned after each sample.</p>

JORC Code Assessment Criteria	Comments
<p>material collected, including for instance results for field duplicate/second-half sampling.</p> <p>Whether sample sizes are appropriate to the grain size of the material being sampled.</p>	
<p>Quality of Assay Data and Laboratory Tests</p>	<p>The initial drying (at between 80 to 105 degrees C via gas oven), de-sliming and oversize removal was conducted at the site Prep Facility on Mannar Island. The procedures are shown below.</p>
<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</p> <p>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</p>	 <pre> graph TD 1[1 Drill sample 3kg in calico bag all tag] --> 2[2 Dry whole sample in bag to constant weight tag] 2 --> 3[3 Dry sieve on 1mm sieve, record wts of +1mm and -1mm fractions tag] 3 --> 4[4 Riffle split up to 4 times to give split of 125 to 250g, weigh and record tag] 4 --> 4a[4a Reserve remainder into original calico sample bag] 4 --> 4b[4b From sample bag spoon ~30g and place in small plastic press seal bag for CSMB] 4a --> 4c[4c Re-tie calico bag and put in secure storage] 4 --> 5[5 Attrition -1mm sample with 0.3% NaOH 10 min tag] 5 --> 6[6 Wet sieve on 45micron sieve tag] 5 --> 6a[6a Transfer retained +45micron to aluminum tray and dry tag] 6 --> 6b[6b Weigh sample tag] 6a --> 6b 6b --> 6c[6c Put sample in numbered sample envelope for export tag] </pre> <p>Note where the aluminum ID tag goes</p> <p>Analytical work on the tetrabromoethane (TBE) based THM determination and subsequent magnetic separation work was done by Scientific Services C.C., Cape Town. XRF work was done on the fractions of the magnetic separation samples</p> <ul style="list-style-type: none"> • The determination of THM% sample concentrate using TBE at a specific gravity (SG) of 2.95, are as follows: • TBE is placed into the glass flask up to the indicated mark. • Place approximate 1 scoop of sample into the flask. • Wash down the sides of the flask and impeller with TBE to ensure all material is in the TBE. • Run the mixer for about 10 seconds. • Wash down again to ensure no material is 'hung'. • Run the impeller mixer repeatable in 10 second bursts until sure that all heavies have been liberated. • Allow to stand for 5-10 minutes or until no more material cascades to bottom. • Once the discharge pipe is clear of suspended material release the tube to allow the concentrate to be captured in the filter paper. Store this labeled filter paper. • Process any remaining sample as above ensuring no concentrate is lost.

JORC Code Assessment Criteria	Comments
	<ul style="list-style-type: none"> • Finally flush out the floats by opening the tube and allowing the floats to fall into filter paper – allow this to stand capturing all the TBE which will be reused at a later stage. • Wash all concentrates and floats thoroughly with acetone to reclaim as much TBE as possible. • After the concentrate filter is acetone rinsed and dried, transfer the concentrate very carefully into a bag by opening the filter paper ensuring nothing is lost. • Place the floats into the waste drums unless specified by the client to do otherwise. • Check the SG of the TBE with the density tracers provided and re-use as appropriate.
<p>Verification of Sampling and Assaying</p> <p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<p>Kobus Badenhorst did twin and test holes on c 5% of the drilling done during the program.</p> <p>QA/QC of all the work done was performed by Bernhard Siebrits for GeoActiv.</p>
<p>Location of Data Points</p> <p><i>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<p>Data and work were done in UTM, WGS84.</p> <p>A handheld Garmin GPS was used for the positioning and final position of the auger holes.</p> <p>The X and Y coordinates were collected and entered into the project spreadsheet.</p> <p>The handheld GPS Z data were found to be very inaccurate. Consequently, a GeoEye satellite based Digital Terrain Model (DTM) study that covers the entire Mannar Island was done in 2015, the data interpretation and manipulation for the areas covered by the resource update was done by a highly qualified land surveyor during 20117. The X and Y coordinates of the drill holes was used to elevate the drill holes to the DTM surface prior to resource modelling taking place. This will supply significantly more accurate Z data as the DTM is based on 13 Differential GPS derived points.</p>
<p>Data Spacing and Distribution</p> <p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<p>The auger drilling program for the updated resource was conducted at 400m inter-drill line spacing, with 50m inter-drill hole spacing on the lines and further reduced to 200m by 50m. The infill drilling with the aircore holes in Domains 1 and 2 were on a drilling pattern of about 400m by 100m between the auger drilled lines and some on the auger lines to twin the auger holes. The previous drilling pattern of about 800m by 50m has been further reduced to about 200m by 50m in domain 4 with shallow auger holes</p> <p>RC aircore drilling was undertaken on nominal 400m line spacings and 100m hole spacing, although this was varied in places to enable RC aircore holes to twin previous auger holes.</p>
<p>Orientation of Data in Relation to Geological Structure</p>	<p>Drilling took place in fences perpendicular to the interpreted strike of the mineralized ore bodies; this was confirmed during modelling.</p>

JORC Code Assessment Criteria	Comments
<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></p>	
<p>Sample Security</p> <p><i>The measures taken to ensure sample security.</i></p>	<p>All sampling, prep and packing work took place under supervision of a site geologist.</p> <p>A representative from the Analytical laboratory, Scientific Services CC, collected the samples from the airport in Cape Town, South Africa.</p>
<p>Audits and Reviews</p> <p><i>The results of any audits or reviews of sampling techniques and data.</i></p>	<p>Statistical analyses of the QA/QC samples were conducted by GeoActiv.</p> <p>A Prep Facility (on Mannar Island) and lab audit at Scientific Services was conducted by Kobus Badenhorst and Bernhard Siebrits of GeoActiv.</p>
<p>Section 2</p>	<p>Reporting of exploration results</p>
<p>Mineral Tenement and Land Tenure Status</p> <p><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></p> <p><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></p>	<p>The acquisition of the Mannar Island Project and all the exploration licences from Srinel Holdings Ltd by Titanium Sands Ltd (acquired 100% of the Srinel shares) was formally concluded and the Company re-instated to trading on the Australian Stock Exchange on the 18th of December 2018.</p> <p>Subsequent acquisition of additional tenure by Titanium Sands Ltd occurred on the 10 March 2020 when the acquisition of Bright Angel Ltd was completed, which holds 38km² of exploration licences adjacent and adjoining the Mannar Island tenure already held by TSL.</p> <p>Tenure status, see Table 6 in text.</p> <p>Tenure subject to vendor gross royalty of 5% and Government royalties of 5% on sales exported , 4% if not exported.</p>
<p>Exploration Done by Other Parties</p> <p><i>Acknowledgment and appraisal of exploration by other parties.</i></p>	<p>Work post 2015 was all conducted by Srinel staff, supervised by TSL (James Searle).</p>
<p>Geology</p> <p><i>Deposit type, geological setting and style of mineralisation.</i></p>	<p>There is general consensus that the heavy minerals in Sri Lanka were derived from Precambrian (Proterozoic) high-grade metamorphic rocks that account for more than ninety percent of the island. These crystalline basement units are subdivided into 3 major litho-tectonic subdivisions, namely the Highland, Wannai and Vijayan Complexes.</p> <p>The heavy minerals ilmenite, rutile, zircon, sillimanite and garnet commonly occur in the coastal sands.</p> <p>Mineralization is high in the tidal, beach and berm areas, with significant inland mineralization proven on Mannar Island.</p>
<p><i>Drill hole information</i></p>	<p>Drill hole information used in this resource update has previously been reported in full to the ASX including:</p> <ul style="list-style-type: none"> • Drill hole identification,

JORC Code Assessment Criteria	Comments
	<ul style="list-style-type: none"> • Collar locations. • Dip, all holes vertical. • Down hole length and intercept depth • Hole length
<i>Data Aggregation Methods</i>	<ul style="list-style-type: none"> • Weighted averages of intercept length and grade were used. • No cut off grades were applied to drill hole data. • Cut off grades were only applied to the block model of the mineralised zone.
<i>Relationship between mineralisation widths and intercept lengths</i>	Mineralisation a horizontal blanket, drill holes all vertical.
<i>Diagrams</i>	Drill hole diagrams, and sections included with scale and locations.
<i>Balanced reporting</i>	All drill hole results reported
<i>Other substantive exploration data</i>	None
<i>Further work</i>	As stated, further drilling will target depth and lateral extensions to the modelled mineralisation.
Section 3	Estimation and reporting of mineral resources
Database Integrity	
<i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</i> <i>Data validation procedures used.</i>	The data was captured in Excel spread sheets. GeoActiv performed validation checks on all the data and analyses before it was used in modelling.
Site Visits	
<i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i> <i>If no site visits have been undertaken indicate why this is the case.</i>	One of the Competent Persons, Kobus Badenhorst, visited the exploration sites during the auger drilling phase in 2019.
Geological Interpretation	
<i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i> <i>Nature of the data used and of any assumptions made.</i> <i>The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation.</i> <i>The factors affecting continuity both of grade and geology.</i>	All the drill hole intersections with the THM above 1% were considered as the mineralization envelope from surface to the end of the auger holes. The domain boundaries of the mineral sand resource were extended to half the drill line spacings. The aircore floor wireframes were created at the bottom of the last sampled interval, section by section in Domains 1 and 2 to create Domains 7 and 8 respectively below the auger floor wireframe. The current drill spacing provides sufficient degree of confidence in the interpretation and continuity of grade for a Mineral Resource.
Dimensions	

JORC Code Assessment Criteria	Comments
<p><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></p>	<p>The Mineral Resource was divided into 8 Domains, due to different locations. The extents of the mineralization were within Domain 1: 8,300m x 2,400m x 2m, Domain 2: 9,500m x 1,400m x 2m, Domain 3: 4,300m x 500m x 2m, Domain 4: 4,700m x 1,000m x 2m, Domain 5: 16,300m x 120m x 1m, Domain 6: 33,500m x 120m x 1m, Domain 7: 6,700m x 2,000m x 9m and within Domain 8: 7,700m x 1,400m x 9m.</p>
<p>Estimation and Modelling Techniques</p> <p><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters, and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></p> <p><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></p> <p><i>The assumptions made regarding recovery of by-products.</i></p> <p><i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i></p> <p><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></p> <p><i>Any assumptions behind modelling of selective mining units.</i></p> <p><i>Any assumptions about correlation between variables.</i></p> <p><i>Description of how the geological interpretation was used to control the resource estimates.</i></p> <p><i>Discussion of basis for using or not using grade cutting or capping.</i></p> <p><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></p>	<p>The block sizes that were created were 100m X 100m X 2m and with minimum sub blocking of 25m X 25m X 0.5m.</p> <p>Inverse distance to the power of 3 was used for <i>in situ</i> grade interpolation for all the variables.</p> <p>The general aspects of the estimation were as follows:</p> <ul style="list-style-type: none"> • The variogram ranges of the THM% were used in their respective Domains 1, 2, 4, 5, 6, 7 and 8 and for Domain 3 the ranges of Domain 1 were used. • The variogram ranges of the Silt% and Oversize% were used in their respective Domains 1, 2, 4, 7 and 8 and for Domain 3 and 5 the ranges of Domain 1 were used and for Domain 6 the ranges of Domain 2 were used. • For the magnetic separation (Yield%) and XRF data, the variogram ranges of the THM% from Pass 2 were used in their respective domains. • A minimum of 3 samples and a maximum of 15 samples were used for all inverse distance runs, except for the third pass when a minimum of 2 samples and a maximum of 15 samples were used. • Pass 1: search radii set to the ranges in Error! Reference source not found. for the major and 2m for the vertical for all the domains; • Pass 2: search radii set to the ranges in Error! Reference source not found. for the major and 3m for the vertical for all the domains; • Pass 3: search radii set to 1000 m for the major and 10m for the vertical for all the domains. • Block discretisation was set to 4(X) by 4(Y) by 4(Z). • An octant search estimation method was used with the maximum of 3 adjacent empty octants in pass 1, a maximum of 5 adjacent empty octants in pass 2 and a maximum of 7 adjacent empty octants in pass 3; and • No sample limits per drill hole were applied. <p>The mineral associations for ilmenite (ilm), leucoxene (leu), rutile (rut) and zircon (zir) were calculated with an expression as a calculated attribute in the block model. The model was validated visually, statistically and with swath plots. The result of the validations shows that the interpolation has performed as expected and the model was a reasonable representation of the data used and the estimation method applied.</p>
<p>Moisture</p> <p><i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></p>	<p>All tonnages were based on dry basis, volume measurements converted to tonnes using a dry bulk density of 1.76 for Domain 1, 1.74 for Domain 2 and 1.75 for Domain 3, 4, 5, 6, 7 and 8.</p>

JORC Code Assessment Criteria	Comments
Cut-off Parameters	The tabulated resources are based on a no cut-off basis, but also using lower cut-off grades of 2% and 3% THM.
<i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	
Mining Factors or Assumptions	No assumptions were made regarding possible mining methods.
<p><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution.</i></p> <p><i>It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></p>	
Metallurgical Factors or Assumptions	The analytical results and mineralogical analyses could be the basis for the metallurgical extraction methods.
<p><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></p>	
Environmental Factors or Assumptions	<p>GeoActiv has not investigated and was not aware of any environmental issues that would affect the eventual economic extraction of the deposit.</p> <p>Titanium Sands Ltd is not aware at this time of any environmental impact and management issues that could prevent the development of the Mannar Island Project.</p>
<p><i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation</i></p>	

JORC Code Assessment Criteria	Comments
<i>of the environmental assumptions made.</i>	
<p>Bulk Density</p> <p><i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></p> <p><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></p> <p><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></p>	<p>The Relative Density (RD) or specific gravity was determined by digging pits of roughly 0.8m by 0.8m by 0.5m deep at 55 locations throughout the drilling area, then accurately weighing the sand and determining the volume of the holes by inserting and accurately measuring the volume of water inserted in the pits (after using a very thin lining in the pits). RD measurements of between 1.74 of 1.76 were calculated and used in different domain areas for the Mannar deposit.</p>
<p>Classification</p> <p><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></p> <p><i>Whether appropriate account has been taken of all relevant factors, i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data.</i></p> <p><i>Whether the result appropriately reflects the Competent Person(s)' view of the deposit.</i></p>	<p>Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The classification of Mineral Resources was completed by GeoActiv based on the geological confidence criteria, drill spacing, quality of drilling, sampling information, grade continuity and confidence in estimation of heavy mineral content and mineral assemblage. The resource classification was primarily based on the drill hole density and the variability of the data. The drill hole lines were previously generally 400m apart and the drill holes 50m apart on the drilling lines and with the infill drilling in Domains 1 and 2 the drill holes are now generally 200m by 50m. This gave a good coverage of the areas to be able to upgrade the classification in Domain 1, 2 and 4. The flagged blocks with the estimation passes 1 to 3 for the THM% and magnetic separation data (CI Yield%) were used together to classify the Mineral Resources to Indicated where the blocks were estimated with the 1st pass.</p>
<p>Audits or Reviews</p> <p><i>The results of any audits or reviews of Mineral Resource estimates.</i></p>	<p>No independent reviews of the Mineral Resource estimate have been conducted to date. An in-company review by James Searle has taken place.</p>
<p>Discussion of Relative Accuracy/Confidence</p> <p><i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></p>	<p>This is a global resource with no production data.</p>

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<p><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p> <p><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></p>	