WINDIMURRA VANADIUM

22 April 2015

Company Announcements Office
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WINDIMURRA ACHIEVES MAIDEN JORC INFERRED MINERAL RESOURCE

HIGHLIGHTS :

- **JORC Inferred mineral resource (2% THM cut off) of 10.3mt with %THM of 11.71.**
- **The results are further to the recent ASX release on the 2nd April 2015 providing detailed Assemblage %THM.**
- **The Company will now focus on an expanded drilling exploration program.**

The Board of Windimurra Vanadium Limited ("**Company**") is pleased to advise that it has received the Mineral Resource Estimation (Appendix 1) on its Mannar Mineral Sands Project in Sri Lanka and can now confirm the results which specify the Company achieving a JORC Inferred mineral resource (2% THM cut off) of 10.3mt with %THM of 11.71.

REPORT EXECUTIVE SUMMARY (Abridged)

GeoActiv (Pty) Ltd were commissioned to conduct an exploration and resource modelling program on three (3) of the company's exploration licenses on Mannar Island, Sri Lanka.

The exploration program of drilling and sampling approximated the historical techniques followed by the GSMB in terms of drilling, sampling, TBE heavy fraction separation and mineralogical studies, but XRF and XRD work was also conducted.

The exploration program **confirmed the presence of significant amounts of heavy mineral concentrations** within the licenses. The tables below indicate the Inferred total heavy mineral (**THM**) resource from the licenses. Resource figures with a 2% bottom cut-off being used are shown. XRF and mineralogical studies were done to determine the mineral assemblage within the different TBE sourced heavy fractions, especially the valuable heavy minerals present in the HMC. The tables therefore also indicate the ilmenite, leucoxene, rutile and zircon % within the THM.

The Inferred mineral resource estimations for Mannar with a 2% THM cut-off.

EL Area	Tonnes	%THM	%Silt	%Oversize	%Ilm*	%Leu*	%Rut	%Zir
180	4 049 063	11.78	1.89	12.06	5.61	1.35	0.13	0.24
182	5 978 984	11.67	2.17	6.79	5.49	1.32	0.22	0.28
203	304 063	11.71	2.69	1.15	5.42	1.50	0.25	0.25
Grand Total	**10 332 109**	**11.71**	**2.08**	**8.69**	**5.54**	**1.34**	**0.18**	**0.26**

The Mineral assemblage percentages of the VHM based on the resource estimation with a 2% THM cut-off.

		VHM Mineral Assemblage % of the THM			
EL Area	%THM	%Ilm*	%Leu*	%Rut	%Zir
180	11.78	47.6	11.5	1.1	2.0
182	11.67	47.0	11.3	1.9	2.4
203	11.71	46.3	12.8	2.1	2.1
Grand Total	**11.71**	**47.3**	**11.4**	**1.5**	**2.2**

*Note the percentages could be variable and need to be refined with SEM and additional stereomicroscopy during next exploration phase.

The recently completed exploration represents a preliminary assessment, activities being restricted to the immediate beach area. Small scale drilling was undertaken but only assessed the immediate upper layer of the sands, due to the drilling method available and the presence of a water table. A more extensive programme is being planned on the back of these results using state-of-the-art techniques to assess the deposits in detail, extending the areas assessed by both depth and lateral extent. We are confident this will result in a significant increase in the resource base.

Pursuant to the Option Agreement between the Company and Cuprum Holdings Limited for the acquisition of Srinel Holdings Limited ("**Srinel**"), the Company confirms that these results satisfy Milestone 1, namely achieving a JORC inferred mineral resource of 10 million tonnes of heavy mineral content of not less than 5% discovered (as outlined in the Company's Prospectus dated 4 April 2014). Accordingly, subject to completion of the acquisition of Srinel, Cuprum will be issued 200,000,000 Shares in the Company.

Yours faithfully

Nicki Farley
Company Secretary

Competent Person Statement

The details contained in the document that relate to mineral resources and exploration results are based upon information compiled by Messrs. B Siebrits (Lead Consulting Author and Mineral Resource) and JN Badenhorst (Additional Author) from GeoActiv (Pty) Ltd. Messrs. Siebrits and Badenhorst are independent consultants for Srinel. They are Members of the South African Council for Natural Scientific Professions (registration numbers 400150/90 and 400157/07 respectively), Mr. Siebrits is also a Member of the Australian Institute of Mining and Metallurgy. They have sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which was undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Messrs.Siebrits and Badenhorst consents to the inclusion in this release of the matters based on the information in the form and context in which it appears.

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The Mineral Resource Estimation on the Mannar Mineral Sands Project, Srinel Holdings Limited, Sri Lanka.

Report prepared by GeoActiv (Pty) Ltd on behalf of:	Srinel Holdings Limited
Lead Consulting Author and Mineral Resource:	Bernhard Siebrits
Additional Author:	Kobus Badenhorts

Date of Report: 20 April 2015

Author and Mineral Resource Consultant

Badenhorst

Additional Author

This Competent Person's Report has been prepared in accordance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Executive Summary

Srinel Holdings Limited (Srinel) commissioned GeoActiv (Pty) Ltd to conduct an exploration and resource modelling program on three (3) of their exploration projects on Mannar Island, Sri Lanka. Srinel is the legal and beneficial owner of all of the fully paid ordinary shares in the capital of Singha Lanka Investments (Private) Limited, which in turn is the legal and beneficial owner of all of the fully paid ordinary shares in the capital of Supreme Solutions Pvt Ltd (Supreme), the holder of the thirteen (13) exploration licences in Sri Lanka.

Historical work took place on the licenses during October and November 2011 by the Sri Lanka Geological Survey and Mines Bureau (GSMB). The work entailed a hand-held auger drilling and sampling program that took place across the narrow strip of the tidal, beach and berm zone throughout much of the licences at a spacing of 10 m to 60 m on lines 200 m apart, perpendicular to the coastline. All the samples collected were submitted to the VV Minerals (Pvt) Ltd laboratory in Tamil Nadu, India, for mineralogical analysis. The laboratory conducted tetrabromoethane (TBE) heavy fraction separation to produce the heavy mineral concentrate (HMC) %, the heavy mineral (HM) assemblage was determined by a microscope grain count method. Questions about the lack of available Quality Assurance and Quality Control (QAQC) information and method of HM assemblage determination of this data necessitated the exploration program conducted by GeoActiv (Pty) Ltd.

The new exploration program of drilling and sampling took place during July and August 2014. The work approximated the techniques followed by the GSMB in terms of drilling, sampling, TBE heavy fraction separation and mineralogical studies, but XRF and XRD work was also conducted.

The exploration program confirmed the presence of significant amounts of heavy mineral concentrations within the licenses. The tables below indicate the **Inferred** total heavy mineral (THM) resource from the licenses. Resource figures without using any bottom cut-off, as well as when a 2 % bottom cut-off is being used, are shown. XRF and mineralogical studies were done to determine the mineral assemblage within the different TBE sourced heavy fractions, especially the valuable heavy minerals present in the HMC. The table therefore also indicates the ilmenite, leucoxene, rutile and zircon % within the THM.

The Inferred mineral resource estimations for Mannar without a cut-off.

EL Area	Tonnes	%THM	%Silt	%Oversize	%Ilm*	%Leu*	%Rut	%Zir
180	6 667 500	7.43	3.35	10.66	3.46	0.84	0.08	0.15
182	6 914 688	10.19	2.40	6.77	4.77	1.15	0.19	0.25
203	304 063	11.71	2.69	1.15	5.42	1.50	0.25	0.25
Grand Total	**13 886 250**	**8.90**	**2.86**	**8.51**	**4.16**	**1.01**	**0.14**	**0.20**

The Inferred mineral resource estimations for Mannar with a 2% THM cut-off.

EL Area	Tonnes	%THM	%Silt	%Oversize	%Ilm*	%Leu*	%Rut	%Zir
180	4 049 063	11.78	1.89	12.06	5.61	1.35	0.13	0.24
182	5 978 984	11.67	2.17	6.79	5.49	1.32	0.22	0.28
203	304 063	11.71	2.69	1.15	5.42	1.50	0.25	0.25
Grand Total	**10 332 109**	**11.71**	**2.08**	**8.69**	**5.54**	**1.34**	**0.18**	**0.26**

As with the historic work, the new exploration program was largely restricted to a narrow strip around the beach area, the drilling depth was also restricted due to the drilling technique and water table. Significant potential exists to increase the resource inland, but also to depth.

Contents

1.0 INTRODUCTION

Srinel Holdings Limited (Srinel) commissioned GeoActiv (Pty) Ltd (GeoActiv) to conduct an exploration and resource modelling and reporting program on three (3) of their exploration projects in Sri Lanka, the licenses being EL180, EL182 and EL203. Srinel is the legal and beneficial owner of all of the fully paid ordinary shares in the capital of Singha Lanka Investments (Private) Limited, which in turn is the legal and beneficial owner of all of the fully paid ordinary shares in the capital of Supreme Solutions Pvt Ltd (Supreme), the holder of thirteen (13) exploration licences in Sri Lanka.

Historical work took place on EL180 and EL182 during October and November 2011, with a fieldwork exploration program completed by personnel of the Sri Lanka Geological Survey and Mines Bureau (GSMB). The work entailed a hand-held auger drilling and sampling program that took place across the narrow strip of the tidal, beach and berm zone throughout much of the licences at a spacing of 10 m to 60 m on lines 200 m apart, perpendicular to the coastline.

All of the auger samples collected by the GSMB were submitted to the VV Minerals (Pvt) Ltd laboratory in Tamil Nadu, India, for mineralogical analysis. The laboratory conducted tetrabromoethane (TBE) heavy fraction separation to produce the heavy mineral concentrate (HMC) %, the heavy mineral (HM) assemblage was determined by a microscope grain count method. Questions about the lack of available Quality Assurance and Quality Control (QAQC) information and method of HM assemblage determination (lack of backing chemical data) of this data necessitated the exploration work reported on here.

The aim of the new exploration program was to:

Test the fact that the GSBM data indicates a potential well mineralized strike length of 10 – 12 km for each of EL180 and EL182;

Conduct some preliminary handheld auger drilling within EL203 blocks;

Twin a reasonable percentage of the GSMB drillholes;

Drill infill drillholes where there were gaps in the GSMB data;

Do some minor checking of mineralization inland of the GSMB drilling;

Drill some of the areas and holes deeper than managed by GSMB;

Follow defendable QAQC procedures;

Follow defendable analytical techniques;

Commission a satellite based (GeoEye) Digital Terrain Model (DTM) study;

Produce a JORC-compliant resource statement and report on receipt of all results.

The new drilling and sampling program took place during July and August 2014. This document reports on all the fieldwork, the chemical analytical results, the mineralogical studies and the resource modelling done.

2.0 LOCATION OVERVIEW

Sri Lanka, officially known as the Democratic Socialist Republic of Sri Lanka, is an island country in the northern Indian Ocean off the southern coast of the Indian subcontinent in

South Asia. It shares maritime borders with India to the northwest and the Maldives to the southwest (Figure 1).

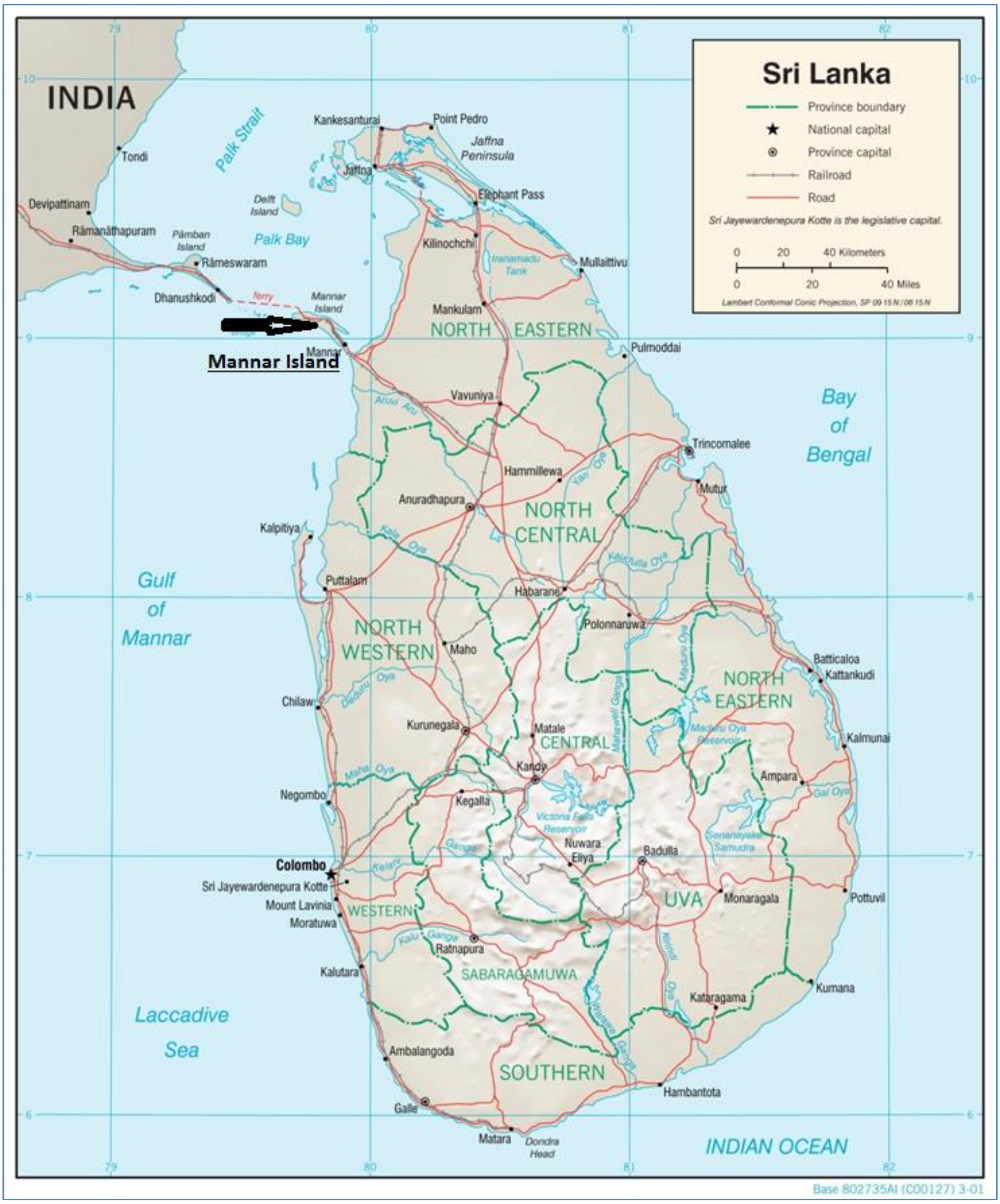

Figure 1: *Map showing the geographical setting of Sri Lanka (after CIA, 2014).*

Sri Lanka lies in the Indian Ocean southwest of the Bay of Bengal, between latitudes 5° and 10° North and longitudes 79° and 82° East and is separated from the Indian subcontinent by the Gulf of Mannar and the Palk Strait. A land bridge between India and Sri Lanka was reportedly passable on foot up to 1480 AD until abnormal storm activity of the time deepened the channel. The Mannar Island (where all the work took place) location is indicated in Figure .

3.0 LOCAL CONDITIONS, RESOURCES AND INFRASTRUCTURE

Sri Lanka has approximately 16,977 km of paved roads, 1,449 km of railways and 160 km of navigable waterways. The government sponsored Road Development Authority has been involved in several large-scale projects in an attempt to improve the overall road network. Sri Lanka's commercial and economic centres, primarily the capitals of the nine provinces are connected by the "A-Grade" roads which are categorically organised and marked. Furthermore, "B-Grade" roads, also paved and marked, connect district capitals within provinces. Cities and towns are connected by railways operated by the state and a bus network is operated by the Sri Lanka Transport Board which is also a government run organisation charged with the responsibility of coordinating bus services across the entire island.

Sri Lanka has 15 airports with Colombo's Bandaranaike International Airport the busiest airport in the country and one of the busiest airports in South Asia. The Port of Colombo is the major port in the country and a government policy of regional development sees on-going development activity at the Ports of Galle, Trincomalee, Kankasanthurai, Point Pedro and a new Port at Hambantota in the southern province.

Telecommunications have improved greatly post the civil war, with several companies providing cellular network coverage around the country.

A railway line does extend across Mannar Island, from Colombo to Taiaimannar (on the western tip of the Island). The railway was destroyed during the civil war, but was re-opened in 2015. The active work on the railway on Mannar Island that was taking place during 2014 can be seen in Figure 2.

The Mannar District is one of the more poorly developed and less populated districts in Sri Lanka. In EL 180, the majority of the coastline appears undeveloped, with the exception of two < 1 km sections on Mannar Island that appear to be associated with fishing activities and a < 1 km section occupied by the town of Vankalai in the south of the licence.

In EL 182, the majority of the coastline is undeveloped, with the exception of a 3.5 km section coinciding with the town of Pesalai.

Figure 2: *Image showing work being undertaken on the railway line on Mannar Island.*

3.1 Climate

The climate is tropical and warm where the temperature is often moderated by the effect of sea breezes. Average temperatures range from 17 °C in the central highlands to a maximum of 33 °C in low-altitude areas. Rainfall patterns are influenced by monsoon winds from the Indian Ocean. The Bay of Bengal, the wet south-western areas of the island as well as some of the windward slopes of the central highlands receive up to 2.5 m of rain each month. The dry east, southeast and northern areas of the island receive between 1.2 and 1.9 m of rain annually. The arid northwest and southeast coasts receive even less at 0.8 to 1.2 m per year. Humidity is typically higher in the southwest and mountainous areas and depends on the seasonal patterns of rainfall. Periodic squalls and the infrequent tropical cyclone can bring overcast skies and rains to the southwest, northeast and eastern parts of the island.

3.2 Physiography

Sri Lanka encompasses an area of approximately 65,610 sq. km, with a maximum length of 432km, a maximum width of 224 km and a total coastline of 1,585km. The island consists mostly of flat to rolling coastal plains, with mountains rising only in the south-central part. The highest point is Pidurutalagala, reaching 2,524 m above sea level.

The longest of the 103 rivers in Sri Lanka is the Mahaweli River and extends over 335km's, the drainage basin is the largest in the country covering almost one-fifth of the total area of the island. The river reaches the Bay of Bengal on the eastern side of the island and 6 dams supply more than 40% of Sri Lanka's electricity needs. The coastline and adjacent waters support highly productive marine ecosystems such as coral reefs and shallow beds of coastal and estuarine sea grasses.

Sri Lanka is one of 25 biodiversity hotspots in the World and it has the highest biodiversity density in Asia, with approximately 22% to 27% of the animal and plant species being endemic and includes Asian elephants, leopards, sloth bears, loris, purple faced langur, woody trees and lianas.

In 2013, the human population was estimated to be approximately 21.7 million, with the highest density occurring in western Sri Lanka, especially in and around the capital, Colombo. Colombo is the country's largest city with a population of approximately 5.6 million in 2001. Approximately 24.8% of the population are under 14 years of age, while 42.4% are between the ages of 25 and 54. The life expectancy age is approximately 76 years and the 2013 population growth rate was estimated to be 0.89%.

The Sri Lankan culture is diverse and varies from region to region but has managed to retain much of its ancient aspects from the country's long history and Buddhist heritage. South Indian influences are visible along with aspects from the colonial times from the Portuguese, Dutch and British periods. Population statistics show that 73.8% are Sinhalese, 7.2% are Sri Lankan Moors, 3.9% are Sri Lankan Tamil, and 4.6% are Indian Tamil. The remaining 0.5% comprises minority immigrant backgrounds. Religion is heavily weighted towards Buddhism at 69.1% of the population with Hinduism 7.1%, Islam 7.6%, and Christianity 6.2% making up the remaining population. The official languages are Sinhala and Tamil, but English is spoken competently by about 10% of the population and is commonly used in government, education, scientific and commercial purposes. English is referred to as the link language in the constitution.

3.3 Mineral Tenure

The development of mineral resources is governed by the Mines & Minerals Act No. 33 of 1992, the Mines & Minerals (Amended) Act No. 66 of 2009 and the Mining (Licensing) Regulations No. 794/23 of 1993 and revisions thereafter.

The Geological Survey and Mines Bureau (GSMB) is a government agency and one of its responsibilities is to regulate the exploration and mining of minerals and the processing, trading in and export of such, by the issue of licences. The GSMB has the power to demand, receive and recover all fees, rents, royalties and other payments, due to the Bureau under any provision of the Mines & Minerals Act No. 33 of 1992.

Six types of licences are issued under the Mines & Minerals Act No. 33 of 1992 and the different licences are as follows, as summarised from the GSMB website (www.gsmb.gov.lk):

- Exploration Licence

An Exploration Licence grants the licence-holder the exclusive right to explore for all mineral categories authorised by the licence.

- Mining Licence

There are two categories of Mining Licences, namely Artisanal and Industrial:

- Artisanal Mining Licence

An Artisanal Licence grants the licence-holder the exclusive right to mine, process and trade in all minerals specified in the licence within an area not exceeding 10 hectares or to a depth not exceeding 25 m. There are two categories of Artisanal Mining Licences and these appear to be based on depth of boreholes, production volumes and machinery to be used.

Industrial Mining Licence

An Industrial Licence grants exclusive right to explore for, mine, process and trade in all minerals mined within the area of a specified licence. There are three categories of Industrial Mining Licences and these appear to be based on blasting methods, depth of boreholes, production volume and only jack hammers to be used.

- Trading Licence

A Trading Licence shall grant the non-exclusive right to purchase, store, process, trade in and, with the special authorisation of the Director of the Geological Survey and Mines Bureau (GSMB), to export minerals in respect of which the licence is issued.

- Export Licence

All exploration, mining and trading licences shall obtain the special authorisation of the Director of the GSMB to export minerals in respect of which the licence is issued.

- Transport Licence

Licence to transport mineral-bearing substances or minerals shall be issued for such quantity and period and for such minerals as may be specified in such licence. All exploration, mining and trading licences shall require a transport licence to transport mineral-bearing substances or minerals.

- Reserved Mineral Licence

Licence to explore for, mine, process and trade in reserved minerals may be granted with the approval of the Minister.

According to the supplied Exploration License documents, the licenses apply for “all minerals saving and excepting building materials, uranium, thorium, beryllium, lithium and coal”.

4.0 REGIONAL GEOLOGY

Regionally, the Mannar District includes both Wanni Complex metamorphic rocks and the more recent sedimentary units.

The Wanni Complex is characterised by thick units of amphibolite to granulite facies, migmatitic, granitic, granodioritic and charnockitic gneisses.

The more recent sediments consist of lithified Miocene limestones and sandstones and younger largely unconsolidated Quaternary units. The limestone units are reportedly irregular, underlain by sandstone units and lie unconformably on the Wanni Complex basement. The Quaternary units consist of clastic sediments in the form of largely unconsolidated beach sands, dune sands, and lagoonal and estuarine sediments.

5.0 LOCAL GEOLOGY

According to the published 1:100 000-scale geological map (GSMB, 2009), the units present in the Mannar District licences include: dune sand (Qrsd); beach sand (Qrsb), consisting of fine sandy wash deposits with shell fragments; brownish beach sand and loam (Qrsbb); and lagoonal and estuarine deposits, consisting of organic-rich, dark brown to black clay, silt and fine sand with shell fragments.

According to the generic text that accompanies the geological mapping, the dune sand (Qrsd) that occurs on Mannar Island is light-brown to yellow to white in colour. Dune development is attributed to seasonally high-wave and perennially low-wave energy as well as winds.

Other units mapped as occurring in the general area include: alluvium, consisting of sand silt or clay; “Red beds” (Qpsdb), consisting of a reddish mixture of hematised dune and beach sands with heavy minerals forming low broad ridges; and Tertiary (Miocene) Vanathvillu Limestone (Tmsl), consisting of creamy coloured, hard, partly crystalline, compact, indistinctly bedded, fossiliferous limestone.

The typical thickness of the units in the visited Mannar licences is uncertain. However, the GSMB speculated that whilst variable, the thickness is expected to be in excess of 10 m (GSMB, 2012a).

According to the generic text that accompanies the 1:100 000-scale published geological map (GSMB, 2009), beach and dune sands along the western coastline, particularly Mannar Island, contain what is described as relatively high concentrations of ilmenite, zircon, rutile and sillimanite that make them potential sources of heavy minerals. This is further refined in that the southwestern part of Mannar Island is described as being associated with beach sands that are enriched in heavy minerals, particularly ilmenite.

The beach sands are described as being yellowish-brown in colour due to the presence of only minor iron-oxides (GSMB, 2012a). Compositionally they are mainly composed of quartz grains with a considerable amount of heavy minerals that include ilmenite, rutile and garnet, with lesser concentrations of zircon and monazite.

The heavy minerals found in the unconsolidated units in the Mannar District are considered to have been derived from the rocks of the Wanni Complex (GSMB, 2012a). Following weathering and erosion of the Wanni Complex, the main rivers responsible for the transportation of the heavy minerals in the vicinity are postulated to be DeduruOya, MiOya, Kala Oya, ModaragamAru and AruviAru that drain in a westerly direction into the ocean. The heavy mineral fractions were then transported by ocean currents in a northerly direction and deposited and concentrated in the sediments as placer mineralisation.

6.0 PREVIOUS EXPLORATION

In July 2011, Technical Consultants of Supreme reportedly completed a preliminary field visit to Mannar Island and collected an unspecified number of mineral sand samples from tidal, beach and berm zones. These samples were subject to mineralogical analysis and returned 5% to 25% heavy minerals. However, the sample details, collection and analysis methodology and precise results are unknown.

In August 2011, Supreme submitted Exploration Licence applications for the areas of interest to the Sri Lanka Geological Survey and Mines Bureau (GSMB). In September 2011, Supreme was granted the exploration rights to the licences.

Between October and November 2011, a fieldwork exploration program was completed in EL180 and EL182 by personnel of the GSMB (GSMB, 2012a).

The objectives of the GSMB fieldwork were reportedly:

To discuss the formation of heavy mineral sands;

To identify promising areas of heavy mineral sand occurrences;

To assess the concentration of heavy mineral sands within with the help of augering investigations and mineralogical analysis of sand samples;

To estimate reserves of different varieties of heavy mineral sands;

To recommend a further course of action depending on the result of the investigations.

The initial fieldwork completed by the GSMB consisted of observational traverses across tidal, beach and berm zones in both of the licences.

These resulted in the observation of variably distributed concentrations of surficial heavy minerals, ranging from low to economically viable (the latter defined by the GSMB as > 5% heavy minerals).

The observational traverses were followed by augerhole sampling across the tidal, beach and berm zones throughout much of the licences at a spacing of 10 m to 60 m on lines 200 m apart, perpendicular to the coastline (*Figure*).

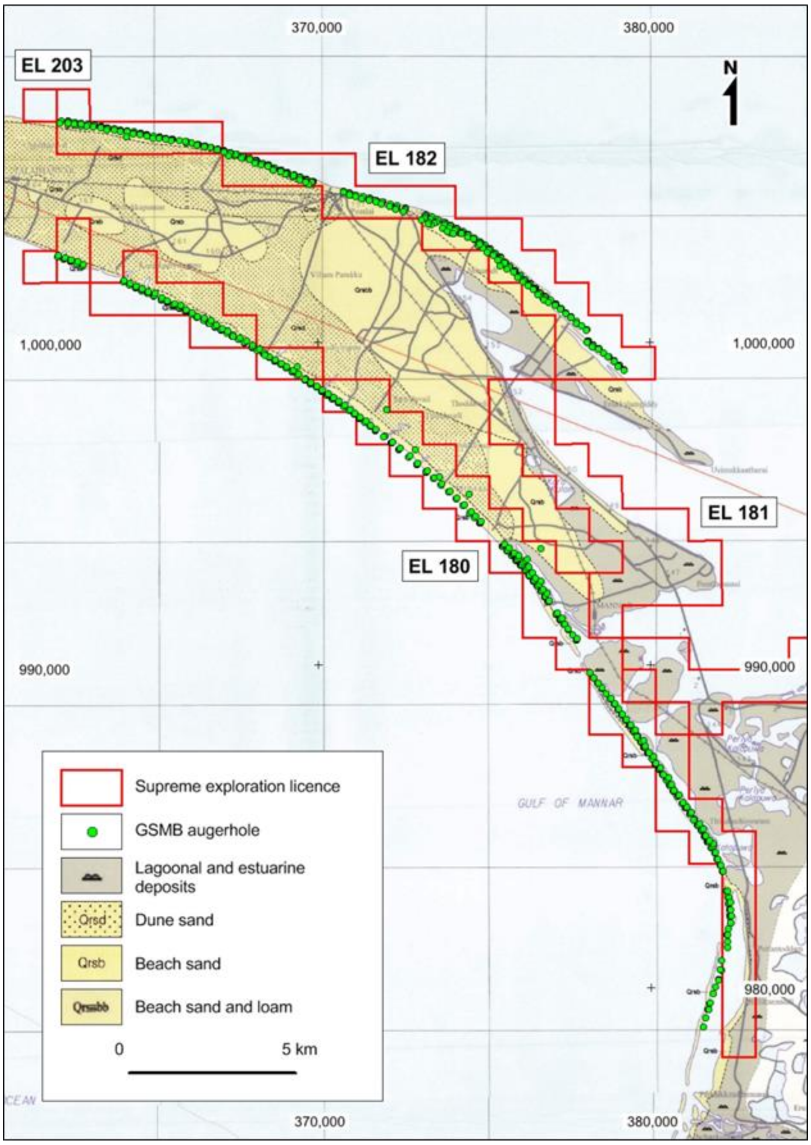

Figure 3:*Map showing the location of the EL180 and EL182augerholes.*

Of note is that the augerhole sampling program only encompassed a narrow section of the foreshore sediments, with very few augerholes located in the backshore sediments.

Auger sampling was completed manually using an Ivan-type 4 inch diameter auger. In the tidal zone, each augerhole was typically drilled to ca. 0.3 m and a single sample was collected from each hole. In the beach zone, each augerhole was typically drilled to ca. 1.0 m and two samples were collected from each hole (0 to 0.5 m and 0.5 to 1.0 m). In the berm zone, each auger hole was typically drilled to ca. 2.0 m and between one and three samples were collected from each hole (0 to 0.5 m, 0.5 to 1.0 m and 1.0 to 2.0 m).

The augerhole locations were recorded with a hand-held GPS (a MagellenExplorist 610) and marked onto a 1:50 000-scale topographic map that was enlarged to 1:10 000-scale.

The logging and sampling methodology reportedly involved:

Collecting contiguous samples at 0.3 to 1.0 m intervals (depending on the length of the augerhole);

Thoroughly mixing the collected material and then selecting a representative sample;

Placing the sample onto a sheet for logging;

Making geological observations (descriptions of colour, grain size, grain shape, sorting and a visual estimate of the heavy mineral content);

Putting the sample into a polythene bag;

Writing the sample number onto the polythene bag with a permanent marker pen and also writing it onto Bristol board and inserting it in the sample bag;

Securing the sample bags with rubber bands;

Cleaning the auger between samples.

All of the auger samples collected by the GSMB were provided to Supreme and subsequently submitted to the VV Minerals (Pvt) Ltd laboratory in Tamil Nadu, India for mineralogical analysis.

Mineralogical analysis reportedly included the following:

Drying in air for approx. 48 hours;

Homogenisation;

Splitting (using a splitter) to obtain a 200g sample;

Drying in an electric oven set at a temperature of 110 deg. C for as long as was necessary to remove all the moisture;

Sieving using a 2 000µm (2mm) with the remaining – 2 000µm fraction subject to wet sieving through a 63µm (0.063mm) sieve. The remaining fraction was then oven dried again and the dry weight recorded;

The – 2 000µm to + 63µm fraction was reduced again using a splitter to obtain a 50g sample. These samples were accurately weighed and their heavy fractions separated using TBE with a specific gravity of 2.96;

The separated heavy fractions were then weighed;

A hand magnet was then applied to the heavy fractions to remove virtually all of the magnetic minerals. A weaker hand magnet was then used to separate magnetite from the other magnetic minerals;

All heavy fractions were observed under a microscope. Minerals were identified and the grain count method was used to obtain the volume proportions in each separated fraction. Back calculations were carried out using relevant recorded weights to obtain the proportion of each mineral component in the original sample (known specific gravity values of each mineral were used to convert volume proportions to weight proportions).

The VV Minerals analysis was reportedly accompanied by in-house Quality Assurance and Quality Control (QAQC), but these data were not available / made available.

Further to the observation traverses and augerhole program, ELs 180 and 182 were renewed and granted to Supreme on 03 September 2013 for a period of 2 years (GSMB, 2013a; 2013c).

Based upon the available augerhole data, a total of 440 holes were drilled as part of the EL180 program. However, 18 of these appear to have been drilled outside of the licence south of the town of Vankalai. The augerhole lengths range from 0.3 to 2.0 m and average 0.83 m and from the 440 augerholes, a total of 690 samples appear to have been collected and analysed.

Based upon the available augerhole data, a total of 345 holes were drilled in EL182. The augerhole lengths range from 0.3 to 2.3 m and average 0.85 m. From the 345 augerholes, a total of 573 samples appear to have been collected and analysed.

The THM% results from this program are shown in Figure 4.

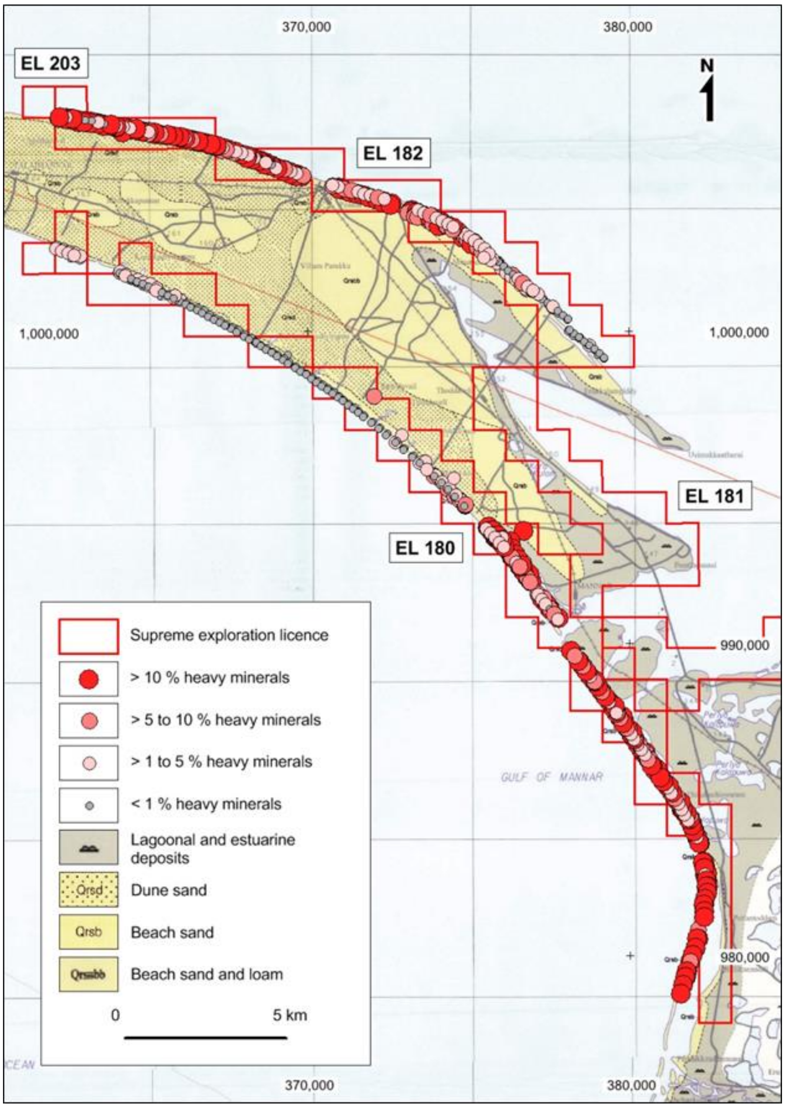

Figure 4: *Map showing the EL180 and EL182 augerhole results.*

Based upon the spatial distribution of the augerholes in EL180 and EL182, it is evident that the GSMB only focussed on the active foreshore sediments (namely the tidal, beach and berm zones). The likely reason for this is that the GSMB designed their program on the basis of their awareness of the State-owned Lanka Minerals Sands operation at Pulmoddai. At Pulmoddai, excavators are used to remove only the near-surface mineral sands along a narrow strip of the tidal and beach zones. There also appears to be a reliance on the monsoonal season to replenish the heavy mineral content of the sands, which would likely impose a seasonal constraint on exploitation.

Irrespective of why the GSMB chose to focus on and sample only the active foreshore sediments, it stands to reason that the backshore sediments could also contain heavy minerals. Furthermore, the sediments further away from the active foreshore potentially represent a more favourable environment from an exploration and exploitation perspective for several reasons, such as tonnages are likely to be larger, there would potentially be less environmental and social impact by exploiting further inland, the water table is likely to be lower and less of a hindrance, and mining would not be reliant upon seasonal replenishment.

Significantly, the GSMB did drill two outlying augerholes in EL180 that were located further inland (PP/DU99, approx. 700 m from the coastline and PP/BM103, approx. 400 m from the coastline). Augerhole PP/DU99 was drilled to 2 m and included 3 samples. The VV Minerals mineralogical results indicate that the total heavy mineral content ranged from 1.40 to 22.48 percent. Augerhole PP/BM103 was also drilled to 2 m and included 3 samples. The VV Minerals mineralogical results indicate that the total heavy mineral content ranged from 9.54 to 19.17 percent.

7.0 CURRENT EXPLORATION

Due to questions on the QAQC procedures followed by the GSMB and the VV Minerals laboratory, as well as the grain count method utilized by VV Minerals in the HMC assemblage determination, an exploration program was initiated by Srinel. The aim of the exploration program was to:

Test the fact that the GSBM data indicates a potential well mineralized strike length of 10 – 12 km for each of EL180 and EL182;

Conduct some preliminary handheld auger drilling within EL203 blocks. There are 4X1km² EL203 blocks on the western edge of Mannar Island (*Figure 2*);

Twin a reasonable percentage of the GSMB drillholes (same drillhole ID utilized, only T prefix added to drillhole ID). As the geological environment is still active (Monsoon season will result in significant changes, especially tidal and beach areas), twinning is not expected to mirror GSMB results, rather clearly replicate higher and lower grade areas;

Drill infill drillholes where there were gaps in the GSMB data;

Do some minor checking of mineralization inland of the GSMB drilling;

Drill some of the areas and holes deeper than managed by GSMB;

Follow defendable QAQC procedures;

Follow defendable analytical techniques, including TBE heavy fraction separation, followed by magnetic separation work to generate the different magnetic and non-magnetic fractions, followed by quantitative XRF and optical microscope work to determine the HM assemblage. From the VV Mineral grain count work, we expected very little magnetite in the HM (observed during initial site visit and the exploration work), with the bulk made of ilmenite and significant amounts of zircon and rutile (the valuable heavy minerals). There appears to be a reasonable amount of garnet and sillimanite, these two minerals should make the bulk of the rest of the heavy minerals;

Commission a satellite based (GeoEye) Digital Terrain Model (DTM) study. Z coordinates would be determined by draping the BH X and Y coordinates onto the DTM;Produce a JORC compliant resource calculation and report on receipt of all results.

GeoActiv (Pty) Ltd was contracted to manage and conduct the work on behalf of Srinel. GeoActiv staff, with significant heavy mineral sands exploration, was involved in the program. The drilling and sampling program took place during July and August 2014 (see *Figure* of drill holes drilled during this exploration program within EL180, EL182 and EL203). A hand-held auger, specifically manufactured by GeoActiv, was used for the drilling, with a total of 103 drillholes drilled within the 3 licenses. A similar geological logging and sampling process to what was observed by the GSMB was followed by the GeoActiv team.

A satellite based (GeoEye) DTM was done, accurate computing of the data was only conducted on the areas of the licences.

The exploration program met all initial goals, ultimately proving the presence of significant amounts of heavy mineral mineralisation within the licenses.

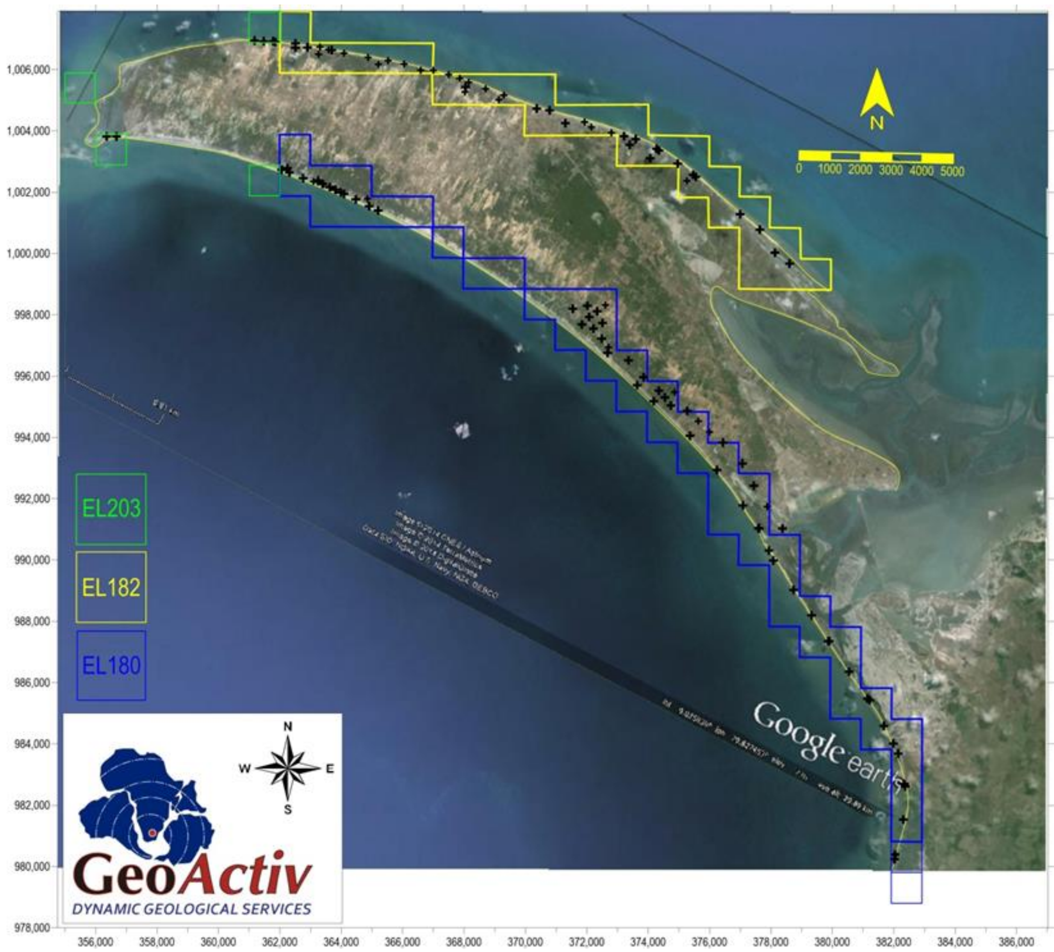

Figure 5: *All drillholes from Srinel exploration program within EL182 and EL180 drilled.*

8.0 LOGGING AND SAMPLING

Samples were generally collected at 0.5 m intervals and Alpha numerical sample tickets were used. Where twin drilling took place, the original borehole ID was retained, with only a T prefix used. New drill sites were either numbered NS or WB. The GeoActiv auger did manage to generally penetrate deeper than with the GSMB drilling program (NS06 within EL182 drilled to 3.70m), but below the water table sample recovery again presented difficulties.

All the samples were transported to Colombo after the completion of the drilling program. The samples were riffled and homogenized before they were reduced to a ca. 1.5 kg size by using the riffle splitter. A duplicate sample was riffled from every 20th sample, hence 5% of the total amount of samples. All samples from the drilling program were prepped, even samples perceived to be low grade. All the samples were packed for transport. This prep and packing work took place under full supervision of a GeoActiv geologist. 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. The samples (468 samples from the 3 licenses) were then air freighted to Cape Town where a representative from the Analytical laboratory, Scientific Services CC, collected the samples. A GeoActiv geologist spent two days at the laboratory sorting the samples and getting them ready for analyses. A priority list of samples for analyses was made utilizing the visual field grade estimate, but depending on the results received, additional samples were analysed.

9.0 ANALYSES

Samples were couriered to Scientific Services CC in Cape Town, South Africa, for the initial analytical work.

9.1 Discussion on Carpco Magnetic Separation Results:

The TBE separation and de-sliming work done at Scientific Services CC laboratory in Cape Town, South Africa, was done on individual 0.5 m samples as collected from the handheld augerdrilling program (410 samples, rest with grades < ca. 1%THM). For the Carpco magnetic separation and XRF work samples were composited according to THM grades (very low grade samples, e.g. < ca. 1%THM, were not used in compositing) in borehole format, with samples representative of all areas drilled. A hundred and fifty two (152) composite samples were done by Scientific Services. The compositing took place to reduce the amount of samples, but also to ensure that sufficient sample weights of heavy minerals were available for further work.

The four separate fractions represents the following:

The 0.1 Amp fraction represents the highly magnetic susceptible minerals, nearly exclusively the magnetite content of the heavy mineral concentrate (HMC). The results shown that the magnetite content was very low (average of ca. 0.06% of the HMC for the 152 composite samples).

The 1.1 Amp fraction (Crude ilmenite fraction) represents magnetic susceptible minerals, predominantly unaltered ilmenite, but altered ilmetite, leucoxene and magnetic silicate gangue minerals may also be present. This fraction represents nearly 50% of the HMC from the 152 composite samples.

The 2.4 Amp fraction (Magnetic Others Fraction) represents slightly magnetic susceptible minerals, consisting of ilmenite, altered ilmetite, leucoxene and a variety silicate and other gangue minerals. This fraction represents ca. 26% of the HMC from the 152 composite samples.

The 2.4 Amp fraction (Non Magnetic Fraction) represents non-magnetic susceptible minerals (at 2.4 Amp), consisting of a variety of silicate and other gangue minerals, including rutile and zircon. This fraction represents ca. 24% of the HMC from the 152 composite samples.

9.2 Discussion on XRF Results

XRF analyses were conducted on the 1.1Amp, 2.4Amp Magnetic Others and 2.4Amp Non Magnetic fractions at Scientific Services for all 152 composite samples. No XRF was conducted on the 0.1Amp (magnetite) fraction as the Carpco magnetic separation showed this fraction to have very low % concentrations.

The XRF results indicate the following:

Results from the 0.1 Amp fraction (Crude ilmenite) shows that this fraction chemically consists mainly of TiO_2 and Fe_2O_3. The TiO_2% content for this fraction is on average 46.93%, with highest 51.30% in composite sample GA 139 and the lowest 31.51% in composite GA 133. The Fe_2O_3% content for this fraction is on average 45.63%.

Results from the 2.4 Amp fraction (Magnetic Others) shows that this fraction chemically consists of mainly SiO_2, TiO_2, Fe_2O_3, Al_2O_3 and MgO. The TiO_2% content for this fraction is on average 18.45%, with highest 38.13% in composite sample GA 144 and the lowest 6.17% in composite GA 064.

Results from the 2.4 Amp Non Magnetic fraction shows that this fraction chemically consists of mainly SiO_2, Al_2O_3 and MgO. Reasonable percentages of TiO_2 and ZrO_2 are present in this fraction, with the TiO_2% content on average 9.79%, with highest 20.01% in composite sample GA 139 and the lowest 3.24% is composite GA 133 and the ZrO_2% content on average 7.11%, with highest 22.90% in composite sample GA 099 and the lowest 0.91% in composite GA 133.

10.0 DATA VALIDATION

10.1 Historic Data

Analyses of 778 historic auger drillholes were received and are shown in **Figure** .

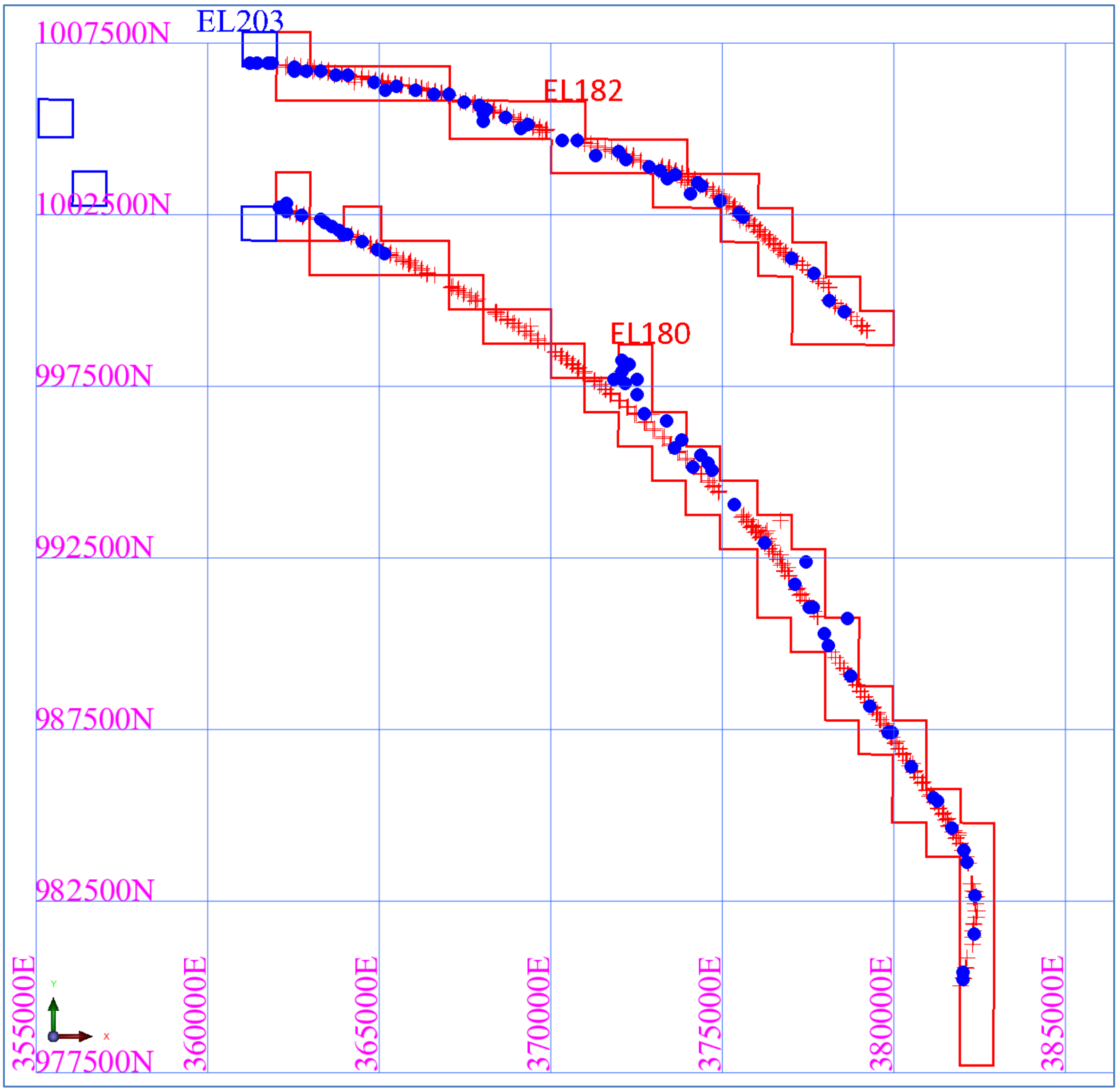

Figure 6: *The drillhole positions of the historic drillholes in red and the recent 2014 drillholes in blue. The exploration licence (EL) areas shown in red and blue.*

10.2 Recent Drilling Data

During the recent drilling champagne in 2014, 139 auger drillholes were drilled on Mannar (**Figure**).

10.2.1 Twinned drillholes

The 30 twinned drillholes that were drilled are shown in **Figure** below. The statistics of the %THM and total drillhole lengths were compared and the results are shown below in Table 1. The results show that the mean of the recent %THM is 70% lower than the historic %THM and the total drillhole lengths are 36% deeper.

Table 1. The statistics of the %THM and total drillhole lengths of the twinned drillholes.

	Historic %THM	Recent %THM	Historic Length	Recent Length
Mean	11.46	8.07	1.16	1.58
Minimum	0.47	0.29	0.30	0.70
Maximum	44.98	24.60	2.00	2.99
Variance	128.54	44.76	0.258	0.252
CV	0.99	0.83	0.44	0.32

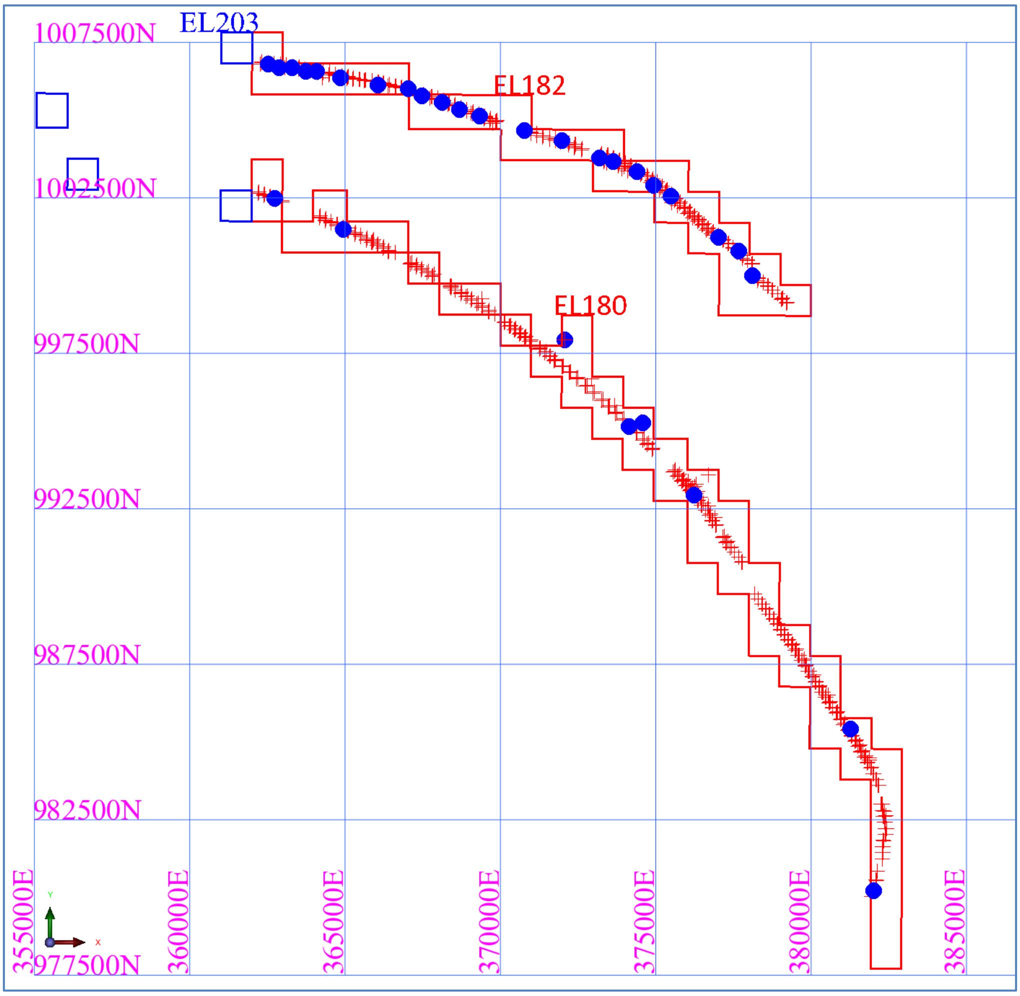

Figure 7: *The twinned drillhole positions in blueand the historic drillholes in red.*

All primary analyses of the recent drilling in 2014 were undertaken at Scientific Services cc, a DEKRA certified laboratory in Cape Town.

10.2.2 CARPCO magnetic separation of minerals and XRF analysis

The heavy mineral concentrates of approximately 50% of the recent 2014 sample population were separated into magnetic and non-magnetic fractions. The magnetic separations were run on all the composite samples of each of the highlighted drillholes in **Figure** . Holes were selected to give a representative spread aerially as well as of different mineralised zones.

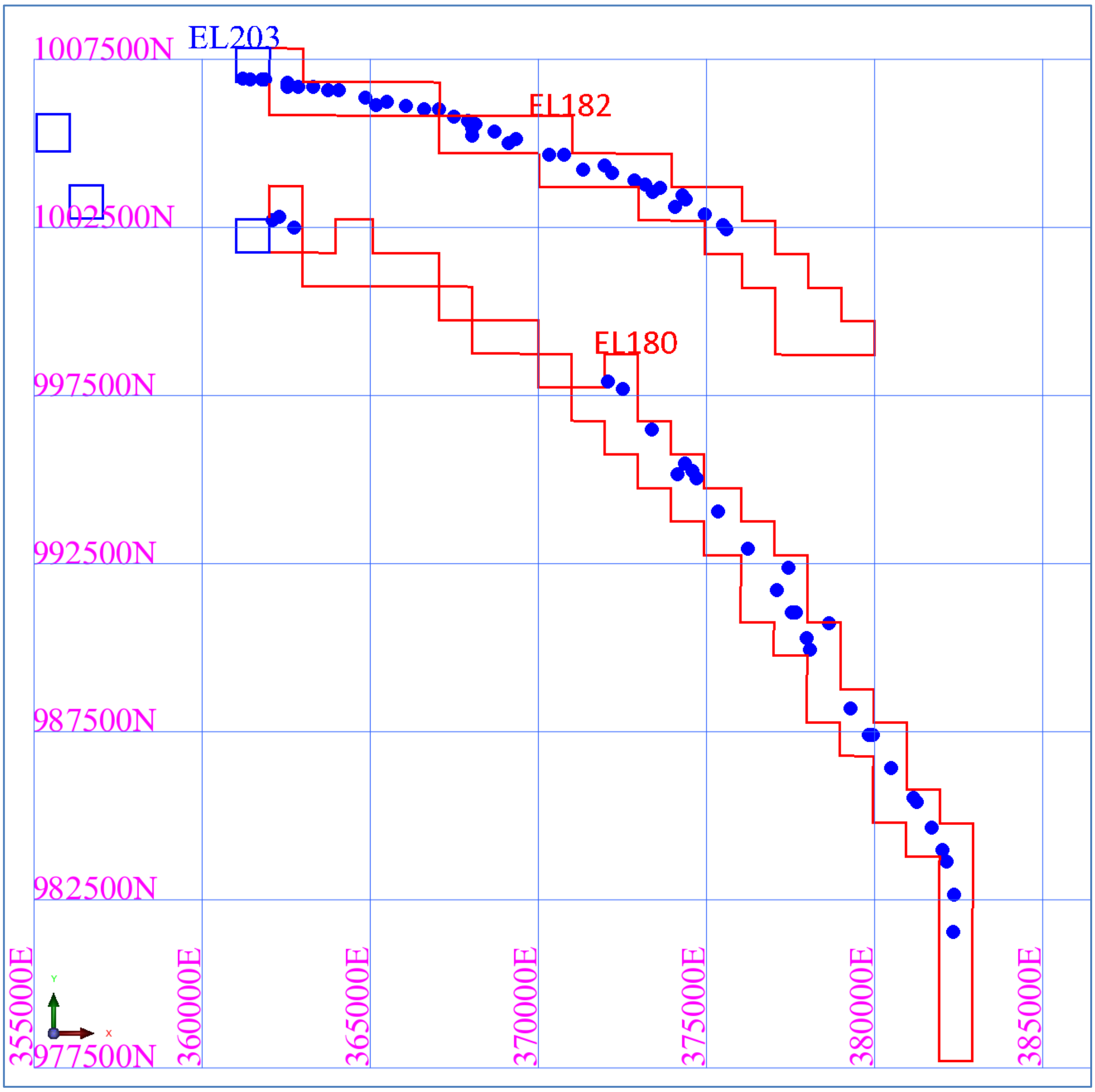

***Figure 8:**Composite positions of the magnetic separation samples on Mannar.*

Instrumentation used is a CARPCO high intensity lift magnetic separator (**Figure**). The CARPCO separator is capable of extracting the heavy minerals based on the magnetic susceptibility of the individual minerals from the heavy mineral fraction. Minerals with a high magnetic susceptibility are firstly removed from the fraction. With increased magnetic intensity the CARPCO separator will remove the crude ilmenite (CI) fraction and then the “magnetic others” (MO) fraction. The fraction not affected by the higher gauss setting is considered the non-magnetic (NM) fraction. The various fractions, namely magnetic, crude ilmenite, magnetic others and non-magnetic are therefore weighed and recorded as weight percentage of total mass. Separations were conducted at 0.1A, 1.1A and 2.4A at two different roll speeds and each fraction analysed by XRF.

Figure 9:*The CARPCO high intensity magnetic separator.*

10.2.3 Quality Assurance and Quality Control (QAQC)

A total of 22 field duplicates and 16 laboratory standards were inserted in the 407 samples and this QAQC samples represent 9.3% of the samples.

Field duplicate samples show acceptable precision with no obvious bias. All three of the criteria assessed have better than 90% of the duplicate pairs HARD (half the absolute relative difference) value below a 10% precision limit for the THM and below 25% for the silt and oversize.

The majority of the laboratory standards fall within the ±2 standard deviations tolerance limits. While there are some outliers, there is no significant consistent bias for most reference samples.

A total of 17 laboratory standards were inserted within the 122 magnetic separation samples, 26 laboratory repeats were done for the XRF and 27 certified reference materials were inserted within the 366 XRF samples.

The $TiO_2$and ZrO2 standards results show good precision and accuracy, with a few outliers and negligible overall bias.

11.0 MODELLING

A detail digital terrain model (DTM) that covered the ELs of the coastal areas was used (**Figure**). The mineralized area was generally extended to a 50 m distance of the last drillhole of the dense drilled areas. The end depth of the drillholes were used as the floor of the mineralized areas for which a wireframe was created.

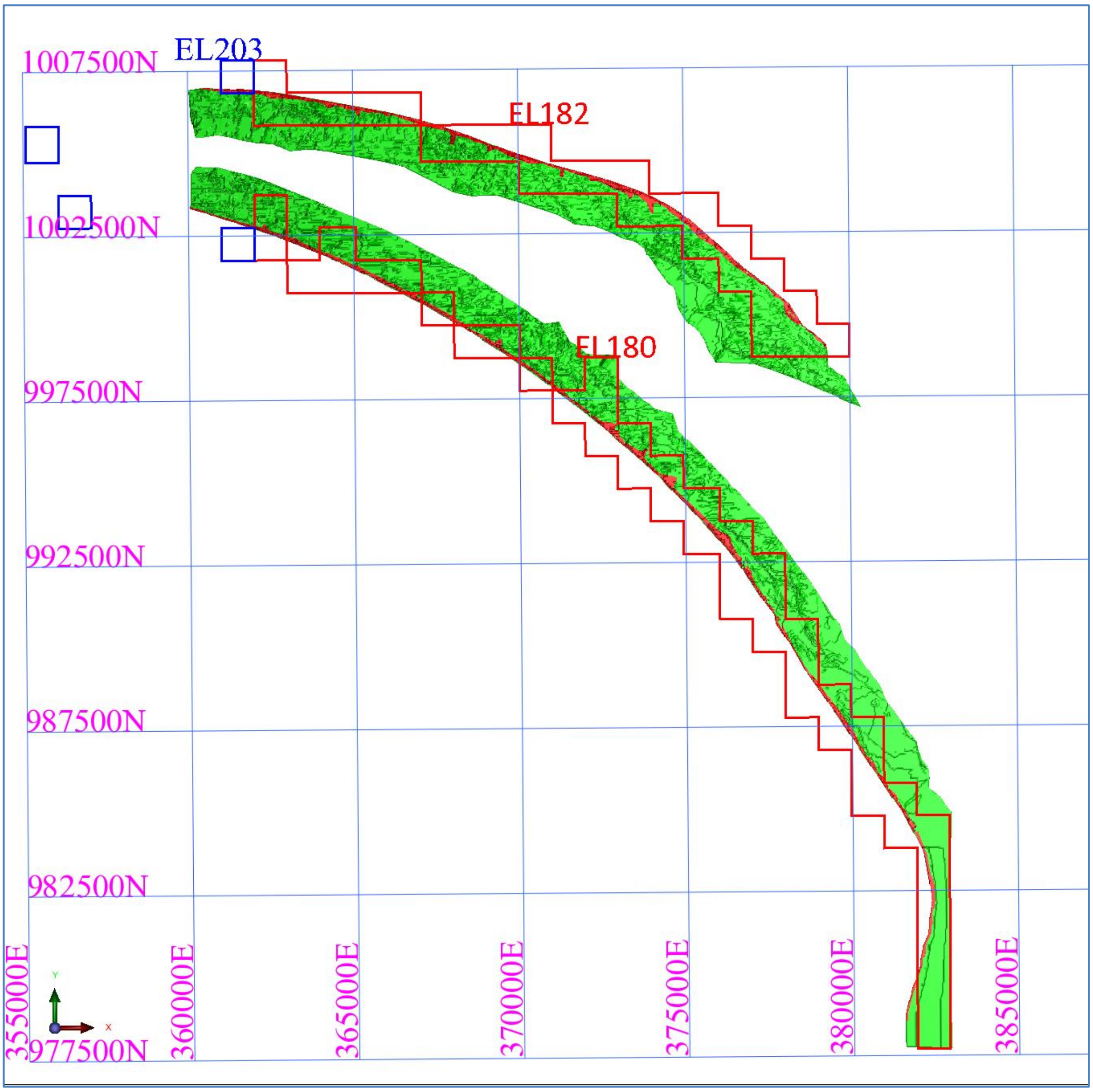

Figure 10: *Plan showing the mineralization modelled in red and the resulting green surface area.*

12.0 STATISTICAL ANALYSIS

The basic statistics of all the historic drillholes on Mannar is shown in Table 2 and all the recent drillholes on Mannar is shown inTable 3.

Table 2.Basic statistics of the all the historic drillholes on Mannar.

Field	% THM	% Garnet	% HiTi Ilmenite	% Ilmenite	% Sillimanite	% Zircon	% Rutile	% Shell	% Quartz
No samples	1263	1263	1263	1263	1263	1263	1263	1263	1263
Missing	0	0	0	0	0	0	0	0	0
Minimum	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.14	20.42
Maximum	77.89	8.70	8.64	58.46	7.83	4.67	2.71	79.56	98.15
Mean	10.67	0.84	1.94	6.12	0.91	0.60	0.25	4.00	85.32
Median	6.32	0.53	1.59	2.55	0.61	0.35	0.15	1.45	89.16
Q1	1.16	0.10	0.38	0.20	0.24	0.07	0.02	0.81	80.81
Q3	15.93	1.23	3.11	8.85	1.22	0.93	0.35	4.68	93.22
Variance	150.61	0.99	2.91	75.66	1.01	0.48	0.10	49.20	138.24
Std Dev	12.27	1.00	1.71	8.70	1.01	0.69	0.32	7.01	11.76
CV	1.15	1.19	0.88	1.42	1.10	1.16	1.27	1.75	0.14
Skewness	1.78	2.32	0.87	2.35	2.30	1.77	2.53	5.18	-2.03
Kurtosis	6.87	11.61	3.28	10.01	10.43	7.05	12.83	41.06	8.31

Table 3.Basic statistics of all the recent (2014) drillholes on Mannar.

Field	% THM	% Silt	% Oversize
No samples	407	407	407
Missing	47	47	47
Minimum	0.04	0.00	0.00
Maximum	71.80	86.73	64.37
Mean	8.51	3.15	7.09
Median	4.93	1.78	2.67
Q1	1.96	0.77	0.40
Q3	12.18	4.05	9.65
Variance	93.12	33.50	102.82
Std Dev	9.65	5.79	10.14
CV	1.13	1.84	1.43
Skewness	2.31	9.89	2.19
Kurtosis	10.37	129.89	8.35

The sample data was composited to 0.5 m as the average sample lengths were 0.5m. Univariate statistical analysis was carried out on the 0.5 m composited drillhole data. These analyses from the historic drillholes and recent drilling program comprise basic univariate statistics with the results shown in Table 4 to Table 9 with the two licence areas, EL180 and EL182 also evaluated separately.

Table 4.Basic statistics of the 0.5 m composites of all the historic drillholes on Mannar.

Field	% THM	% Ilm	% HiTillm	% Rut	% Zir
No samples	1125	1125	1125	1125	1125
Missing	0	0	0	0	0
Minimum	0.04	0.00	0.00	0.00	0.00
Maximum	77.89	58.46	8.64	2.71	4.67
Mean	10.93	6.28	1.99	0.26	0.62
Median	7.26	3.10	1.70	0.17	0.40
Q1	1.19	0.22	0.38	0.03	0.07
Q3	16.19	9.32	3.12	0.37	0.96
Variance	143.23	69.42	2.88	0.11	0.48
Std Dev	11.97	8.33	1.70	0.32	0.70
CV	1.09	1.33	0.86	1.23	1.11
Skewness	1.69	2.21	0.83	2.50	1.70
Kurtosis	6.69	9.49	3.26	12.74	6.89

Table 5.Basic statistics of the 0.5 m composites of the historic drillholes of EL180.

Field	% THM	% Ilm	% HiTillm	% Rut	% Zir
No samples	609	609	609	609	609
Missing	0	0	0	0	0
Minimum	0.04	0.01	0.01	0.00	0.00
Maximum	68.19	52.58	7.85	1.09	2.58
Mean	10.32	6.27	1.94	0.18	0.43
Median	6.66	2.88	1.82	0.12	0.28
Q1	0.80	0.17	0.25	0.01	0.03
Q3	15.70	9.78	3.12	0.28	0.67
Variance	135.70	70.97	2.81	0.04	0.24
Std Dev	11.65	8.42	1.68	0.19	0.49
CV	1.13	1.34	0.86	1.08	1.13
Skewness	1.65	2.16	0.63	1.36	1.58
Kurtosis	6.41	9.08	2.75	4.96	5.90

Table 6.Basic statistics of the 0.5 m composites of the historic drillholes of EL182.

Field	% THM	% Ilm	% HiTillm	% Rut	% Zir
No samples	503	503	503	503	503
Missing	0	0	0	0	0
Minimum	0.06	0.00	0.00	0.00	0.00
Maximum	77.89	58.46	8.64	2.71	4.67
Mean	11.78	6.36	2.04	0.37	0.86
Median	7.79	3.23	1.62	0.23	0.63
Q1	2.15	0.46	0.66	0.06	0.17
Q3	17.94	9.01	3.14	0.52	1.37
Variance	153.29	68.65	2.99	0.17	0.68
Std Dev	12.38	8.29	1.73	0.41	0.83
CV	1.05	1.30	0.85	1.12	0.96
Skewness	1.70	2.26	1.04	1.97	1.29
Kurtosis	6.80	9.88	3.74	8.41	5.06

Table 7.Basic statistics of the 0.5 m composites of all the recent (2014) drillholes on Mannar

Field	% THM	% Silt	% Oversize
No samples	336	336	336
Missing	0	0	0
Minimum	0.04	0.01	0.00
Maximum	71.80	86.73	64.37
Mean	9.30	2.72	6.48
Median	5.43	1.59	2.58
Q1	2.01	0.72	0.40
Q3	13.03	3.12	8.80
Variance	104.38	27.90	90.15
Std Dev	10.22	5.28	9.49
CV	1.10	1.95	1.46
Skewness	2.15	12.20	2.47
Kurtosis	9.25	190.97	10.39

Table 8.Basic statistics of the 0.5 m composites of the recent (2014) drillholes of EL180.

Field	% THM	% Silt	% Oversize
No samples	96	96	96
Missing	0	0	0
Minimum	0.04	0.01	0.04
Maximum	42.07	86.73	64.37
Mean	7.83	3.14	8.54
Median	3.40	1.23	3.39
Q1	1.49	0.58	0.35
Q3	12.26	2.55	13.02
Variance	73.72	81.48	149.19
Std Dev	8.59	9.03	12.21
CV	1.10	2.88	1.43
Skewness	1.57	8.31	2.18
Kurtosis	5.33	76.65	8.15

Table 9.Basic statistics of the 0.5 m composites of the recent (2014) drillholes of EL182.

Field	% THM	% Silt	% Oversize
No samples	137	137	137
Missing	0	0	0
Minimum	0.13	0.01	0.00
Maximum	71.80	14.01	39.72
Mean	10.05	2.43	5.84
Median	7.24	1.75	2.64
Q1	3.54	0.65	0.34
Q3	12.76	3.18	8.79
Variance	114.81	5.38	60.26
Std Dev	10.71	2.32	7.76
CV	1.07	0.96	1.33
Skewness	2.79	1.84	1.97
Kurtosis	13.08	7.55	7.22

It was only the % THM of the historic data that could be combined with the recent data as the other variables were determined by grain point counting. The comparisons between the means of the % THM of the historic and recent drillholes were summarised here below in Table 10.

Table 10.The % THM comparisons between the historic and recent data.

	Mean % THM		Difference
	Historic	Recent	%
All the Samples	10.67	8.51	80
0.5m Composites	10.93	9.30	85

To use the historic % THM it was decided to apply a factor of 85% on all. The resultant statistics of the combined data are shown below in Table 11 for the two ELs.

Table 11.The combined 0.5 m composites of the historic and recent data.

	EL180		EL182	
Field	% THM	Length	% THM	Length
No samples	860	860	739	739
Missing	0	0	0	0
Minimum	0.02	0.30	0.05	0.30
Maximum	57.98	0.50	71.80	0.50
Mean	8.43	0.46	9.24	0.47
Median	4.80	0.50	5.78	0.50
Q1	0.70	0.50	1.85	0.50
Q3	12.66	0.50	12.83	0.50
Variance	101.54	0.01	105.28	0.00
Std Dev	10.08	0.08	10.26	0.07
CV	1.20	0.17	1.11	0.14
Skewness	1.78	-1.62	2.06	-2.10
Kurtosis	6.85	3.67	8.79	5.45

The statistics of the magnetic separation data is shown is Table 12 and Table 13 for the two EL areas.

Table 12.Basic statistics of the 1 m composites of the magnetic separation data of EL180.

Field	%CI_TiO2	%CI_Yield	%MO_TiO2	%MO_Yield	%NM_TiO2	%NM_ZrO2	%NM_Yield
No samples	45	45	45	45	45	45	45
Missing	0	0	0	0	0	0	0
Minimum	31.86	15.05	6.21	17.90	3.53	1.11	7.12
Maximum	48.76	73.74	23.06	60.13	17.46	22.90	50.58
Mean	44.95	43.36	13.12	33.05	9.32	8.44	23.60
Median	46.48	43.33	12.74	34.13	9.06	7.61	13.72
IQ1	42.77	21.93	10.00	24.34	4.76	1.78	10.34
IQ3	47.19	59.73	15.90	39.03	12.91	13.16	41.40
Variance	12.22	374.81	16.98	96.58	18.73	46.06	248.06
Std Dev	3.50	19.36	4.12	9.83	4.33	6.79	15.75
C.V	0.08	0.45	0.31	0.30	0.46	0.80	0.67
Skewness	-1.64	0.01	0.58	0.70	0.20	0.61	0.46
Kurtosis	5.94	1.60	2.67	3.64	1.74	2.21	1.42

Table 13.Basic statistics of the 1 m composites of the magnetic separation data of EL182.

Field	%CI_TiO2	%CI_Yield	%MO_TiO2	%MO_Yield	%NM_TiO2	%NM_ZrO2	%NM_Yield
No samples	77	77	77	77	77	77	77
Missing	0	0	0	0	0	0	0
Minimum	34.59	23.82	7.83	1.52	4.16	1.78	13.98
Maximum	50.51	78.68	32.77	39.95	17.70	14.61	40.19
Mean	47.26	50.48	19.17	23.46	9.10	6.41	26.06
Median	47.96	49.91	19.43	25.27	8.71	5.68	25.64
IQ1	46.55	41.09	14.68	17.98	6.61	3.50	19.71
IQ3	48.98	61.88	22.77	28.85	11.07	8.70	31.79
Variance	8.98	181.86	32.39	64.55	9.99	11.65	54.43
Std Dev	3.00	13.49	5.69	8.03	3.16	3.41	7.38
CV	0.06	0.27	0.30	0.34	0.35	0.53	0.28
Skewness	-2.30	0.03	0.12	-0.34	0.60	0.57	0.28
Kurtosis	9.47	2.15	2.19	2.64	2.69	2.28	2.00

13.0 MINERAL ASSEMBLAGES

The crude ilmenite (CI), the magnetic others (MO) and non-magnetic fractions (NM) from nine samples were submitted for mineralogical investigation. The aim of the mineralogical investigation was (Reyneke, 2015):

Provide an initial identification of the minerals present in the fractions;

Provide a mineralogical quantification of the magnetic separation fractions; and

Correlate the bulk chemical analyses of the fractions with the mineral data.

Stereo microscopy, using a *Zeiss Stereo Discovery* stereomicroscope, was used to identify the minerals present. Optical microscopic particle-counting was done to obtain quantitative data on different mineral species present in the fractions. A *Zeiss Axio Imager A1m* optical microscope was used. Counting was done by traversing the polished sections at set distances in the x and y directions using a *Swfit* point counter and recording the particles at the intersection points. A total of approximately 500 particles were counted and classified for each fraction. All the microscopic studies were done by Leonie Reyneke using instruments at the *Laboratory for Microscopy and Microanalysis* at the University of Pretoria (Reyneke, 2015).

13.1 Mineralogy

13.1.1 Ilmenite fractions

The ilmenite fractions from the different samples are similar with respect to mineral assemblages as is the magnetic-others and non-magnetic fractions. These fractions consist mainly of unaltered, metallic iron-black ilmenite grains (**Figure**). Altered ilmenite particles, partially and completely transformed to leucoxene, also occur. The gangue minerals present seems to be mainly garnets while pyroboles (amphibole and/or pyroxenes) are also present (Reyneke, 2015).

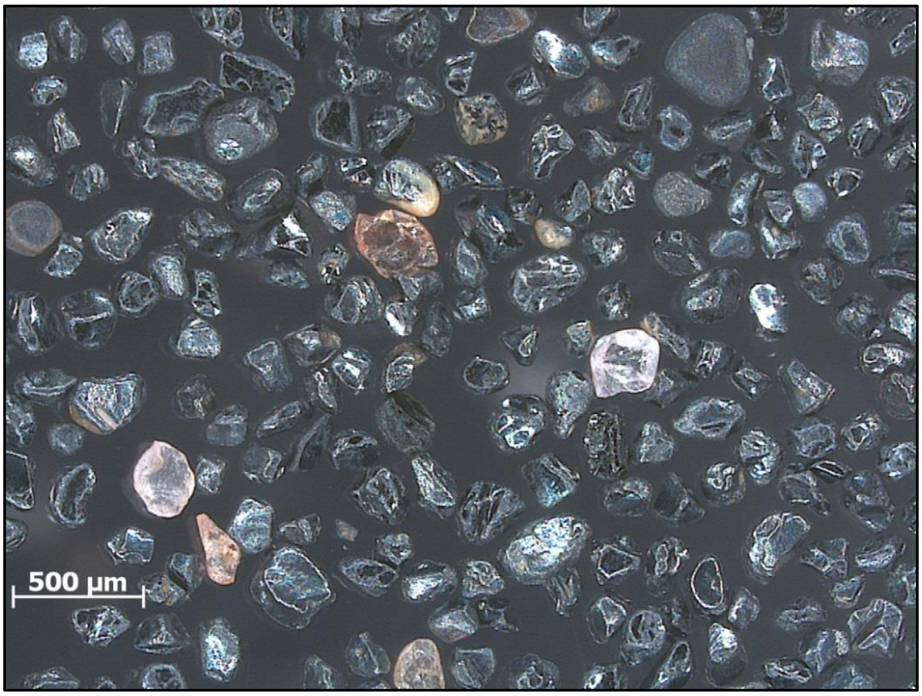

Figure 11:*Stereomicroscopic image of an ilmenite fraction.*

13.1.2 Magnetic-others fractions

Unaltered ilmenite is still a main constituent in this fraction while particles exhibiting various stages and degrees of alteration to leucoxene also occur**Figure** . A variety of silicate gangue minerals are present. The main silicates appear to be pyrobole minerals with garnets also present. Some epidote may occur as well as occasionally Al-silicate minerals (kyanite and/or sillimanite) (Reyneke, 2015).

Figure 12:*Stereomicroscopic image of a magnetic-others fraction.*

13.1.3 Non-magnetic fractions

Appreciable amounts of Al-silicate minerals, thought to include both kyanite and sillimanite, occur in this fraction (**Figure**). Quartz are present as well as small amounts of other gangue as in the magnetic-others fractions. Zircon is present, mainly as clear and colorless grains although staining in not uncommon. Red grains of primary rutile occur and ilmenite grains transformed to leucoxene are present (Reyneke, 2015).

Figure 13: *Stereomicroscopic images of a non-magnetic fraction.*

13.1.4 *Optical microscopic particle-counting*

Particle-counting show trends in the preferred occurrence of minerals in specific fractions as expected from the mineral characteristics of these minerals influencing the magnetic properties Essentially unaltered ilmenite generally occurs predominantly in the ilmenite fractions although the magnetic-others also contain substantial amounts. Leucoxene (being by definition heterogeneous and therefore having varying magnetic properties) exhibit a strong appearance in the magnetic-others fractions. Rutile and zircon by preference occurs in the non-magnetic fractions. The results of the particle-counting of the nine samples are shown in Table 14. (Reyneke, 2015).

Table 14.Estimated percentage of VHM in HMC (Reyneke, 2015).

	% in HMC			
	Ilmenite	**Leucoxene**	**Rutile**	**Zircon**
GA 012	55.2	14.2	2.7	2.6
GA 019	43.9	12.8	3.2	2.3
GA 032	55.5	14.4	2.8	2.9
GA 033	42.3	15.6	2.3	2.3
GA 051	38.9	12.7	2.1	2.1
GA 053	27.3	11.4	2.1	1.7
GA 071	33.6	9.9	1.9	2.4
GA 101	56.7	9.9	1.0	2.0
GA 132	57.5	13.0	4.2	3.4
Average	45.7	12.7	2.5	2.4

13.2 Conversion from chemistry to mineralogy

The CI fractions contain a mixture of ilmenite and leucoxene; titanium minerals were split 84% ilmenite and 16% leucoxene based on mineral counting data, the leucoxene being added back into that from the MO fraction for total leucoxene,

The MO fractions contain a mixture of ilmenite and leucoxene; titanium minerals were split 39% ilmenite and 61% leucoxene based on mineral counting data, the ilmenite being added back into that from the CI fraction for total ilmenite,

The NM fractions consist of zircon, rutile and ilmenite; 82% of TiO_2-units are considered as rutile and 18% leucoxene based on mineral counting data, the leucoxene being added back into that from the MO fraction for total leucoxene.

Table 15: Conversion factors to chemical assays for mineral compositions.

Fraction	Units	Factor	Mineral
CI	TiO_2	2	Ilmenite
MO	TiO_2	1.6	Leucoxene
NM	TiO_2	1	Rutile
	ZrO_2	1.5	zircon

There were relative high variances of the % ilmenite in the MO fractions between the samples. These need to be investigating further with Scanning Electo Microscopy (SEM) work.

14.0 BLOCK MODELLING AND GRADE ESTIMATION

One block model with block sizes of 100 m X 100 m X 2m and minimum sub blocking of 25 m X 25 m X 0.5 m were created within Surpac for the EL180 and EL182 area, with origin, dimensions and extents given in Table 16. The block model was constrained with the boundaries of the topography DTM of the EL180 and EL182 areas (**Figure**).

Table 16: Block model dimensions and extents for EL180 and EL182.

Type	Y	X	Z
Minimum Coordinates	975 000	360 000	-10
Maximum Coordinates	1 010 000	385 000	20
User Block Size	100	100	2
Min. Block Size	25	25	0.5
Rotation	0	0	0

The drilled mineralized areas were assigned to the block models as material "hm_sand". The "waste" material type was the background. The blocks above the topography DTM were assigned to air. The attributes that were used in the block models are shown below in Table 17.

Table 17: Attributes used in the block model.

Attribute Name	Type	Decimals	Background	Description
Area	Integer	-	0	180,182
ci_tio2	Float	2	-99	
ci_yield	Float	2	-99	
El	Integer	-	0	180,182
Ilm	Calculated	-	-	(ci_yield/100*thm/100*0.84*ci_tio2/100*2+mo_yield/100*thm/100*0.39*mo_tio2/100*2+nm_yield/100*thm/100*0.18*nm_tio2/100*2)*100
Leu	Calculated	-	-	(mo_yield/100*thm/100*0.61*mo_tio2/100*1.6+ci_yield/100*thm/100*0.16*ci_tio2/100*1.6+nm_yield/100*thm/100*0.18*nm_tio2/100*1.6)*100
Material	Character	-	waste	air,waste, hm_sand
mo_tio2	Float	2	-99	
mo_yield	Float	2	-99	
nm_tio2	Float	2	-99	
nm_yield	Float	2	-99	
nm_zro2	Float	2	-99	
Oversize	Float	2	-99	
Rd	Float	2	-99	relative density
Rut	Calculated	-	-	(nm_yield/100*thm/100*nm_tio2/100)*100
samp_avg_dist	Float	3	-99	
samp_near_dist	Float	3	-99	
samp_no	Integer	-	-99	
Silt	Float	2	-99	
Thm	Float	2	-99	total heavy minerals
Zir	Calculated	-	-	(nm_yield/100*thm/100*nm_zro2/100*1.5)*100

Note: ci = crude ilmenite, nm = non mags and mo = mag others.

14.1 Grade Estimation Plan and Parameters

Grade interpolation was implemented with hard boundary conditions by EL area. The %THM historic data multiplied with 85%, compositing to 0.5 m and then combined with the 0.5 m composites of the recent data were used for the %THM estimation. The recent 0.5 m composite data was used for the estimation of siltand oversize. The 1 m composite data of the magnetic separation and XRF data were used for the estimation of the variables; CI_yield, MO_yield, NM_yield, CI_TiO2, MO_TiO2, NM_TiO2 and NM_ZrO2. Inverse distance to the power of 3 was used for *in situ* grade interpolation for all the variables.

Calculated attributes were created in the block model for the calculating of the minerals; ilmenite, leucoxene, rutile and zircon according to the ratios in Table 15.

The general aspects of the estimation are as follows:

A minimum of 3 samples and a maximum of 15 samples were used for all inverse distance runs;

Pass 1: search radii set to 100 m for the major and 1 m for the vertical;

Pass 2: search radii set to 600 m for the major and 2 m for thevertical;

Pass 3: search radii set to 1000 m for the major and 10 m for thevertical;

Block discretisation was set to 4(X) by 4(Y) by 4(Z);

One sample limit per drillholewere applied.

The mineral associations for ilmenite (ilm), leucoxene (leu), rutile (rut) and zircon (zir) are calculated with an expression as a calculated attribute (see also section 13.2) in the block model and are shown in the description column in Table 17.

14.2 Relative Density (RD)

No density determinations were done. A relative density (rd) of 1.75 was assigned to the hm_sandmineral type in the Mannar block model. This is a conservative number and a good average of comparative known mineral sand deposits.

14.3 Block Model Validations

14.3.1 Visual Validation

The visual check on the block model sections generally correlate well with the input data. Examples are shown in below in Figure and Figure .

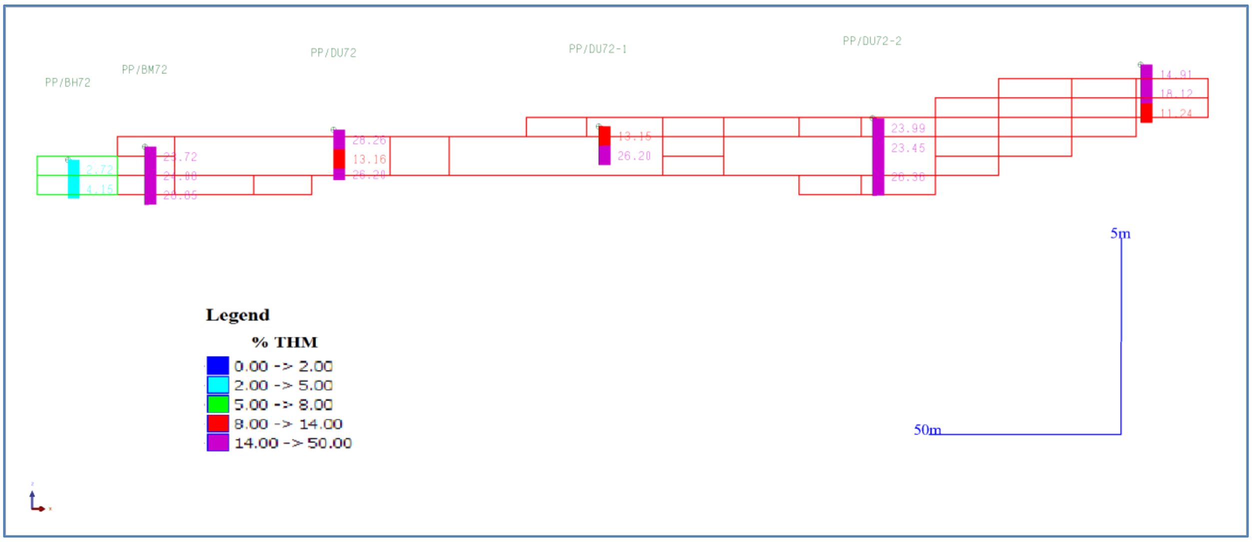

***Figure 14**: Section on EL180 on Mannar showing the input drillhole values of the % THM correlate well with the block model estimates. Vertical exaggerations 10X.*

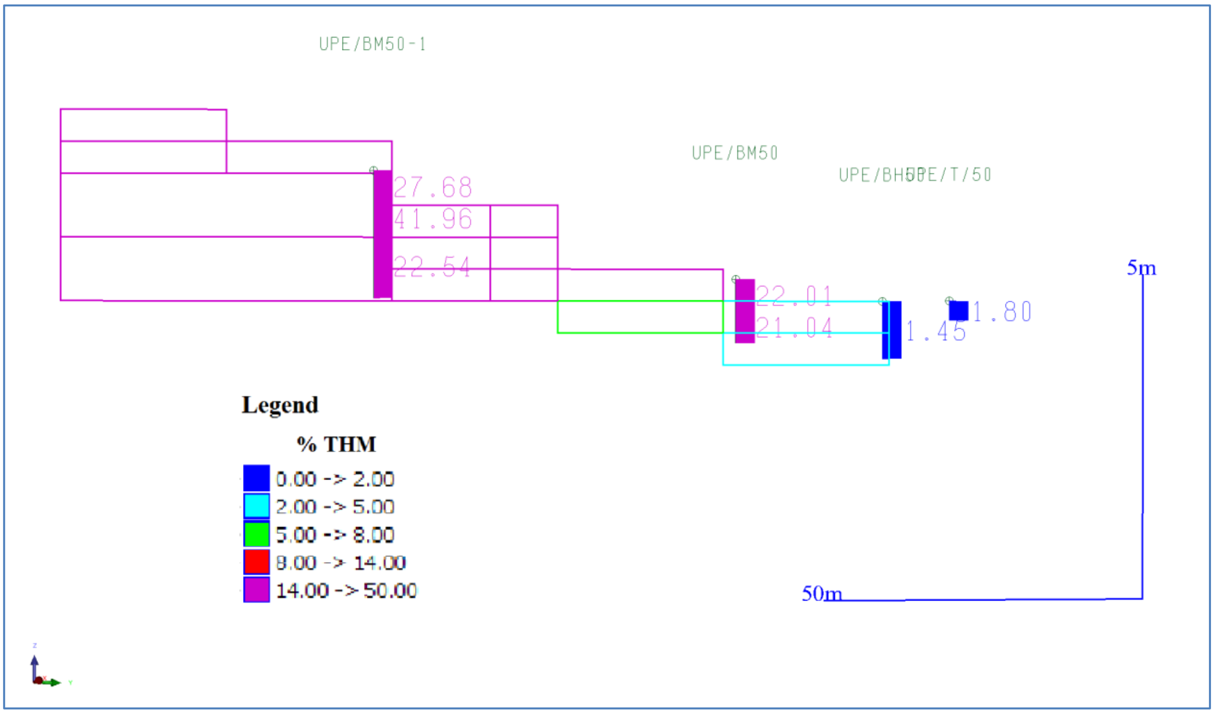

***Figure 15:**Section on EL182 on Mannar showing the input drillhole values of the % THM correlate well with the block model estimates.Vertical exaggeration 10X.*

14.3.2 Average Grade Conformance

Comparisons of global average input composite data (Table 11 and Table 12) with the block model estimated grades of the block model exports (Table 18 and

Table 19) compare reasonably well. The differences can be the result of the high variances in the %THM.

Table 18.Block model exports of EL180 of the estimated grades.

Field	%THM	%Silt	%Oversize	%CI_TiO2	%CI_Yield	%MO_TiO2	%MO_Yield	%NM_TiO2	%NM_ZrO2	%NM_Yield
Num Rec	14483	14483	14483	14483	14483	14483	14483	14483	14483	14483
Minimum	0.08	0.11	0.05	33.36	15.36	6.52	18.55	3.82	1.12	7.28
Maximum	48.89	30.39	60.73	48.62	73.25	22.87	60.11	16.73	22.42	50.49
Mean	7.13	3.36	9.30	44.26	38.84	12.12	36.45	8.74	7.19	24.71
Median	4.44	1.85	8.61	43.59	32.49	11.30	36.34	8.26	4.89	21.83
IQ1	0.77	1.11	0.74	42.25	22.41	9.71	30.65	4.73	1.71	10.84
IQ3	12.44	3.64	13.50	46.96	55.77	14.78	39.39	12.12	12.04	43.81
Variance	54.39	17.29	83.05	9.19	306.35	10.21	67.79	13.12	30.02	203.35
Std Devn	7.37	4.16	9.11	3.03	17.50	3.20	8.23	3.62	5.48	14.26
C.V	1.04	1.24	0.98	0.07	0.45	0.26	0.23	0.41	0.76	0.58
Skewness	1.26	3.19	1.72	-1.01	0.25	0.59	0.53	0.23	0.61	0.42
Kurtosis	5.48	16.12	7.79	4.56	1.52	2.61	3.20	1.80	2.06	1.57

Table 19. Block model exports of EL180 of the estimated grades.

Field	%THM	%Silt	%Oversize	%CI_TiO2	%CI_Yield	%MO_TiO2	%MO_Yield	%NM_TiO2	%NM_ZrO2	%NM_Yield
No sampes	13542	13542	13542	13542	13542	13542	13542	13542	13542	13542
Minimum	0.1	0.16	0.01	35.02	24.41	9.63	6.78	4.26	1.81	14.63
Maximum	51.28	11.8	29.25	50.37	74.89	31.39	37.53	16.46	13.06	39.7
Mean	10.241	2.454	6.392	46.962	48.31	18.547	24.848	8.607	6.074	26.842
Median	9.79	2.25	4.88	47.57	50.91	18.75	25.07	9.054	6.32	25.48
IQ1	5.2	1.18	1.53	45.35	36.66	13.98	19.87	6.31	3.33	21.66
IQ3	14.17	3.28	9.58	48.67	57.42	22.29	29.81	10.66	8.4	32.84
Variance	47.9935	2.5188	30.927	5.2591	154.5462	22.2095	49.6219	7.1309	8.461	43.7564
Std Dev	6.9277	1.5871	5.5612	2.2933	12.4317	4.7127	7.0443	2.6704	2.9088	6.6149
CV	0.6765	0.6466	0.87	0.0488	0.2573	0.2541	0.2835	0.3103	0.4789	0.2464
Skewness	1.0537	0.9385	1.0509	-1.3252	-0.1511	0.081	-0.3196	0.1607	0.2712	0.2969
Kurtosis	6.1174	4.0139	3.8327	6.2416	2.073	2.1959	2.4801	2.4619	2.001	1.8629

15.0 RESOURCE CLASSIFICATION

The resource classification was primarily based on the drillhole density and data type. Only the %THM of the historic drillhole data could be combined with the recent data after a factor of 85% were applied on them to get them in line with the recent drillhole data. All the mineral sand resources were classified as Inferred.

16.0 RESOURCE REPORTING

The *in situ* mineral resource estimations reported from the block model are shown below in Table 20.and in table with a 2% THM cut-off.

Table 20.The Inferred mineral resource estimations for Mannar without a cut-off.

EL Area	Tonnes	%THM	%Silt	%Oversize	%Ilm*	%Leu*	%Rut	%Zir
180	6 667 500	7.43	3.35	10.66	3.46	0.84	0.08	0.15
182	6 914 688	10.19	2.40	6.77	4.77	1.15	0.19	0.25
203	304 063	11.71	2.69	1.15	5.42	1.50	0.25	0.25
Grand Total	**13 886 250**	**8.90**	**2.86**	**8.51**	**4.16**	**1.01**	**0.14**	**0.20**

*Note the percentages could be variable and need to be refined with SEM work.

Table 21.The Inferred mineral resource estimations for Mannar with a 2% THM cut-off.

EL Area	Tonnes	%THM	%Silt	%Oversize	%Ilm*	%Leu*	%Rut	%Zir
180	4 049 063	11.78	1.89	12.06	5.61	1.35	0.13	0.24
182	5 978 984	11.67	2.17	6.79	5.49	1.32	0.22	0.28
203	304 063	11.71	2.69	1.15	5.42	1.50	0.25	0.25
Grand Total	**10 332 109**	**11.71**	**2.08**	**8.69**	**5.54**	**1.34**	**0.18**	**0.26**

*Note the percentages could be variable and need to be refined with SEM work.

17.0 COMPLIANCE WITH THE JORC CODE ASSESSMENT CRITERIA

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
Sampling Techniques *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.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *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.*	A hand-auger specifically manufactured for the project was used for auger drilling. The bucket was designed to be able to do 0.5 m samples per drill run. 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. The full sample from the auger bucket was collected in a plastic sample bag and assigned an Alpha numerical sample number. All samples were transported to Colombo after completion of drilling. Samples were riffled and homogenized before they were reduced to a ca. 1.5 kg size by using the riffle splitter. This size is seen as large enough to be representative of the original intersection. All samples from the drilling program were prepped, even samples perceived to be low grade. All the samples were packed for transport. 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.
Drilling Techniques *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).*	A hand-auger specifically manufactured for the project was used for auger drilling. The bucket has a diameter of 100mm. 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.

JORC Code Assessment Criteria	Comments
	One meter drill rod extensions were used, with sufficient extensions on site to drill to 4m. The deepest auger hole drilled was NS06 drilled within EL182 to 3.70m.
Drill Sample Recovery	
Method of recording and assessing core and chip sample recoveries and results assessed. *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *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.*	Care was taken that a full 0.5 m drill run resulted in a full sample bucket. Re-drilling took place where this was not the case, or the hole and sampling stopped where sample recovery became a problem. The sample recovery or penetration problems were either linked to the shallow water table, or the limits to drilling depth with the hand held auger.
Logging	
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.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc), photography.* *The total length and percentage of the relevant intersections logged.*	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. Paper log information was transferred every night to an excel spreadsheet.
Sub-Sampling Techniques and Sample Preparation	
If core, whether cut or sawn and whether quarter, half or all core taken. *If non-core, whether riffled, tube sampled, rotary split, etc, and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	The full samples were riffled and homogenized using a single layer riffler. The samples were then reduced to a ca. 1.5 kg size by using the riffle splitter. A duplicate sample was riffled from every 20th sample, i.e. 5% of the total. The riffler was thoroughly cleaned after each sample.
Quality of Assay Data and Laboratory Tests	Analytical work on the tetrabromoethane (TBE) based THM determination and subsequent magnetic separation work is done by Scientific Services C.C., Cape Town. XRF work is done on the fractions of the magnetic separation samples. The determination of %THM sample concentrate using TBE at a specific gravity (SG) of 2.95, as well as the desliming work, are as follows: TBE is placed into the glass flask up to the indicated mark.
The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. *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.* *Nature of quality control procedures adopted*	

JORC Code Assessment Criteria	Comments
(e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	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. 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. The sample once received and reviewed with paperwork is then weighed. Water and NaOH (0.2%) is added to the sample – approximate 3:1 (H20: Sample). Attrition for 10minutes. The sample is then wet screened through 1 mm and 45µ screens. Ensure that both screens are clean and free from any damage. If damage is evident - report this sieve to the QC. Place the +1 mm and the -1mm, +45µ, sample into stainless steel pans with tags representing the sample number. These trays are then placed in an oven for drying. The -45µ is discarded in the wet screening process. The dried samples are weighed to determine the % oversize and % slimes fractions. Depending on clients request the sample is either split with a Rotary Splitter or the entire sample is sent through for THM.
Verification of Sampling and Assaying *The verification of significant intersections by either*	23% of the drilling that took place weretwinned historic boreholes on the project.

JORC Code Assessment Criteria	Comments
independent or alternative company personnel. *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	QAQC of all the work done performed by JN Badenhorst and FJ Kruger of GeoActiv.
Location of Data Points	Data and work was done in Lat Long, WGS84. A hand held Garmin GPS was used for the positioning and final position of the auger holes. The X and Y coordinates were collected and entered into the project spreadsheet. The Z data were found to be very inaccurate. A GeoEye satellite based Digital Terrain Model (DTM) study has been initiated. The X and Y coordinates of the boreholes was used to elevate the boreholes 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.
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. *Specification of the grid system used.* *Quality and adequacy of topographic control.*	
Data Spacing and Distribution	Historic drilling by Sri Lanka Geological Survey and Mines Bureau (GSMB) took place at 200 m inter-line spacing, perpendicular to the coast line. Drilling rarely reached further that 150 m inland from shoreline. The new drilling program aimed to verify historic data in mostly higher grade areas, but also checking some lower grade areas, by at least one borehole every 500 m inter-line spacing. Several new auger holes were drilled further inland to check for mineralization. Holes deeper inland were generally <300 m from the coast line, but in EL182 some drilling took place 1,000 m from the coastline.
Data spacing for reporting of Exploration Results. *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.* *Whether sample compositing has been applied.*	
Orientation of Data in Relation to Geological Structure	Drilling took place in fences perpendicular to the coast line, in the tidal, beach and berm zones. Some drilling were further inland.
Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. *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.*	
Sample Security	All sampling, prep and packing work took place under supervision of a GeoActiv geologist. A representative from the Analytical laboratory, Scientific Services CC, collected the samples from the airport in Cape Town, South Africa. The GeoActiv geologist spent two days at the laboratory sorting the samples and getting them ready for analyses, in the process making sure all samples did arrive at the laboratory in acceptable condition.
The measures taken to ensure sample security.	
Audits and Reviews	

JORC Code Assessment Criteria	Comments
The results of any audits or reviews of sampling techniques and data.	Statistical analyses of the QAQC samples were conducted by GeoActiv. No other audits or reviews have taken place.
Mineral Tenement and Land Tenure Status	
*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.* *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.*	EL180 and EL182 are wholly owned by Supreme Solutions (Pvt) Ltd, the licences are valid to 1 September 2015. The opinion on tenure mentioned above was produced by a legal company in Sri Lanka called Varners. Srinel Holdings Limited is the legal and beneficial owner of all of the fully paid ordinary shares in the capital of Singha Lanka Investments (Private) Limited which in turn is the legal and beneficial owner of all of the fully paid ordinary shares in the capital of Supreme Solutions Limited, the holder of the exploration licences in Sri Lanka.
Exploration Done by Other Parties	
Acknowledgment and appraisal of exploration by other parties.	Between October and November 2011, a fieldwork exploration program was completed in EL180 and EL182 by personnel of the GSMB. An auger drilling and sampling program took place across the tidal, beach and berm zones throughout much of the licences at a spacing of 10 to 60 m on lines 200 m apart, perpendicular to the coastline. The auger drilling was done utilizing a hand-held auger machine, with drilling depth limited by the generally shallow water table and the limits to drilling depth set by the drilling technique. The auger sampling program only encompassed a narrow section of the foreshore sediments, with very few auger holes located in the backshore sediments. All of the auger samples collected by the GSMB were provided to Supreme and subsequently submitted to the VV Minerals (Pvt) Ltd laboratory in Tamil Nadu, India for mineralogical analysis.
Geology	
Deposit type, geological setting and style of mineralisation.	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, Wanni and Vijayan Complexes. The heavy minerals ilmenite, rutile, zircon, sillimanite and garnet commonly occur in the coastal sands. Mineralization is high in the tidal, beach and berm areas, but can also be seen inland on Mannar Island.
Database Integrity	
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	The data were captured in Excel spreadsheets. GeoActiv performed validation checks on all the data and analyses before it was used in modelling.

JORC Code Assessment Criteria	Comments
Mineral Resource estimation purposes. *Data validation procedures used.*	
Site Visits	
Comment on any site visits undertaken by the Competent Person and the outcome of those visits. *If no site visits have been undertaken indicate why this is the case.*	The Competent Person, JN Badenhorst, visited the exploration sites during the auger drilling phase in 2014.
Geological Interpretation	
Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. *Nature of the data used and of any assumptions made.* *The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation.* *The factors affecting continuity both of grade and geology.*	All the drillhole intersections were considered as the mineralization envelope from surface to the end of holes. The shoreline or a.m.s.l. were taken as the boundary of the mineral sand resource on the seaside and a 50 m inland boundary from the dense drilled drillholes. The current drill spacing provides sufficient degree of confidence in the interpretation and continuity of grade for an Inferred Mineral Resource.
Dimensions	
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.	The extents of the mineralization were in the EL182 - EL203 licence area, 20 300 m x 100 m x 1 m and in the EL180 licence area, 31 700 m x 100 m x 1 m.
Estimation and Modelling Techniques	
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. *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* *The assumptions made regarding recovery of by-products.* *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulfur for acid mine drainage characterisation).* *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* *Any assumptions behind modelling of selective mining units.* *Any assumptions about correlation between variables.* *Description of how the geological interpretation was used to control the resource estimates.* *Discussion of basis for using or not using grade cutting*	The block sizes that were created were100 m X 100 m X 2 m and with minimum sub blocking of 25 m X 25 m X 0.5 m. Inverse distance to the power of 3 was used for *in situ* grade interpolation for all the variables. The general aspects of the estimation are as follows: A minimum of 3 samples and a maximum of 15 samples were used for all inverse distance runs; Pass 1: search radii set to 100 m for the major and 1 m for the vertical; Pass 2: search radii set to 600 m for the major and 2 m for the vertical; Pass 3: search radii set to 1000 m for the major and 10 m for the vertical; Block discretisation was set to 4(X) by 4(Y) by 4(Z); One sample limit per drillhole were applied; and The mineral associations for ilmenite (ilm), leucoxene (leu), rutile (rut) and zircon (zir) are calculated with an expression derived from the mineralogical investigation. The model was validated visually and statistically. The result of the validation shows that the interpolation has performed as expected and the model was a reasonablerepresentation of the data

JORC Code Assessment Criteria	Comments
or capping. *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	used and the estimation method applied.
Moisture	
Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	All tonnages were based on volume measurements converted to tonnes using a dry bulk density of 1.75.
Cut-off Parameters	
The basis of the adopted cut-off grade(s) or quality parameters applied.	The tabulated resources are based on cut-off grades of 2%THM.
Mining Factors or Assumptions	
Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. *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.*	No assumptions were made regarding possible mining methods.
Metallurgical Factors or Assumptions	
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.	The analytical results and mineralogical analyses could be the basis for the metallurgical extraction methods.
Environmental Factors or Assumptions	
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 of the environmental assumptions made.	GeoActiv has not investigated and is not aware of any environmental issues that would affect the eventual economic extraction of the deposit.
Bulk Density	

JORC Code Assessment Criteria	Comments
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. *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.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	The Relative Density (RD) was not determined and it is planned to be conducted with the follow-up phase drilling. An average dry bulk density valueof 1.75 was applied to the resource model. This is a very conservative and average known density for mineral sand deposits and can be as high as 1.95 with the higher %THM in areas.
Classification	
The basis for the classification of the Mineral Resources into varying confidence categories. *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.* *Whether the result appropriately reflects the Competent Person(s)' view of the deposit.*	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 and quality of drilling and sampling information.With the down adjustment of the historic %THM by a factor of 85% of the original value and the lack of density measurements, made the Mineral Resource been classified as Inferred.
Audits or Reviews	
The results of any audits or reviews of Mineral Resource estimates.	No independent reviews of the Mineral Resource estimate have been conducted to date.
Discussion of Relative Accuracy/Confidence	
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. *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.* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	This is a global resource with no production data.

18.0 COMPETENT PERSON'S STATEMENT

The Competent Persons responsible for the sampling process, geological interpretation (wireframe model), Mineral Resource estimation and classification of the Mannar Mineral Sand Deposits is 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.

19.0 CONCLUSION AND RECOMMENDATIONS

Based on the resource estimations reported in Table 20 and Table 21, the averaged mineral assemblage percentages for the valuable heavy minerals (VHM) are shown in Table 22 and table per EL area, and are expressed as a percentage of the THM.

Table 22.Mineral assemblage percentages of the VHM based on the resource estimation without a cut-off.

		VHM Mineral Assemblage % of the THM			
EL Area	**%THM**	**%Ilm***	**%Leu***	**% Rut**	**% Zir**
180	7.43	46.6	11.3	1.1	2.0
182	10.19	46.8	11.3	1.9	2.5
203	11.71	46.3	12.8	2.1	2.1
Grand Total	**8.90**	**46.7**	**11.3**	**1.6**	**2.2**

*Note the percentages could be variable and need to be refined with SEM work.

Table 23. Mineral assemblage percentages of the VHM based on the resource estimation with a 2% THM cut-off.

		VHM Mineral Assemblage % of the THM			
EL Area	**%THM**	**%Ilm***	**%Leu***	**% Rut**	**% Zir**
180	11.78	47.6	11.5	1.1	2.0
182	11.67	47.0	11.3	1.9	2.4
203	11.71	46.3	12.8	2.1	2.1
Grand Total	**11.71**	**47.3**	**11.4**	**1.5**	**2.2**

*Note the percentages could be variable and need to be refined with SEM work.

GeoActiv recommends the following:

1. More infill drilling in the areas above 2% THM to upgrade the resource into higher confidence categories.
2. To utilize a drilling technique during future exploration that allows significantly deeper penetration, hence test the depth extent of the mineralisation.
3. To conduct drilling inland of the narrow zone covered by historic and current exploration.
4. To conduct more mineralogical investigation on the magnetic separation fractions and in more areas. This work should include SEM and QEMscan, as well as optical and stereo microscopy.
5. To quantify areas with human activities (predominantly fishing) within the license areas.

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