Annual Technical Report

GLOBE MINERAL RESOURCES INVESTMENT

GR 244/14 "Kulgera Heavy Mineral Project" Group Annual Report for the Period 14/01/2015 to 13/01/2016

Submitted By
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Geologist
Unearthed Elements

For:
Globe Mineral Resources Investment
18/82 Nightcliff Rd
Rapid Creek,
NT

Commodities: Magnetite,Ilmenite, Zircon, Rutile
250K Mapsheets: Ayers Rock, Kulgera
100K Mapsheets: Curtin,Mulga Park, Angas, Sentinel Bore, Victory

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Digital Data Files

Type of File	Description of file	Name of title	File name
Report File	Group ATR main body	GR244_2016_GA	GR244_2016_GA_01.pdf
Appendix 1	Project Valuation	CSA Global Valuation	GR244_2016_GA_02_Appendix1.pdf
Appendix 2	Project financial modelling	Proof of Concept	GR244_2016_GA_03_Appendix2.pdf
Appendix 3	Engineering modelling	CSA Global Memo	GR244_2016_GA_04_Appendix3.pdf
Appendix 4	Metallurgical Report	GZRINM Bulk Sample Report	GR244_2016_GA_05_Appendix4.pdf

ABSTRACT

GMRI have continued to develop the Kulgera HM Project located in the southern part of the Northern Territory along the South Australian border. GMRI have to date committed a significant amount of expenditure culminating in a large HM mineral resource. External consultants have assisted with independent validation of the project, resource estimations, evaluation and assessment of the economic potential.

During the reporting year, GMRI has received the results from bulk metallurgical test work that was carried out by Guangzhou Research Institute of Non-ferrous Metals ("GZRINM"). Field reconnaissance was also carried out in conjunction with a review of all recent and historic geochemical and drilling data. GMRI have also continued to assess the economic drivers of the project and have researched various mining methodologies and mineral processing and transportation options for the project.

Three of the four project tenements were due to expire on the 13/01/2016. An application for renewal was made for these tenements along with a partial reduction in area that was included in the submission accompanying the renewal documents.

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1 Introduction

1.1 Preamble

The Kulgera Heavy Minerals Project (KHMP)is a mineral sands project located in the southernmost part of the Northern Territory about 150km by road west-south west of Kulgera Roadhouse. The location of the project presents several challenges not normally associated with mineral sand deposits which are more commonly located closer to the coast. The area of the project is remote, there is no infrastructure other than a well maintained “public” dirt road. The road is near the end of its life as it is now more of a graded gully than a free draining road.

Work completed by GMRI on the KHMP consists of:

2011: In October 2011, GMRI sent a field team to the license area for the purpose of collecting soil samples.

2012: During 2012 sufficient drilling, sampling and sample test work was completed to define a JORC reportable resource of 2.3 billion tonnes of inferred mineralization at 4.2% HM with another 2.1 billion tonnes at 4.1% HM possibly present. Both figures were calculated with an SG of 1.59, a cut-off grade of 2% and apply to only one of three prospects located in the tenement area.

2013: The geological logging and TBE separations resulted in the delineation of an area that appears to be higher-grade material. The focus of the exploration work in 2013 has been to define the zone of higher-grade mineralisation and undertake sufficient work to lift the JORC reportable resource to an indicated category. At the end of 2013 the projects resource base stood as shown in the table below.

Table 1. JORC compliant 2012 & 2013 resource estimations

Estimate Year	**Inferred**	**Unclassified**	**SG**	**Cut-off**
2012	2.3 Bt @ 4.2% HM	2.1Bt @ 4.1% HM	1.59g/cm^3	2% HM
2013	2.46Bt @ 4.2% HM	34 Bt @ 4.1% HM	1.7g/cm^3	2% HM

2013	**Inferred**	**Indicated**		
Blu e Domain	135.2Mt @ 6% HM	210.7Mt @ 6.5% HM	1.7g/cm^3	~4% HM
Red Domain	39.7Mt @ 6.8% HM	110.7Mt @ 7.4% HM	1.7g/cm^3	~6% HM

2014: Work completed consisted of a project valuation, several Proof of Concept financial models were constructed and a 3 tonne bulk sample was compiled from the Air-core drilling samples and sent to China for metallurgical classification and assessment.

2015: Work completed consisted mainly of assessing the economic potential of the project. This work, some of which is on-going has demonstrated the project does have the potential to progress to a feasible mine,and the metallurgical test work was completed

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1.2 Location and Access

The Kulgera Heavy Minerals Project is located to the west of the Stuart Highway on the Northern Territory, South Australian border, See Figure 1.

Access to the project area from Alice Springs is south for approximately 300km to the Mulga Park Road turnoff; 1km north of the border. Following the Mulga Park Road for 120km to the west will place you in the vicinity of the "Arrakis" prospect area

1.3 Tenure

The Kulgera Heavy Mineral Project is comprised of four granted exploration licenses. All of the tenements are owned 100% by GMRI. Originally the granted EL's 27417,27418,27419 were owned by Imperial Granite and Minerals (IGM) and were sold to Universal Splendid Investments. Universal returned the tenements to Imperial when their corporate focus changed. In 2011 GMRI purchased the licenses. EL29274 was applied for and granted in 2012 to GMRI.

EL's 27417, 27418, and 27419 have been reduced in 2014 to the current area.The details of the licenses are shown in Table 2. With the tenements expiring in Jan 2016, a application for renewal was lodged for these three tenements which included a reduced number of blocks.

Details are tabulated below.

Table 2. Tenement details and 2016 Renewed Blocks

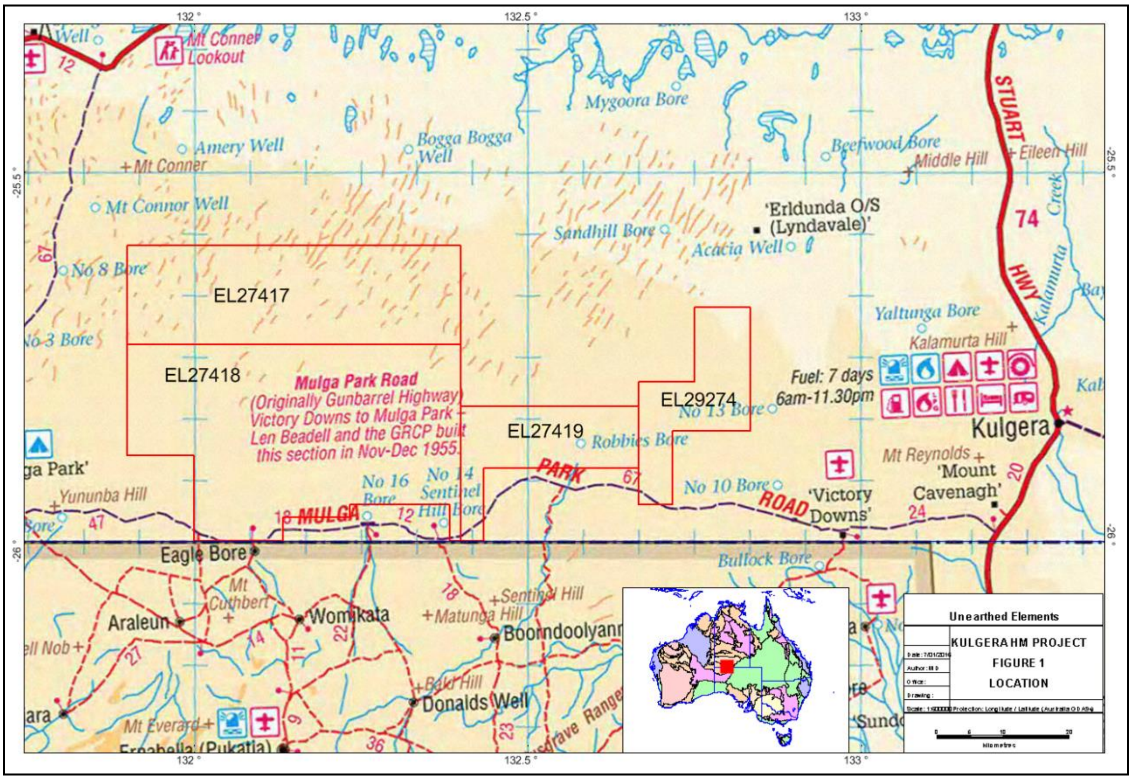
Ten no.	Blocks Granted	Blocks Retained 2014	Blocks Renewed 2016	Grant Date	Expiry Date
27417	480	240	48	14/01/2010	13/01/2016
27418	480	399	184	14/01/2010	13/01/2016
27419	208	92	40	14/01/2010	13/01/2016
29274	182	182	182	7/08/2012	6/08/2018
TOTAL	**1350**	**913**	**454**		

1.4 Landform and Usage

The landform in the area is predominantly flat with sand dunes to 12 metres. The biggest dunes are found in the north of the licenses. Large areas are open grassland with zones of thick Acacia / mulga stands in between.

All of the exploration licenses are located on pastoral leases. The stations concerned are Victory Downs, Mulga Park, Lyndavale and Curtin Springs. To date all of the work done has been on Victory Downs and Mulga Park. All four Stations are involved in the cattle industry.

Figure 1: Licence locations



2 Back Ground Information

2.1 Regional Geology

The area covered by the four exploration licences lies on the Northern Territory, South Australian border and contains rocks belonging to the Musgrave Block and the Amadeus Basin. Drainage flows from the outcropping Musgrave Block north and northeast into the Amadeus Basin which is typically covered by a thin layer of Aeolian sand, figure 2.

The Musgrave Block comprises numerous Mesoproterozoic geological units, including mafic-ultramafic dykes, plugs and layered intrusions of the 1080 Ma Giles Complex. The Musgrave Block also has extensive felsic intrusives such as the 1190 Ma Pitjantjatjara Suite. It is considered that the mafic-ultramafic units are a source for magnetite and ilmenite whilst the felsic intrusive may source zircon and rutile. The Musgrave Block has been extensively metamorphosed to gneissic-grade and mylonite zones are common. Large pegmatites occur within the gnessic, granite terrains.

The Amadeus Basin, in the area of interest consists of Neoproterozoic sandstone belonging to the Inindia and Winnall Beds. Both units consist of sandstone with lesser pebbly sandstone and conglomerate. They are massive too well bedded and sometimes ferruginised.

Overlying the Musgrave and Amadeus sequences is a variably thin layer of Quaternary sediments. These consist of Aeolian sands, Colluvium, sheet flood plains and Calcrete.

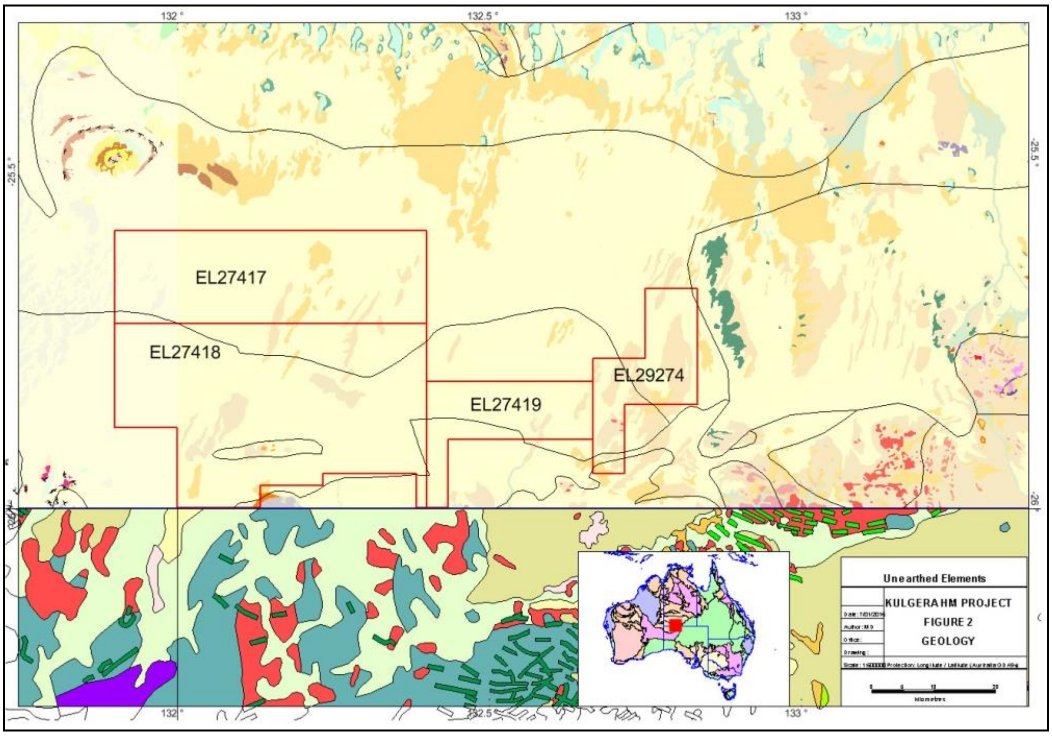


Figure 2: Geology map(from NTGS)

2.2 Previous Exploration

There has only been a minor amount of exploration activity within the license area. Prior to the first modern explorers the only activity would have been prospectors looking for obvious, outcropping mineralisation.

The first modern explorers were Otter Resources who operated gold mines in the Tanami Goldfield. Their exploration interest was purely for gold hosted by the Sentinel Beds. In all, they drilled 103 Postholes along three traverses. They only assayed their samples for gold. In their reports they mention that some holes intersected manganiferous clays and calcrete. No mention of any accumulations of heavy minerals was made.

The most significant exploration work done in the area has been completed by Mithril Resources. Mithril, as an exploration company specialise in Nickel sulphides and their exploration in the area of interest focused on this. In a period of two years Mithril collected over 1500 magnetic-fraction soil samples, (see figure 3). The reports do not detail the exact method of sample collection but a rare-earth powered permanent magnet was used. In general, magnetic fraction samples are collected by dragging a permanent magnet, inside a plastic bag or similar item, over the ground.

Mithril's data recording is insufficient to allow for the direct delineation of the heavy mineral potential but it does suggest areas where exploration could be focused.

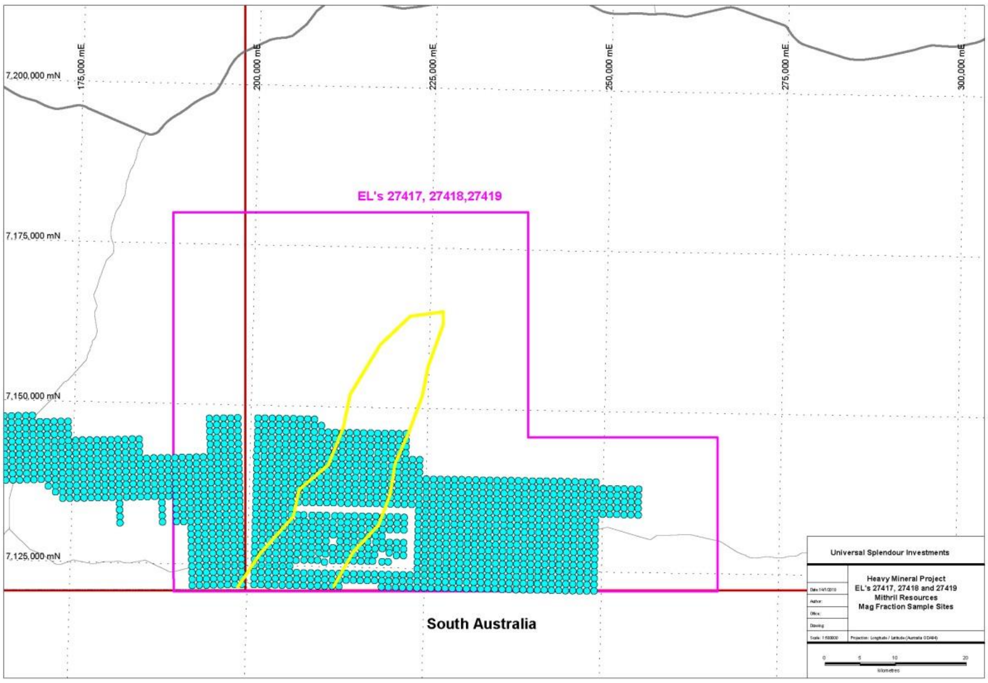


Figure 3: Mag-fraction Soil Sites

Figure 4 shows the same data as figure 3; however the data has been coloured to reflect the titanium content. Yellow shows the magnetic-fraction samples that contain over 2% titanium. The pink coloured sites produced samples that contain over 5% titanium. Examination of figure 4 shows the higher-grade titanium samples are concentrated in the western side of the licence area.

In late 2006, Dr Mike Green collected 34 bulk samples from one long east-west traverse across the area. The samples were collected by removing the top 200mm of sand and then extracting the sample. The samples weighed between 2.9 and 10.4kg. The samples were sent to Diamantina Laboratories (Perth) were they were separated using the heavy liquid tetra-bromo ethane (TBE). The heavy mineral fraction was further separated into 4 parts: magnetite, magnetic, paramagnetic and non-magnetic. The magnetite and magnetic fractions were combined and assayed. The combined fraction represented between 1.06% and 9.45% of the sample and assayed up to 16% titanium. More recent work has indicated that a titanium-rich fraction can be recovered magnetically from the heavy mineral concentrate.

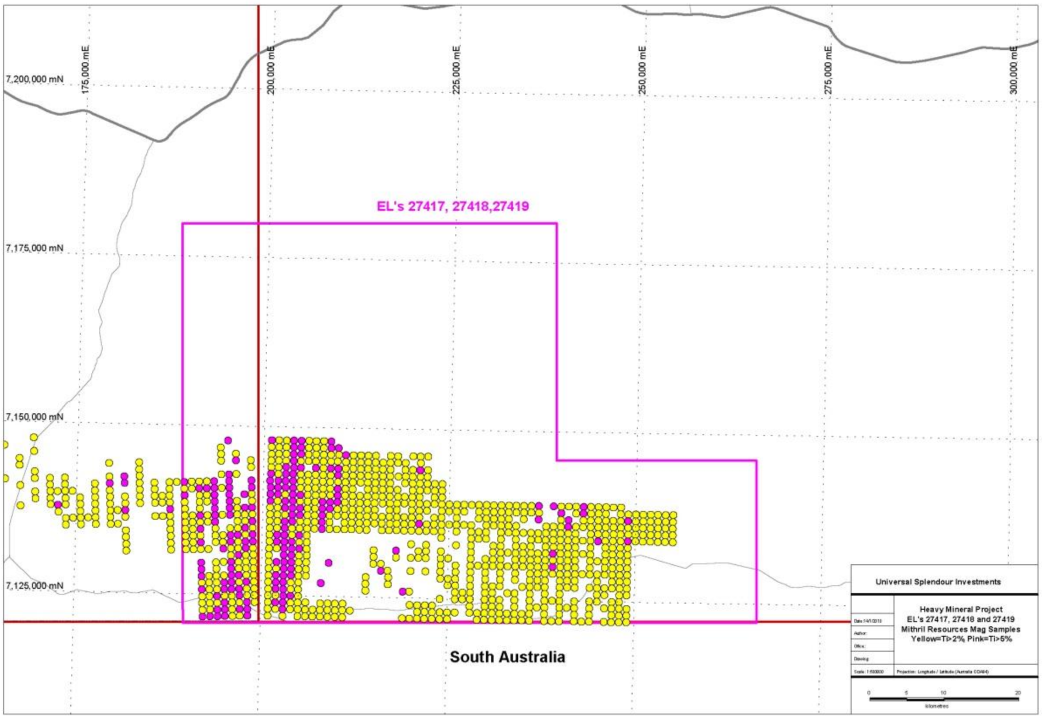


Figure 4: Titanium Content

In 2010 USI completed a detailed compilation of the previous exploration work as described above and then undertook a reconnaissance soil sampling program. The soil sampling was undertaken to confirm the tenor of results obtained by Mithral and to provide an initial sample for preliminary metallurgical test work in China.

In all, a total of 57 soil samples were collected and sent to Diamantina Laboratories in Western Australia for preliminary heavy mineral assessment. The samples were collected in the field using a shovel from surface. The samples were not sieved in the field or prepared in any way. Most samples were slightly moist when collected and dispatched. The simple sample collection method was used to provide material that was as-close-as possible to the normal sand found in the region. The sampling employed by Mithral may have provided concentrates of magnetic material and other non-magnetic phases may have been left behind. Figure 5 shows the sample distribution and the percentage of TBE sinks for each sample.

Approximately one kilogram of material was collected at each sample site. At the laboratory each sample was dried at 120 degrees centigrade before being disaggregated, mixed and weighed. A 250 gram split was taken and deslimed through a 53 micron mesh. The results of the size analysis are shown in Table 1. There was no material in any of the samples in the +2mm sizing. On average 86% 0f the material lies in the -2mm +53 micron range with the rest reporting in the -53 micron fraction.

An approximately 100 gram split of the -2mm +53 micron material was separated using tetrabromoethane (TBE) which has an SG from 2.92 to 2.96 grams / centimetre cubed. The sink fraction was dried and weighed and the total percentage of sinks calculated for the total sample.

The analytical work shows that all of the samples collected contain over 2% total sinks with an average value of 4.91%. The lowest result was 2.39% and the highest 8.95.

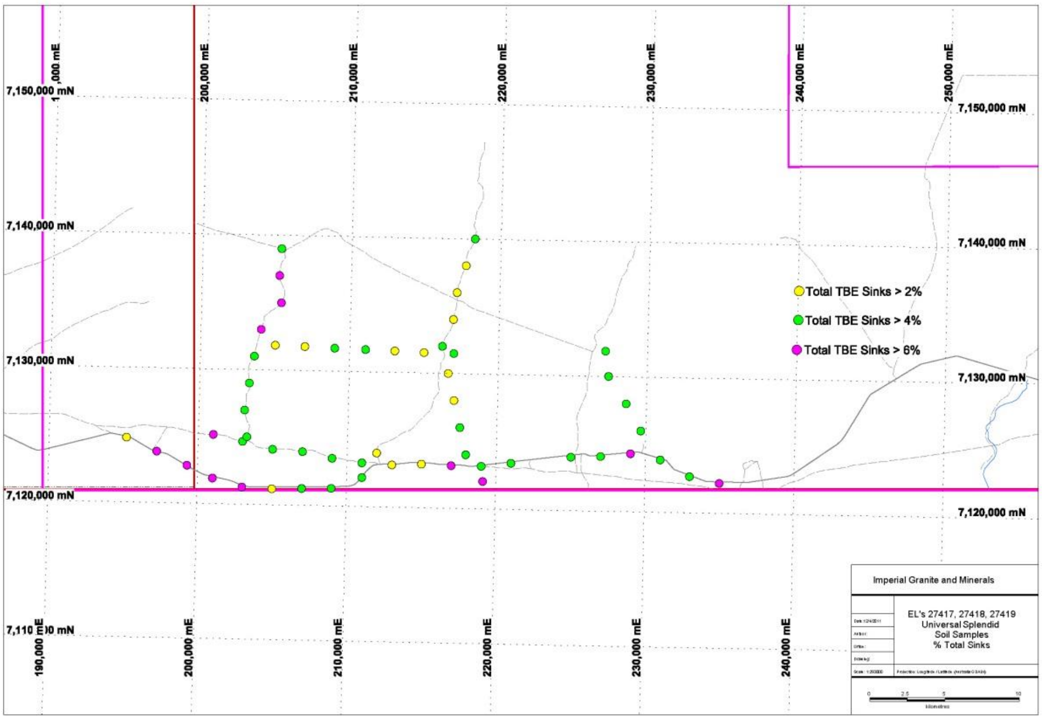


Figure 5:USI Sample Distribution

2.3 Exploration by GMRI 2011

In October 2011, GMRI sent a field team to the license area for the purpose of collecting soil samples.

In all, a total of 50 samples were selected from along the road side but away from the actual road way. The samples were freighted to Darwin and delivered to Bureau Veritas-Amdel for preliminary metallurgical assessment and assay. The previous sample processing completed by Northern Mining had followed a traditional mineral sands path (mixed, rutile, zircon, ilmenite etc) but their results indicated that the most likely product would be slag iron-titanium. A slag product is essentially an iron ore with titanium credits. Thus it was decided to employ iron ore specific sample processing methods.

The samples were collected at intervals of approximately 500m as shown on Figure 6, locations were recorded by GPS, (MGA 94). The samples were collected by spade, from surface and placed, unsieved into numbered calico bags. The samples were placed into protective polyweave sacks for storage and transporting. Approximately 6 samples were placed in each sack. The samples were mostly dry although slight moisture content was noted in a few samples.

Samples 49 and 50 were collected as “special” samples and were used to make up the concentrate material sent to China for metallurgical test work. The concentrate sent to China was firstly made by carefully sampling the highest-grade mineral sands recognised in the field. When the samples arrived in Darwin a hand held magnet was used to separate the magnetic material from the typical, red desert sand.

The GMRI geologists recognised early on that the Kulgera Heavy Mineral deposit is located in a different geological setting than the “standard” deposits such as those located on the Western Australia or Queensland coasts. As such, it was decided to treat the sample to a test regime to measure the physical properties rather than just follow the proscribed heavy mineral treatment regime.

Previous work by Northern Mining and USI had demonstrated that TBE can be used to produce a concentrate containing a reasonable titanium content. It was decided to test the material using the wet high-intensity magnetic separation technique (WHIMS) often used to beneficiate iron-ore. One major consideration was the projects location and the scarcity of water which may make conventional gravity separation methods problematic.

The sample processing undertaken is described in detail below. All of the test work was performed by Bureau Veritas - Amdel at their Adelaide facility under the guidance of Terry Dermis, Project Metallurgist.

The previous exploration completed by Northern Mining and Universal Splendid Investments has followed a path commonly used at heavy mineral deposits located in coastal Australia. Their work showed the Kulgera Project material is basically mono-mineralic and the only commercial product that can be made is a iron-titanium slag. As such the GMRI samples were investigated for their material properties and by magnetic separation techniques.

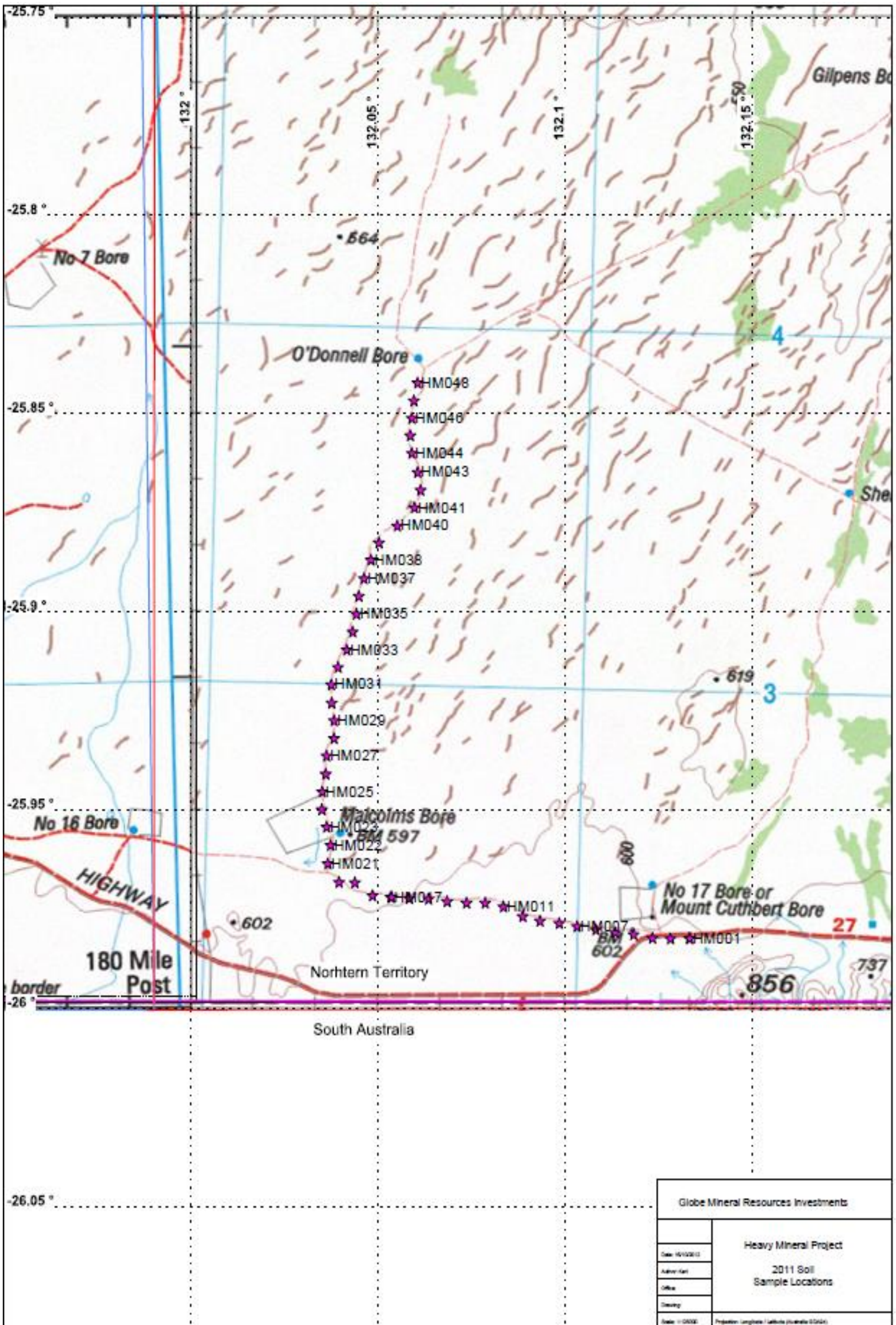


Figure 6: GMRI Sample Locations

The sample processing revealed that:

- There is very little material coarser than 0.6mm in the samples and the coarser material contains very little titanium. The same applies to the material finer than 0.053mm. Thus the drilling samples should be sieved to -.6mm+0.053mm.

- The WHIMS technique is one method widely used to beneficiate iron ore. The WHIMS technique was used to produce an iron rich concentrate and analysis of the concentrate showed it contained more titanium than the Northern Mining samples that were separated by Heavy liquid.

- Neither the WHIMS magnetic technique nor the heavy liquid separation technique as applied are capable of making a commercial concentrate on their own.

- The mineral identification work has demonstrated that the light portion of the samples is dominated by quartz and feldspar whilst the heavy component is mostly magnetite and haematite. Both contain titanium. There is an insufficient amount of any other mineral present to be potentially economic.

- The Davis Tube Recovery method was used to see at what field strength a commercial quality product could be made from a wet screened and magnetically separated sample. At about 3000 gauss the total iron and titanium content is about 90% and the contaminants about 10%. At lower field strengths the contaminant content is too high for the material to sell into the iron ore market.

- Following the failure of the magnetic methods to produce a saleable product it was determined that future work would investigate the heavy media separation methods but using screen sizes more appropriate to the samples

3 Exploration by GMRI in 2012

3.1 Soils Sampling

During one of the several break down periods experienced in the first drilling program, (Section 4) a soil sampling program was undertaken to investigate the extent of mineralisation away from the prospect area. 76 samples were collected from along fence lines with location control provided by hand held GPS. The sample locations are shown on Figure 7.

The samples were collected in the same manner as those collected by GRMI in 2011. That is, the surface was scrapped to remove organic matter and the sample was collected from surface using a shovel. Each sample was placed into a pre numbered calico bag and then stored in a poly-weave sack for transporting.

The samples were dispatched to Diamantina Laboratories in Perth for sieving and heavy liquid separation. Upon arrival at the laboratory the samples were dried and weighed. A 200g split was taken and wet screened to -0.6mm+0.53um. The weight of the oversize was recorded after drying and the weight of the -0.53um material calculated. The -6mm+0.53um fraction was separated using TBE and the weight of the sinks and the percent of sinks in the total sample was calculated.

Although a brief program, the sampling did show that significant amounts of heavy mineral existed well beyond the limits of the previous work. The results were the catalyst for the much broader magnetic fraction sampling that followed.

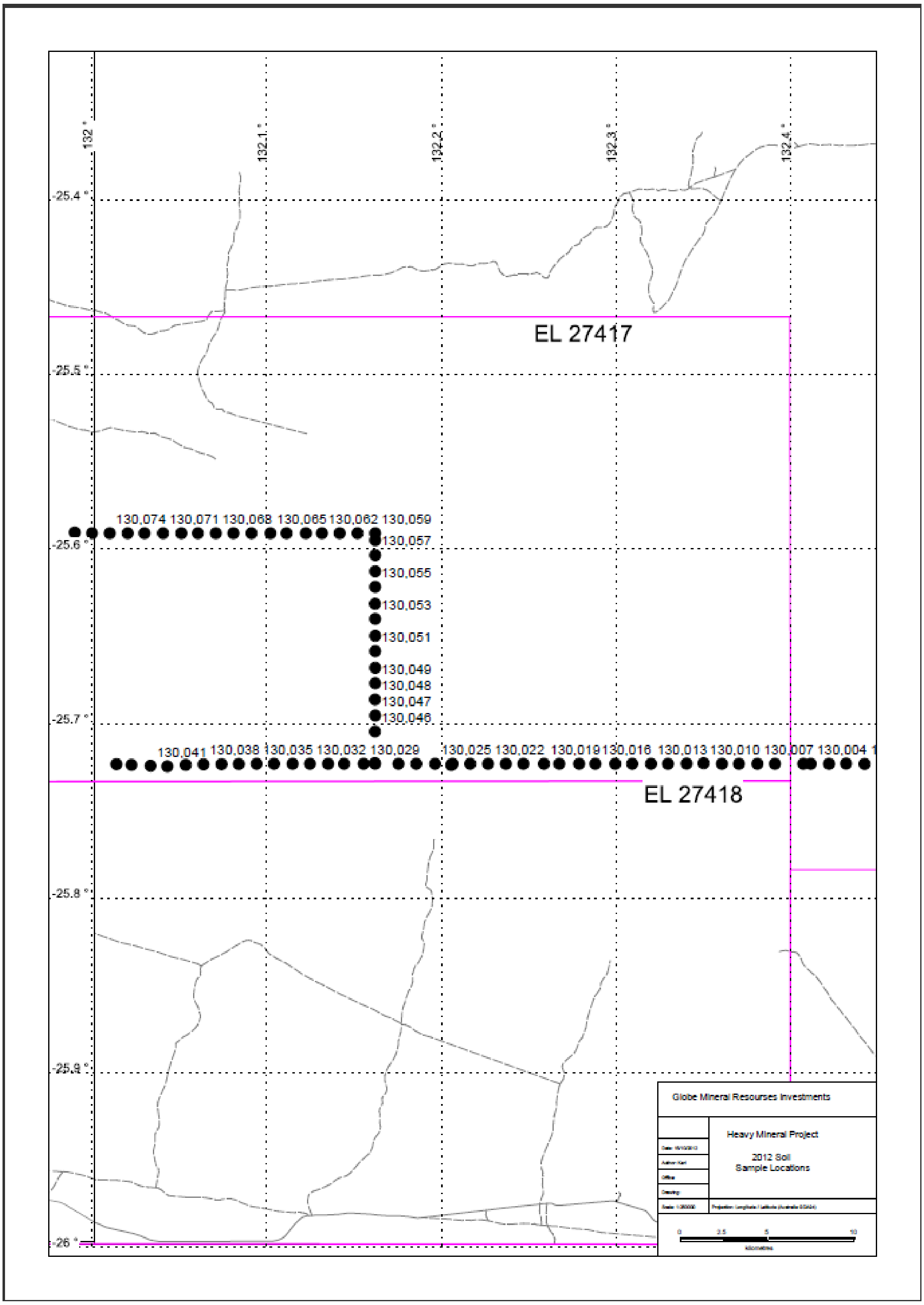


Figure 7: GMRI Soil Sample Locations 2012

3.2 Magnetic Fraction Sampling

The initial soil sampling work completed by Mithril Resources (see figure 3) demonstrated that a magnetic fraction soil sample could be used to delineate areas with elevated titanium content. To allow the Mithril data to be compared to the new work a soil sampling program using the same technique was undertaken. Assaying the samples is also a lot cheaper and quicker than heavy liquid separation.

The exact sampling method employed by Mithril is unknown however it is known that the samples were collected from surface using a permanent magnet. Their samples were assayed by Amdel using an ICP method. In conversation with Amdel staff the Mithril assay code was discussed and the IC3E method used by GMRI is the modern equivalent.

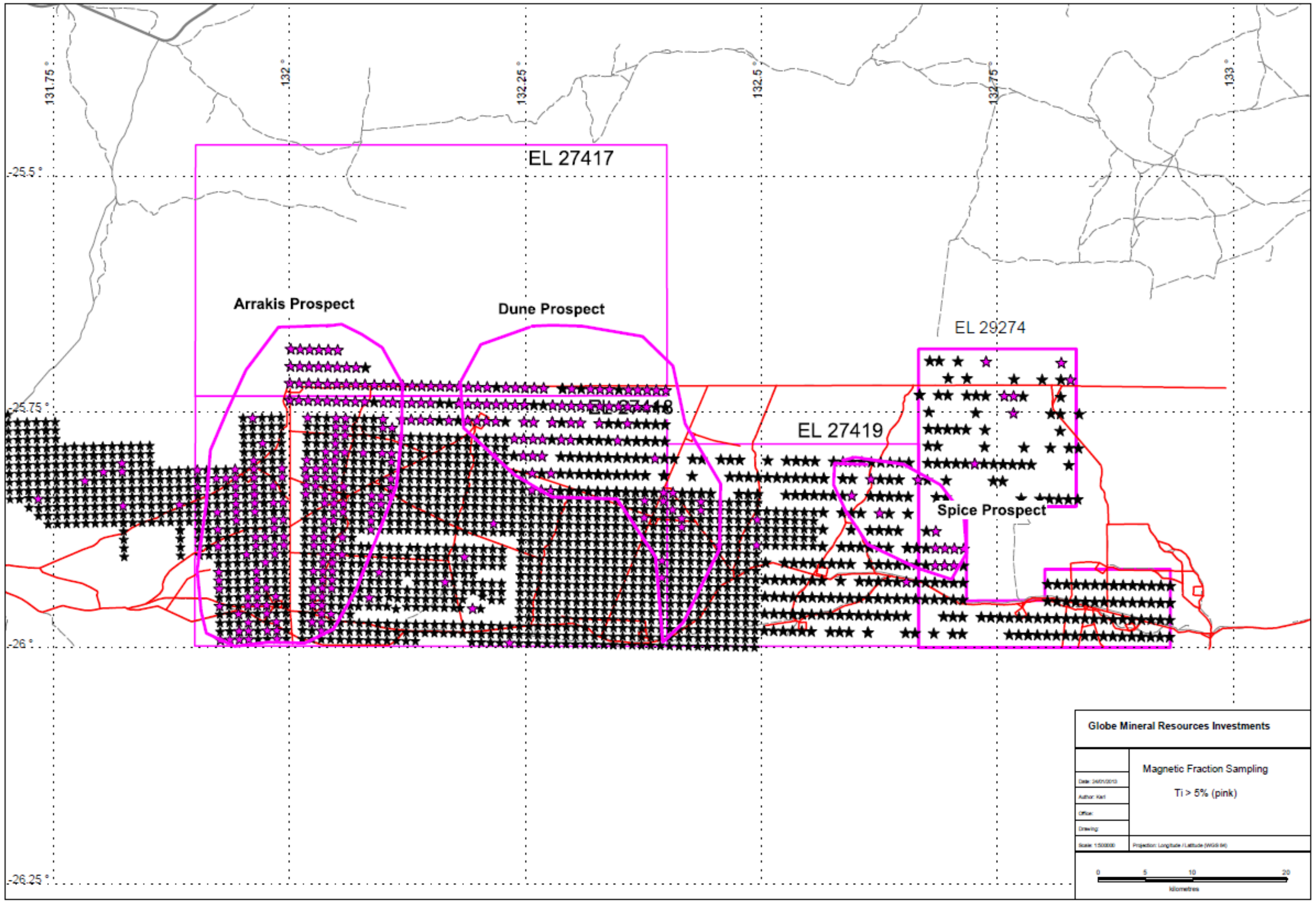
The magnetic fraction sampling took place in June 2012 and utilised two teams supported by quad bikes. A total of 546 samples were collected from east west traverses spaced at 2000m intervals with sample collected every 1000m along the lines. Location control was provided by hand held GPS. The samples were collected from surface using a Magsam 5000 instrument which contains a permanent 5000 gauss rare-earth magnet inside a protective metal sheath . Ideally, at each site +50grams of material would have been collected. However, to give an indication of the amount of heavy mineral present the sampling crews used the time taken to collect a sample and expressed it as abundant down to very little. Where the sample collection time exceeded ten minutes no sample was collected and the site marked as barren.

Figure 8 displays the sample site locations, Mithril and GMRI's which cover all of the southern part of the licenses. The locations coloured in pink are those that contain more than 5% titanium.

Using the time taken to collect the samples as a measure of the abundance of heavy mineral and the assayed titanium content the southern part of the license area has been divided into 3 prospects. The area identified by the Mithril magnetic fraction sampling and where almost all of the drilling has been done is identified as the Arrakis Prospect. Located further to the east of Arrakis on the border between EL's 27418 and 27419 lies the Dune Prospect. The Spice Prospect is located in the eastern part of EL27419. Another area of interest has been identified in EL 29274 but work restriction (no work permitted) have been imposed by the traditional owners.

As shown on figure 8, the northern limits of the mineralisation have not yet been located and additional exploration work is required in EL 27417.

Figure 8: GMRI Magnetic Fraction Sample Locations



3.3 Results from the 2012 Soil sampling

The two phases of soil sampling have successfully expanded the scope of the heavy mineral project.

The first soil sampling program used the equipment available during one of the delays caused by drill rig failure. The samples collected were submitted for heavy mineral separation. The separation results showed that the mineralisation extended much further to the north than previously identified. However, because the heavy mineral separation process is slow and relatively expensive it was decided to use a more conventional assay technique in future programs.

The initial sampling work undertaken by Mithril Resources was used to focus the first drilling program. Despite the drilling problems the results were sufficient to indicate the potential for a significant heavy Mineral resource in the area. Based on the success of the drilling it was decided to, as-far-as possible extend the sampling coverage using the same sampling method. The time taken to collect the samples was used as a measure of the abundance of the heavy mineral and the assay results provided a measure of the titanium content.

The second sampling program has defined three prospects and another area of interest. Preliminary drilling of one prospect has been completed and a resource statement will be prepared soon. The other two prospects remain un tested. The area of interest is presently outside the scope of exploration due to work restrictions imposed by the traditional owners.

Considerable scope exists for extending the scale of the project to the north in to EL 27417.

4 Drilling

4.1 Drilling

In 2012 two drilling campaigns were completed; the first between 24/4/12 and 29/5/12 was undertaken by Geo Drilling based out of Batchelor. Geo Drilling used a Schram with an on board compressor (350/700cfm) and a separate rod truck. A 4.5 inch Air-core bit was used to drill a total of 142 holes for a total of 925m.

Air-core was the preferred drilling method with the samples collected in a cyclone before size reduction via a two tier splitter (75:25) mounted under the cyclone. Unfortunately, the rigs performance was unsatisfactory with very poor sample return. So-much-so that the splitter was removed and what sample was returned was collected by bucket and laid on the ground or completely sampled. Out of desperation to get at least a few down-hole samples three RAB holes were drilled. These are identified as “KRB” in the database.

Between the 24/4/12 and the 4/5/12 thirteen holes, including 3 RAB holes were completed for a total of 60m. Following the RAB drilling the rig was sent from site for repairs.

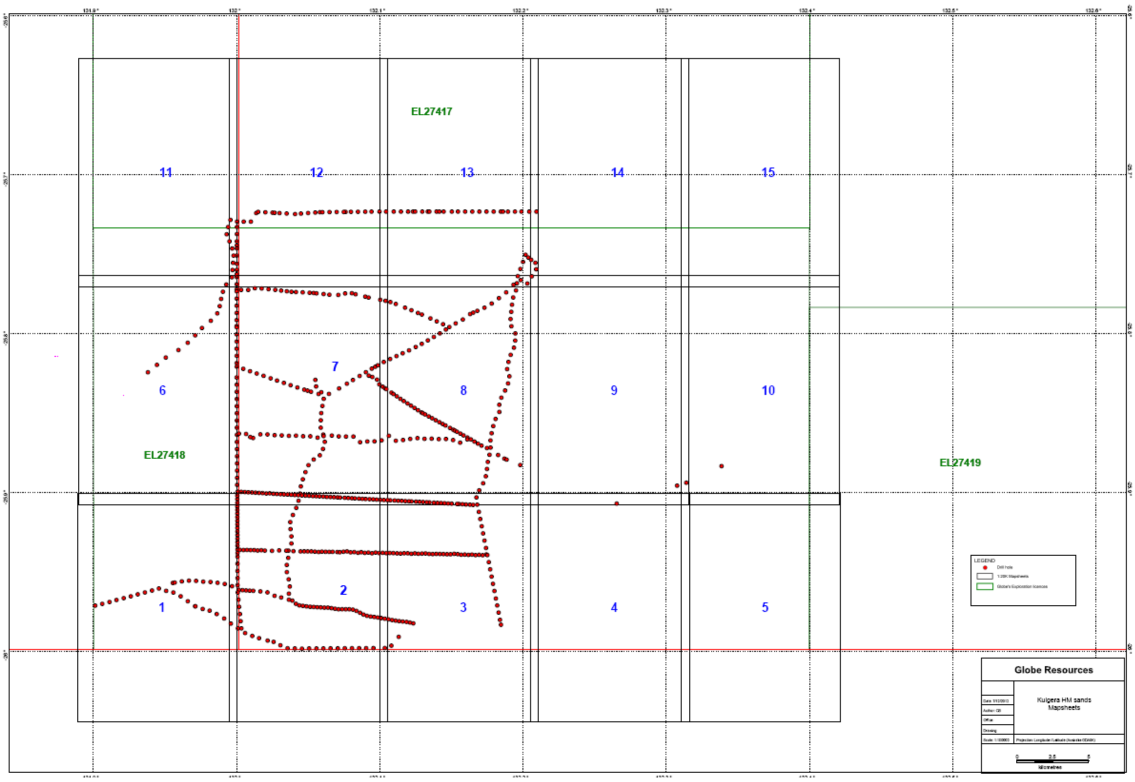
The Schram (repaired) returned to site and re-commenced drilling on the 23/5/12. On the 29/5/12 the rig suffered another major mechanical failure and it was decided to abandon the program. In the last week, 129 air-core holes (KAC013 to KAC142) were completed for 865m. Sample return was good. Unfortunately, whilst the rig was being repaired the splitter was removed and not replaced so it was necessary to place the samples on the ground in ordered piles. All of the drilling completed by Geodrill was done on existing tracks or fence lines.

The second drilling program using Cheyne Drilling from Pine Creek commenced on the 11/8/12 and was concluded on the 14/9/12. A total of 480 holes for 4175m was completed. Cheyne Drilling provided a track mounted Desco air-core rig with a separate compressor and rod truck. For the last few days of the program the Desco was exchanged for the truck-mounted Gemco rig with an on-board compressor and rod rack. Figure 9 shows all the drill hole locations.

All of the drilling was completed using the air-core method with a 3.25 inch bit. All of the drill cuttings were collected via a cyclone and placed in a green plastic bag. The bags were numbered and placed in order beside the drill rig.

At the completion of the drilling program all of the holes were located by licensed surveyors from FYFE Earth Partners Pty Ltd. Comparison of the handheld GPS data and the DGPS data provided by FYFE shows that, with a few exceptions the handheld GPS position is within+/-5m of the surveyed position. All of the survey data has been incorporated into the database.

Figure 9: GMRI Drilling Hole Locations



4.2 Sampling

Three different sampling methods have been employed on the prospect.

For the first 13 holes where the sample return was very poor most of the material that came through the cyclone was sampled. For these holes most of the drill cuttings came up the outside of the rod string. Thus samples 121001 to 121054 would have to be considered very poor quality and no better than RAB style samples.

For the second drilling attempt by the Schram the sample return was much better but the absence of the splitter meant the samples were collected in a bucket and placed in piles on the ground. To sample these a spear was fashioned from a length of poly-pipe and this was pushed through the pile several times until a sample weighing about 2kg was collected. It was noted during this phase of drilling that the first metre drilled was consistently being lost because there was insufficient back pressure to force the return air up the inner tubes.

Spear sampling is recognised as not being the ideal method and to gain a measure of the effectiveness of the technique the areas where spear sampling were used were infill-drilled, in the second program and sampled via a splitter.

For the August - September drilling program completed by Cheyne Drilling every metre drilled was collected from the cyclone in a standard “green” plastic bag. The cuttings were geologically logged and an estimate of the heavy mineral content made using a magnet. It is unnecessary to try and pan the samples as all of the heavy mineral of interest is iron based. The moisture content of the samples was also noted.

The individual metre samples were placed in ordered rows beside the rig and those containing sand, gravel, clay or a combination of the three were marked for sampling.

Throughout the second drilling program the first metre of each hole was collected via the cyclone and directly from the side vent (diverter) on the collar pipe. Only the first metre was collected in this way and it resulted in a good sized sample from the top of the hole without the material being lost as was experienced in the earlier program. With a few exceptions the sample size and quality was excellent throughout the program.

To ensure good-quality samples were collected a second, dedicated team was used to split the cuttings using a 50:50 splitter. The samples were passed through the splitter twice to reduce the sample to the 1 to 2 kg required by the lab. The samples were placed in pre-numbered calico bags and then stored in poly-weave sacks for transport. The splitter was thoroughly cleaned between samples but in most cases the sand just passed through with nothing hanging up.

4.3 Duplicate Sampling

As a routine part of the sampling, duplicate samples were collected at the rate of approximately 1 in 20. These were included in the normal sequence of sample numbers and were indistinguishable to the laboratory. Additional samples collected at the rate of 1 in 100 were collected at random for specific gravity measurement.

Table 3. Assessment of Duplicate samples

Assay range	Number	Average	Maximum	Minus outliers
0 to 1 %	17	21.07%	35%	
1 to 2 %	20	16.96%	24%	
2 to 3 %	36	14.82%	27%	
3 to 4 %	28	14.83%	28%	
4 to 5 %	35	9.65%	70%	
> 5 %	106	8.45%	84%	5.8%

The summarised results from the comparison of the first 242 duplicate pairs is displayed in Table 2. The comparison has been performed by measuring, in percentage terms the difference between the duplicates with respect to the first sample; that is: ABS((sample1-sample 2)/sample 1) x100 where ABS stands for the absolute value. The calculation was performed on the percentage of sinks reported by the laboratory.

Because measuring the amount of sinks involves the repeated use of scales of fixed precision and accuracy it is necessary to examine the data in assay ranges. As with any analysis technique the methods used are typically quoted as plus or minus 10 percent. When comparing two results the acceptable variation is calculated as the square root of the sum of the squares of the methods used, thus in this case the theoretical upper limit is 14.14% difference.

The data in Table 2 shows that the reproducibility for samples containing less than 1% heavy mineral is poor. For samples containing 1% and 4% heavy mineral the reproducibility is approaching the theoretical limitations of the separation technique. Samples containing more than 4% heavy mineral are well replicated.

The analysis of the duplicated sample data has demonstrated that the field sampling and heavy mineral separation methods employed are returning reproducible results close to or exceeding the theoretical limitations. Good results are being attained for samples containing greater than 2% heavy mineral and confidence can be held in any resource calculation work derived from the separation data.

With the exception of the specific gravity samples all of the samples were delivered to the

Toll Freight yard in Alice Springs tor transhipment to Diamantina Laboratories in Perth. The poly-weave sacks were sealed with zippy-ties.

4.3 Heavy Liquid Separation

At the laboratory the samples were organised by number and dried for 24 hours. The samples were weighed and an approximately 200 gram split taken. The ~200g split was wet sieved at 0.6mm and 0.053mm to produce an oversize, middling and slimes product. The over size and middlings were dried and weighed and the amount of slimes (<0.053mm) calculated. The oversize material was discarded.

The middling product (-0.6mm+0.053mm) was separated using TBE and the weight of the sinks measured after washing and drying. The percent of heavy mineral in the middling and total sample was calculated.

4.4 Geology

During both drilling programs the rigs were constantly attended by one or two Australian geologists and two or three Chinese geologists. The cuttings from each hole were examined and geological logs produced. The geological information collected consists of:

- An estimate of the amount of material recovered for each metre expressed as a percentage.
- An estimate of the heavy mineral content made by using a magnet,
- A description of the moisture content of the samples. Most were dry, some were slightly damp and a rare few wet.
- The colour of the sample and
- A description of the drill cuttings. Most commonly these were sand, gravel or clay and combinations of them. Occasionally highly weathered bedrock was intersected.

The drilling has indicated that three distinct geomorphic terrains are present in the area:

1. The most common terrain consists of dune sand and calcrete. Holes typically penetrate red dune sand between a few centimetres and a maximum of about 10m thick followed immediately by a white to pink calcrete. To date, every metre drilled and described as red sand has been mineralised and there is a distinct enrichment of heavy minerals just above the calcrete layer.

2. The next most common terrain is like the first but rather than ending in calcrete the holes intersect one or more series of gravel, sand and clay layers. Commonly the gravel pebbles are rounded and more than one rock type is present. These zones are

interpreted to be palaeochannels. As before the cover sand is always mineralised and the heavy minerals tend to preferentially occur in the gravel beds rather than the clays. Pisolites are often present and the entire sequence is red to pale yellow indicating some oxidation of iron.

3. The least common terrain consists of a variably thickness of red sand overlying clay. The clay persists to some depth and then highly weathered bedrock, most commonly diorite or gneiss. In these areas the sand is mineralised but the clay is barren, some of the rock fragments retain some magnetite and can be collected by magnet. Typically the clay is white or grey in colour.

The geological information available in conjunction with the assay results suggests that, at the Arrakis Prospect the distribution of heavy minerals is controlled by sand dunes and palaeochannels. The dunes are about 8m to 12m high, 300 to 400m wide and 10 to 15km long. They strike between 0 and 10 degrees magnetic north. Typically the east side is fairly steep and the west side more gently slopped.

The current drill hole spacing of either 500m or 250m is too wide to allow the definition of discrete palaeochannels. The logging indicates that several cycles of channel development may exist and some holes were still in river material at 30m below surface.

All of the geological information has been incorporated into the database.

4.5 Results from the Drilling in 2012

The samples generated from the first drilling program have been subject to numerous tests designed to gain as much information about the material and potential mineral product as possible. The work completed will establish the path to be followed by subsequent samples. Generally the results have been good and have demonstrated that the Arrakis prospect and by extension the region has great potential to host significant heavy mineral deposits.

Key results include:

- Most significantly, using the screen size established from the 2011 soil samples,-.6mm+0.053mm, and then using a TBE separation a commercial “iron ore” quality product (61% haematite, 29.5% titanium dioxide and 9% others) can be manufactured in a one-pass process.

- The ilmenite mineralisation is wide spread and persists to depth. To date 60% of all of the drilling samples contain over 2% heavy minerals with a maximum of 16%. The geology appears simple with mineralisation controlled by sand dunes and palaeochannels. Three terrains have been defined, sand dunes overlying calcrete, sand dunes overlying palaeochannels and sand dunes overlying highly-weathered bedrock.

- Examination of the duplicate samples collected at a rate of 1 in 20 shows that the results obtained for samples containing over 2% heavy mineral are within the limits of accuracy of the separation technique used. The separation results produced are suitable for the calculation of mineral resources.

- Magnetic separation of the magnetite component of the heavy mineral concentrate has shown that a higher-grade titanium product can be refined but more work needs to be done to reduce the silica and alumina content. This work will involve further magnetic and gravity separations guided by electron microscope studies.

- An SG of 1.57g/cm3 has been determined for the drilled material. Further work on bulk density will be need.

- The multi-element suite of assays run does not contain any surprises. The proposed mineral product appears to be free from any environmentally concerning elements.

- The quantitative XRD mineralogy performed on samples with the magnetite fraction removed by Davis Tube has shown that the remaining sample is 54 to 77% ilmenite and between 14 and 26% haematite. The most common accessory minerals are garnet, zircon, quartz, amphibole and pyroxene.

- Three samples composited from the drill holes were separated into 4 fractions at various magnetic field strengths. The separation indicated the heavy mineral concentrate is comprised of approximately 15% magnetite (with some ilmenite inclusions), 78% ilmenite with some haematite and about 7% accessory minerals. The ilmenite fraction has assayed at about 35% TiO2.

5 Exploration by GMRI in 2013

The drilling campaign completed in 2013 was designed to investigate the grade and continuity of the mineral resource and to elevate the confidence in the resource from a JORC reportable Inferred to Indicated category. The area selected for the more detailed evaluation lies in the south western quarter of the Arrakis Prospect defined in 2012. No attempt has been made to increase the size of the resource base.

To raise the confidence of part of the Arrakis Prospect more closely spaced drilling was undertaken along with other studies. The additional work completed included Independent Geologist inspection, detailed quality control assessments, multi-element geochemistry, specific gravity measurement, mineral studies and the preliminary metallurgical assessment of a bulk sample.

The amount of work completed in 2013 is considerable and the assessments stemming from the drilling were numerous. To avoid repetition, the interested reader is referred to Appendix 1 of this report which contains a complete description of all of the work done. Below, presented in point form are some of the more interesting results and observations made on and from the 2013 exploration program.

- The areas selected for more detailed evaluation was defined in the 2012 drilling as having a higher mineral content and thicker sand. The drilling completed in 2013 and the associated HM separation work has confirmed the continuity of the high-grade zone and the thickness of the sand.

- The higher-grade mineralisation is continuous and by using geological constraints and HM contents two domains, Blue and Red have been defined. The Blue domain uses a grade cut-off of 4% while the Red domain uses a cut-off of 6%.

- The mineralisation starts at the surface and extends downwards until a calcrete sheet is encountered or the grade drops off in a clay rich zone.

- Independent Geologist, Mr Graham Muggeridge conducted an inspection of the site and field procedures being used for the drilling and sampling. Mr Muggeridge made several recommendations but concluded that there is nothing materially wrong with the techniques used.

- A rigorous assessment of the HM separation data generated by the drilling was undertaken. The assessment involved examining the results from duplicate samples collected in the field, the laboratories internal sample duplication and umpire samples sent to three different laboratories. Some initial problems were detected with the data but following an investigation by the laboratories management team which resulted in some procedural and equipment changes the quality of the data improved. The assessment has demonstrated that the HM separation data is fit for the purpose of resource estimation.

- A short program of redrilling or twinning some holes drilled in 2012 and early 2013 was completed. The work showed that the data generated by both drilling programs was comparable but more work in this area is required.

- As for each hole drilled in 2012, a drill hole composite sample for most of the holes drilled in 2013 was sent to Bureau Veritas for iron-ore assay. The results of the assay work demonstrate the heavy liquid separated HM concentrate has a high-grade iron-titanium content and low impurity content. The material is suitable for recovery of iron and titanium via a slag-iron production path.

- The multi-element geochemistry has indicated that the HMC is very clean. It is mostly oxidised and contains very little sulphur. As such, it is not anticipated that there will be any impediments to mining, concentrating, storing, transporting and processing the HMC.

- One of the weaknesses recognised from the 2012 drilling program was the insufficient number of samples used to measure the specific gravity of the mineralised material. This was addressed in 2013 with many more SG measurements made and different techniques trialled. The result of 1.70g/cm3 is thought to be more realistic than the 1.59g/cm3 used in last year's resource estimation work.'

- An approximately 200g split form the 10 samples sent for multi-element geochemistry was sent to Diamantina Laboratory for mineral identification work. The results show that approximately 95% of the TBE HMC is either high susceptibility or strongly magnetic. About 86.5% of the non-magnetic, non-quartz fraction is zircon. Overall 55% of the HMC is considered valuable but this figure does not give any value to other minerals, magnetite? in the high susceptibility fraction.

- A 300kg bulk sample was prepared from the unused portion of the drill hole samples. The sample was used to examine a fairly standard commercial HM separation technique and then qualify the various product flows generated. The metallurgical work has demonstrated that the HM can be separated without any major complications. Several concentrate flows can be produced via electrostatic and magnetic refinement. The assaying and mineral identification of the various flows indicate the most likely use for the HM C is the production of TiO2 via a slag iron-titanium process.

- Resource Estimation work has been completed by CSA Global. The estimations have been confined to two domains based on geology and HM grade. The results of the estimation show that the blue domain (approx. 4% cut-off) contains 346 Mt @ 6.3% HM, 10.9% slimes and 9.5% coarse material in the indicated and inferred categories.

The Red domain (approx.. 6% cut-off) contains 150.4 Mt of indicated and inferred mineralisation @ 7.2% HM, 9.8% slimes and 7.7% over size.

- • Examination of the two lines cleared to facilitate the 2012 drilling program shows that if the cleared area is left alone it will regenerate itself. These areas need to be monitored in 2014 and onwards to ensure the complete rehabilitation of the lines and how long it takes.

6 Exploration by GMRI 2014

Despite the difficulties faced by the Project at the Board level some significant progress was made during 2014.

The work undertaken revolved about two themes, those being:

- a preliminary Scoping Study or Proof of Concept which involved applying various mining methods and mining rate scenarios to determine the base economic parameters for the project, and
- a detailed investigation of the metallurgical recovery process and most recently beneficiation tests to up-grade the TiO2 content. The beneficiation test work is ongoing.

To assist in the Board's decision making a formal Valmin reportable valuation of the project was completed. The Proof of Concept studies, completed by in-house and independent consultants using current industry methods and bench-mark costings, demonstrated that the Kulgera HM Project is viable. However, recent movements in the spot price and Consensus Forecast's predicted price for iron ore fines and ilmenite sands has added greater uncertainty. The changing product values has resulted in modifications to the metallurgical test work to include beneficiation studies to attempt to increase the TiO2 content of the product.

6.1 Valmin Assessment

In March 2014 CSA Global Pty LTD (CSA) was commissioned to prepare a technical review and independent valuation of the Kulgera HM Project. It was requested that the valuation was performed and reported to the standards laid down by the Aus IMM Valmin Code.

Based on their review of the exploration data, CSA concluded that "the Kulgera HM

Project presents exposure to a potentially attractive advanced-exploration heavy mineral sands play".

The review concluded that there were no material deficiencies in the exploration work completed. Using two separate valuation methods the range of values for the project is $15M to $9M with a preferred value of $10m.

The valuation at the lower end of the range of values was nominated to reflect the early stage of the projects evaluation with most of the resource in inferred and indicated categories. The preliminary stage of the metallurgical test work and the lack of a detailed financial model were also mentioned as being responsible for the lower valuation figure. A full copy of the valuation report is included as Appendix 1.

6.2 Proof of Concept

The lack of a preliminary financial model for the Kulgera HM Project was addressed via a proof of concept study. In the study the known resource and mineral grade information along with the results from the metallurgical separation work were used to imply various mining scenarios. To complete the models several parameters had to be assumed such as the value of the various mineral products (Consensus Economic Forecasts) and the current $AUD: $USD exchange rate.

A full description of the first mining scenario is described in section 3.1 Conventional Mining Method which is located in Appendix 2 of this report. The conventional mining method utilises self-loading 35m3 scrappers, trucks and rail freight to move the product to port. The mineral separation is accomplished via a conventional gravity circuit. Manpower requirements and wages were assessed based on similar mining operations in Western Australia. Three mining rates were used, 1 million tonnes per month, 1.5 million tonnes and 2 million tonnes per month. The models predict that the monthly gross margin lies between $1.8 million and $6.5 million.

The completed Conventional Mining model was sent to CSA Global for Benchmark Verification. Mrs Joan Bath, an experienced sand mining engineer undertook an independent verification of the model and adjusted some of the figures to more accurately reflect current mining methods and costs. Mrs Bath's work (Appendix 3) confirmed the results of the modelling and indicated an annual gross margin of between $14 million and $40 million. One of the more costly parameters identified by Mrs Bath was the number of machines and people required to achieve the higher mining rate of 2 million tonnes per month.

An alternative mining method, using a chain bucket excavator, was examined and modelled. The advantages of using a chain bucket excavator lie in the greatly reduced manpower requirements to achieve the same mining rate. The results of the chain bucket excavator financial modelling are presented in section 3.3 of the Proof of Concept Report located in Appendix 2. The reduction in manpower and attendant reductions in associated costs see the monthly gross margin rise to $6.6 million. To demonstrate the robustness of the proposed mining method the same model was recalculated with cost increasing in 10% increments. The model with an additional 40% production costs still returns a monthly gross margin of $2.5 million. In a similar way the value of the product stream was discounted in 10% increments.

The existing model with 30% less value in the product stream returns a gross margin of $1.5per month. In the past six months the value of both Iron ore fines and ilmenite have gone down substantially. So much so that the proof of concept modelling needs to be redone. The long term forecast (Consensus) value for Australian Iron ore fines is US$73/ tonne (March 2017) and ilmenite $US204/ tonne. Down from $120/ tonne for iron ore fines and $226/ tonne for ilmenite. In the same time the $AUD to $USD has gone from 0.90 down to 0.78. The weakening $AUD will assist the project.

6.3 Metallurgy

A 2 tonne (1900kg) bulk sample was prepared from the Air-core drilling sample residues. The sample was sent to the Guangzhou Research Institute of Non-ferrous Metals (GRINM) in China to carry out a laboratory test. A full copy of the report is included as Appendix 4.

The work completed resulted in the following:

1. The raw ore belongs to Eluvial Placer deposit. The main valuable elements are Ti and Fe, whose grades are a little lower. And Zr can be recovered comprehensively.

2. It is indicated by mineralogy inspection that the iron minerals and titanium minerals are very complicated due to the exsolution of iron minerals-titanium minerals solid solution and their oxidation alteration, which include titanomagnetite, magnetite-maghemite, hematite, hema-ilmenite, titanohematite, ilmenite, altered ilmenite, a small amount of limonite, rutile and leucoxene; zircon is the only Zr-bearing mineral; the abundance of rare earth mineral is extra low with only a trace of monazite; the gangue minerals are dominanted with quartz, followed by feldspar, kaolinite, a small amount of pilolite, calcite, etc.

3.The results of grain size of major minerals indicate that the ilmenite is similar to the magnetic iron minerals in size distribution with the major size range of 0.02~0.32mm; the hema-ilmenite and titanohematite grains are a little coarser and mainly range from 0.04mm to 0.32mm; the zircon is finer than ilmenite and mainly ranges from 0.02mm to 0.32mm.

4. In the placer deposit, the ilmenite is quite complicated. Most of the ilmenite grains are normal; some of them are hema-ilmenite that includes hematite lamellite and a small amount of them are altered ilmenite. For the iron minerals, there are hematite, titanohematite (that includes ilmenite lamellite), small amounts of limonite except the magnetic iron minerals including titanomagnetite, magnetite-maghemite.

5.The results of magnetism analysis indicate that all of the ilmenite, hema-ilmenite, titanohematite and hematite have the similar magnetism range of 130~550mT, so it is impossible to achieve a qualified titanium concentrate by ordinary magnetic separation due to the magnetism range overlap. Therefore, it is necessary to adopt roasting and change the magnetism so as to separate the titanium minerals from iron minerals.

6.The occurrence of Ti indicates that the highest TiO_2 content of ilmenite and altered ilmenite is 49.45%, in which the TiO_2 existing accounts for 57.50% for ROM; the lowest TiO_2 content of maghemite&magnetite (includes titanomagnetite) is 5.65%, in which the TiO_2 existing accounts for 2.35% for ROM; theoretically, the hema-ilmenite, titanohematite and hematite contains 16.78% TiO_2, in which the TiO_2 existing accounts for 18.11% for ROM; the amount of TiO_2 existing in the rutile and leucoxene is lower, which accounts for only 1.00% and 0.75% for ROM, respectively; the TiO_2 containing in the gangue minerals including quartz, feldspar, etc. accounts for 19.57% for ROM; the TiO_2 containing in the argillaceous minerals including kaolinite, etc. accounts for 2.39% for ROM.

Theoretically, if ilmenite (including alteration of ilmenite) can be selected out alone ; the highest grade of Ti concentrate is 49.45%, TiO_2 and the related recovery is 57.50%. If the ilmenite and hema-ilmenite, titano-hematite and hematite can be recovered together as a combined Ti concentrate; the highest grade of Ti concentrate is 37.16% TiO_2, and the related recovery is 84.02%.

7.By gravity method, the titanium rougher concentrate can be achieved assaying 31.56% TiO_2, 1.03% ZrO_2 and 43.96% Fe, with related recovery of 82.00%, 82.49%, 66.78%, respectively.

8.Cleaning separation technology adopts a combinative process of magnetic separation and gravity separation. The first part of the processing is magnetic separation with a magnetic field strength of 0.05T to separate out part of iron materials with low content of titanium. Then titanium rougher concentrate is separated by magnetic method with a magnetic field strength of 0.5T. The non-magnetic portion is treated by gravity separation to remove gangue minerals which then sent to WHGMS to sort out weak magnetic minerals; the non-magnetic mineral is zircon concentrate.

The titanium rougher concentrate achieved by cleaning technology contains 38.02% TiO_2 with the recovery of 76.69% and 41.98% Fe. The content of TiO_2 + Fe_2O_3 in titanium rougher concentrate is high with lower content of non-Ti materials. The non-titanium materials only amount to 3.349%, especially only 0.306% of MgO+ CaO in total. So the product is suitable for producing high titanium slag by electric furnace process. That is to say that the product can be sold as titanium concentrate.

9. The grade of Ti concentrate can be further improved by several schemes of roasting-magnetic separation, while the recovery will be lower somewhat.

·Low temperature reduction roasting-magnetic separation, the grade of Ti concentrate is 45.29% TiO_2 with the recovery of 53.05%.

·Grinding- low temperature reduction roasting- magnetic separation, the grade of Ti concentrate is 43.68% TiO_2 with the recovery of 56.60%

·Low temperature reduction roasting-grinding- magnetic separation, the grade of Ti concentrate is 43.00% TiO_2 with the recovery of 64.28%

·Low temperature oxidizing roasting-magnetic separation, the grade of Ti concentrate is 41.35% TiO_2 with the recovery of 68.89%

·High temperature reduction roasting-magnetic separation, the grade of Ti concentrate is 45.70% TiO_2 with the recovery of 62.97%.

10. Recommended flow-sheet and technical index

·Ti rough concentrate can be achieved directly by Ti rougher separation and dry magnetic separation, and the yield is 5.51%, assaying 38.02% TiO_2 with the recovery of 76.69%.

·Ti rough concentrate can be treated further by low temperature oxidizing roasting-magnetic separation; the grade of Ti concentrate is 41.35% TiO_2 with the recovery of 68.89%. The non-Ti materials in this product are extremely low, which enable to get high quality, high content titanium slag become easier.

11. The result of quality analysis of tailing water shows that the content of heavy metal ions and harmful substances are quite low.

Note, much of this work was reported in the 2015-2016 reporting year.

7 Exploration by GMRI 2015

Metallurgical test work of bulk samples has been detailed in the section above. Further work is commissioned to GZRINM to carry out further assessments of the HM ore beneficiation options at the Kulgera Project.

GMRI has also carried out further assessments of the economic potential of the Project and has conducted research into optimal mining methodologies, processing options and transportation to China. GMRI intends to continue this investigation while planning for further infill drilling to mitigate any risk associated with the continuity and distribution of the HM mineral resource. Further metallurgical test work is also scheduled for completion.

8 Proposed Exploration and Budget

For the 2016 to 2017 reporting year it is proposed that GMRI will continue to advance the Kulgera HM Project by carrying out infill resource drilling, further investigation into engineering issues such as mining methodology and refinement of transport and processing costs, particularly in light of low global commodity prices persisting. A table outlining this is provided below: Note that this budget is shared across the three tenements for renewal.

Activity	Description	Estimate of Expenditure
Drilling	aircore drilling (3,000m)+ mobilisation	$ 140,000
Vehical	lease, fuel, service	$ 25,000
Laboratory	HM seperation	
	Amdel	
	SEM mineralogy	
	transportation	$ 120,000
Survey	Collar pick up by surveyor	$ 30,000
Earthworks		$ 35,000
Database		$ 20,000
Technical services	geologist	$ 100,000
Camp and consumables		$ 25,000
Overheads	10%	$ 49,500
TOTAL		**$ 544,500**

Table 4: Proposed Budget

9 Conclusions

Globe Mineral Resource Investments Pty Ltd have, over the past 5 years, successfully progressed the Kulgera HM Project from little more than a soil anomaly to a JORC compliant Mineral Resource which has the potential to host a major HMS mining operation. The substantial investment by GMRI into the project has been rewarded with exploration success and the culmination of their aggressive exploration programs and expertise has advanced the project to a point where pre-feasibility work is imminently awaiting only a few further data gathering programs.

10 References

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