Sheffield Resources Ltd
ACN 125 811 083
14 Prowse Street West Perth WA

31 January 2013

QUARTERLY REPORT FOR PERIOD ENDING 31 DECEMBER 2012

HIGHLIGHTS

Dampier HMS project

- Maiden Mineral Resource for the Thunderbird HMS deposit of **1.374Bt** @ **6.1% HM** for 84Mt contained HM, including 5.8Mt zircon, 1.3Mt rutile, 3.6Mt leucoxene and 35Mt ilmenite (Indicated & Inferred)
- Includes coherent high grade component of **517Mt** @ **10.1% HM** (Indicated & Inferred) which presents as an attractive target for initial development studies
- Thunderbird is a globally significant mineral sands discovery
- Metallurgical testwork is underway on a 6 tonne bulk sample – results expected Q1 2013
- Aboriginal Heritage surveys clear Argo prospect for drilling in 2013 field season

Red Bull nickel project

- Heliborne VTEM survey completed; preliminary results include 4 high order EM anomalies (3 of which are associated with magnetic anomalies) and over 10 second order EM anomalies
- Grant of key exploration licence E69/3052 on 11 December 2012
- Fixed loop EM surveys and soil sampling commenced over high priority targets

Eneabba HMS project

- Resource upgrade for Yandanooka deposit: **95.9Mt** @ **2.3% HM**, containing 2.25Mt HM (Measured, Indicated and Inferred), including a higher grade component of **59.8Mt** @ **3.1% HM** (Measured, Indicated and Inferred)
- Eneabba Project resource inventory increased to 5.7Mt of contained HM
- Positive drilling results from Irwin extend the strike of mineralisation by 3km

As at 31/12/12:

Issued Shares	**98.6M**	ASX Code	**SFX**	Closing Price	**$0.55**
Market Cap	**$54.2M**	Cash Reserves	**$6.0M**		

THUNDERBIRD RESOURCE - A MAJOR MILESTONE

During the quarter the Company completed the maiden mineral resource estimate of **1.374Bt @ 6.1% HM** (Indicated & Inferred) for the Thunderbird prospect on the Dampier HMS project. The resource is based on a 7,517m drilling programme completed in Q3 2012 and was delivered just 15 months after the grant of the tenement.

The large size and high grade of the resource place Thunderbird within the top tier of HMS deposits globally and confirm Dampier as Sheffield's flagship project.

The next important milestone for Thunderbird is the results of initial metallurgical testwork currently underway on a 6 tonne bulk sample.

No drilling was undertaken during the quarter.

Exploration expenditure during the quarter is estimated to be $1,681,000.

Figure 1: Location of Sheffield's Projects

HEAVY MINERAL SANDS

Dampier

During the quarter, the Company announced a maiden mineral resource of **1.374Bt @ 6.1% HM** (Indicated and Inferred) for **84Mt of contained HM** for the Thunderbird prospect at its Dampier heavy mineral sand (HMS) Project near Derby in the Kimberley Region of Western Australia (Table 1, Appendix 1).

Table 1: Thunderbird Prospect Mineral Resource[1] Summary

		Mineral Resources		Valuable HM Grade (In-situ)[2]			
Resource Category	Cut-off HM%	Material Million Tonnes[3]	HM %	Zircon %	Rutile %	Leucoxene %	Ilmenite %
Indicated	2.0	299	7.2	0.50	0.11	0.31	2.1
Inferred	2.0	1,075	5.8	0.40	0.09	0.25	1.7
Total	**2.0**	**1,374**	**6.1**	**0.42**	**0.10**	**0.26**	**1.8**
Indicated	7.5	137	11.5	0.79	0.18	0.49	3.3
Inferred	7.5	379	9.6	0.66	0.15	0.41	2.8
Total	**7.5**	**517**	**10.1**	**0.70**	**0.16**	**0.44**	**2.9**

The resource includes a coherent high grade core of **517Mt @ 10.1% HM** (Indicated and Inferred) containing **3.6Mt of zircon, 0.8Mt of rutile, 2.2Mt of leucoxene and 15.2Mt of ilmenite**. This zone, which averages 20m thickness, represents an attractive target for initial development studies. The in-situ valuable heavy mineral (VHM) grades for this zone of 0.70% zircon, 0.16% rutile, 0.44% leucoxene and 2.9% ilmenite place Thunderbird within the top tier of HMS deposits globally.

The resource is based on data from Sheffield's 2012 aircore drilling programme of 164 drill holes for 7,517m, which targeted the prospect over an 8km strike length.

Mineralisation at Thunderbird remains open in all directions. Due to the shallow dip of the deposit, approximately 40% of the total resource area has less than 3m of overburden.

Thunderbird is the first major mineral sands deposit to be discovered in the Canning Basin, which is emerging as a new mineral sands province. As an early mover, Sheffield has secured over 4,000km^2 of prospective tenure within the Canning Basin which it plans to aggressively explore for further large scale deposits (Figure 2).

The next key milestone, expected in late Q1 2013, will be the results of metallurgical testwork, currently being performed on a six tonne bulk sample from Thunderbird. Results from this work will pave the way for Scoping Studies to commence in Q2 2013.

The next drilling campaign, due to commence in May/June 2013, aims to:

1. increase the proportion of the resource in the Indicated category,
2. target extensions to the deposit, and
3. provide an initial test of the Argo deposit, located 12km to the west of Thunderbird.

Aboriginal Heritage surveys have cleared the Argo prospect for drilling.

[1] Refer to Appendix 1 and ASX release dated 18 December 2012

[2] The In-situ grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage.

[3] Tonnes have been rounded to reflect the relative uncertainty of the estimate.

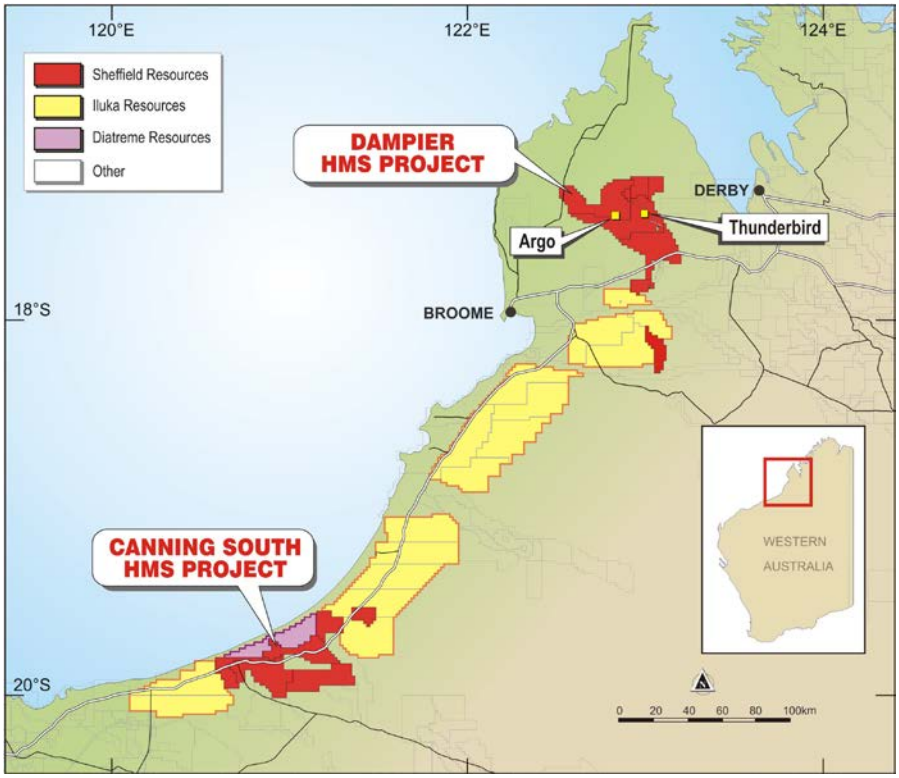


Figure 2: Location of Dampier Project

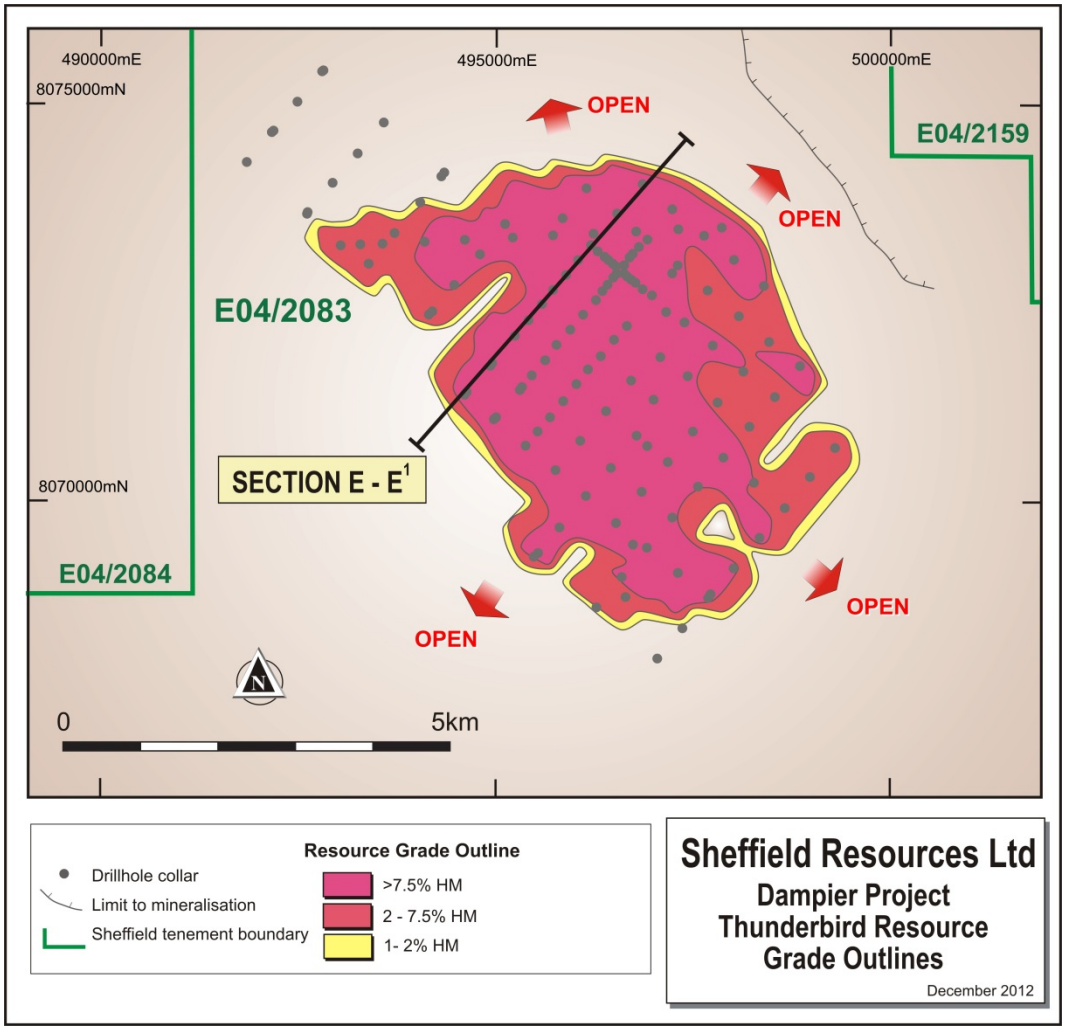


Figure 3: Thunderbird resource grade outline and drill collar plan

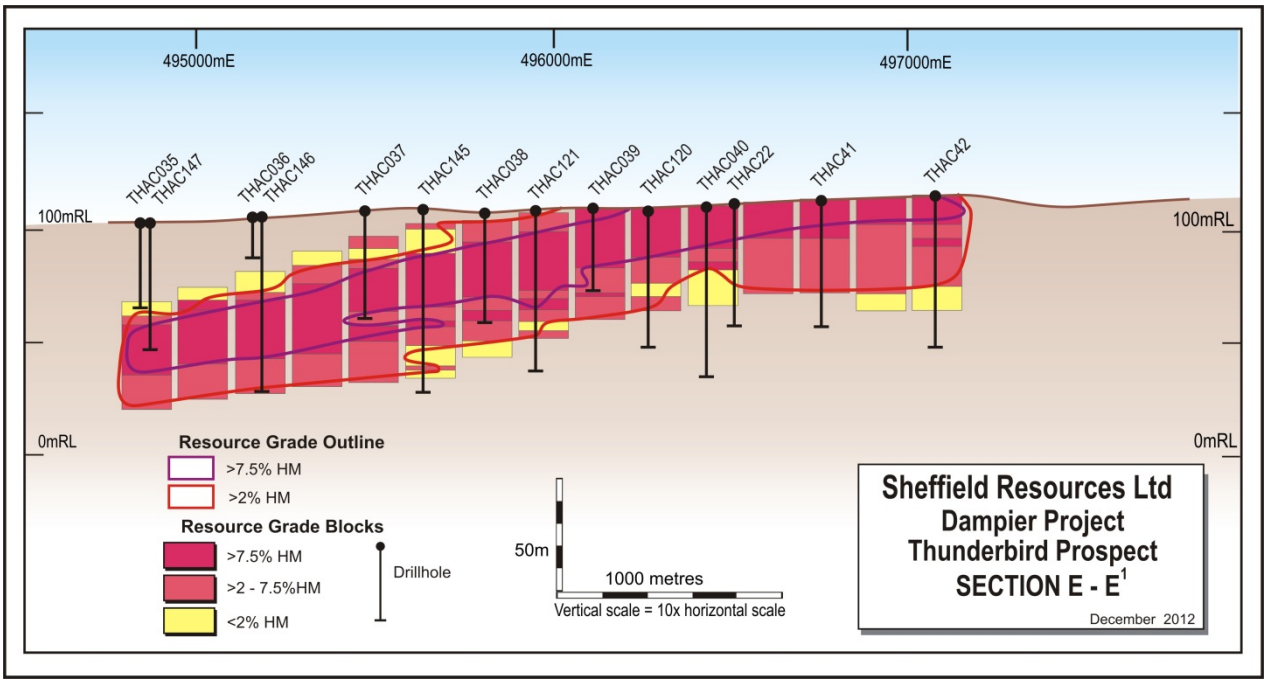


Figure 4: Section E-E' through the Thunderbird resource

Eneabba

Sheffield's Eneabba Project contains six advanced exploration prospects: West Mine North, Ellengail, Yandanooka, Durack, Drummond Crossing and Irwin (Figure 5). Sheffield's strategy is to develop multiple HMS deposits capable of supporting a sequential mining operation.

Yandanooka

On 30 January 2013, the Company announced an upgraded Mineral Resource and positive metallurgical testwork results for the Yandanooka HMS deposit.

The Mineral Resource, which incorporates the results of a 4,518m aircore drilling programme undertaken at Yandanooka in 1H 2012, totals **95.9Mt @ 2.3% HM**, for 2.25Mt contained HM at 0.9% HM cut-off (Measured, Indicated and Inferred). The deposit contains 256,000t of zircon, 85,000t of rutile, 87,000t of leucoxene and 1,549,000t of ilmenite (at 66.5% TiO_2) (Appendix 1).

Within this is a coherent higher-grade component of **59.8Mt @ 3.1% HM**, containing 1.83Mt HM at a 1.4% HM cut-off (Measured, Indicated and Inferred).

The upgraded Yandanooka Mineral Resource represents a 22% increase in contained HM at a 0.9% HM cut-off compared with the maiden resource announced on 16 August 2011 of 1.84Mt contained HM (Indicated and Inferred). The additional heavy mineral is mostly derived from the discovery of an extension to the eastern side of the deposit.

Initial metallurgical process development testwork completed on an 8-tonne bulk sample indicates Yandanooka material is amenable to typical process methodologies using standard mineral sands processing equipment. High quality chloride-grade Ilmenite (66.5% TiO_2); High-Ti leucoxene (70% and 80% TiO_2) and primary and secondary zircon were produced.

Overall mineral recoveries, at this stage excluding re-circulation and inclusion of semi-processed streams, indicate recoveries for ilmenite, altered ilmenite (leucoxene) and zircon to be within the industry expected range.

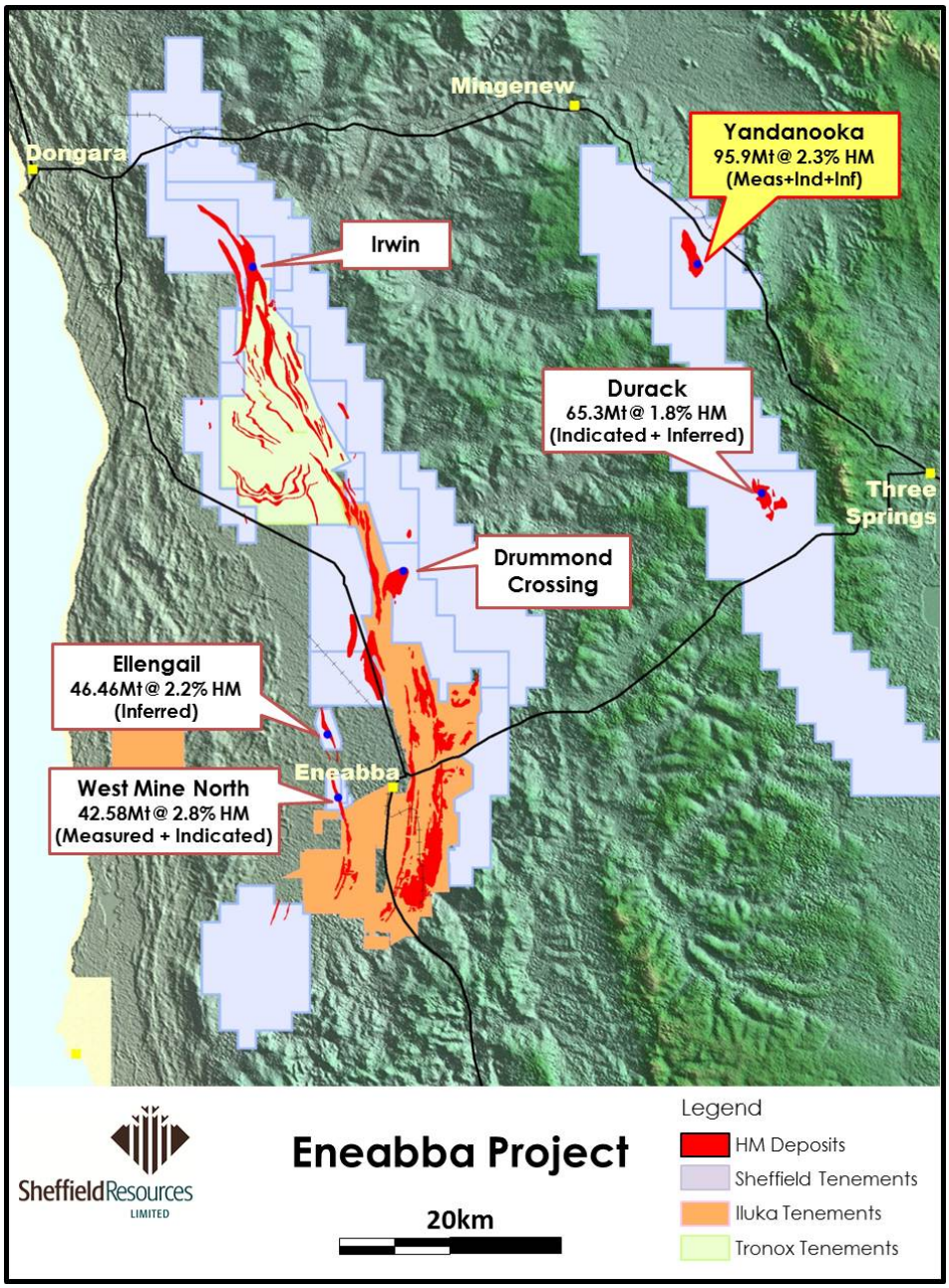


Figure 5: Location of Sheffield's projects in the Eneabba region

Irwin

Positive results were returned from drilling undertaken at Irwin during Q2 2012, extending the identified strike of mineralisation by 3km. Drilling intersected mineralised intervals of up to 31.5m width, for example:

- **31.5m @ 1.38% HM from surface (IRAC0048)**
- **21m @ 2.15% HM from 18m depth (IRAC0061)**
- **18m @ 2.2% HM from 1.5m depth (IRAC0051)**
- **30m @ 1.2% HM from 10.5m depth (IRAC0040)**
- **16.5m @ 2.23% HM from 31.5m depth (IRAC0038)**
- **18m @ 1.66% HM from 9m depth (IRAC0037)**

(Refer to Appendix 2 for full details).

The latest drilling results confirm Irwin as a large, low grade (1-2% HM) dunal-style deposit, with a very low slimes component (average 5.8% <53µm), and low oversize (average 3.6% >1mm). These are considered favourable attributes for high throughput dredge-mining and low cost processing techniques. The average overburden thickness is 14m, however portions of the deposit are exposed at surface (Figure 7).

These latest drilling results have outlined a mineralised area of 4km x 2km, with mineralisation remaining open to the east and north (Figure 6). This mineralisation is in addition to the Exploration Target[4] of **220-340 Mt @ 1.2-1.6% HM** for Irwin announced on 2 February 2012.

Irwin has a high-value heavy mineral assemblage comprising 10.0% Zircon, 7.4% Rutile, 2.3% Leucoxene and 58.7% Ilmenite, as determined by Qemscan analysis. Sheffield will conduct mineral assemblage testwork on this latest round of drilling during Q1 2013, and evaluate the potential for extension of the deposit to the east and north.

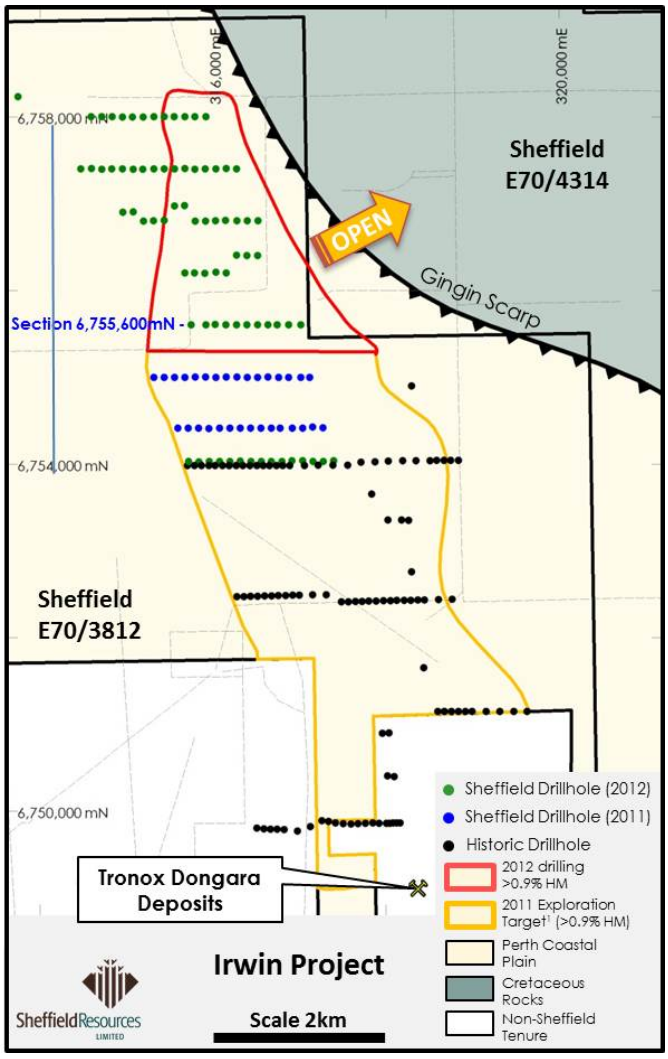


Figure 6: Irwin prospect collar plan

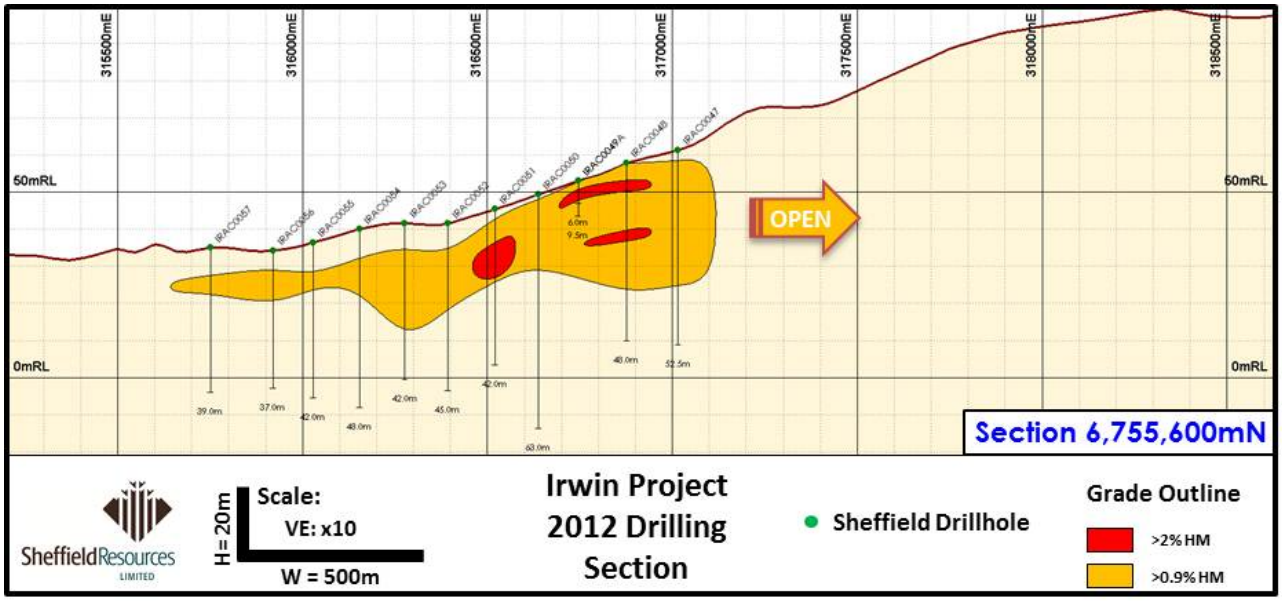


Figure 7: Irwin prospect cross section 6,755,600mN, looking north

[4] Sheffield Resources has not yet reported Mineral Resources for Irwin and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Figures have been rounded to reflect the implied level of accuracy

Drummond Crossing

A maiden resource estimate for the Drummond Crossing deposit is in preparation. An updated scoping assessment of the Eneabba Project will be undertaken once the Drummond Crossing resource estimate has been completed.

McCalls

The McCalls project, located 110km north of Perth, has an Inferred Resource of **4.4Bt @ 1.2% HM** containing **53Mt of HM** (see Appendix 1). Of this, 43 million tonnes is chloride grade ilmenite ranking it as one of the largest accumulations of this type of ilmenite in the world. The deposit also contains approximately 3.5 million tonnes of zircon and 1 million tonnes of rutile.

Results from 71 aircore drill holes completed during Q2 2012 are expected to be received during Q1 2013.

RED BULL NICKEL

Sheffield's Red Bull nickel project is located within 20km of Sirius Resources NL's (ASX:SIR) recent Nova nickel-copper discovery in the Fraser Range Nickel Province in Western Australia (Figure 8).

The project comprises two exploration licences with a combined area of 525km^2. The northern tenement E69/3052 covers a substantial area of the prospective Fraser Complex metamorphic sequence. During the quarter, a new exploration licence, E28/2270 "Kitchener", was applied for over the northeastern segment of the Fraser Complex.

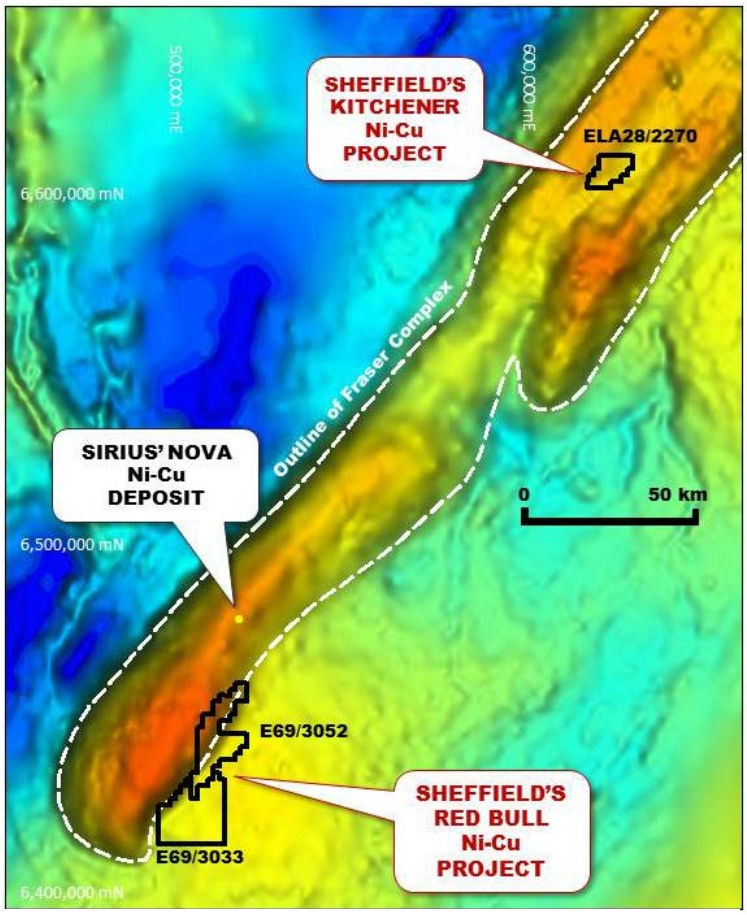


Figure 8: Location of Red Bull Project on a gravity image outlining the Fraser Complex

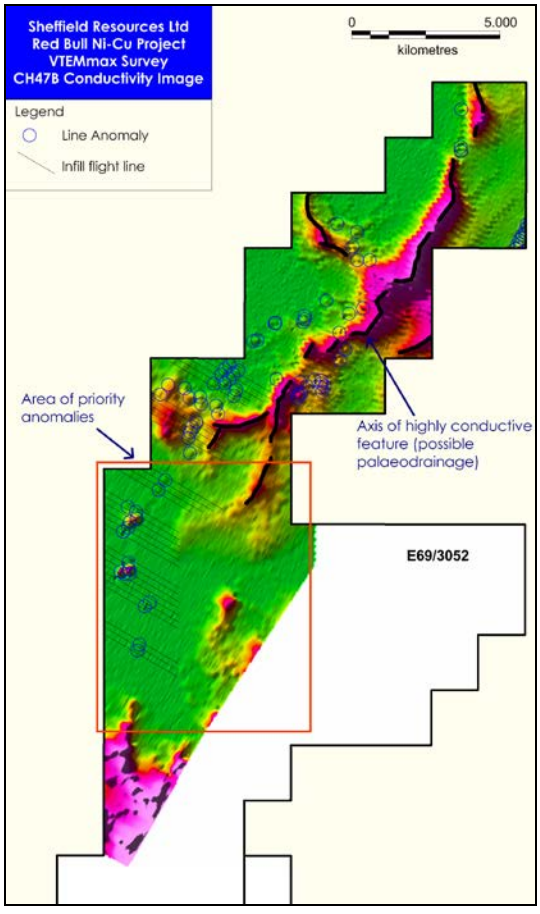


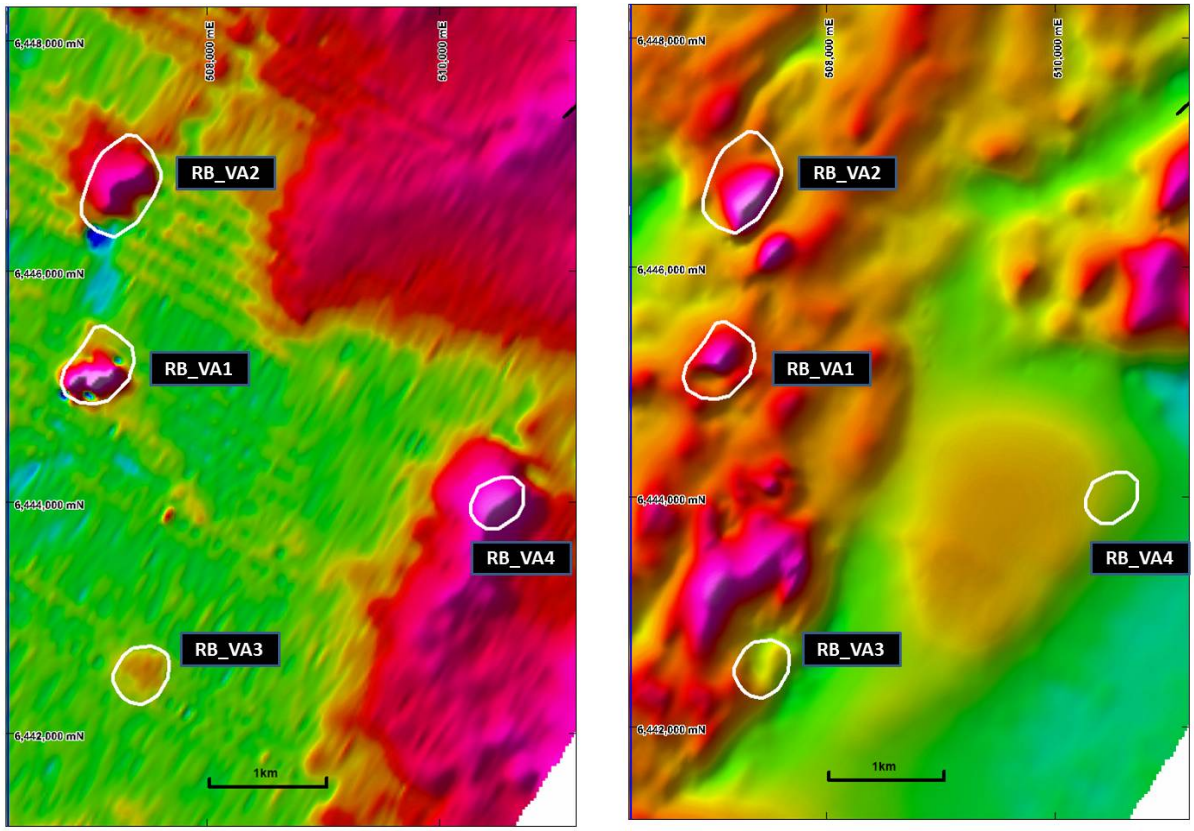
Figure 9: Late Channel B-Field EM image from the Red Bull VTEM survey

During the quarter, a VTEM survey of 1,235 line km was flown over a targeted area of 144km^2 on E69/3052. The northern half of the survey was flown on 100m spaced lines while 200m spaced lines were flown in the southern segment. Some 100m infill lines were flown over targets of interest in the southern segment (Figure 9).

Southern Geoscience Consultants (SGC), who were engaged by Sheffield to manage the programme and interpret the survey data, have identified four high order EM anomalies (RB_VA1-4) from the preliminary survey data, three of which (RB_VA1-3) show correlation with magnetic anomalies (Figures 10 & 11). The combination of EM conductors and magnetic anomalies may indicate the presence of pyrrhotite-pentlandite-chalcopyrite mineralisation. In addition, over ten second order VTEM anomalies have been identified. Full interpretation of the VTEM survey results will be undertaken after the final processed survey data is received in February 2013.

Sheffield commenced fieldwork at Red Bull, following grant of E69/3052 on 11 December 2012. Fixed Loop Time Domain Electromagnetic (FLTEM) surveys have been completed over VTEM anomalies RBVA1-3 and the survey has been expanded to include an additional 5 VTEM anomalies. Aboriginal Heritage surveys have also been completed and soil sampling programmes have commenced.

The FLTEM results and subsequent modelling are expected to provide robust targets which can then be fast tracked for drilling.



Figures 10 & 11: Late Channel B-field EM (left) and TMI magnetics (right) showing high-order priority targets RB_VA1 to RB_VA4. Note the correlating magnetic anomalies for targets RB_VA1 to 3.

IRON

Sheffield's Pilbara Iron Project comprises 6 exploration licences and one pending exploration licence application, all located in the eastern Pilbara, between Newman and Port Hedland (Figures 12 & 13).

Three exploration licences, E47/2642-I, E45/3822-I and E45/4029-I were granted during the quarter and exploration licence application E47/2594, located 12km northeast of Newman, was drawn first in a ballot, giving the application priority over competing applications.

Helicopter-assisted reconnaissance mapping and sampling was undertaken during the quarter. Five substantial new zones of high grade iron mineralisation were outlined: Tramlines and Fiery Jack on E47/2291, Thors Thunder and Chinook on E47/2280 and Dead Bullock on E47/4029. Additional mineralisation was discovered at three previously identified prospects: Panorama, Crucible and Top Forge (Figures 12 & 13, refer to ASX release dated 29 January 2013 for further details).

Significantly, four of the new mineralised zones are on Sheffield's Three Pools and Eagle Pool projects where the Company has previously outlined an Exploration Target[5] of **20-60Mt @ 56-60% Fe** (see ASX release 1 December 2011). These projects are adjacent to Brockman Mining Ltd's (ASX:BCK) Pallas and Castor deposits which have combined Mineral Resources of 108Mt @ 58.3% Fe (BCK ASX release 16 October 2012). Mineralisation identified by Sheffield is contiguous with that of Brockman.

At Three Pools and Eagle Pool, iron mineralisation is primarily associated with the Boolgeeda Iron Formation which is known to host several significant iron deposits in the region including Brockman's Pallas, Castor, Sirius and Kalgan Creek deposits and Atlas Iron's Hickman deposits.

In the North Pilbara, Sheffield has identified substantial zones of iron enrichment at the Panorama and Dead Bullock projects which are located close to Atlas Iron Ltd's (ASX:AGO) Abydos and Mt Webber mine camps and within potential trucking distance to Port Hedland (Figure 13).

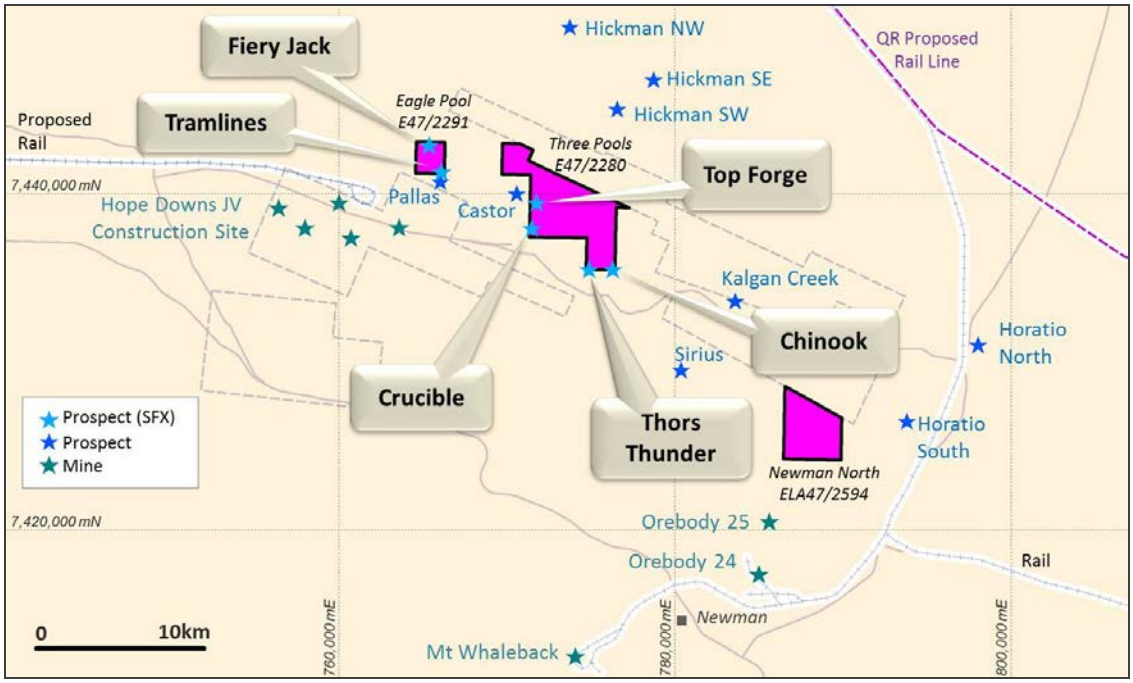


Figure 12: Sheffield's Three Pools project region, prospect locations, iron deposits and infrastructure

[5] Sheffield Resources has not yet reported Mineral Resources for Three Pools and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Figures have been rounded to reflect the implied level of accuracy

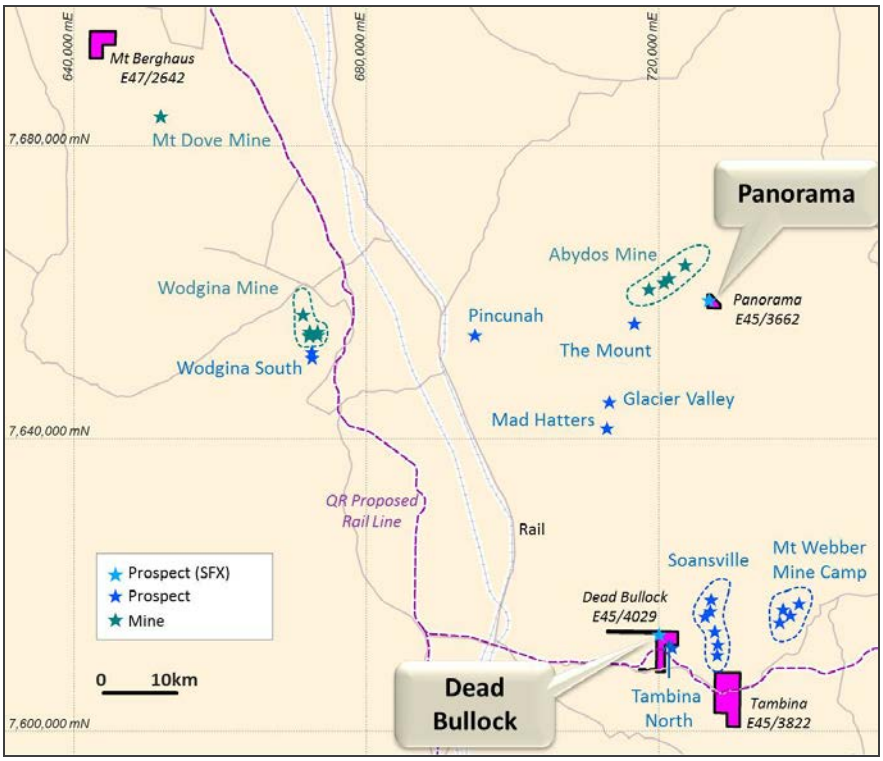


Figure 13: North Pilbara project region, prospect locations, iron deposits and infrastructure

TALC

Sheffield has a dominant tenure position (1,152km^2) covering the 175km-long Moora Talc Belt.

The Moora Talc Belt includes Imery's Three Springs Talc Mine which has been operating since 1948. Three Springs is renowned for producing premium grade microcrystalline talc from a relatively simple "dig-and-deliver" operation. Sheffield's strategy is to discover talc deposits of similar size and quality to the Three Springs deposit.

During Q2 2012 Sheffield completed a 2,070m programme of RC and diamond core drilling at three of its talc prospects: Prowaka South, Tilleys and Azharuddin. Holes were geologically logged, and samples of talc selected for chemical and optical brightness analysis. Results of this work are included as Tables 2-4 in Appendix 2.

The work to date on Sheffield's Moora Talc project has outlined deposits of talc with high chemical purity but sub-optimal brightness due, in part, to deep weathering. Sheffield will focus on building up its knowledge of the talc deposits identified to date and will investigate potential market niches for the various types of talc.

CASH POSITION

As at 31 December 2012, the Company had cash reserves of approximately $6.0 million.

During the quarter, $532,000 was raised from the exercise of options.

Bruce McQuitty
Managing Director
31 January 2013

COMPETENT PERSONS' STATEMENT – EXPLORATION RESULTS

The information in this announcement that relates to exploration results is based on information compiled by David Boyd. Mr Boyd is a full time employee of the Company. Mr Boyd is a Member of the Australasian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity to which they are undertaking to qualify as Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code")'. Mr Boyd consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

COMPETENT PERSONS' STATEMENT – RESOURCE ESTIMATES

The information in this announcement that relates to resource estimation is based on information compiled by Mr Trent Strickland. Mr Strickland is a full time employee of Quantitative Group (QG) and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Strickland has sufficient experience in the minerals industry to satisfy the requirements to act as the competent person for this estimate as defined in the 2004 Edition of the Australasian Code for Reporting of Mineral Resources and Ore Reserves. Mr Strickland consents to the inclusion in this report of the Durack Mineral Sands resource estimate.

The information in this web page that relates to reporting of resource and exploration results is based on information compiled under the guidance of Mark Teakle. Mr Teakle is an employee of the Company. Mr Teakle is a Member of the Australasian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity to which they are undertaking to qualify as Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code")'. Mr Teakle consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

FORWARD LOOKING AND EXPLORATION TARGET STATEMENTS

Some statements in this report regarding estimates or future events are forward-looking statements. They involve risk and uncertainties that could cause actual results to differ from estimated results. Forward-looking statements include, but are not limited to, statements concerning the Company's exploration programme, outlook, target sizes and mineralised material estimates. They include statements preceded by words such as "seek", "expected", "target", "scheduled", "intends", "potential", "prospective" and similar expressions.

The terms "Target" and "Exploration Target", where used in this report, should not be misunderstood or misconstrued as an estimate of Mineral Resources and Reserves as defined by the JORC Code (2004), and therefore the terms have not been used in this context. Exploration Targets are conceptual in nature and it is uncertain if further exploration or feasibility study will result in the determination of a Mineral Resource or Reserve.

APPENDIX 1: MINERAL RESOURCES

Table 1: Sheffield's contained Valuable HM (VHM) Resource inventory[1] at 30 January 2013

Deposit	Resource Category	Zircon (kt)*	Rutile (kt)*	Leuc. (kt)*	Ilmenite (kt)*	**Total VHM (kt)***
Thunderbird	Indicated	1,483	344	924	6,256	**9,007**
Thunderbird	Inferred	4,270	990	2,661	18,007	**25,927**
Yandanooka	Measured	13	2	3	87	**105**
Yandanooka	Indicated	240	81	83	1,439	**1,843**
Yandanooka	Inferred	4	1.3	2	23	**29**
Durack	Indicated	144	29	52	703	**928**
Durack	Inferred	26	4.6	13	121	**164**
Ellengail	Inferred	92	90	20	658	**860**
West Mine North	Measured	18	33	42	200	**293**
West Mine North	Indicated	71	87	46	506	**709**
McCalls	Inferred	3,491	1,063	2,576	42,911	**50,041**
Total	Measured	31	35	45	287	**398**
Total	Indicated	1,938	540	1,104	8,904	**12,487**
Total	Inferred	7,882	2,149	5,271	61,718	**77,021**
Total	**All**	**9,851**	**2,725**	**6,421**	**70,910**	**89,906**

* Tonnes have been rounded to reflect the relative uncertainty of the estimates. [1] The contained HM tonnages shown in the Table above are sourced from Table 2, below.

Table 2: Sheffield's Eneabba Project Mineral Resource[2] Inventory at 30 January 2013

Project	Deposit	Resource Category	Cut-off (% HM)[4]	Material (Mt)*	Bulk Density	HM %	Slimes %[4]	Osize %	Insitu HM (Mt)*	Mineral Assemblage[3] Zircon %	Rutile %	Leuc. %	Ilm. %
Dampier	Thunderbird	Indicated	2.0	299	2.1	7.2	19	14	21.5	6.9	1.6	4.3	29
	Thunderbird	Inferred	2.0	1,075	2.1	5.8	17	16	61.9	6.9	1.6	4.3	29
	Total Dampier	**All**	**2.0**	**1,374**	**2.1**	**6.1**	**17**	**15**	83.4	**6.9**	**1.6**	**4.3**	**29**
Eneabba	Yandanooka	Measured	0.9	2.9	2.0	4.1	15	14	0.12	10.6	1.9	2.2	72
	Yandanooka	Indicated	0.9	90.1	2.0	2.3	16	15	2.09	11.5	3.9	3.9	69
	Yandanooka	Inferred	0.9	2.8	2.0	1.2	18	21	0.03	11.2	3.9	4.6	68
	Yandanooka	All	0.9	95.9	2.0	2.3	16	15	2.24	11.4	3.8	3.9	69
	Durack	Indicated	0.9	50.3	2.0	2.0	15	21	1.02	14	2.8	5.1	69
	Durack	Inferred	0.9	15.0	1.9	1.2	14	17	0.18	14	2.5	7.2	66
	Durack	All	0.9	65.3	2.0	1.8	15	20	1.20	14	2.8	5.6	68
	Ellengail	Inferred	0.9	46.45	2.0	2.2	15.6	2.1	1.04	8.9	8.7	1.9	63.5
	Ellengail	All	0.9	46.45	2.0	2.2	15.6	2.1	1.04	8.9	8.7	1.9	63.5
	West Mine North	Measured	0.9	6.47	2.0	5.6	14.8	1.2	0.36	4.9	9.1	11.6	54.9
	West Mine North	Indicated	0.9	36.11	1.9	2.3	13.1	2.8	0.84	8.4	10.3	5.4	60.0
	West Mine North	All	0.9	42.58	1.9	2.8	13.4	2.5	1.21	7.9	10.1	6.4	59.2
	Total Eneabba	Measured	0.9	9.4	2.0	5.2	15	5	0.48	6.7	6.8	8.7	60
	Total Eneabba	Indicated	0.9	176.6	2.0	2.2	15	14	3.96	11.6	4.9	4.6	67
	Total Eneabba	Inferred	0.9	64.2	2.0	1.9	15	6	1.25	10.2	7.1	3.3	64
	Total Eneabba	**All**	**0.9**	**250**	**2.0**	**2.3**	**15**	**12**	**5.69**	**11.1**	**5.5**	**4.4**	**66**
McCalls	McCalls	Inferred	0.9	4,431	2.3	1.2	26.5	1.4	53	6.6	2.0	4.9	80.8
	Total McCalls	**All**	**0.9**	**4,431**	**2.3**	**1.2**	**26.5**	**1.4**	**53**	**6.6**	**2.0**	**4.9**	**80.8**

**Tonnes have been rounded to reflect the relative uncertainty of the estimate.*

[2] This estimate is classified and reported in a manner compliant with the JORC code and guidelines (JORC, 2004). Further details on the Mineral Resource at each deposit can be found in this document and on the ASX Announcements page of the Company's website. [3] The Mineral Assemblage is represented as the percentage of the Heavy Mineral (HM) component of the deposit, as determined by QEMSCAN. TiO_2 minerals defined according to the following ranges: Eneabba Project: Rutile >95% TiO_2; Leucoxene 85-95% TiO_2; Ilmenite <55-85% TiO_2; Dampier Project: Rutile >95% TiO_2; Leucoxene 70-95% TiO_2; Ilmenite 40-70% TiO_2. [4] West Mine North and McCalls are reported below a 35% Slimes upper cutoff

APPENDIX 2: IRWIN DRILL RESULTS

Results Tabulation

Results of heavy liquid separation (HLS) are tabulated below. HLS using TBE, screen sizes: slimes -53µm, oversize +1mm. Coordinates used throughout are MGA Zone 50 (GDA94), all holes drilled vertically.

Table 1: Irwin aircore drill results. Intervals calculated using 0.9% HM cut with 6m minimum width and maximum 6m internal waste; "including" intervals using 2% HM cut, 3m minimum width and maximum 3m internal waste.

Hole ID	Easting	Northing	Depth From (m)	Depth To (m)	Interval Width (m)	HM wt%	Slimes wt%	Osize wt%
IRAC0033	315841	6754026	22.5	28.5	6.0	1.09	2.5	1.8
IRAC0033	315841	6754026	33.0	42.0	9.0	1.22	4.5	5.0
IRAC0034	315958	6754029	15.0	21.0	6.0	1.18	3.5	2.5
IRAC0035	316080	6754028	10.5	25.5	15.0	1.38	2.5	2.5
IRAC0036	316198	6754029	12.0	30.0	18.0	1.51	3.4	2.0
		including:	*22.5*	*27.0*	*4.5*	*2.21*	*1.6*	*0.1*
IRAC0037	316316	6754031	9.0	27.0	18.0	1.66	3.1	1.5
		including:	*16.5*	*21.0*	*4.5*	*2.38*	*2.0*	*0.1*
IRAC0038	316442	6754028	7.5	19.5	12.0	1.64	3.7	3.0
		including:	*13.5*	*16.5*	*3.0*	*2.16*	*4.1*	*0.1*
IRAC0038	316442	6754028	31.5	48.0	16.5	2.23	1.3	3.6
		including:	*34.5*	*37.5*	*3.0*	*3.13*	*2.3*	*1.2*
IRAC0039	316559	6754029	10.5	24.0	13.5	1.36	5.8	3.8
IRAC0040	316678	6754028	10.5	40.5	30.0	1.20	3.1	2.5
IRAC0041	316798	6754030	12.0	27.0	15.0	1.48	3.8	4.4
IRAC0042	316916	6754037	12.0	25.5	13.5	1.09	8.2	18.1
IRAC0043	317038	6754039	12.0	28.5	16.5	1.33	8.9	14.6
IRAC0043	317038	6754039	33.0	40.5	7.5	0.97	3.1	0.5
IRAC0044	317159	6754028	33.0	43.5	10.5	1.21	5.8	0.7
IRAC0045	317280	6754030	37.5	49.5	12.0	1.19	4.2	1.2
IRAC0047	317016	6755602	3.0	24.0	21.0	1.03	10.9	6.9
IRAC0047	317016	6755602	30.0	36.0	6.0	1.04	2.7	1.2
IRAC0048	316876	6755602	0.0	31.5	31.5	1.38	9.8	7.1
		including:	*4.5*	*7.5*	*3.0*	*2.22*	*17.6*	*14.8*
		including:	*18.0*	*21.0*	*3.0*	*2.52*	*10.7*	*3.4*
IRAC0049	316745	6755601	0.0	6.0	6.0	1.81	7.7	1.2
IRAC0049A	316745	6755601	0.0	9.5	9.5	1.67	8.8	4.8
		including:	*1.5*	*4.5*	*3.0*	*2.19*	*6.0*	*0.8*
IRAC0050	316637	6755602	1.5	18.0	16.5	1.17	6.5	6.1
IRAC0051	316520	6755603	1.5	19.5	18.0	2.20	3.2	1.5
		including:	*9.0*	*19.5*	*10.5*	*2.87*	*2.1*	*1.1*
IRAC0052	316393	6755603	9.0	22.5	13.5	1.48	2.1	0.5
IRAC0053	316277	6755604	6.0	13.5	7.5	1.48	4.8	2.9
IRAC0053	316277	6755604	21.0	27.0	6.0	1.17	1.8	0.5
IRAC0054	316154	6755604	7.5	15.0	7.5	1.32	4.8	2.5
IRAC0056	315920	6755601	4.5	15.0	10.5	1.15	4.4	0.9
IRAC0058	316155	6756201	0.0	7.5	7.5	1.11	13.1	5.1

Hole ID	Easting	Northing	Depth From (m)	Depth To (m)	Interval Width (m)	HM wt%	Slimes wt%	Osize wt%
IRAC0059	316036	6756207	9.0	18.0	9.0	1.11	4.6	0.4
IRAC0060	315910	6756196	12.0	22.5	10.5	1.28	1.3	0.3
IRAC0061	315791	6756200	18.0	39.0	21.0	2.15	1.6	0.5
		including:	*19.5*	*24.0*	*4.5*	*5.04*	*1.9*	*0.3*
		including:	*27.0*	*30.0*	*3.0*	*2.17*	*1.8*	*0.7*
IRAC0062	315677	6756201	21.0	27.0	6.0	1.39	2.5	0.6
IRAC0064	316393	6756401	1.5	7.5	6.0	1.16	6.5	2.3
IRAC0065	316277	6756403	0.0	6.0	6.0	1.49	7.3	3.2
IRAC0065	316277	6756403	15.0	22.5	7.5	1.78	7.7	3.9
		including:	*16.5*	*19.5*	*3.0*	*2.56*	*9.4*	*6.1*
IRAC0066	316521	6756800	21.0	33.0	12.0	1.41	7.5	6.0
IRAC0069	316148	6756805	10.5	28.5	18.0	1.13	3.8	6.9
IRAC0070	315673	6756975	18.0	24.0	6.0	1.26	2.1	1.4
IRAC0071	315796	6756798	6.0	27.0	21.0	1.09	4.4	7.0
IRAC0072	316031	6756803	25.5	33.0	7.5	1.60	1.5	0.5
IRAC0073	315916	6756799	24.0	31.5	7.5	1.21	1.0	0.4
IRAC0074	315557	6756972	21.0	28.5	7.5	1.12	3.0	1.6
IRAC0089	315559	6757398	9.0	21.0	12.0	0.93	7.1	1.2
IRAC0090	315676	6757402	21.0	31.5	10.5	1.04	10.3	0.9
IRAC0092	315912	6757401	12.0	24.0	12.0	1.37	12.7	6.0
IRAC0094	316155	6757401	30.0	39.0	9.0	1.55	3.7	1.2
IRAC0096	315922	6757999	4.5	13.5	9.0	1.07	4.0	0.4
IRAC0096	315922	6757999	21.0	27.0	6.0	1.08	11.6	11.0
IRAC0097	315791	6758001	4.5	10.5	6.0	0.98	9.2	4.9
IRAC0101	315437	6757999	18.0	31.5	13.5	1.15	3.3	1.8
IRAC0103	315070	6757997	40.5	46.5	6.0	1.36	26.8	0.9
IRAC0106	314717	6758001	37.5	45.0	7.5	1.31	3.9	2.2

Table 2: Moora Talc Project 2012 drilling Talc chemistry.

Prospect	Hole ID	Depth From (m)	Depth To (m)	Interval (m)	MgO (%)	SiO_2 (%)	Fe_2O_3 (%)	Al_2O_3 (%)	CaO (%)	P_2O_5 (%)	LOI (%) (1000°)
Prowaka South	PSRC001	46.0	49.0	3.0	27.9	62.8	1.31	1.49	0.24	0.124	5.6
Tilleys	TIRC004	113.0	117.0	4.0	31.2	58.5	0.90	1.04	1.31	0.147	6.8
	TIRC008	57.0	62.0	5.0	30.4	61.1	2.24	0.69	0.15	0.092	5.0
	TIRC010	42.0	50.0	8.0	30.4	61.0	1.85	0.86	0.22	0.144	5.0
	TIDD001	48.0	50.0	2.0	30.7	61.2	1.59	0.78	0.05	0.023	5.0
		53.0	56.0	3.0	30.3	60.8	1.56	1.36	0.12	0.063	5.1
		68.4	69.9	1.5	31.2	61.7	1.23	0.34	0.37	0.090	5.2
		75.7	78.1	2.4	30.9	60.6	1.34	0.25	0.73	0.031	5.8
		90.0	91.3	1.3	31.2	60.1	1.55	1.36	0.54	0.096	5.7
		92.8	93.6	0.8	31.2	60.7	1.64	1.30	0.11	0.051	5.2
Azharuddin	AZDD001	52.6	61.8	9.2	31.1	62.1	0.96	0.50	0.18	0.007	4.7
	AZDD002	28.0	29.0	1.0	30.9	61.0	0.99	1.48	0.02	0.027	5.3
		31.0	34.0	3.0	27.7	66.5	0.73	0.38	0.02	-0.001	4.3
		48.0	51.0	3.0	27.6	64.7	1.71	0.96	0.23	0.003	4.7
		54.0	56.0	2.0	29.9	63.3	1.51	0.57	0.03	0.001	4.6

Sample intervals are based on geological and chemical criteria determined by XRF (MgO >28%, SiO_2 >50%, Fe_2O_3 <1.5%, Al_2O_3 <1.5%, CaO <0.8% and LOI <6%). Core hole samples are quarter HQ/PQ core. Minimum reported width 1m.

Table 3: Moora Talc Project 2012 drilling Talc optical brightness and colour.

Prospect	Hole ID	Depth From (m)	Depth To (m)	Interval (m)	Brightness Ry	Brightness R457nm	CIE				DIN6167
							L	a*	b*	WI	YI
Prowaka South	PSRC001 #	46.0	48.0	2.0	76	60	90	2.1	15.4	4.0	30.1
Tilleys	TIRC010#	42.0	47.0	5.0	68	57	86	1.8	11.1	14.2	23.3
		49.0	50.0	1.0	61	47	82	2.9	14.9	-14.4	32.3
	TIDD001	48.0	50.0	2.0	74	62	89	1.9	11.1	21.1	22.8
		53.0	56.0	3.0	71	60	88	1.5	10.1	22.4	21.0
		68.4	69.9	1.5	86	84	94	-0.6	1.5	79.1	2.5
		75.7	78.1	2.4	87	86	95	-0.6	1.5	80.5	2.4
		90.0	91.3	1.3	83	80	93	-1.5	2.3	72.0	3.4
		92.8	93.6	0.8	85	82	94	-1.2	2.4	73.8	3.7
Azharuddin	AZDD001	52.6	61.8	9.2	85	79	94	0.6	4.9	62.6	9.8
	AZDD002	28.0	29.0	1.0	83	70	93	1.0	11.9	29.0	22.6
		31.0	34.0	3.0	90	86	96	0.1	3.2	75.4	6.0
		48.0	49.0	1.0	77	69	90	1.3	7.5	41.7	15.6
		50.0	51.0	1.0	77	65	91	1.9	10.9	26.5	22.1
		54.0	56.0	2.0	79	69	91	1.3	9.2	36.2	18.5

Sample intervals are based on geological and chemical criteria. Core hole samples are quarter HQ/PQ core. Minimum reported width 1m. Talc intervals were analysed for optical properties including Brightness (R457 and Ry), CIE Colour (L, a*, b*), WI (CIE) and YI (DIN6167) by Sheffield. #Due to the drilling method optical properties for RC holes (PSRC001 and TIRC010) are likely to be biased lower than actual through the introduction of minor contaminants.

Chemical purity (low Fe_2O_3, low CaO, low LOI) and/or high levels of brightness (87% or greater GE Brightness, also known as R457 Brightness) are important properties for the various talc end use applications, with high brightness important for the largest end use sector – paper making.

Table 4: Moora Talc Project 2012 drilling collar locations – all drillholes.

PROSPECT	HOLEID	East	North	AHDRL	DEPTH	TENEMENTID	DIP	AZIMUTH	DRILL_TYPE
PROWAKA SOUTH	PSRC001	389409	6723430	247	77.0	E70/3779	-60	90.0	RC
	PSRC002	389409	6723548	247	120.0	E70/3779	-60	90.0	RC
	PSRC003	389411	6723308	247	78.0	E70/3779	-60	90.0	RC
	PSRC004	389286	6723307	247	110.0	E70/3779	-60	90.0	RC
	PSRC005	389171	6723307	247	66.0	E70/3779	-60	90.0	RC
TILLEYS	TIDD001	403454	6697439	285	108.6	E70/3778	-60	120.0	DIAMOND
	TIRC001	403489	6697487	286	29.0	E70/3778	-60	120.0	RC
	TIRC002	403484	6697490	287	63.0	E70/3778	-60	120.0	RC
	TIRC003	403480	6697492	286	117.0	E70/3778	-60	120.0	RC
	TIRC004	403441	6697516	286	120.0	E70/3778	-60	120.0	RC
	TIRC005	403391	6697546	285	120.0	E70/3778	-60	120.0	RC
	TIRC006	403595	6697429	285	60.0	E70/3778	-60	120.0	RC
	TIRC007	403481	6697356	282	60.0	E70/3778	-70	120.0	RC
	TIRC008	403434	6697381	282	87.0	E70/3778	-60	120.0	RC
	TIRC009	403318	6697310	277	120.0	E70/3778	-70	120.0	RC
	TIRC010	403371	6697282	278	72.0	E70/3778	-70	120.0	RC
	TIRC011	403426	6697253	278	72.0	E70/3778	-70	120.0	RC
	TIRC012	403269	6697338	276	123.0	E70/3778	-70	120.0	RC
	TIRC013	403378	6697412	282	123.0	E70/3778	-60	120.0	RC
	TIRC014	403328	6697439	281	108.0	E70/3778	-60	120.0	RC
AZHARUDDIN	AZDD001	410711	6668309	288	111.3	E70/3776	-90	0.0	DIAMOND
	AZDD002	410652	6668441	290	138.5	E70/3776	-90	0.0	DIAMOND

Coordinates are MGA Zone 50, GDA 94, collar dip and azimuth shown.