

31 July 2012

QUARTERLY REPORT FOR PERIOD ENDING 30 JUNE 2012

HIGHLIGHTS

Dampier HMS project

- Drilling commenced at the large Thunderbird HMS prospect on 10 July, with over 40 holes of a 100 hole programme drilled to date

Eneabba HMS project

- Prefeasibility commenced on Yandanooka deposit: metallurgy, process design and optimisation studies in progress
- Completion of 14,468m exploration and resource definition drilling programme
- First assay results from the programme outline a significant new near-surface HMS discovery at Durack, including:
 - 13.5m @ 3.66% HM from 0m (DUAC110)
 - 13.5m @ 3.44% HM from 0m (DUAC074), includes 9m @ 4.56% HM from 0m
 - 10.5m @ 4.28% HM from 0m (DUAC073), includes 6m @ 6.24% HM from 0m
 - 12.0m @ 3.69% HM from 0m (DUAC101)
- Resource estimation work on Durack nearing completion
- Further assay results from Eneabba drilling to be reported progressively from early August

McCalls HMS project

- Completion of 4,365m drilling programme to gain representative mineral assemblage data

Talc

- 2,070m RC & diamond drilling programme completed, results pending

As at 30/6/12:

Issued Shares	94.9M	ASX Code	SFX	Closing Price	\$0.34
Market Cap	\$32.3M	Cash Reserves	\$9.3M		

ENEABBA PROJECT PRE-FEASIBILITY

Prefeasibility work commenced on the Eneabba Project following positive results from TZMI's Scoping Study completed in March 2012.

An 8 tonne bulk ore sample was excavated from the Yandanooka deposit and submitted to Robbins Metallurgical for testwork to develop a process flowsheet.

Initial work, comprising characterisation of the sample, feed preparation stages of screening oversize and desliming, and heavy mineral concentrate (HMC) production have been completed. Scoping testwork on mineral separation on the HMC has commenced. Results will be reported progressively during Q3 2012.

No major processing issues have been identified from the feed preparation and concentrate production steps at Yandanooka, and a multi-stage spiral separator circuit has been developed utilising conventional mineral sands processing equipment.

Resource optimisation studies and production scheduling for Yandanooka has also commenced.

EXPLORATION DRILLING PROGRAMME

An aircore drilling campaign commenced on the Company's mineral sands projects on 22 March and continued throughout the June quarter.

Drilling on the Eneabba project totalled 653 aircore holes for 14,468m, focusing on delineating mineral resources and collecting metallurgical samples at three dunal style prospects: Durack, Drummond Crossing and Irwin. Infill drilling was completed at Yandanooka aimed at increasing the amount of resource in the Indicated classification and obtaining representative sample for metallurgical testwork.

At the McCalls project, a total of 71 aircore drill holes (4,365m) were completed to obtain representative samples for further mineral assemblage determinations.

Subsequent to the end of the quarter, the aircore drill rig mobilised to the Dampier zircon project and commenced drilling on 10 July.

A total of 19 RC drill holes (1,712m) and 3 diamond drill holes (358m) were completed at Prowaka South, Tilleys and Azharuddin prospects on the Moora Talc Belt project.

Exploration expenditure during the quarter is estimated to be \$1,766,000.



Figure 1: Location of Sheffield's Projects

HEAVY MINERAL SANDS

Dampier

The Dampier HMS project is located approximately 60km west of the port of Derby in Western Australia's Kimberley region (Figure 2).

As announced on 12 July 2012, drilling has commenced at the Thunderbird prospect where the Company has previously announced an Exploration Target¹ of **450-850Mt at 5-10% HM** based on past drilling by Rio Tinto (ASX: RIO) (see ASX release dated 8 November 2011).

Sheffield's aircore drilling programme of approximately 100 holes for 6,000m is expected to take 6 weeks to complete. The programme has been designed with the objectives of allowing estimation of a Mineral Resource and providing material for metallurgical testwork. Assay results from the drilling will be reported progressively as they come to hand.

The commencement of drilling Thunderbird follows the completion of Aboriginal Heritage and Environmental surveys which cleared the work programme over the main target area. Sheffield continues to engage with Traditional Owner groups on the Dampier Peninsular to arrange an Aboriginal Heritage survey over the smaller Argo prospect, located 12km west of Thunderbird.

Exploration licence E04/2081, which covers strike extensions of the prospective heavy mineral host formation to the south of Thunderbird, was granted during the quarter.

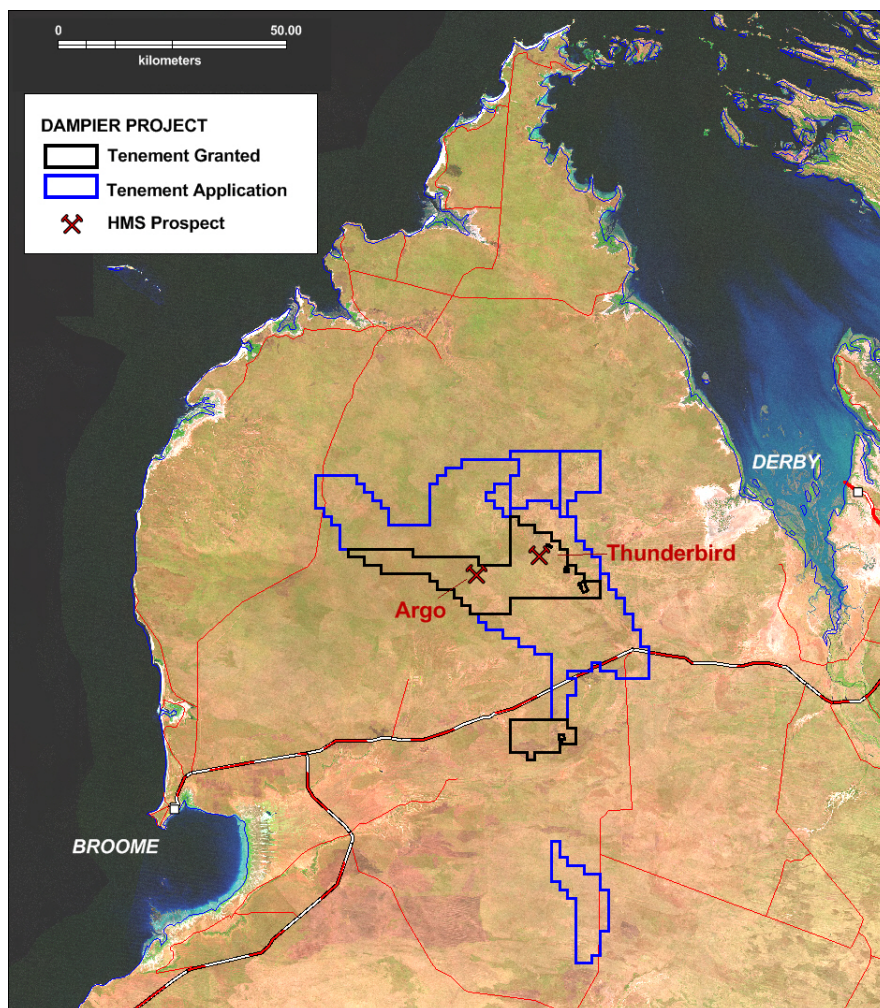


Figure 2: Location of Dampier Project

¹Sheffield has not yet reported Mineral Resources at the Dampier project 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.

Eneabba

Sheffield's Eneabba Project contains six advanced exploration prospects: West Mine North, Ellengail, Yandanooka, Durack, Drummond Crossing and Irwin (Figure 2). Sheffield's strategy is to develop multiple HMS deposits capable of supporting a flexible mobile mining operation.

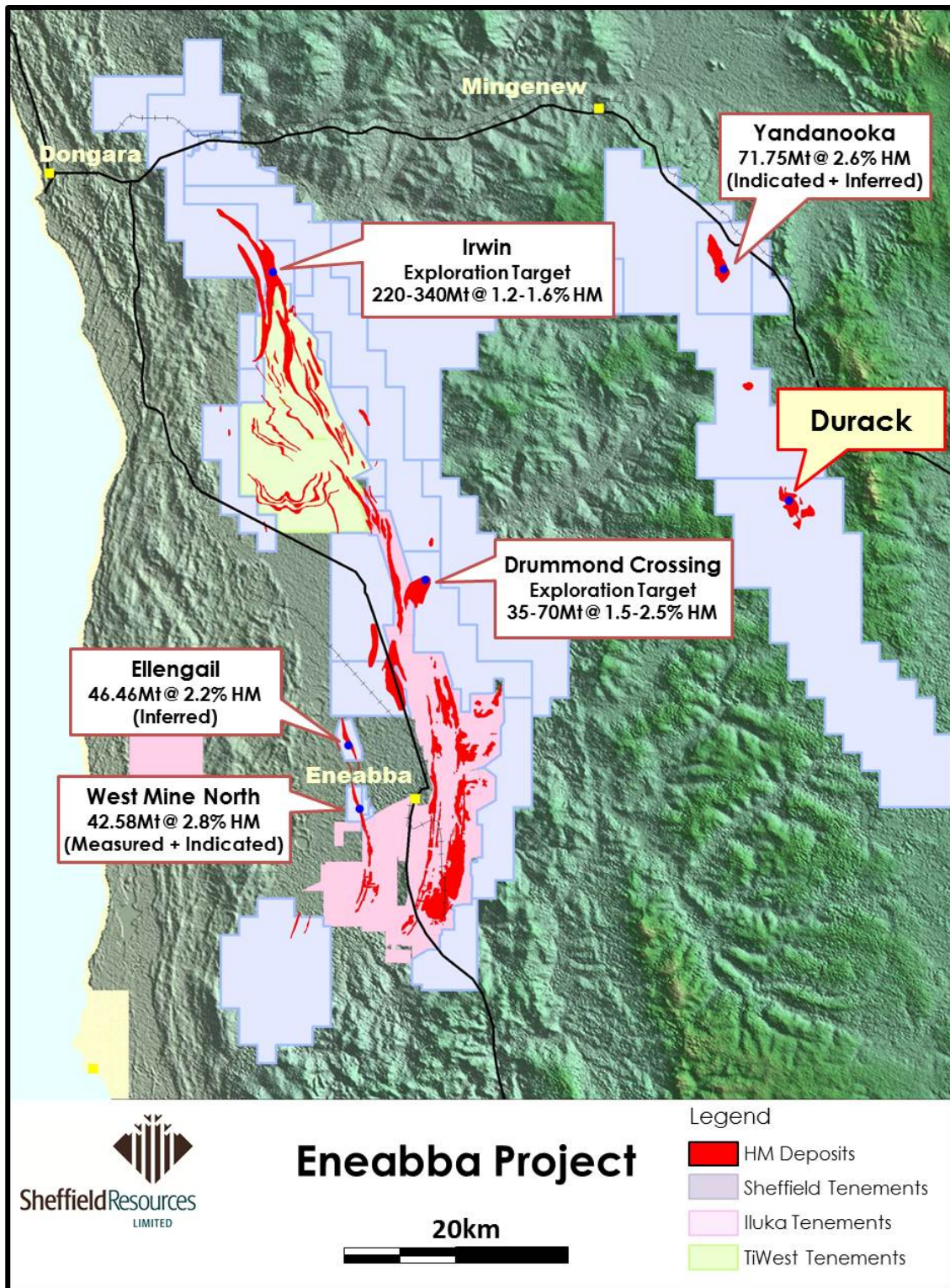


Figure 3: Location of Sheffield's projects in the Eneabba region

During the previous quarter, a scoping study completed by leading mineral sands consultancy group TZMI, confirmed the technical and robust financial viability of the Eneabba Project (see ASX release dated 30 March 2012).

The study assumed sequential mining of the Yandanooka, West Mine North and Ellengail deposits to produce an average of 220,000tpa of heavy mineral concentrate which would then be passed through a basic 30tph mineral separation plant (MSP) to yield 110,000tpa of chloride-grade ilmenite and 70,000tpa of non-magnetic concentrate (containing rutile, leucoxene and zircon).

The scoping study results showed the Eneabba project is potentially a financially attractive operation, while additional exploration discoveries of near-surface mineralisation would further improve the project economics. This has served to focus the Company's exploration effort in the Eneabba region, with the majority of the 2012 drilling programme targeting near-surface dunal style mineralisation at the Durack, Yandanooka, Drummond Crossing and Irwin prospects (see Table 1 below for further details).

On 22 May 2012, the Company announced the discovery of a new near-surface HMS deposit at Durack from the first results of the 2012 Eneabba Project drilling campaign. Durack is located 20km south of the Yandanooka deposit (71.75Mt @ 2.6% HM combined Indicated and Inferred Resource – see Appendix 1).

The drilling program at Durack returned excellent results, including:

13.5m @ 3.66% HM from 0m (DUAC110)
13.5m @ 3.44% HM from 0m (DUAC074), includes 9m @ 4.56% HM from 0m
10.5m @ 4.28% HM from 0m (DUAC073), includes 6m @ 6.24% HM from 0m
12.0m @ 3.69% HM from 0m (DUAC101)

(For further details refer to the Company's ASX release dated 22 May 2012.)

These results outline a mineralised zone approximately 3.3km long, 1.3km wide and between 3m and 18m thick (average 7m), from surface (Figures 4 & 5). Within this is a high-grade (>2% HM) core approximately 2.5km long by 1km wide, from 3m to 16.5m thick (average 6m), also from surface.

Durack has similar attributes to the nearby Yandanooka deposit which contains significant zircon and rutile, has little overburden and contains a core of high grade heavy mineral.

The Durack discovery is likely to have a significant positive impact on the already robust Eneabba Project economics.

Resource estimation work on Durack is nearing completion, with the results expected mid-August.

Further results from the Eneabba drilling programme will be released progressively from mid-August as they come to hand.

Table 1: Details of Eneabba drilling programme

Prospect	Tenement	No. Holes	Metres
Durack	E70/3762	161	2214.5
Yandanooka	E70/3813	262	4506
Arrino	E70/3761	14	420
Stockyard	E70/3898	14	357.5
Drummond Crossing	E70/3814	117	3305.5
West Mine North – Bulk Sample	M70/965	7	169.5
Irwin	E70/3812	78	3494.9
Total		653	14467.9

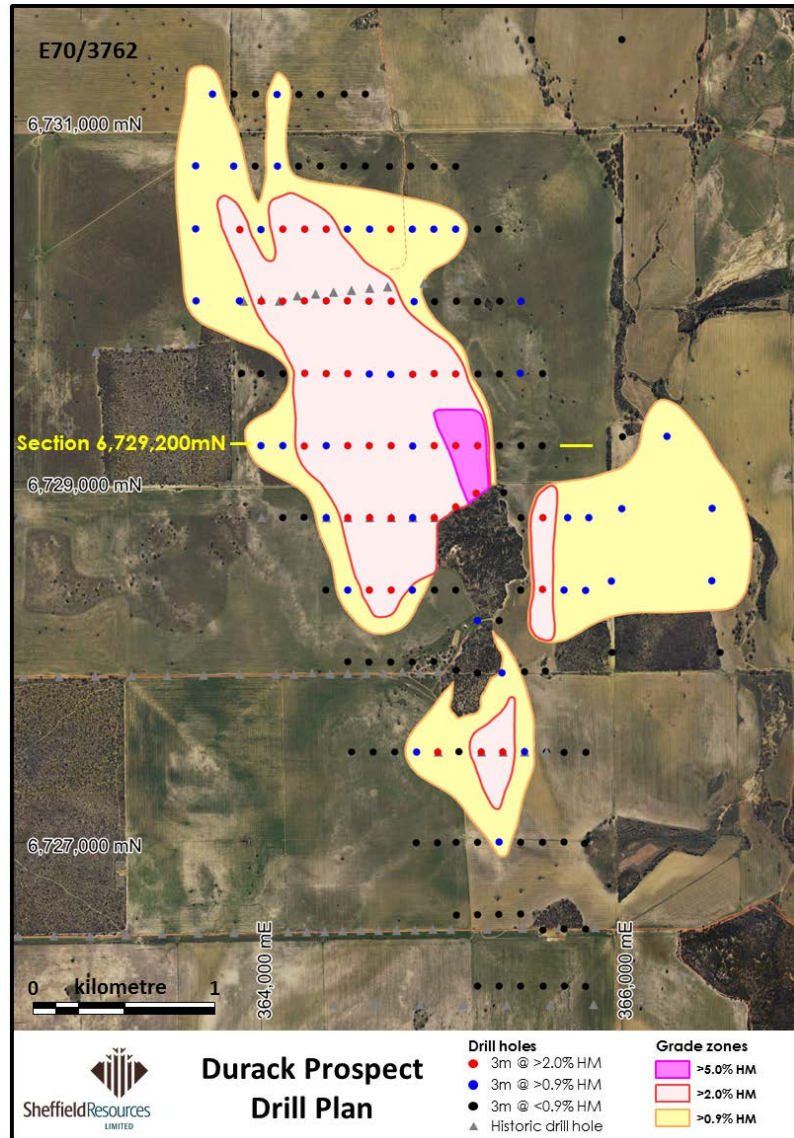


Figure 4: Durack prospect drill plan & mineralised zones

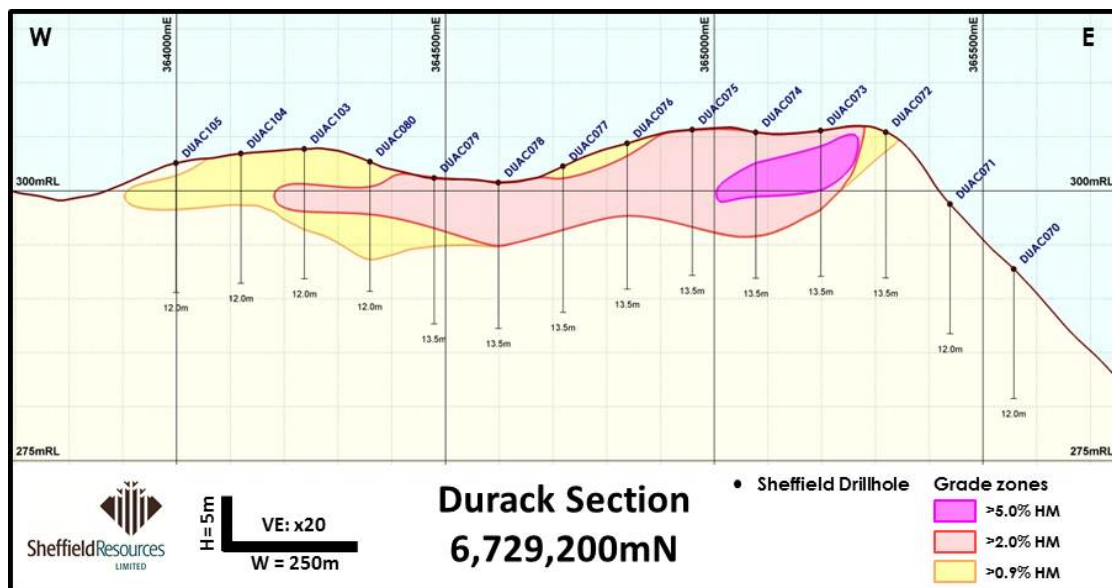


Figure 5: Durack cross section

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.

The heavy mineral assemblage of 80.8% ilmenite, 6.6% zircon, 2% rutile and 4.9% leucoxene is based on 4 QEMSCAN analyses on composite samples from a single line of drill holes across the deposit completed by Sheffield in 2011.

Given the size of the deposit, any increase in the proportion of higher value rutile and zircon in the heavy mineral would have a substantial positive effect on the project economics.

During the quarter, the Company completed 71 broadly spaced aircore drill holes (4,365m) aimed at gaining more representative material for mineral assemblage determinations and metallurgical testwork.

Sheffield considers McCalls to be strategically significant asset and will continue to research means of improving the project economics.

TALC

Sheffield has a dominant tenure position (1,152km²) 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.

Sheffield is one of very few listed public companies in the world offering significant exposure to talc which is principally used in the manufacture of paper, ceramics and plastics.

During the quarter, a total of 19 RC drill holes (1,712m) and 3 diamond drill holes (358m) were completed at Prowaka South, Tilley's and Azharuddin prospects, as follows:

- At Prowaka South, 5 RC drill holes (450m) targeted extensions of high grade talc intersected at depth in the 2011 drilling campaign.
- At Tilley's, 14 RC drill holes (1,262m) and 1 diamond drill hole (108.6m) tested the extent of talc intersected in the 2011 drilling campaign.
- At Azharuddin, 2 diamond drill holes (249.8m) tested talc intersected in historical Rio Tinto drill holes.

The Company is awaiting assay results to evaluate the significance of programme. Brightness testing is scheduled for September.

OTHER

The Company applied for 4 exploration licences west of Morawa covering a rock formation which is considered prospective for potash. Three of these exploration licences E70/4318-20 were granted and the Company has commenced access negotiations with freehold landowners.

Subsequent to the end of the quarter, a significant new nickel-copper discovery was made by Sirius Resources NL (ASX:SIR) near Sheffield's Red Bull project in the western Eucla Basin (Figure 1). The Red Bull project comprises 2 exploration licences totalling 525km² in area which were initially pegged for their mineral sands potential. The Red Bull project lies within 20km of

Sirius' discovery and covers some of the same prospective Fraser Complex metamorphic sequence which hosts the new discovery.

No work was undertaken on the Company's iron and tungsten projects during the quarter.

CASH POSITION

As at 30 June 2012, the Company had cash reserves of approximately \$9.3 million. During the quarter, \$174,000 was raised from the exercise of options.



Bruce McQuitty
Managing Director
31 July 2012

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 web page that relates to resource estimation is based on information compiled under the guidance of John Vann. Mr Vann is a Principal of Quantitative Group and acts as a consultant to the Company. Mr Vann is a Fellow of the Australasian Institute of Mining and Metallurgy and a Fellow 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 Vann consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

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 2: Sheffield's contained Valuable HM (VHM) Resource inventory (0.9% HM cutoff).

Deposit	Resource Category	Zircon (kt)*	Rutile (kt)*	Leuc. (kt)*	Ilmenite (kt)*	Total VHM (kt)*
West Mine North	Measured	18	33	42	200	293
West Mine North	Indicated	71	87	46	506	709
Yandanooka	Indicated	201	117	168	1,072	1,558
Yandanooka	Inferred	12	8.5	15	73	108
Ellengail	Inferred	92	90	20	658	860
McCalls	Inferred	3,491	1,063	2,576	42,911	50,041
Total	Measured	18	33	42	200	293
Total	Indicated	272	204	214	1,577	2,268
Total	Inferred	3,595	1,162	2,611	43,641	51,009
Total	All	3,885	1,399	2,867	45,418	53,570

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

² The contained HM tonnages shown in the Table above are sourced from the Tables 3 & 4, below.

Table 3: Sheffield's Eneabba Project Mineral Resource² Inventory at 0.9% HM cutoff.

Deposit	Resource Category	Material (Mt)*	Bulk Density	HM %	Slimes % ⁴	Osize %	Insitu HM (Mt)*	Mineral Assemblage ³			
								Zircon %	Rutile %	Leuc. %	Ilm. %
West Mine North	Measured	6.47	2.0	5.6	14.8	1.2	0.36	4.9	9.1	11.6	54.9
West Mine North	Indicated	36.11	1.9	2.3	13.1	2.8	0.84	8.4	10.3	5.4	60.0
West Mine North	All	42.58	1.9	2.8	13.4	2.5	1.21	7.9	10.1	6.4	59.2
Yandanooka	Indicated	61.00	2.0	2.8	14.7	9.4	1.72	11.7	6.8	9.8	62.3
Yandanooka	Inferred	10.75	1.9	1.1	12.9	9.0	0.12	10.1	7.0	12.5	59.8
Yandanooka	All	71.75	2.0	2.6	14.4	9.3	1.84	11.5	6.9	10.2	61.9
Ellengail	Inferred	46.45	2.0	2.2	15.6	2.1	1.04	8.9	8.7	1.9	63.5
Ellengail	All	46.45	2.0	2.2	15.6	2.1	1.04	8.9	8.7	1.9	63.5
Total	Measured	6.47	2.0	5.6	14.8	1.2	0.36	4.9	9.1	11.6	54.9
Total	Indicated	97.13	2.0	2.6	14.1	6.9	2.56	10.5	8.1	8.2	61.5
Total	Inferred	57.21	2.0	2.0	15.1	3.4	1.16	9.1	8.4	3.9	62.8
Total	All	160.81	2.0	2.5	14.5	5.4	4.08	9.8	8.2	6.8	61.7

Table 4: Sheffield's McCalls Project Mineral Resource² at 0.9% HM cutoff.

Domain	Resource Category	Material (Mt)*	Bulk Density	HM %	Slimes % ⁴	Osize %	Insitu HM (Mt)*	Mineral Assemblage ³			
								Zircon %	Rutile %	Leuc. %	Ilm. %
McCalls	Inferred	4,431	2.3	1.2	26.5	1.4	53	6.6	2.0	4.9	80.8
Total	All	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). ³ The Mineral Assemblage is represented as the percentage of the Heavy Mineral (HM) component of the deposit, as determined by QEMSCAN. TiO₂ minerals defined according to the following ranges: Rutile >95% TiO₂; Leucocoxene 85-95% TiO₂; Ilmenite <55-85% TiO₂. ⁴ West Mine North and McCalls are reported below a 35% Slimes upper cutoff.