ASX and Media Release

30 January 2013

YANDANOOKA RESOURCE UPGRADE AND METALLURGICAL RESULTS

KEY POINTS

- **22% increase in total contained heavy mineral (HM) to 2.25 million tonnes (Mt)**
- **Upgraded mineral resource classification: 98.5% of total resource is in Indicated and Measured categories**
- **Metallurgical testwork shows the Yandanooka deposit is amenable to typical mineral sands process methodologies utilising 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 produced**

Sheffield Resources ("Sheffield") (ASX:SFX) today announced an upgraded Mineral Resource and positive metallurgical testwork results for its Yandanooka Heavy Mineral Sand (HMS) deposit. Yandanooka is one of six deposits which comprise Sheffield's Eneabba HMS Project in Western Australia (Figure 1).

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; refer to Table 1 for full details). 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) (Table 2).

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; Table 1).

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 has mostly come from the discovery of an extension to the eastern side of the deposit.

Managing Director, Bruce McQuitty said the upgraded resource demonstrated the robust nature of the Yandanooka deposit.

"Yandanooka is a broad, well zoned deposit with a large coherent high grade core and minimal overburden – these are important attributes for a mineral sands operation."

"We are also encouraged by the metallurgical results which demonstrate potentially saleable products, including high quality zircon, and high-titanium ilmenite suitable for the chloride pigment process."

"While the Dampier HMS Project has become our flagship and primary focus, we will continue to explore the Eneabba Project with the aim of adding to our resource base. Our aim is to discover more near-surface, high value deposits similar to Yandanooka, to support a long life sequential mining operation."

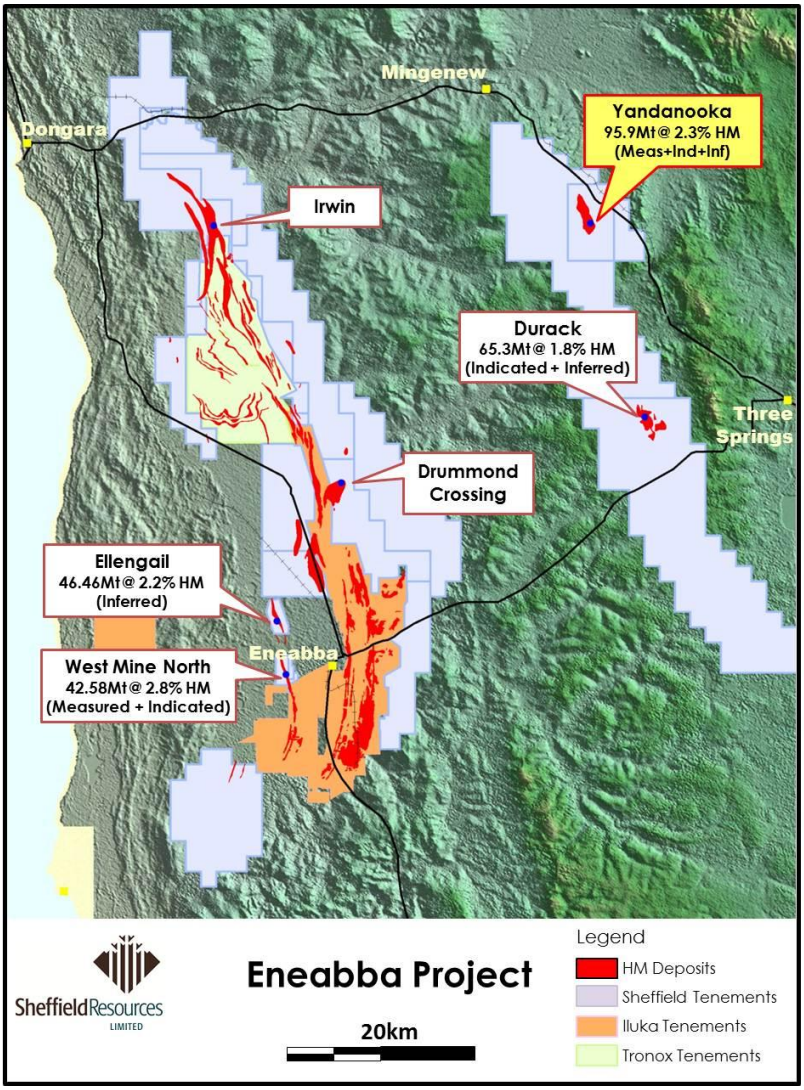

Figure 1: Location of Yandanooka and other prospects within the Eneabba Project

Metallurgical Process Testwork

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.

Test work confirmed that the slimes (calculated at 9.9% in the bulk sample) is readily flocculated using conventional medium anionic flocculent with an optimised dose rate of 60-65g/tonne (dry slimes) achieving settling rates of 10m/hr.

Homogenised screened, de-slimed feed material was processed on a stage by stage basis, resulting in the development of a seven stage spiral processing circuit producing a final heavy mineral concentrate containing 81% heavy mineral. A concentrate upgrade circuit was developed using a Low Intensity Magnetic Separator (LIMS) and Wet High Intensity Magnetic Separator (WHIMS) to produce a magnetic concentrate enriched in ilmenite and altered ilmenite.

Resultant non-magnetic material was upgraded into a non-magnetic concentrate enriched in zircon by processing it over two stages of wet shaking tables, simulating a gravity upgrade circuit.

Magnetic material (WHIMS mags) produced from the concentrate upgrade process was processed over a series of electrostatic and magnetic separators to produce a potential ilmenite product containing 66.5% TiO_2, with low levels of contaminants.

Upgraded non-magnetic material produced from the concentrate upgrade process development test work was processed over a series of electrostatic and magnetic separators to produce a zircon concentrate, HiTi 70 product and HiTi concentrate. Processing of the HiTi concentrate through combined electrostatic and Induced Roll magnetic circuits produced a final potential HiTi 80 product containing 85.8% TiO_2 and a HiTi 70 ilmenite product containing 72.2% TiO_2.

Processing of the zircon concentrate material produced from the Non-Magnetic Primary Electrostatic Circuit through a simulated wet zircon circuit produced a potential wet zircon concentrate 1 containing 96.4% zircon and a potential wet zircon concentrate 2 containing 89.7% zircon. These wet zircon concentrates were processed individually over several stages of electrostatic and magnetic separation stages to produce final potential primary and secondary zircon products. 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.

Future Work

The Yandanooka deposit is one of six which comprise Sheffield's Eneabba HMS Project. In March 2012, Sheffield announced positive scoping study results based on sequential mining of the Yandanooka, West Mine North and Ellengail deposits (ASX release dated 30 March 2012).

Since the completion of that scoping study, Sheffield has added the Durack resource to the Eneabba Project (ASX release dated 28 August 2012), completed this updated resource estimate at Yandanooka and is currently working on a maiden resource estimate for the Drummond Crossing deposit.

The Company is also evaluating the Irwin prospect and has identified several dunal-style HMS exploration targets in the Eneabba region that it intends to explore during 2013.

An updated scoping assessment of the Eneabba Project will be undertaken once the Drummond Crossing resource estimate has been completed.

About the Yandanooka Deposit

Yandanooka is a large, outcropping dunal-style HMS deposit in the northern Perth Basin mineral sand province. It is situated on cleared freehold land just 2.5km from an existing sealed highway and railway connecting to Geraldton port, approximately 140km to the northwest.

The deposit is 6km long by 2km wide and between 2m and 22m thick (average 8m). It has minimal overburden and lies above the water table.

The deposit has a higher grade (>1.4% HM) core enveloped by a lower grade (>0.9% HM) halo. The higher grade core similarly occurs from surface, averages 7m thickness and covers an area about 5km long by 1.2km wide (Figure 2).

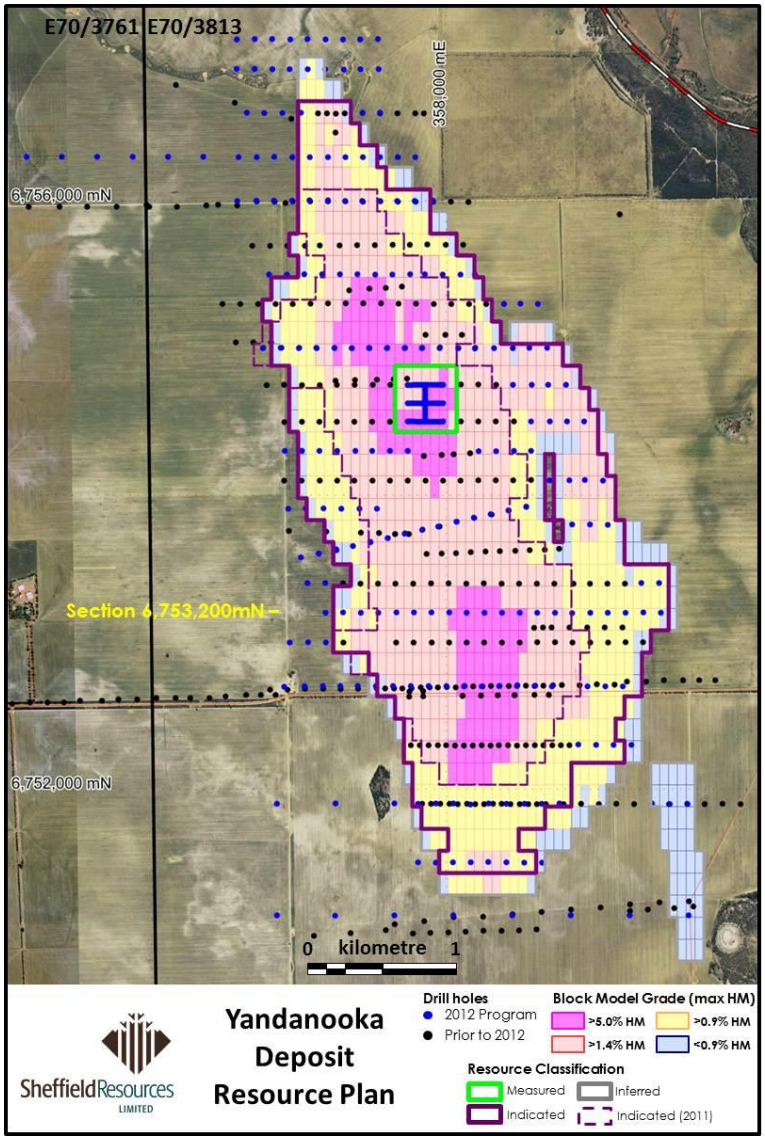

Figure 2: Plan view of the Yandanooka Resource

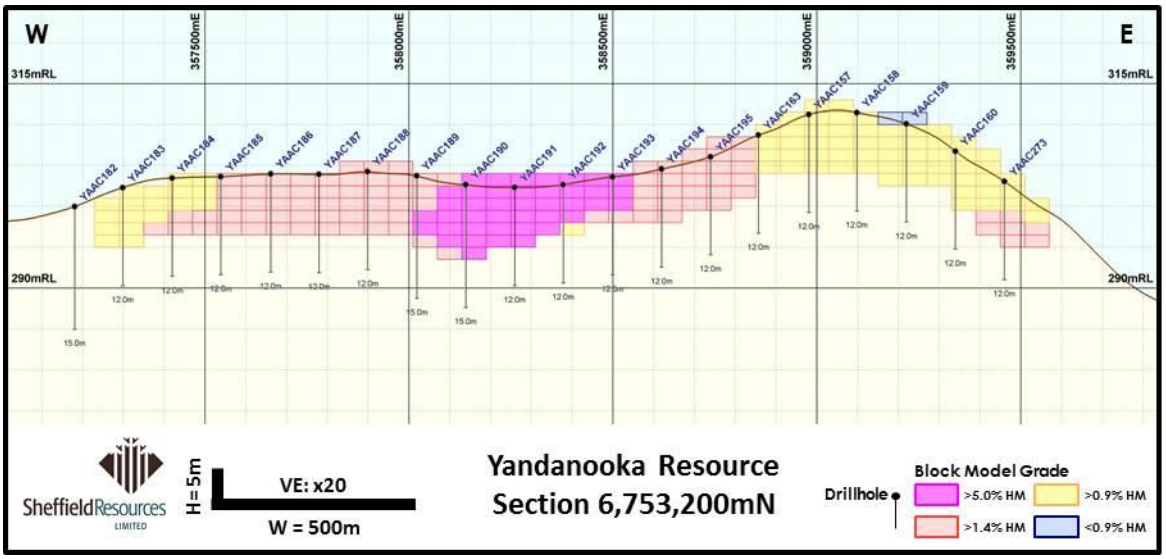

Figure 3: Cross section 6753200mN through the Yandanooka deposit

ENDS

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COMPETENT PERSONS' STATEMENT

[1]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 Thunderbird Mineral Sands resource estimate.

[2]The information in this announcement that relates to reporting of resource and exploration results is based on information compiled under the guidance of Mark Teakle. Mr Teakle is a full time 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 STATEMENTS

Some statements in this announcement 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 "expected", "planned", "target", "scheduled", "intends", "potential", "prospective", "strategy" and similar expressions.

ABOUT SHEFFIELD RESOURCES

Sheffield Resources Limited (**Sheffield**) is a rapidly emerging heavy mineral sands (HMS) company.

ASX Code – SFX	Market Cap @ 52.5cps - $52.0m
Issued shares – 99.0m	Cash - $6.0m (approx.)

The Company has over 6,000km^2 of highly prospective tenure, all situated within the state of Western Australia.

HEAVY MINERAL SANDS

The Dampier project, located near Derby in WA's Kimberley region, contains the large, high grade zircon-rich Thunderbird HMS deposit.

The Eneabba project comprises multiple HMS deposits and is located near Eneabba approximately 140km south of the port of Geraldton in WA's Mid-West region.

Sheffield is also evaluating the large McCalls chloride ilmenite project, located 110km to the north of Perth.

NICKEL-COPPER

Sheffield's 525km^2 Red Bull project is located in the highly prospective Fraser Complex within 20km of Sirius Resources NL's (ASX:SIR) Nova Ni-Cu discovery.

IRON

Sheffield has identified iron mineralisation on four of its tenements in the Pilbara iron ore province. Thick hematite mineralisation was intersected in first pass RC drilling at the Three Pools project, 20km north of Newman.

Table 1: Yandanooka Mineral Resource[1]

		Mineral Resources						Mineral Assemblage[2]			
Resource Category	**Cut off (HM%)**	**Material (Mt)***	**Bulk Density**	**HM %**	**Slimes %[3]**	**Osize %**	**In-situ HM (Mt)***	**Zircon %**	**Rutile %**	**Leuc. %**	**Ilmenite %**
Measured	0.9	2.9	2.0	4.1	15	14	**0.121**	10.6	1.9	2.2	72
Indicated	0.9	90.1	2.0	2.3	16	15	**2.091**	11.5	3.9	3.9	69
Inferred	0.9	2.8	2.0	1.2	18	21	**0.033**	11.2	3.9	4.6	68
Total	**0.9**	**95.9**	**2.0**	**2.3**	**16**	**15**	**2.245**	**11.4**	**3.8**	**3.9**	**69**
Measured	1.4	2.8	2.0	4.2	15	13	**0.120**	10.6	1.9	2.2	72
Indicated	1.4	56.5	2.0	3.0	16	15	**1.701**	11.9	3.5	3.6	70
Inferred	1.4	0.4	2.0	1.6	15	14	**0.007**	11.0	3.2	4.9	71
Total	**1.4**	**59.8**	**2.0**	**3.1**	**16**	**15**	**1.827**	**11.8**	**3.4**	**3.6**	**70**

Table 2: Eneabba Project Contained Valuable HM (VHM) Resource Inventory (0.9% HM cut-off)

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**
West Mine North	Total	89	120	88	706	**1,002**
Yandanooka	Measured	13	2	3	87	**105**
Yandanooka	Indicated	240	81	83	1,439	**1,843**
Yandanooka	Inferred	4	1.3	2	23	**29**
Yandanooka	Total	256	85	87	1,549	**1,977**
Durack	Indicated	144	29	52	703	**928**
Durack	Inferred	26	4.6	13	121	**164**
Durack	Total	170	33	65	824	**1,092**
Ellengail	Inferred	92	90	20	658	**860**
Ellengail	Total	92	90	20	658	**860**
Total	Measured	31	35	45	287	**398**
Total	Indicated	455	196	180	2,648	**3,480**
Total	Inferred	122	96	34	801	**1,053**
Total	**All**	**607**	**328**	**259**	**3,737**	**4,931**

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

[1] This estimate is classified and reported in a manner compliant with the JORC code and guidelines (JORC, 2004). [2] 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: Rutile >95% TiO_2; Leucoxene 85-95% TiO_2; Ilmenite <55-85% TiO_2.

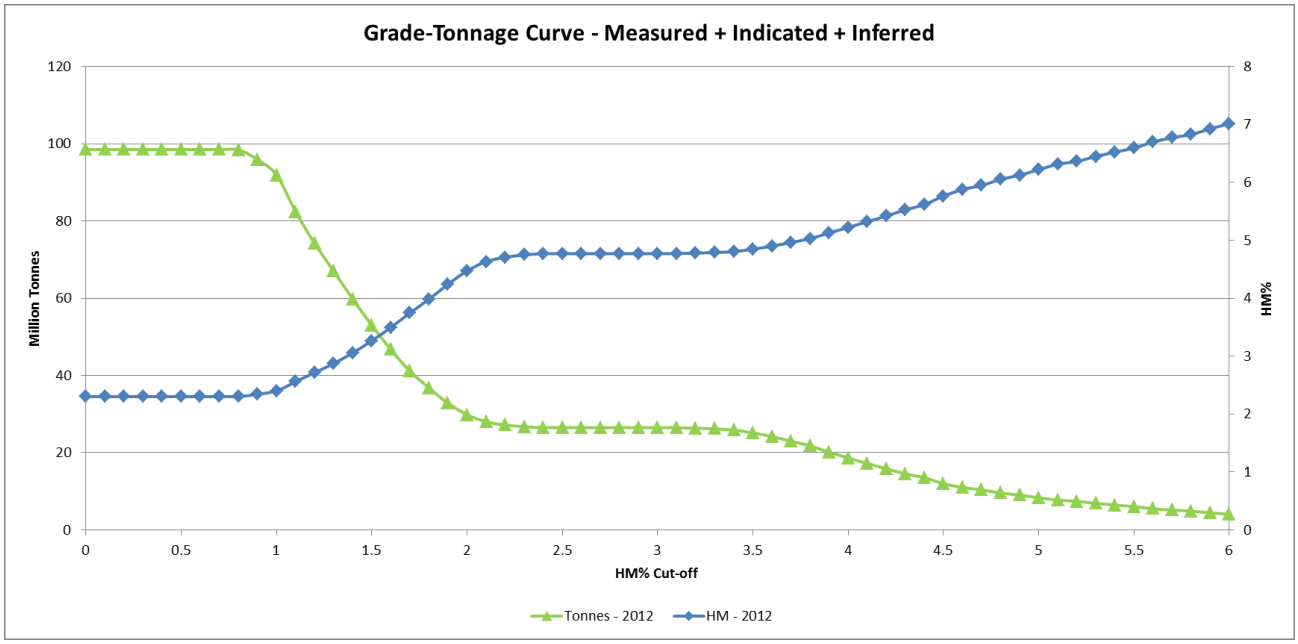

Figure 4: Yandanooka resource grade-tonnage curve, all resource categories.

ANNEXURE 1 – TECHNICAL DETAILS

The Yandanooka deposit was previously explored by RGC Ltd during the late 1980s and by Iluka Resources Ltd between 2003 and 2006. Both companies completed broadly spaced drill traverses across the deposit. Sheffield completed a maiden resource estimate for Yandanooka in 2011 following drilling earlier that year, (see ASX release dated 16 August 2011 for details). Further drilling was completed in 1H 2012, and the resource estimate detailed in this release includes results from the 2012 drilling programme.

Resources were estimated from the results of 512 vertical aircore holes for a total of 8,865m on a drilling pattern of approximately 300m x 120m (Figure 2). The resource drillhole database comprises holes drilled by previous explorer Iluka Resources 119 holes (24%), 130 holes (25%) drilled by Sheffield in 2011 and 263 holes (51%) drilled by Sheffield in 2012.

This resource estimate does not include holes drilled by the previous explorer RGC. The 2011 resource estimate included the RGC drill holes, however the low confidence in the accuracy of their locations resulted in an Inferred Resource classification for associated blocks. Sheffield's 2012 drilling program twinned these holes, with the increased quality of the drill information resulting in a corresponding improvement in the resource classification.

Of the total resource drillhole database, all holes have been surveyed either by GPS (Iluka drill holes) or RTK-GPS (Sheffield drill holes). To account for topographic changes between sections, all drill hole RL (height) data was projected to a digital elevation model (DEM) generated from spot data supplied by Landgate (accuracy +/- 1.5m). This DEM was subsequently used in the resource estimation process to provide a consistent land surface between drill holes.

Heavy Mineral, Slimes and Oversize determinations were by Heavy Liquid Separation techniques. Holes drilled by Sheffield used -53µm and 1mm screen sizes, with static separation in TBE (SG 2.96), representing 87% of the samples database. Holes drilled by Iluka used -53µm and 2mm screen sizes, with static separation in LST (SG 2.85), representing 13% of the samples database.

Resource domains were based on a combination of grade and geological factors driven by deposit continuity. Bulk Density was determined using an industry-standard formula which assumes density and proportionately accounts for each size and mineral component of the material.

The mineral assemblage of the resource was determined from results of QEMSCAN analysis by Bureau-Veritas, Queensland of 25 Heavy Mineral Concentrate (HMC) composite samples.

The QEMSCAN process uses observed mass and chemistry to classify particles according to their average chemistry, and then report mineral abundance by % mass. For TiO_2 minerals specific breakpoints are used to distinguish between rutile (>95% TiO_2), leucoxene (85-95% TiO_2) and ilmenite (<55-85% TiO_2). These breakpoints are chosen to best reflect the mineral assemblage expected from conventional mineral separation processing techniques, based on Sheffield's observations of the deposit and composite material at Yandanooka and throughout Sheffield's Eneabba Project.

Compared with the 2011 resource, lower percentages of rutile, leucoxene and ilmenite are reported in this resource. This is mostly caused by a change in the way the Qemscan method reported the abundance of these potential products. In 2011 data were based on overall Qemscan chemistry of the composite sample whereas for the 2012 resource data were determined from average individual particle chemistry. This is considered a more reliable indicator of the mineral assemblage in regard to potential products from the deposit.

Resource estimation was by Trent Strickland, who is a full time employee of Quantitative Group (QG). QG are an internationally recognised, independent consultancy group specialising in resource evaluation. Trent Strickland acts as the Competent Person for the resource estimate while Mark Teakle acts as the Competent Person with respect to the reporting of resource and exploration results. Details of the estimation methodology are contained in Annexure 2.

ANNEXURE 2 – ESTIMATION METHODOLOGY

Quantitative Group
Our Skills On *Your* Team™

Geostatistics
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Reconciliation & Grade Control
Audit and Due Diligence
Strategic Mine Planning
Geometallurgical Modelling
Mine Geology
Training

Sheffield Resources Ltd
14 Prowse Street
West Perth WA 6005

Attention: Mr Bruce McQuitty

21st January 2013

Dear Sir,

Re: Yandanooka Mineral Sands Deposit Resource Estimate

The Mineral Resource estimate of the Yandanooka Mineral Sands deposit as of the 21st of January 2013 is presented in the attached tables (Table 1 and 2).

The estimate was prepared 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 the report of the Yandanooka Mineral Sands resource estimate.

Yours faithfully,

Trent Strickland
Senior Consultant

ANNEXURE 2 – ESTIMATION METHODOLOGY

Technical Notes on Mineral Resource Estimation

A 0.7% heavy mineral (HM) grade domain was defined to model the low grade mineralisation and a 3.0% HM domain to model the high grade mineralisation. HM grade was used along with specific geological considerations to define the domain wireframe. The robustness of these domains was assessed by QG using a variety of measures including statistical and geostatistical analysis and by critically examining the geological interpretation. The domains are considered geologically robust in the context of the resource classification applied to the estimate.

Estimation of HM%, slime % and oversize % was by Ordinary Kriging (OK) and the search (or 'neighbourhood') employed was optimised using Quantitative Kriging Neighbourhood Analysis (QKNA). Density was assigned globally to the estimated domains.

Mineral assemblage results from 25 Heavy Mineral Concentrate (HMC) composites totalling 373.5m, intersected both the high grade and low grade domains. Eleven of the composites were from the 2011 drilling program and 14 from the 2012 program. All results were assigned to both domains by means of polygon interpolation to represent the heavy mineral assemblage within the Yandanooka deposit.

The estimate was validated by QG as follows:

- A visual checking of the interpolation results in both plan and section;
- Global input vs. output statistics were compared, including clustered and declustered composites; and
- Semi-local input vs. output statistics using moving window averages.

The estimate was considered to be robust on the basis of the above checks.

Classification of the Yandanooka estimate takes into account all aspects of the integrity of the estimate, including: data quality, geological interpretation, domaining approach, data distribution and density, spatial continuity and estimation confidence. The majority of the estimate is classified (according to JORC, 2004) as Indicated, with the area surrounding the closely spaced infill drilling (20m x 125m) classified as Measured. There is some Inferred material at the extreme margins of the estimate – specifically in the far south-east.

ANNEXURE 2 – ESTIMATION METHODOLOGY

The following tables summarise the Mineral Resource estimate at a cut-off of 0.9% HM (Table 1) and 1.4% HM (Table 2).

Mineral Resource Category	Material Million Tonnes*	Bulk Density	HM %	Slimes %	Osize %	In-situ HM Tonnes* (KT)
Measured	2.9	2.0	4.1	15	14	121
Indicated	90.1	2.0	2.3	16	15	2,091
Inferred	2.8	2.0	1.2	18	21	33
TOTAL	95.9	2.0	2.3	16	15	2,245

Mineral Resource Category	In-situ HM Tonnes* (KT)	Mineral Assemblage (% of HM Tonnes)				
		Zircon	Rutile	Leucoxene	Ilmenite	Total VHM
Measured	121	10.6	1.9	2.2	72	87
Indicated	2,091	11.5	3.9	3.9	69	88
Inferred	33	11.2	3.9	4.6	68	88
TOTAL	2,245	11.4	3.8	3.9	69	88

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

[1] 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: Rutile >95% TiO_2; Leucoxene 85-95% TiO_2; Ilmenite <55-85% TiO_2.

Table 1. Yandanooka resource estimate at a 0.9% HM cut-off.

ANNEXURE 2 – ESTIMATION METHODOLOGY

Mineral Resource Category	Material Million Tonnes*	Bulk Density	HM %	Slimes %	Osize %	In-situ HM Tonnes* (KT)
Measured	2.8	2.0	4.2	15	13	120
Indicated	56.5	2.0	3.0	16	15	1,701
Inferred	0.4	2.0	1.6	15	14	7
TOTAL	59.8	2.0	3.1	16	15	1,827

Mineral Resource Category	In-situ HM Tonnes* (KT)	Mineral Assemblage (% of HM Tonnes)				
		Zircon	Rutile	Leucoxene	Ilmenite	Total VHM
Measured	120	10.6	1.9	2.2	72	87
Indicated	1,701	11.9	3.5	3.6	70	89
Inferred	7	11.0	3.2	4.9	71	90
TOTAL	1,827	11.8	3.4	3.6	70	89

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

[1] 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: Rutile >95% TiO_2; Leucoxene

Table 2. Yandanooka resource estimate at a 1.4% HM cut-off.