ASX and Media Release

28 August 2012

ENEABBA PROJECT RESOURCE INVENTORY EXCEEDS 5Mt HEAVY MINERAL

KEY POINTS

- **Maiden Mineral Resource for Durack prospect of 65.3 million tonnes (Mt) @ 1.8% heavy mineral (HM), containing 1.2Mt HM (Indicated and Inferred)**
- **Includes a higher grade component of 24.2Mt @ 3.0% HM (Indicated and Inferred)**
- **Durack has the highest zircon content (14%) of the 4 deposits in Sheffield's Eneabba Project resource inventory**
- **Eneabba Project resource base now contains over 5Mt of heavy mineral**

Mineral sands explorer Sheffield Resources ("Sheffield") (ASX:SFX) continues to build its Eneabba HMS Project resource base with the announcement today of a maiden Mineral Resource for its Durack prospect, 45km northeast of Eneabba in Western Australia's Mid-West region (Figure 1).

Durack is one of six deposits identified within the Eneabba Project four of which are included in the Project's resource inventory (West Mine North, Ellengail, Yandanooka and now Durack).

The Durack resource adds 170,000t of zircon, 824,000t of ilmenite, 65,000t of leucoxene and 33,000t of rutile to Sheffield's Eneabba Project resource inventory which now stands at 5.29 million tonnes of contained HM (Table 4).

The resource follows the announcement on 22 May 2012 of the discovery of near-surface mineralisation at Durack from the first results of the Company's 2012 drilling campaign.

Managing Director, Bruce McQuitty said the Durack resource has exceeded expectations and is likely to further improve the already strong economics of the Eneabba Project.

"Durack adds substantially to our Eneabba project resource inventory and vaults us over the 5 million tonne contained heavy mineral milestone."

"Importantly, Durack is a zircon-rich deposit with over 14% zircon in the mineral assemblage."

"Sheffield continues to deliver on its strategy of building an inventory of near-surface high value zircon and rutile-rich heavy mineral sand deposits which will add flexibility and mine life to the rapidly expanding Eneabba project."

Table 1: Sheffield Resources' Eneabba Project contained Valuable HM (VHM) Resource inventory (0.9% HM cut-off).

Resource Category	Zircon (kt)*	Rutile (kt)*	Leucoxene (kt)*	Ilmenite (kt)*	Total VHM (kt)*
Measured	18	33	42	200	293
Indicated	416	233	266	2,281	3,195
Inferred	130	103	48	851	1,132
All	**564**	**369**	**356**	**3,331**	**4,621**

*Tonnes have been rounded to reflect the relative uncertainty of the estimates.
[1] The data summarised in this Table is sourced from Table 5, below.

Table 2: Durack prospect Mineral Resource (0.9% HM cut-off)[1]

	Mineral Resources						Mineral Assemblage[2]			
Resource Category	Material (Mt)*	Bulk Density	HM %	Slimes %[3]	Osize %	**In-situ HM (Mt)***	Zircon %	Rutile %	Leuc. %	Ilmenite %
Indicated	50.3	2.0	2.0	15	21	**1.02**	14	2.8	5.1	69
Inferred	15.0	1.9	1.2	14	17	**0.18**	14	2.5	7.2	66
Total	**65.3**	**2.0**	**1.8**	**15**	**20**	**1.20**	**14**	**2.8**	**5.6**	**68**

Table 3: Durack prospect Mineral Resource (1.5% HM cut-off) [1]

	Mineral Resources						Mineral Assemblage[2]			
Resource Category	Material (Mt)*	Bulk Density	HM %	Slimes %[3]	Osize %	**In-situ HM (Mt)***	Zircon %	Rutile %	Leuc. %	Ilmenite %
Indicated	23.1	1.9	3.0	14	19	**0.70**	14	2.9	4.5	70
Inferred	1.1	1.9	2.6	12	21	**0.03**	14	1.9	4.0	75
Total	**24.2**	**1.9**	**3.0**	**14**	**19**	**0.73**	**14**	**2.8**	**4.5**	**70**

*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.
[3] Durack reported below a 35% slimes upper cut-off.

About the Durack Deposit

Durack is one of several HMS deposits which comprise Sheffield's Eneabba HMS project. It is situated on cleared freehold land just 5km from a sealed road connecting Eneabba and Three Springs (Figure 1), and is 170km by road from Geraldton Port.

Durack is a broad, dunal-style HMS deposit, similar to Sheffield's Yandanooka deposit, located 20km to the north. The deposit is 5km long and up to 1.5km wide. Mineralisation occurs from surface to depths of up to 16.5m, with an average thickness of 6m (Figures 2 & 3).

Durack has an excellent mineral assemblage dominated by zircon (14%) and ilmenite (68%). Visual inspection of the heavy mineral concentrates shows a majority of clean grains expected to respond well to conventional mineral processing techniques.

The Durack and Yandanooka deposits occur within an ancient NNW-trending shoreline. Sheffield controls 70km of strike of this prospective trend which will be explored for further significant HM deposits.

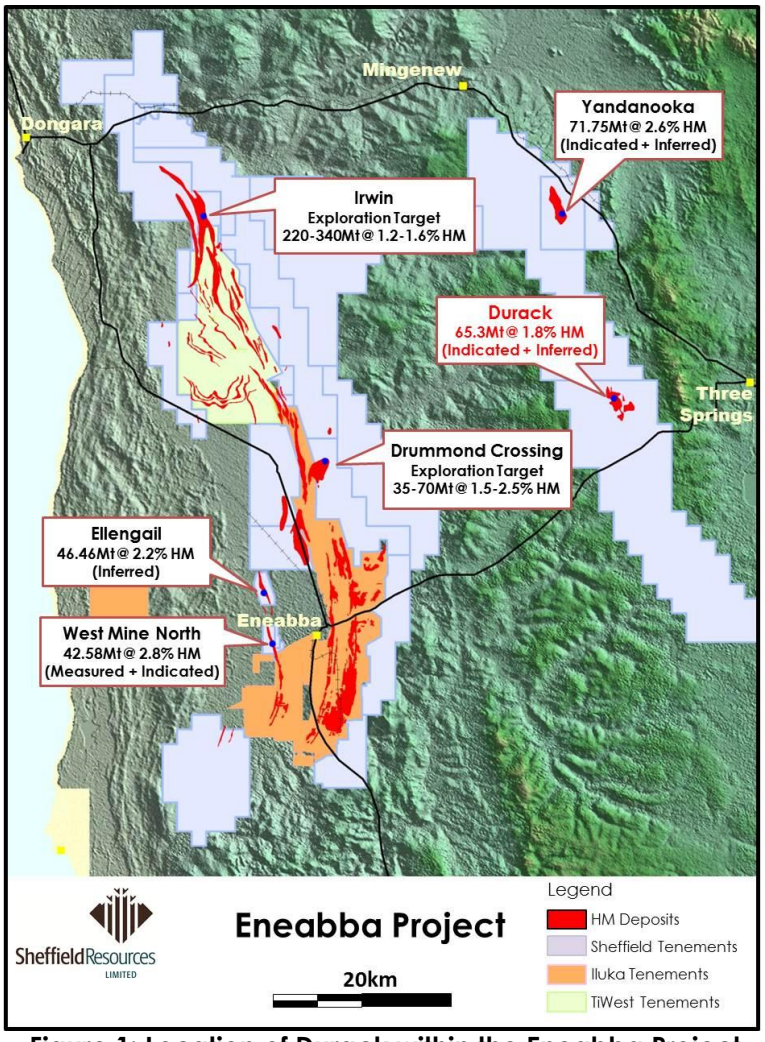

Figure 1: Location of Durack within the Eneabba Project

Further work

The next phase of work at Durack involves metallurgical testwork on drill composite samples to determine the potential final product characteristics. Once this work has been completed, the Durack resource will be incorporated into a revised economic assessment of the Eneabba project.

Assay results from drilling at the Drummond Crossing and Irwin prospects on the Eneabba Project are expected to be received over the next few months.

Drilling continues at the Company's large Dampier zircon project, with first assay results expected in the near future.

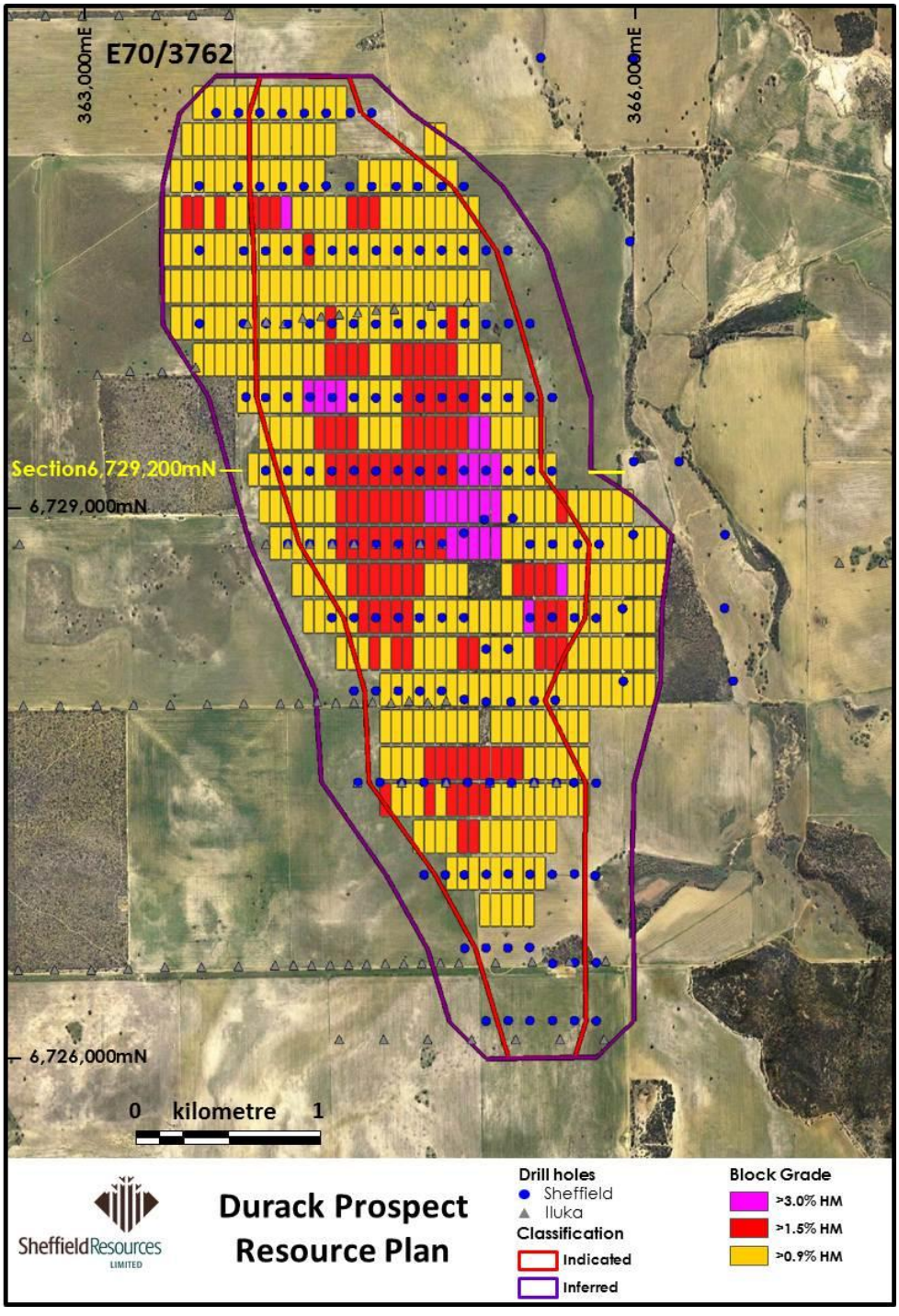

Figure 2: Durack resource block model plan.

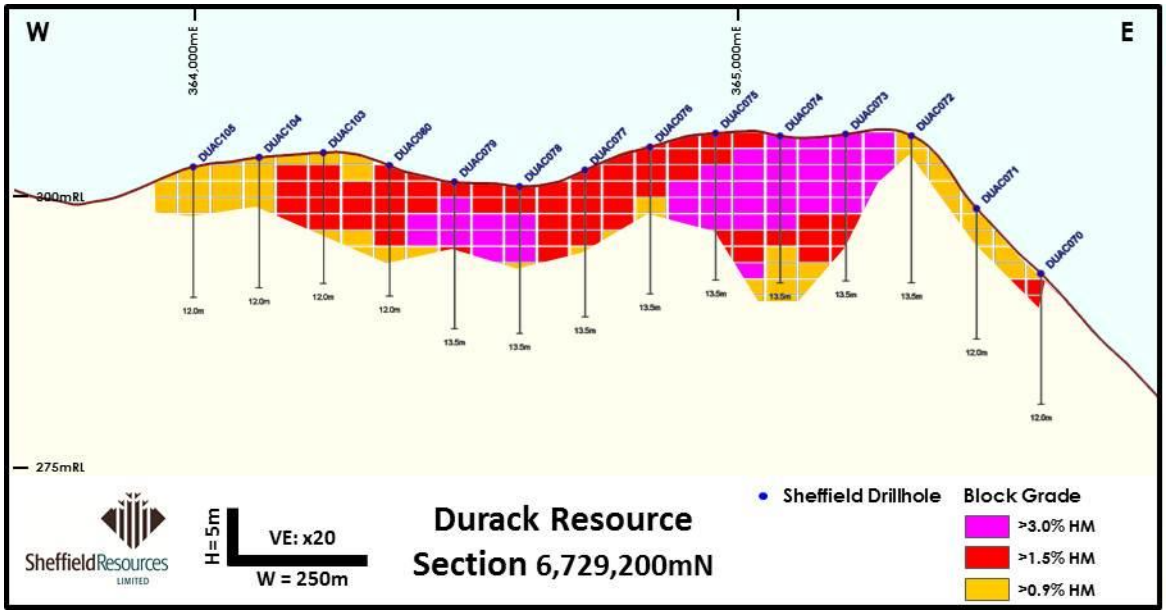

Figure 3: Cross section 6,729,200mN through the Durack resource.

ENDS

For further information please contact:

Bruce McQuitty
Managing Director
Tel: 0409 929 121
bmcquitty@sheffieldresources.com.au

Media: Annette Ellis
Cannings Purple
Tel: 08 6314 6300
AEllis@canningspurplecom.com.au

Website: www.sheffieldresources.com.au

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 Durack 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 AND EXPLORATION TARGET 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. 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.

Mineral Resource Inventory Tables

Table 4: Eneabba Project Mineral Resource[1] inventory (0.9% HM cut-off)

Deposit	Resource Category	Mineral Resources						Mineral Assemblage[2]			
		Material (Mt)*	Bulk Density	HM %	Slimes %[3]	Osize %	**In-situ HM (Mt)***	Zircon %	Rutile %	Leuc. %	Ilmenite %
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	Total	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	Total	71.75	2.0	2.6	14.4	9.3	**1.84**	11.5	6.9	10.2	61.9
Durack	Indicated	50.3	2.0	2.0	15	21	**1.02**	14	2.8	5.1	69
Durack	Inferred	15.0	1.9	1.2	14	17	**0.18**	14	2.5	7.2	66
Durack	Total	65.3	2.0	1.8	15	20	**1.20**	14	2.8	5.6	68
Ellengail	Inferred	46.45	2.0	2.2	15.6	2.1	**1.04**	8.9	8.7	1.9	63.5
Ellengail	Total	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	147	2.0	2.4	14.3	11.6	**3.58**	11.7	6.3	7.1	64.0
Total	Inferred	72.2	2.0	1.8	14.9	6.2	**1.34**	10.1	7.2	4.6	63.4
Total	**All**	**226**	**2.0**	**2.3**	**14.5**	**9.5**	**5.29**	**11.0**	**6.7**	**6.4**	**63.5**

Table 5: Eneabba Project contained Valuable HM (VHM) 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	Indicated	201	117	168	1,072	1,558
Yandanooka	Inferred	12	8.5	15	73	108
Yandanooka	Total	213	126	183	1,144	1,667
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	18	33	42	200	293
Total	Indicated	416	233	266	2,281	3,195
Total	Inferred	130	103	48	851	1,132
Total	**All**	**564**	**369**	**356**	**3,331**	**4,621**

*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). Further details on the Mineral Resource at each deposit can be found on the ASX Announcements page of the Company's website.

[2] 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; Leucoxene 85-95% TiO2; Ilmenite <55-85% TiO2.

[3] Durack and West Mine North reported below a 35% Slimes upper cut-off.

ABOUT SHEFFIELD RESOURCES

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

ASX Code – SFX	Market Cap @ 41.5cps - $39.7m
Issued shares* – 95.7m	Cash - $9.3m (at 30/6/2012)

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 has the potential to become Sheffield's flagship HMS project. It contains a large zircon-rich HMS deposit formerly explored by Rio Tinto.

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's iron strategy is to target hematite mineralisation adjacent to infrastructure in the world class Pilbara iron province and build up consolidated tenement holdings over time. To date, high grade iron mineralisation has been identified on three of the Company's tenements.

TALC

Sheffield's large Moora Talc Belt project contains numerous talc occurrences and is located near Imery's long-life Three Springs talc mine in WA's Mid-West region. The Company is targeting high purity talc, similar to that produced from the simple quarrying operation at Three Springs.

ANNEXURE 1 – TECHNICAL DETAILS

The Durack area was originally explored by Iluka during 2005-2006, completing broadly spaced drill traverses. Sheffield identified Durack as having potential to host a significant HMS deposit, and in early 2012 completed its own drilling program with the objective of estimating a Mineral Resource for the prospect (see ASX release by Sheffield (ASX:SFX) dated 22 May, 2012 for details of this drilling).

Within the Inferred and Indicated resource area, the drill hole database comprises 46 holes drilled by Iluka (total 390m) and 153 holes drilled by Sheffield (2,022.5m) on a pattern of about 400m x 120m.

Holes within the Inferred and Indicated resource area have been surveyed either by GPS (23%) or RTK-GPS (77%). 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) and discretised to 20m x 20m. This DEM was subsequently used in the resource estimation process in order to represent 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 79% of values within the Inferred and Indicated resource area. Holes drilled by Iluka used -53µm and 2mm screen sizes, with static separation in LST (SG 2.85), representing 21% of values within the Inferred and Indicated resource area.

Resource domains were based on a combination of grade and geological factors driven by deposit continuity (see Annexure 2 for further detail).

Bulk Density was determined using an industry-standard formula which assumes density and proportionately accounts for the grain size and mineral component of the material.

The mineral assemblage of the resource was determined from results of QEMSCAN analysis by Bureau-Veritas in Queensland of 13 Heavy Mineral Concentrate (HMC) composite samples collected from Sheffield's drill holes throughout the deposit.

At Durack, the QEMSCAN process used observed mass and chemistry to classify particles according to their average chemistry, and then report mineral abundance by % mass. For the TiO_2 minerals specific breakpoints are used to distinguish between rutile (>95% TiO2), leucoxene (85-95% TiO_2) and ilmenite (<55-85% TiO_2). These breakpoints are chosen to reflect mineral assemblage data defined by previous workers in the region, and provide a consistent base for comparison between Mineral Resources.

Resource estimation was by Mr Trent Strickland from Quantitative Group (QG), an internationally recognised, independent consultancy group specialising in resource evaluation. Details of the estimation methodology are contained in Annexure 2.

ANNEXURE 2 – ESTIMATION METHODOLOGY

Quantitative Group
Our Skills On *Your* Team™

Geostatistics
Resources & Reserves
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

23 August 2012

Dear Sir,

Re: Durack Mineral Sands Deposit Resource Estimate

The mineral resource estimate of the Durack Mineral Sands deposit as of the 23rd of August 2012 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 this report of the Durack 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 1.9% HM domain to model the high grade mineralisation. HM grade was used along with specific geological considerations to define the domain wireframes. A 35% slime grade domain was defined to model areas above 35% slime and a 25% oversize grade domain to model areas above 25% oversize. 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.

A 'rock' wireframe was constructed to define areas where the hardness of the material was of potential concern for mining. This wireframe did not intersect either the low grade or high grade domains, thus any possible influence of such areas on the reliability of the heavy mineral assay were not of concern. However, these areas were flagged in the model for future reference.

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.

The mineral assemblage results from 13 Heavy Mineral Concentrate (HMC) composites, intersecting both the high grade and low grade domains, were assigned to both domains by means of polygonal interpolation to represent the heavy mineral assemblage within the Durack 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.

The tonnes and grades of the Durack estimate are reported above a 0.9 HM% and 1.5 HM% cut-off, with upper slime cut offs of 35%.

ANNEXURE 2 – ESTIMATION METHODOLOGY

Classification of the Durack 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 north-south oriented, central section of the Durack estimate is classified as Indicated, and is surrounded by a 'halo' of Inferred material approximately 300m wide to both the east and west.

The following tables summarise the Mineral Resource estimate at a cut-off of 0.9 HM% (Table 1) and 1.5% HM (Table 2), both with an upper slime cut-off of 35%.

Mineral Resource Category	Material Million Tonnes*	Bulk Density	HM %	Slimes %	Osize %	In-situ HM Tonnes* (KT)
Indicated	50.3	2.0	2.0	15	21	1,020
Inferred	15.0	1.9	1.2	14	17	180
TOTAL	65.3	2.0	1.8	15	20	1,200

Mineral Resource Category	In-situ HM Tonnes* (KT)	Mineral Assemblage[1] (% of HM Tonnes)				
		Zircon	Rutile	Leucoxene	Ilmenite	Total VHM[2]
Indicated	1,020	14	2.8	5.1	69	91
Inferred	180	14	2.5	7.2	66	90
TOTAL	1,200	14	2.8	5.6	68	91

*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.

[2] Total Valuable Heavy Mineral (VHM)

Table 6. Durack resource estimate at a 0.9 HM% cut off, with an upper slime cut-off of 35%.

ANNEXURE 2 – ESTIMATION METHODOLOGY

Mineral Resource Category	Material Million Tonnes*	Bulk Density	HM %	Slimes %	Osize %	In-situ HM Tonnes* (KT)
Indicated	23.1	1.9	3.0	14	19	700
Inferred	1.1	1.9	2.6	12	21	30
TOTAL	24.2	1.9	3.0	14	19	730

Mineral Resource Category	In-situ HM Tonnes* (KT)	Mineral Assemblage[1] (% of HM Tonnes)				
		Zircon	Rutile	Leucoxene	Ilmenite	Total VHM[2]
Indicated	700	14	2.9	4.5	70	91
Inferred	30	14	1.9	4.0	75	94
TOTAL	730	14	2.8	4.5	70	91

*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.

[2] Total Valuable Heavy Mineral (VHM)

Table 7. Durack resource estimate at a 1.5 HM% cut-off, with an upper slime cut off of 35%.