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POSITIVE SCOPING STUDY RESULTS FOR ENEABBA HMS PROJECT

Highly robust project for early cashflow

KEY POINTS

- **Mine life estimate of 16 years**
- **Very positive financial outcomes from scoping study**
- **Strong results allow Sheffield to commit to pre-feasibility study**

Mineral sands explorer, Sheffield Resources ("Sheffield", "the Company") (ASX:SFX) today announced positive results from scoping studies completed on its Eneabba Project in the Mid-West region of Western Australia.

Sheffield's Eneabba Project contains six advanced exploration prospects: West Mine North, Ellengail, Yandanooka, Durack, Drummond Crossing and Irwin (Figure 1). Sheffield's strategy is to develop multiple HMS deposits capable of supporting a flexible mobile mining operation.

The scoping study, undertaken by leading mineral sands consultancy group TZMI, confirms the technical and robust financial viability of the Eneabba Project. The Eneabba Project will position Sheffield exceptionally well to take advantage of strong mineral sands prices to secure early cashflow as the Company seeks to progress its world-scale Dampier Project in parallel.

Sheffield will commit to pre-feasibility study work immediately and launch a thorough exploration drilling campaign to unlock further upside at the Eneabba Project.

Sensitivity analysis shows the Eneabba project economics improve significantly with increases in product prices as shown in Table 1.

Table 1: Sensitivity analysis using various pricing scenarios

	Scenario 1 (Approx. current price range - low)	Scenario 2 (Approx. current price range - high)	Scenario 3 (circa 42% < current mid price)	Scenario 4 (circa 39% < current mid price)	Scenario 5 (circa 23% < current mid price)
Prices (US$/t FOB)					
Zircon	2,400	2,700	1,715	1,800	2,100
Rutile	2,200	2,500	1,000	1,200	1,700
Leucoxene	1,100	1,300	747	750	925
Chloride ilmenite	300	350	190	200	250
Project financials					
Weighted average R/C ratio	2.42	2.76	1.53	1.64	2.03
Average pre-tax operating cashflow p.a.	US$60m	US$74m	US$21m	US$26m	US$43m
Payback period	2.2 years	1.9 years	4.4 years	3.8 years	2.7 years
After-tax NPV (10%)	US$257m	US$336m	US$54m	US$78m	US$167m
After-tax IRR	51%	62%	21%	25%	39%

By way of current pricing comparatives, Iluka Resources Ltd (ASX:ILU) announced on 28 March 2012 that it would receive prices in the order of US$2,500 per tonne for zircon and US$2,500 for

rutile during early 2012. In relation to ilmenite pricing comparatives, Kenmare Resources Plc announced on 25 January that it had secured new ilmenite sales contracts in the range of US$300 to US$400 per tonne for the first half 2012.

Managing Director, Bruce McQuitty said: "*The scoping study results show the Eneabba project is potentially a financially attractive operation, even based on significantly lower product prices; while additional exploration discoveries of near-surface mineralisation would further improve the project economics.*"

"Based on the positive results from TZMI's scoping work which was completed with reference to Scenario 3, Sheffield will proceed to pre-feasibility on the Eneabba project, while continuing to explore for near-surface dunal style deposits to add to the development schedule."

"Our strategy is to delineate a series of deposits at Eneabba that can underpin a 20 to 30 year mine life."

"It is important to note that this scoping study incorporates a low cost, basic mineral separation plant and therefore it is assumed that the rutile and zircon concentrate, which would generate 67% of the revenue, would be sold at a 25% discount to prevailing prices. With further exploration success we aim to build a resource inventory that will justify a full MSP which will allow us to realise greater value still from the operation."

Eneabba Project Scoping Study Overview

The scoping study is based on mineral resources from three deposits within the Eneabba project; Yandanooka, West Mine North and Ellengail. It is assumed that operations would commence at the largest of these, Yandanooka, before progressing to West Mine North and Ellengail. Heavy mineral concentrate (HMC) would be produced at the mine sites and transported to a basic mineral separation plant (MSP) to be constructed by Sheffield outside Geraldton.

At the proposed mining rate of around 1,000tph Sheffield deposits can be economically mined using a dozer and dozer trap arrangement. At the nominal mining rate of 7.8 million tpa, it is estimated that the average HMC production rate will be 220,000 tpa and occupy a MSP with a capacity of 30tph, to be constructed by Sheffield.

The proposed operation would produce 110,000tpa of chloride-grade ilmenite and 70,000tpa of non-magnetic concentrate (containing rutile, leucoxene and zircon). Current market analysis shows that these products will be in demand and would readily be absorbed by the market.

The total capital costs of US$75 million have been estimated by TZMI based on an assumed flow sheet, typical of similar operations in the industry. Capital costs have been minimised primarily through the use of existing infrastructure, contract mining and the construction of a basic mineral separation plant for the production of ilmenite and a non-magnetic concentrate.

Exploration Upside & Further Work

Scenario modelling by TZMI demonstrated that further exploration discoveries of shallow dunal style mineralisation would further enhance the robust project economics. Sheffield plans to drill three dunal style prospects near Eneabba commencing immediately: Durack, Drummond Crossing and Irwin; with the aim of delineating mineral resources. In addition, Sheffield will undertake further drilling at Yandanooka aimed at increasing the resource in the Indicated classification.

This drilling is scheduled for Q2 2012 and will be followed by resource estimation work during Q3 2012, subject to exploration success.

Pre-feasibility work will commence immediately, focussing on the Yandanooka deposit. Sheffield is targeting completion of the pre-feasibility by Q4 2012.

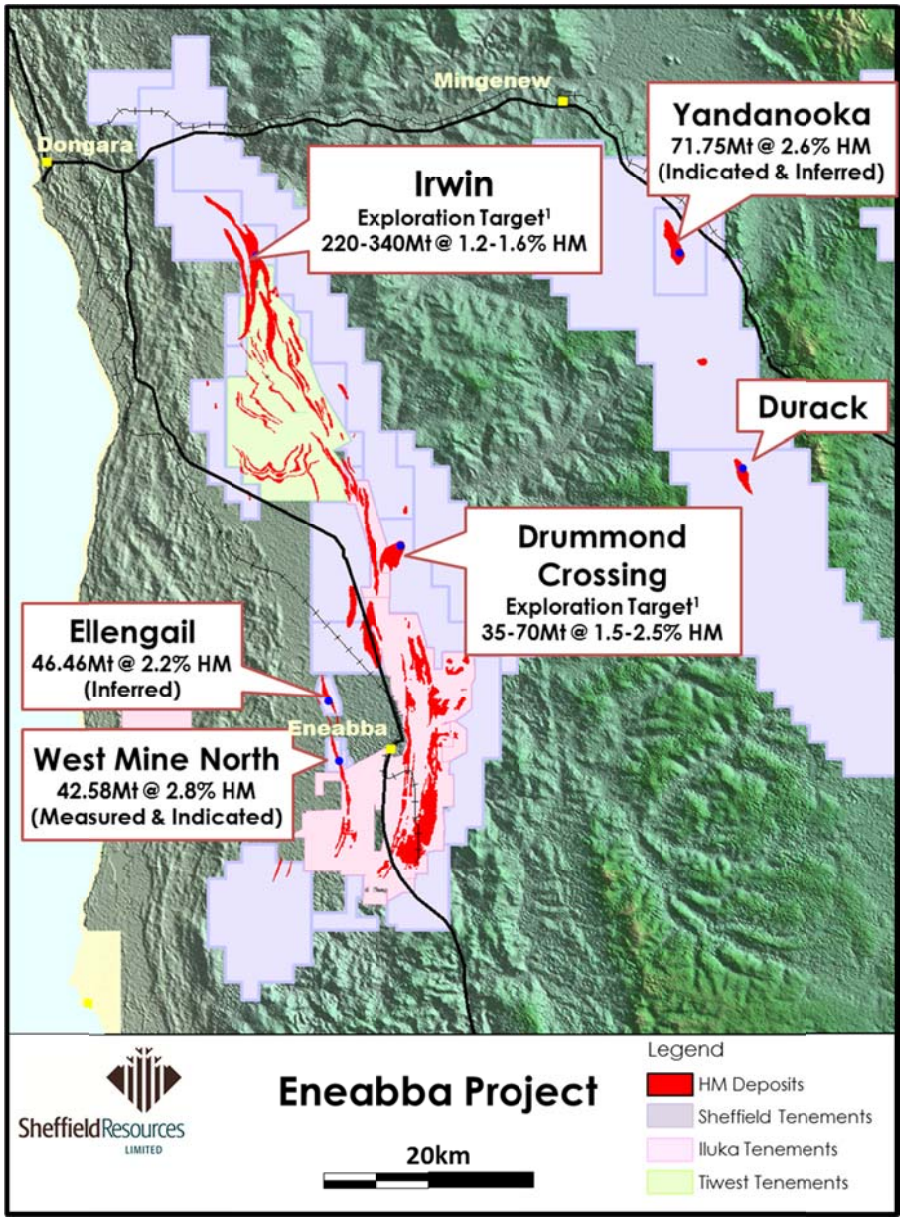

Figure 1: Sheffield's HMS prospects within the Eneabba project

DETAILS OF SCOPING STUDY

The scoping work was undertaken by leading mineral sands consultancy group TZMI, using Sheffield's results and those of previous explorers; and incorporating TZMI's own extensive knowledge of the sector. The purpose of the scoping study was to assess the technical and economic feasibility of the Eneabba project and to determine priorities for further work. Following a review of the information made available to TZMI, an overall operations plan and a cashflow model were developed as a basis for an estimate of the overall project economics.

[1]Sheffield Resources has not yet reported Mineral Resources for Drummond Crossing and Irwin 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.

Mineral Resources

Sheffield's Mineral Resources for the Eneabba Project total 160.8Mt @ 2.5% HM (see Table 2, below). A cashflow model was prepared for various scenarios which assumed that only the Indicated Resource for Yandanooka was mined, followed by mining of the West Mine North and the Ellengail deposits. Material modelled for West Mine North and Ellengail was interpolated from grade-tonnage curves at cut off grades of 1.25% HM and 1.45% HM respectively. Pit optimisation studies were not attempted, however strip ratios determined from average overburden thickness were included in the financial modelling.

Table 2: Sheffield Resources' Eneabba Project Mineral Resource[1] Inventory, at a 0.9% HM cut-off.

Deposit	Resource Category	Material (Mt)*	Bulk Density	HM %	Slimes %[3]	Osize %	**Insitu HM (Mt)***	Mineral Assemblage[2] 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	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**

**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 in this document and 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. TiO_2 minerals defined according to the following ranges: Rutile >95% TiO_2; Leucoxene 85-95% TiO_2; Ilmenite <55-85% TiO_2.[3] West Mine Northis reported below a 35% Slimes upper cut-off.

Mining

The scoping study assumed mining will commence at the largest deposit, Yandanooka, then continue for nine years before moving on to smaller deposits at West Mine North and Ellengail.

The characteristics of Yandanooka, West Mine North and Ellengail lend themselves to dry mining techniques employing heavy earth moving equipment. At the proposed mining rate of around 1,000tph the Sheffield deposits can be economically mined using a dozer and dozer trap arrangement. This has been successfully applied at other heavy mineral sands operations in Australia.

Processing

At the nominal mining rate of 7.8 million tpa, it is estimated that the average heavy mineral concentrate (HMC) production rate will be 220,000tpa and occupy a basic mineral separation plant with a capacity of 30tph.

The HMC will be transported from the primary concentrator plant to the off-site mineral separation plant (MSP) located just outside the port of Geraldton.

At the MSP the HMC will undergo a series of magnetic and electrostatic separation processes to produce ilmenite and a non-magnetic concentrate. The operation would nominally

produce 110,000tpa of chloride-grade ilmenite and 70,000tpa of non-magnetic concentrate containing rutile, leucoxene and zircon.

Marketing and Pricing Assumptions

The planned output of Sheffield Resources' project is ilmenite and a separate non-magnetic concentrate comprising rutile, leucoxene and zircon.

Sheffield's preliminary metallurgical work indicates an ilmenite product grading 60%-66% TiO_2 suitable for chloride pigment manufacture. A moderate premium to the forecast market average chloride ilmenite price could be anticipated depending on the actual TiO_2 content above the 60% baseline.

The rutile, leucoxene and zircon will be sold as a non-magnetic concentrate of which China is the dominant consumer; accounting for more than 90% of global concentrates imports. While actual prices achieved for some concentrates on a contained TiO_2 and ZrO_2 basis may be higher in the current market, TZMI conservatively estimates that the value of the rutile and zircon in the concentrate to be equal to 75% of the underlying rutile and zircon prices.

As there are no consistent price series for leucoxene products given the wide ranging TiO_2 content and limited customer base, TZMI has benchmarked the price of Sheffield Resources' leucoxene product against that of rutile and assumed a 25% discount from prevailing bulk rutile prices.

Financial Evaluation

For the Yandanooka deposit, only the Indicated Resource of 61 million tonnes at 2.8% HM (0.9% HM cut off grade) was used in the financial modelling.

The modelled resource component for West Mine North of 29 million tonnes at 3.5 %HM (Measured and Indicated) and for Ellengail of 22 million tonnes at 3.4%HM (Inferred) were based on HM cut off grades of 1.25% and 1.45% respectively. These were obtained from grade-tonnage charts reported by Quantitative Group. These cut-off grades were selected to ensure a positive revenue to cash-cost ratio for these deposits as well as a minimum mine life of three years. The mineral assemblage for these deposits was taken from the estimates from Quantitative Group with the assumption that the mineral assemblage throughout the ore-bodies was uniform.

Throughputs and recoveries are estimated based on TZMI's previous experience with other similar operations in the sector.

The total capital costs of US$75 million have been estimated by TZMI based on an estimated flow sheet, typical of similar operations in the industry.

Operating costs have been prepared by TZMI in line with similar mineral sands processing operations in Australia.

Further Assumptions

A long term exchange rate of 1.00 US$/A$ has been assumed during the modelling of the operation. This assumption is in line with forecasts by Consensus Economics.

Revenue from the project is calculated based on production output. For the purpose of this financial valuation, all sales revenue is assumed on an FOB basis.

A royalty rate of 5% has been assumed on product sales. A further 1.5% royalty due to Iluka Resources Limited (ASX:ILU) has been included for production from the West Mine North and Ellengail deposits.

In the financial models, TZMI has adopted a straight line method in calculating the project's capital depreciation. The capital costs will be depreciated over 20 years at 5% per annum. This assumes that the mine life of the ore deposits will be extended as further drilling is carried out.

A corporate tax of 30% is assumed in calculating the project after-tax cash flow.

ENDS

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COMPETENT PERSONS' STATEMENT

The information in this announcement 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 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 consultant to 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 LOOKINGSTATEMENTS

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" and similar expressions.

ABOUT SHEFFIELD RESOURCES

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

ASX Code – SFX	MarketCap @ 48cps - $45.1m
Issued shares* – 94m	Cash - $11.2m

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.

Sheffield's Eneabba Project contains six advanced exploration prospects: West Mine North, Ellengail, Yandanooka, Durack, Drummond Crossing and Irwin which are located near Eneabba. The Project is close to existing mineral sands operations and to a network of highways and railway lines connecting to the Geraldton and Fremantle/Kwinana ports. Sheffield's strategy is, subject to exploration success, to develop multiple HMS deposits capable of supporting a flexible mobile mining operation.

Sheffield is also evaluating the large McCalls chloride ilmenite project, located near Gingin.

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 has 1,152km^2 of tenure over the 175km-long Moora Talc Belt which represents a dominant ground position over a region that has, for the last 50 years, been exclusively controlled by major mining companies.

The Moora Talc Belt includes the large Three Springs mine which is owned by Imerys subsidiary Luzenac Australia Pty Ltd. Three Springs is renowned for producing high purity talc and is a relatively simple "dig-and-deliver" operation.

Sheffield's large tenement holding contains numerous talc occurrences and has the potential to become a strategic talc asset. Sheffield therefore represents a unique opportunity for investors to gain exposure to one of the few high-grade talc explorers in the world.