



SheffieldResources
LIMITED

ASX and Media Release

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CONVENTIONAL DOZER TRAP MINING ASSESSED AS PREFERRED MINING METHOD AT THUNDERBIRD

KEY POINTS

- 100 tonne bulk sample excavated at Thunderbird using large Bauer rig
- Excellent mining and material handling characteristics observed
- RCR confirms conventional dozer trap mining as preferred mining method
- Sample to be used for DFS mineral processing design optimisation and provision of marketing samples for off-take negotiations

Mineral sands developer **Sheffield Resources Limited** (“Sheffield” “the Company”) (ASX:SFX) today announced completion of a program to collect over 100 tonnes of bulk sample for metallurgical testwork from its 100% owned Thunderbird Mineral Sands Project, located near Derby in Western Australia (Figure 5).

A large “Bauer” drilling rig, typically used to install construction foundations, was used to collect the sample. The Bauer rig drills a large diameter (0.7m) hole using a combination of auger and bucket tools (Figures 1 & 2). Five holes were completed at a spacing of about 1km x 500m within the area of the deposit targeted for the first 4-6 years of production. The holes sampled a variety of overburden and mineralised material (Figure 4).

Sheffield engaged engineering group RCR Mining Technologies to observe the Bauer drilling program and to assess the Thunderbird mineralisation for its suitability for standard mineral sands mining methods. Given the excellent mining and material handling characteristics of the mineralisation, RCR confirmed dozer trap mining as the preferred mining method for the deposit.

Sheffield's Managing Director Bruce McQuitty said the bulk sampling programme is another important step in the development of the project.

“Geotechnical studies and the Bauer drilling program provide further assurance that the Thunderbird deposit can be mined using conventional dozer trap equipment. We anticipated that the Thunderbird mineralisation would be easy digging, but the ease with which material was excavated using the Bauer rig resulted in this program being completed well ahead of schedule.”



Figure 1: Sequence (from L-R) of mineralisation being lifted from THBA005 using the auger tool (diameter 700mm)



Figure 2: Mineralised sample collection from THBA004 using the bucket tool



Figure 3: Raw (left) and panned (right) sample – THBA005

Samples from each hole were collected at ~1m intervals from surface to the base of mineralisation as determined from pit optimisation studies as part of the May 2015 Pre-Feasibility Study ("PFS") (see "Mining Inventory" in ASX announcement of 14 May, 2015). Geological and physical properties were recorded and sub-samples collected for heavy mineral assay and moisture analysis.

About 30 tonnes of the 100 tonnes collected is initially bound for Robbins Metallurgical in Brisbane, where the processing flowsheet developed for the recently completed PFS will be further tested and optimised for full scale equipment leading into the Definitive Feasibility Study. This work is due to commence during Q4 2015.

About Thunderbird

The Thunderbird deposit is located on the Dampier Peninsula about 60km west of Derby, and 25km north of the sealed Great Northern Highway joining Derby and Broome (Figure 5). The May 2015 PFS confirmed Thunderbird as a globally significant mineral sands project that is anticipated to deliver strong cash margins over an initial 32 year mine life (see ASX release dated 14 May, 2015).

The Bauer drilling program completes the fieldwork scheduled at Thunderbird this year and follows the recently announced ilmenite upgrade results (ASX release dated 9 September, 2015) and the Thunderbird resource update (ASX release dated 31 July 2015).

Remaining work on the current PFS Update comprises optimising project engineering and reducing initial throughputs to deliver substantially reduced initial project capital costs. This work is well advanced and is on track for completion during Q4 2015.

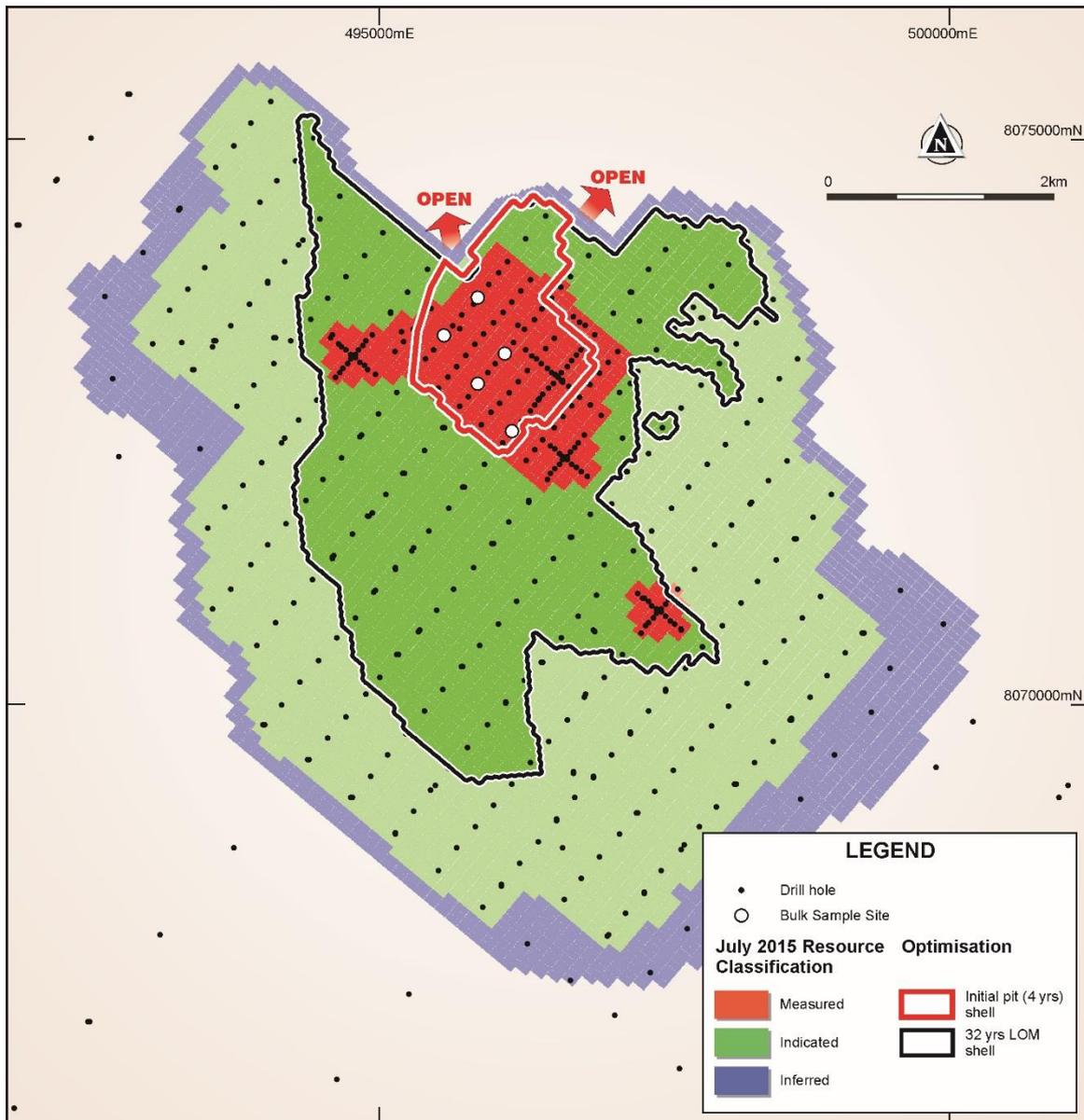


Figure 4: Plan showing location of bulk sample sites and the initial optimised pit shell from the May 2015 PFS

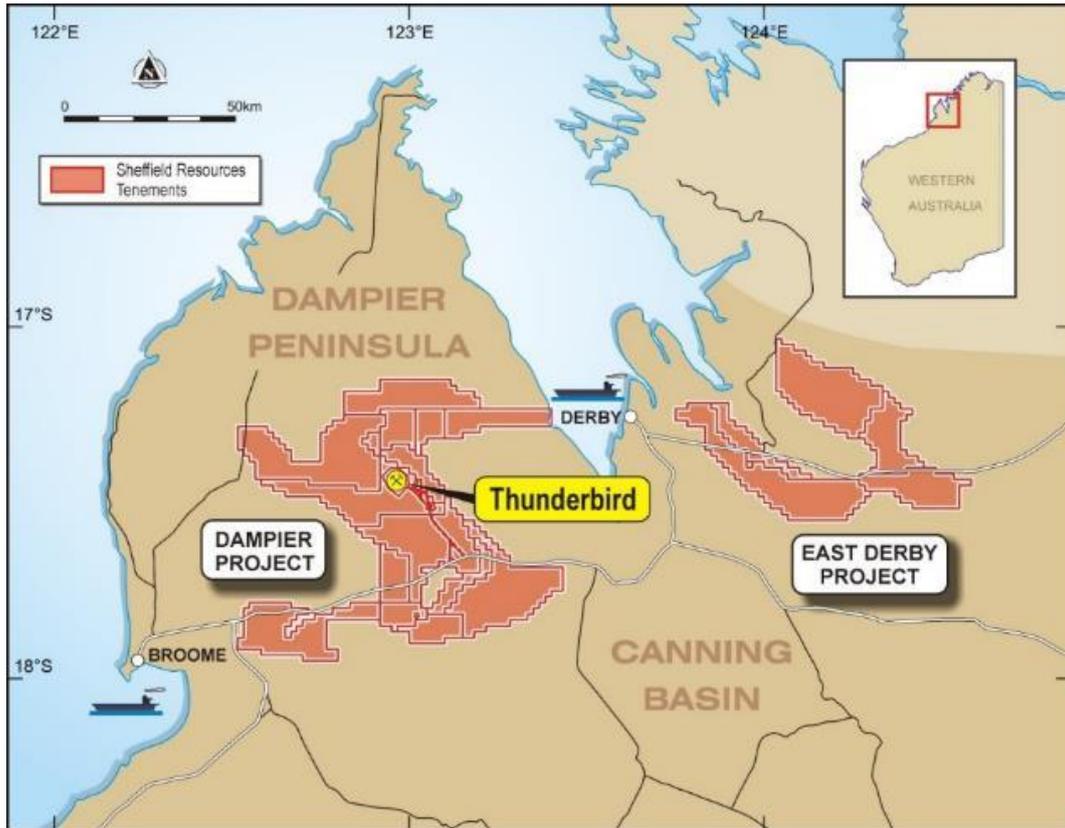


Figure 5: Location of Thunderbird project

ENDS

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Table 1. Bulk sample site details

Hole ID	Easting	Northing	RL	Depth (m)	Mineralisation*		
					Depth From (m)	Depth To (m)	Width (m)
THBA001	496089	8073078	109	18.4	0	18	18
THBA002	495864	8072843	108	26.1	7.5	25.5	18
THBA003	495867	8073611	115	21.2	1.5	21	19.5
THBA004	495581	8073278	112	28.5	7.5	28.5	21
THBA005	496167	8072437	107	25.9	1.5	25.5	24

* Mineralisation intervals were determined from pit optimisation studies using the 4 year initial and 32 year LOM shells prepared for the Thunderbird PFS (14 May 2015). Site locations were determined using handheld GPS with expected accuracy of +/- 15m horizontal. RL was determined by projection to a regional DTM model created from SRTM data. Coordinates are referenced to the Map Grid of Australia (MGA) zone 51 on the Geographic Datum of Australia (GDA94), RL are AHD.

COMPLIANCE STATEMENTS

PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Exploration Results, Mineral Resources and Technical Studies which were prepared and first disclosed under the JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows:

- Thunderbird High Grade Resource Update: *"THUNDERBIRD HIGH GRADE RESOURCE UPDATE"* 31 July 2015
- Thunderbird PFS Update progress: *"QUARTERLY REPORT FOR PERIOD ENDING 30 JUNE 2015"* 27 July 2015
- Thunderbird pre-feasibility study: *"PRE-FEASIBILITY STUDY CONFIRMS THUNDERBIRD AS NEXT MAJOR MINERAL SANDS PROJECT IN GLOBAL DEVELOPMENT PIPELINE"* 14 May 2015

These announcements are available on Sheffield Resources Ltd's web site www.sheffieldresources.com.au.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, Scoping and Pre-Feasibility studies, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

FORWARD LOOKING 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 "anticipated", "expected", "likely", "should", "scheduled", "intends", "potential", "prospective" and similar expressions.

In this report the term "mining inventory" is used to report that part of the Mineral Resource that has been considered in the Pre-feasibility Study. The mining inventory does not meet the requirements of an Ore Reserve as defined under the 2012 edition of the JORC Code and should not be considered an Ore Reserve. There is no certainty that all or any part of the mining inventory will be converted into Ore Reserves.

ABOUT SHEFFIELD RESOURCES

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

ASX Code:	SFX	Market Cap @ 47cps	\$63.2m
Issued shares:	134.4m	Cash: \$5.1m (at 30 June 2015)	

Sheffield's projects are all situated within the state of Western Australia and are 100% owned by the Company.

HEAVY MINERAL SANDS

The Dampier project, located near Derby in WA's northwest, contains the large, high grade zircon-rich Thunderbird HMS deposit. Sheffield's pre-feasibility study shows Thunderbird can generate strong cash margins from globally significant levels of production over a 32 year mine life.

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 has over 2,000km² of tenure in the Fraser Range region, including the Red Bull project which is within 20km of Sirius Resources NL's (ASX:SIR) Nova Ni-Cu deposit.