ASX AND MEDIA RELEASE
14 April 2016

PREMIUM ZIRCON AT NIGHT TRAIN

HIGHLIGHTS

- Initial scoping metallurgical test work produces premium zircon from Night Train
- Very high 17.4% zircon in heavy mineral assemblage
- Follow-up drilling planned for 2016
- Night Train just 20km from Thunderbird and adjacent to proposed haulage route
- Night Train is the second high quality zircon discovery in a new and significant mineral sands province

Sheffield Resources Limited ("Sheffield" "the Company") (ASX:SFX) today announced results of initial scoping metallurgical test work for the recently discovered Night Train mineral sands deposit at its 100% owned Dampier Mineral Sands Project in north-west Western Australia (Figure 1). Results indicate the deposit has the potential to produce a premium zircon product.

Night Train is located approximately 20km to the southeast of Sheffield's Thunderbird Mineral Sands Project ("Thunderbird") and is within 2km from the proposed Thunderbird haul road (ASX announcement 22 September 2015).

The results announced today relate to initial metallurgical test work undertaken on a drill sample composite from the mineralised zone at Night Train and show that high quality zircon which meets ceramic grade specifications can be produced using conventional mineral sands processing techniques.

The Night Train heavy minerals ("HM") are low in iron contamination and the zircon was produced without an enhancing leaching stage. The grain size of the zircon and HiTi products are fine to medium grained with a D50 of 79 microns. The composite sample averages 4.7% HM and contains a high 17.4% of zircon in the heavy mineral assemblage.

Further work at Night Train will include follow-up exploration drilling and more detailed metallurgical test work.

Sheffield Managing Director Mr Bruce McFadzean, said: "This is an outstanding result. High quality zircon from the initial scoping metallurgy using conventional processing techniques is a great outcome and gives us the confidence to proceed with follow-up drilling and further test work during the coming dry season".

"Night Train is a significant new discovery emphasising the excellent exploration potential of the Canning Basin. Although the Thunderbird project is our primary focus, targeting additional zircon-rich deposits underpins shareholder growth and supports our long-term product supply strategy for this exciting new mineral sands province".

"Thunderbird is a world-class project with a projected mine life of over 40 years and is one of the few Western Australian mining projects that enjoys 'Lead Agency' status with Department of Mines and Petroleum, underlining the significance of the project to the local community and the State of Western Australia. We continue to work with government departments and all stakeholders as we progress Native Title, permitting and community engagement, in parallel with the Thunderbird Bankable Feasibility Study".

Preliminary scoping metallurgical test work has been completed on a 100kg composite sample from Night Train by Robbins Metallurgical Pty Ltd with the aim of determining the suitability of the material to conventional mineral sands processing and to ascertain the quality of potential zircon products.

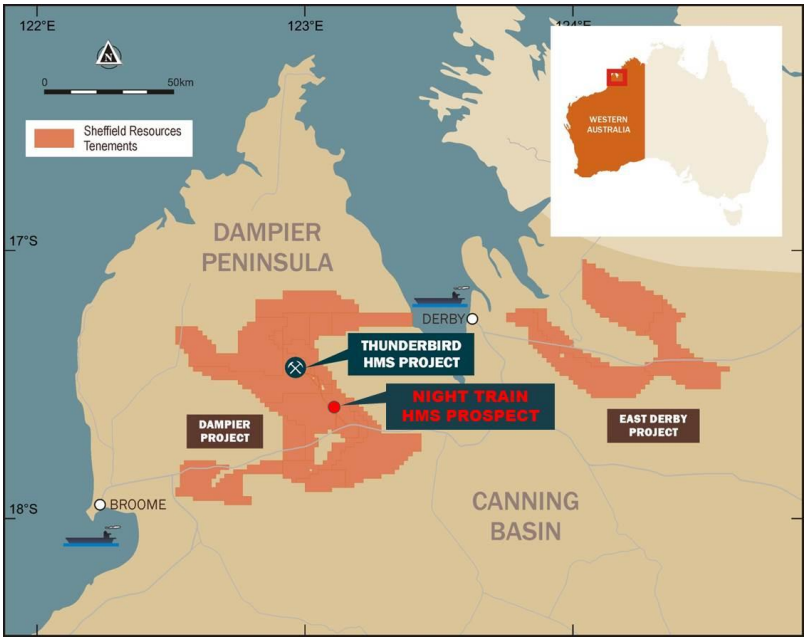

Figure 1: Location Plan

The metallurgical sample comprised drill sample composited from the mineralised zone (>1% HM) across adjacent drill holes between DAAC048 and DAAC094, (refer Figures 2 & 3; ASX announcements of 22 September 2015 and 25 February 2015). Head analyses completed on a sub-sample of the 100kg composite sample from Night Train indicates the composite material contains 4.7% HM, 1.5% oversize (+1.0mm) and 13.8% slimes (-38micron).

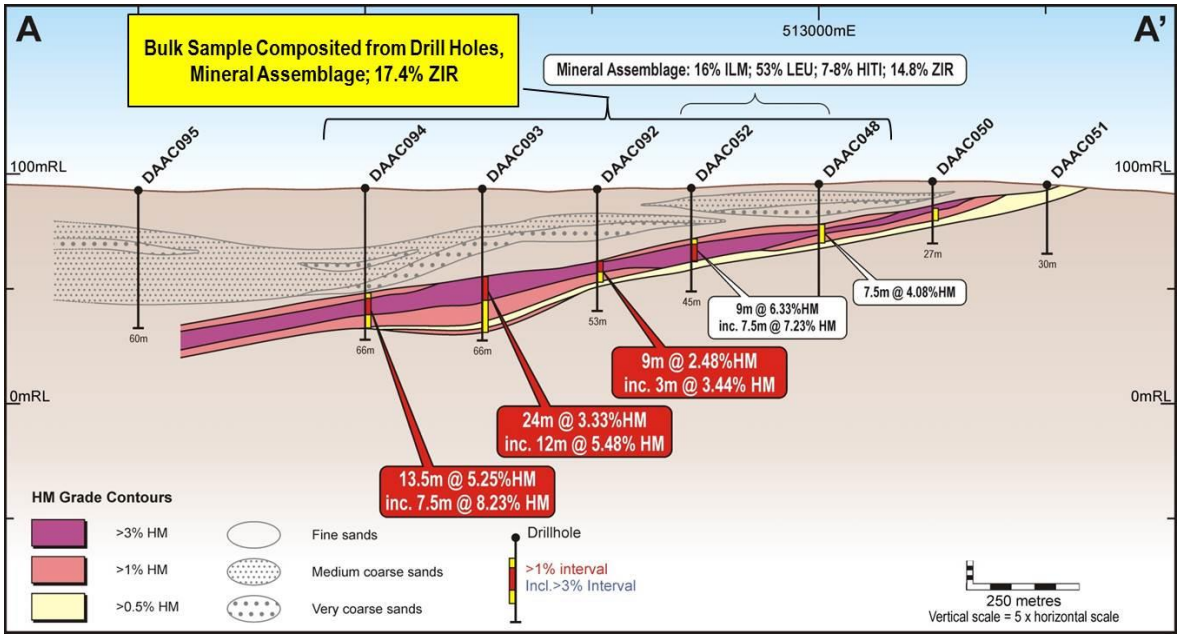

Figure 2: Night Train Prospect Cross-Section

Chemical analyses of the scoping sample indicate that the heavy mineral contains high levels of zircon, with 17.4% zircon occurring within the mineral assemblage. This result compares favourably with earlier mineral assemblage analysis (from holes DAAC048 and DAAC052) comprising 15% zircon, 53% leucoxene, 8% HiTi leucoxene and 16% ilmenite[1], with total valuable heavy mineral ("VHM") at a very high 92% (ASX announcement dated 25 February 2015). The current test work indicates that the majority of the titanium species comprise leucoxene and HiTi leucoxene (HiTi70 product) with minor components of rutile and altered ilmenite. Size analyses completed on the heavy mineral indicate it to be fine to medium grained with a D50 of 79 microns.

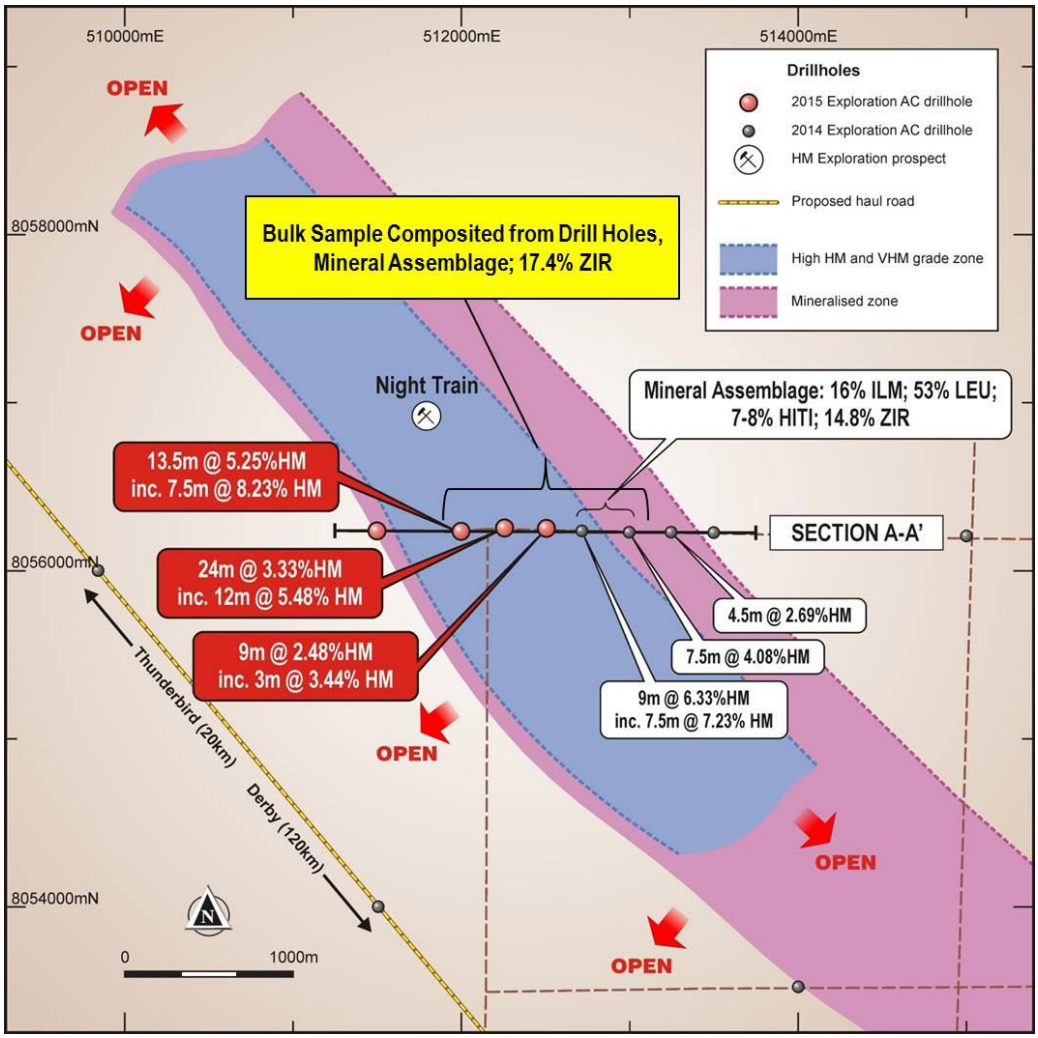

Figure 3: Plan view of the Night Train prospect with significant intervals

The scoping sample from Night Train was homogenised, screened at 1mm and de-slimed at 38 microns, with the subsequent sand fraction processed over two wet shaking table stages to produce a heavy mineral concentrate ("HMC"). The HMC was then processed over several stages of electrostatic and magnetic separators to produce a non-conductor/non-magnetic concentrate (zircon-rich), a conductor/magnetic concentrate (leucoxene-rich) and a conductor/non-magnetic concentrate (HiTi leucoxene-rich).

[1] The following TiO2 content ranges were used in the classification of the titanium minerals: HiTi leucoxene (includes rutile) >90%TiO2; leucoxene 70-90% TiO2; ilmenite <70% TiO2.

Further processing of the non-conductor/non-magnetic concentrate over several stages of wet shaking tables, and electrostatic and magnetic separators produced two high quality zircon products containing low levels of contaminants. The primary zircon product contains 65.9% ZrO_2+HfO_2 and low levels of contaminants and the secondary zircon product contains 65.5% ZrO_2+HfO_2 with slightly higher levels of TiO_2 (Table 1). Both zircon products contain low levels of Fe_2O_3 and were produced without a leaching stage. Overall ZrO_2 recovery, excluding semi-processed streams and recirculation loads into the two zircon products are calculated at 56.8% and is considered appropriate for the scoping level of study. The primary zircon product comprises 78% of the total zircon produced.

Table 1: Zircon products – summary assay results.

Product	ZrO_2+HfO_2	SiO_2	TiO_2	Fe_2O_3	Al_2O_3	U+Th
Primary zircon	**65.9%**	32.9%	0.15%	0.05%	0.37%	481ppm
Secondary zircon	**65.5%**	33.3%	0.36%	0.05%	0.20%	542ppm

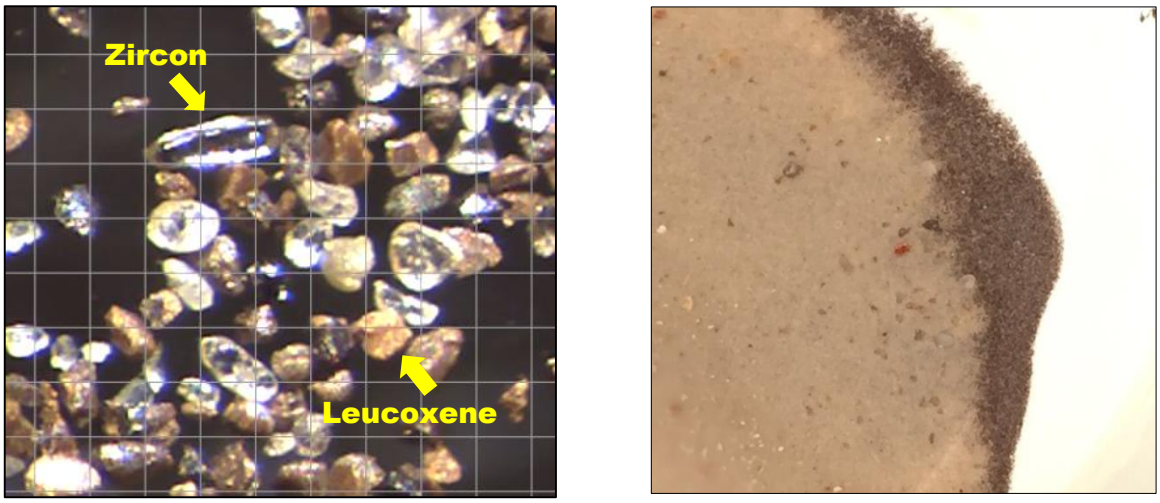

Figure 4: Photomicrographs of HM concentrate from drill hole DAAC093 (40.5-42m) and panned sample from drill hole DAAC093

The conductor/magnetic concentrate and the conductor/non-magnetic concentrate were both further processed through single stages of electrostatic and magnetic separators and a combined potential high titanium product containing 71.1% TiO_2 was produced. This potential product contains low contaminants with the exception of elevated thorium levels. Petrological and Scanning Electron Microscope (SEM) studies indicate the elevated thorium is associated with monazite and zircon within the product. Future metallurgical test work on a larger sample will allow for additional processing stages designed to reduce the contaminant levels in this product stream.

A non-magnetics fraction from the conductor/non-magnetics was also produced which contained 72.1% TiO_2 but was not further processed into a potential product because of small sample size, and will be investigated in future test work on a larger bulk sample.

The scoping processing test program showed that the Night Train ore material is clearly amenable to standard mineral sands process methodologies using typical mineral sands processing equipment. If follow-up drilling further extends the mineralisation at Night Train then a larger bulk sample will be sourced (+/- 5 tonnes) to complete more detailed metallurgical scoping test work focussing on:

- Preliminary slimes (-38micron) settling tests and flocculent screening.
- Process development test work using full scale or scale-able equipment and reducing the number of semi-processed streams.
- Production of larger volumes of potential product for market evaluation.
- Completion of detailed mineralogical analyses using QEMSCAN to derive mineral recoveries.

At a 1% HM cut-off, the Night Train mineralisation is 1.6km wide, ranges from 4.5m to 24m thickness (average 11m), and has an average HM grade of 4.04%. At a 3% HM cut-off, mineralisation is 1.0km wide, ranges from 3 to 12m thickness (average 7.5m), with an average grade of 6.4% HM. At this early stage of evaluation, the strike direction of the mineralisation is interpreted from sparse data points. Further drilling will be undertaken to determine the orientation and strike extent of the mineralisation.

The heavy mineral is dominated by VHM, is free from coatings, has a very high zircon content and little weathering overprint. The mineralisation is hosted by fine, clean, predominantly quartz sand. The mineralisation setting is interpreted to occur at a different stratigraphic level to the Thunderbird deposit, located 20km to the north-west (Figure 5). The Night Train mineralisation suggests there may be a number of stacked mineralised sequences in the region, opening significant scope for further discoveries.

In the northern Canning Basin, Sheffield currently holds 3,952 km^2 of tenements and over 120km of strike potential at its Dampier Project and 1,842 km^2 of tenements at its Derby East project. Further exploration is planned for both projects during the 2016 dry season, including further infill drilling at Night Train.

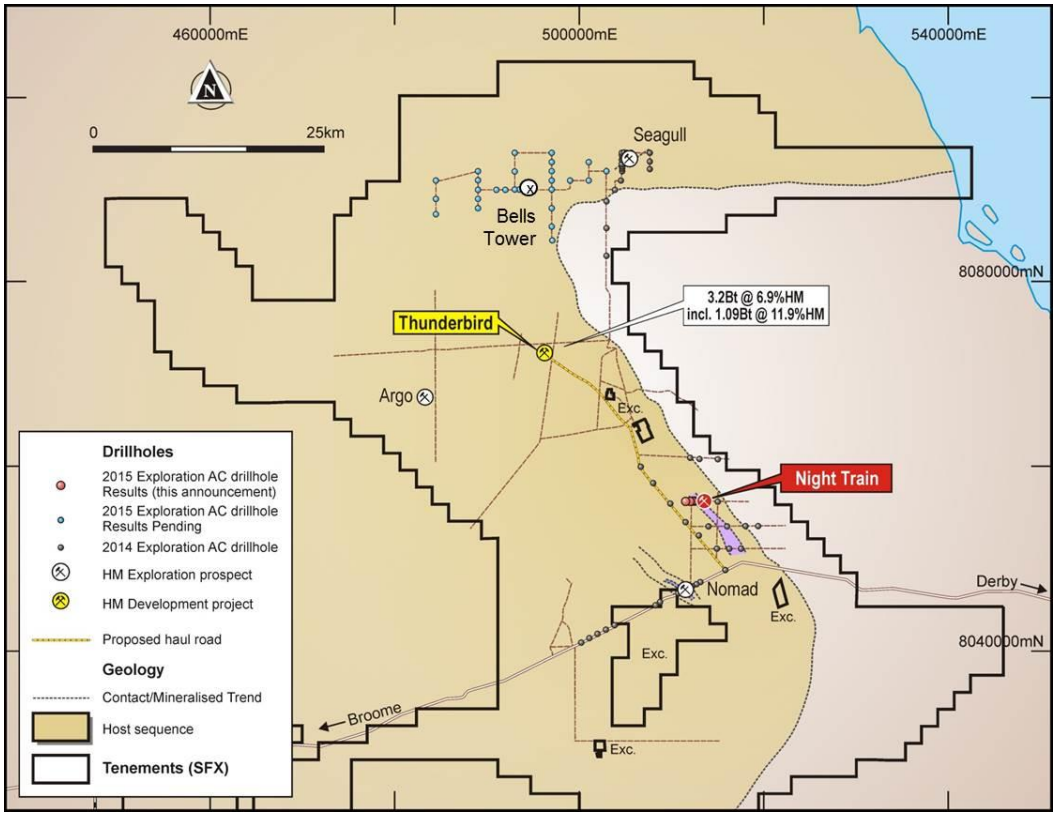

Figure 5: Dampier Project regional plan showing location of prospects

These encouraging initial scoping metallurgical results follow the recently announced maiden Ore Reserve for the world class Thunderbird deposit of 682.7 Mt at 11.3% HM (see ASX announcement 22 January, 2016 and Appendix 1). The maiden Ore Reserve supports the 40 year mine life as detailed in

the Pre-Feasibility Study released on 14 October 2015 and, along with the significance of the Night Train results further highlights the world class significance of the Canning Basin as a mineral sands province and its potential to be a major economic contributor to the Kimberley region and Western Australia at large.

Table 2: Thunderbird Deposit Ore Reserve.

Ore Reserve				Valuable HM Grade (In-Situ)					
DEPOSIT	Reserve Category	Material (Mt)	HM (%)	Zircon (%)	HiTi Leuc (%)	Leucoxene (%)	Ilmenite (%)	Oversize (%)	Slimes (%)
Thunderbird	Proved	115.1	13.7	1.01	0.29	0.28	3.67	12.7	17.3
	Probable	567.6	10.9	0.85	0.27	0.29	3.03	10.2	16.1
	Total	682.7	11.3	0.88	0.27	0.29	3.14	10.6	16.3

Calculations have been rounded to the nearest 100,000t, 0.1 % grade. Differences may occur due to rounding. The in-situ grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage. Ore Reserve is reported by economic cut-off with appropriate consideration of modifying factors, costs, mineral assemblage, process recoveries and product pricing.

The Thunderbird Bankable Feasibility Study ("BFS") has commenced following the appointment of leading Engineering Group Hatch as study manager (ASX announcement 2 March, 2016). Metallurgical test work on the BFS bulk sample is well advanced and engineering studies have commenced. Completion of the BFS is on target for Q4 2016.

ENDS

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COMPLIANCE STATEMENTS

The information in this report that relates to Exploration Results is based on information compiled by Mr Mark Teakle, a Competent Person who is a Member of Australian Institute of Geoscientists (AIG). Mr Teakle is a full-time employee of Sheffield Resources Ltd and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Teakle consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Ore Reserves, Mineral Resources and Pre-Feasibility Study results which were prepared and first disclosed under the JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows

- Bankable Feasibility Study manager appointed: *"SHEFFIELD APPOINTS HATCH TO DELIVER BFS FOR THUNDERBIRD PROJECT"* 02 March 2016
- Maiden ore reserve: *"MAIDEN ORE RESERVE – THUNDERBIRD PROJECT"* 22 January 2016
- Night Train discovery: *"NEW MINERAL SANDS DISCOVERY AT NIGHT TRAIN"* 22 September 2015
- Thunderbird Pre-feasibility study update: *"PRE-FEASIBILITY STUDY UPDATE CONFIRMS THUNDERBIRD AS THE WORLD'S BEST UNDEVELOPED MINERAL SANDS PROJECT"* 14 October 2015
- Thunderbird High Grade Resource Update: *"THUNDERBIRD HIGH GRADE RESOURCE UPDATE"* 31 July 2015
- Thunderbird Pre-feasibility study: *"PRE-FEASIBILITY STUDY CONFIRMS THUNDERBIRD AS NEXT MAJOR MINERAL SANDS PROJECT IN GLOBAL DEVELOPMENT PIPELINE"* 14 May 2015
- Regional drilling results: *"THREE NEW MINERAL SANDS DISCOVERIES IN CANNING BASIN"* 25 February, 2015

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

FORWARD LOOKING AND CAUTIONARY 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", "targeting", "likely", "scheduled", "intends", "potential", "prospective" and similar expressions.

ABOUT SHEFFIELD RESOURCES

Sheffield Resources Limited (Sheffield) is focused on developing its 100% owned, world class Thunderbird Mineral Sands Project, located in north-west Western Australia. Sheffield continues to explore the Dampier Project for other mineral sands opportunities, including the exciting Night Train deposit 20km south west of Thunderbird along with other targets identified within the region.

Sheffield is also exploring the Eneabba and McCalls regions north of Perth, Western Australia for mineral sands deposits. As an exploration company, Sheffield continues to assess other regional exploration opportunities.

THUNDERBIRD MINERAL SANDS

Thunderbird is one of the largest and highest grade mineral sands discoveries in the last 30 years.

The deposit is rich in zircon, which sets it apart from many of the world's operating and undeveloped mineral sands projects which are dominated by lower value ilmenite.

Sheffield's Pre-Feasibility study shows Thunderbird is a modest capex project that generates strong cash margins from globally significant levels of production over a 40 year mine life.

The Company is targeting project construction commencing in 2017 with initial production in 2019. The initial planned production profile is aligned with expected emerging supply gaps in global mineral sands markets.

ASX Code:	SFX	Market Capitalisation:	$57.5m
Issued shares:	147.4m	Cash (31 Dec 2015):	$8m (approx.)

APPENDIX 1: Dampier Project Ore Reserves and Mineral Resources, January 2016

Sheffield announced a maiden Ore Reserve totalling 682.7 million tonnes @ 11.3% HM for the Thunderbird heavy mineral sands deposit, in the Kimberley Region of Western Australia, on 22 January 2016, and is currently completing a Bankable Feasibility Study for development of the deposit (the Thunderbird Mineral Sands Project). The Proved and Probable Ore Reserve estimate is based on that portion of the current (July, 2015) Thunderbird deposit Measured and Indicated Mineral Resources within mine designs and optimisation shells that may be economically extracted, considering all "Modifying Factors" in accordance with the JORC Code 2012.

Ore Reserves

Dampier Project Ore Reserves [1,4]

Deposit	Ore Reserve Category	Ore Tonnes (millions)	In-situ HM Tonnes (millions)	HM Grade (%)	Valuable HM Grade (In-situ)[2]				Slimes (%)	Osize (%)
					Zircon %	HiTi Leuc %	Leuc %	Ilmenite %		
Thunderbird	Proved	115.1	15.8	13.7	1.01	0.29	0.28	3.67	17.3	12.7
	Probable	567.6	61.9	10.9	0.85	0.27	0.29	3.03	16.1	10.2
	Total	**682.7**	77.1	**11.3**	**0.88**	**0.27**	**0.29**	**3.14**	**16.3**	**10.6**

Deposit	Ore Reserve Category	Ore Tonnes (millions)	In-situ HM Tonnes (millions)	HM Grade (%)	Mineral Assemblage[3]				Slimes (%)	Osize (%)
					Zircon (%)	HiTi Leuc (%)	Leuc (%)	Ilmenite (%)		
Thunderbird	Proved	115.1	15.8	13.7	7.4	2.1	2.1	26.8	17.3	12.7
	Probable	567.6	61.9	10.9	7.8	2.5	2.6	27.9	16.1	10.2
	Total	**682.7**	77.1	**11.3**	**7.7**	**2.4**	**2.5**	**27.7**	**16.3**	**10.6**

1) Ore Reserves are presented both in terms of in-situ VHM grade, and HM assemblage. Calculations have been rounded to the nearest 100,000 t, 0.1 % grade. Differences may occur due to rounding. Ore Reserve is reported by economic cut-off with appropriate consideration of modifying factors, costs, mineral assemblage, process recoveries and product pricing.
2) The in-situ grade is determined by multiplying the HM Grade by the percentage of each valuable heavy mineral within the heavy mineral assemblage.
3) Mineral Assemblage is reported as a percentage of HM Grade, it is derived by dividing the in-situ grade by the HM grade.
4) Ore Reserves reported for the Dampier Project were prepared and first disclosed under the JORC Code 2012

Mineral Resources

Dampier Project Mineral Resources [1,2,4]

Deposit (cut-off)	Mineral Resource Category	Material Tonnes (millions)	In-situ HM Tonnes (millions)	HM Grade (%)	Mineral Assemblage[3]				Slimes (%)	Osize (%)
					Zircon (%)	HiTi Leuc (%)	Leuc (%)	Ilmenite (%)		
Thunderbird (> 3% HM)	Measured	230	21	9.4	7.9	2.2	2.1	27	19	10
	Indicated	2,410	167	6.9	8.4	2.7	3.1	28	16	8
	Inferred	600	33	5.6	8.4	2.8	3.5	28	16	9
	Total	**3,240**	**222**	**6.9**	**8.3**	**2.7**	**3.1**	**28**	**16**	**9**
Thunderbird (>7.5% HM)	Measured	110	16	14.9	7.3	2.1	1.9	27	17	13
	Indicated	850	100	11.8	7.6	2.4	2.2	28	15	10
	Inferred	130	14	10.7	7.6	2.3	2.2	28	14	9
	Total	**1,090**	**131**	**11.9**	**7.6**	**2.3**	**2.1**	**28**	**15**	**10**

1) The Dampier Project Mineral Resources are reported inclusive of (not additional to) Ore Reserves. The Mineral Resource reported above 3% HM cut-off is inclusive of (not additional to) the Mineral Resource reported above 7.5% HM cut-off.

2) All tonnages and grades have been rounded to reflect the relative accuracy and confidence level of each estimate and to maintain consistency throughout the table, therefore the sum of columns may not equal.

3) The Mineral Assemblage is represented as the percentage of HM grade, as determined by screening and magnetic separation. Magnetic fractions were analysed by QEMSCAN for mineral determination as follows: >90% liberation and; Ilmenite 40-70% TiO2; Leucoxene 70-94% TiO2; High Titanium Leucoxene (HiTi Leucoxene) >94% TiO2 and Zircon 66.7% ZrO2+HfO2. The non-magnetic fraction was analysed by XRF and minerals determined as follows: Zircon ZrO2+HfO2/0.667 and HiTi Leucoxene TiO2/0.94.

4) Mineral Resources for the Dampier Project were prepared and first disclosed under the JORC Code 2012.

The Ore Reserves and Mineral Resources reported here are based on information first reported in previous ASX announcements by the Company. These announcements are listed below and are available to view on Sheffield Resources Limited's web site www.sheffieldresources.com.au . Mineral Resources and Ore Reserves reported for the Dampier Project were prepared and first disclosed under the JORC Code 2012.

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 that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

The Competent Persons for reporting of Mineral Resources and Ore Reserves in the original market announcements are listed below. 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.

Item	Name	Company	Professional Affiliation
Mineral Resources Reporting	Mr Mark Teakle	Sheffield Resources	MAIG, MAusIMM
Mineral Resources Estimation	Mr Trent Strickland	QG	MAusIMM
Ore Reserves	Mr Per Scrimshaw	Entech	MAusIMM

Ore Reserves and Mineral Resources prepared and first disclosed under the JORC Code 2012:

Item	Report Title	Report Date
Thunderbird Ore Reserve	Maiden Ore Reserve – Thunderbird Project	22 January 2016
Thunderbird Mineral Resources	Thunderbird High Grade Resource Update	31 July 2015