ASX AND MEDIA RELEASE
9 OCTOBER 2018

EXCEPTIONAL RESULTS CONFIRM MAJOR DISCOVERY AT NIGHT TRAIN

HIGHLIGHTS

- **Outstanding drill results confirm Night Train as a major new zircon-rich mineral sands discovery**
- **27m @ 5.29% HM, including 22.5m @ 6.17%HM – a record high grade intersection at Night Train**
- **Mineralisation is up to 27m thick, 1.5km wide and continuous over 4.5km strike length**
- **Situated just 20km from Thunderbird and adjacent to the planned haul road**
- **Open along strike, down dip and thickening to the south-southwest**
- **Maiden Mineral Resource estimate scheduled for Q1 2019**

Sheffield Resources Limited ("Sheffield", "the Company") (ASX: SFX) today announced outstanding results from exploration drilling at its Night Train prospect at the Dampier Mineral Sands Project near Derby in northern Western Australia. Night Train is located 20km southeast of the Company's world class Thunderbird deposit, which forms part of the Dampier Project.

The outstanding results at Night Train follow the completion of 23 aircore drill holes completed in September 2018. The holes were part of an extensive regional exploration drilling program targeting additional large, zircon rich deposits suitable for downstream processing at the Thunderbird Dry Mineral Separation Plant (see ASX release 1 August 2018). Results include the following outstanding intervals[1]:

- **27m @ 5.29% HM** from 49.5m (DAAC114), including **22.5m @ 6.17% HM** from 52.5m
- **7.5m @ 6.46% HM** from 27.0m (DAAC147), including **4.5m @ 9.70% HM** from 28.5m
- **12m @ 4.54% HM** from 18.0m (DAAC102), including **7.5m @ 6.15% HM** from 19.5m
- **6m @ 8.92% HM** from 12.0m (DAAC101)

These results extend the broad, high-grade mineralised intervals at Night Train previously identified by a single drill traverse (see ASX release 25 February 2015). At 1% HM cut-off the mineralisation has a strike length of over 4.5km and a width of up to 1.5km. Within this is a coherent high-grade zone (at 3% HM cut-off) of up to 22.5m thick (average 7.5m). The high grade zone has so far been outlined over an area of 4.5km^2 and is open along strike and down dip. The mineralisation substantially thickens to the south-southwest where it remains open.

Visual examination of the heavy mineral (HM), and proximity to previously announced results, suggest it is likely these latest samples will have a similarly high value mineral assemblage[2] to that obtained from the earlier drilling, i.e. 15% zircon, 53% leucoxene, 8% HiTi leucoxene and 16% ilmenite (total 92% Valuable Heavy Mineral (VHM)) (see ASX announcement dated 25 February 2015 for details). The heavy mineral is similarly well sorted, free from coatings and low in trash minerals.

The Company will undertake further mineral assemblage testwork ahead of a maiden Mineral Resource estimate, scheduled for completion in Q1 2019.

Sheffield's Managing Director Bruce McFadzean said Night Train is shaping up as a major new zircon-rich discovery, further demonstrating the global significance of Sheffield's Dampier Mineral Sands Project.

"The discovery of additional high grade mineralisation containing high quality zircon in close proximity to Thunderbird is particularly significant because it has potential to contribute to further growth and product flexibility.

"This discovery is further proof that the Canning Basin is emerging as Australia's next major mineral sands province. Our recent regional drilling program was extensive and there are many more results to follow. We look forward to sharing these with our shareholders as they come to hand."

[1] intervals reported above a 1% HM cut-off, including above 3% HM cut-off, refer to Table 2 and Appendix 1 for full details
[2]The following TiO_2 content ranges were used in the classification of the titanium minerals: HiTi leucoxene (includes rutile) >90%TiO_2; leucoxene 70-90% TiO_2; ilmenite <70% TiO_2.

The results from Night Train are the first to be reported from the extensive Dampier project regional exploration program totalling 94 holes for 4,829m. The drilling at Night Train comprised 23 drill holes for a total 818.5m (Figure 1) on four traverses including infill drill holes on the original 2015 discovery traverse. The mineralisation remains open along strike to the northwest and the south and down dip to the west. Mineralisation appears to substantially thicken to the south-southwest.

Significant results from holes drilled at Night Train to date include:

- **27m @ 5.29% HM** from 49.5m (DAAC114), including **22.5m @ 6.17% HM** from 52.5m
- **7.5m @ 6.46% HM** from 27.0m (DAAC147), including **4.5m @ 9.70% HM** from 28.5m
- **24m @ 3.33% HM** from 37.5m (DAAC093), including **12m @ 5.48% HM** from 37.5m
- **12m @ 4.54% HM** from 18.0m (DAAC102), including **7.5m @ 6.15% HM** from 19.5m
- **9m @ 3.73% HM** from 7.5m (DAAC099), including **4.5m @ 6.00% HM** from 7.5m
- **9m @ 6.33% HM** from 22.5m (DAAC052), including **7.5m @ 7.23% HM** from 24.0m
- **6m @ 8.92% HM** from 12.0m (DAAC101)
- **13.5m @ 5.25% HM** from 46.5m (DAAC094), including **7.5m @ 8.23% HM** from 48.0m
- **9m @ 2.48% HM** from 31.5m (DAAC092), including **3m @ 3.44% HM** from 31.5m
- **7.5m @ 4.08% HM** from 18.0m (DAAC048)
- **6m @ 3.08% HM** from 6.0m (DAAC097), including **4.5m @ 3.66% HM** from 6.0m

(intervals reported above a 1% HM cut-off, including above 3% HM cut-off refer to Table 2 and Appendix 1 for full details)

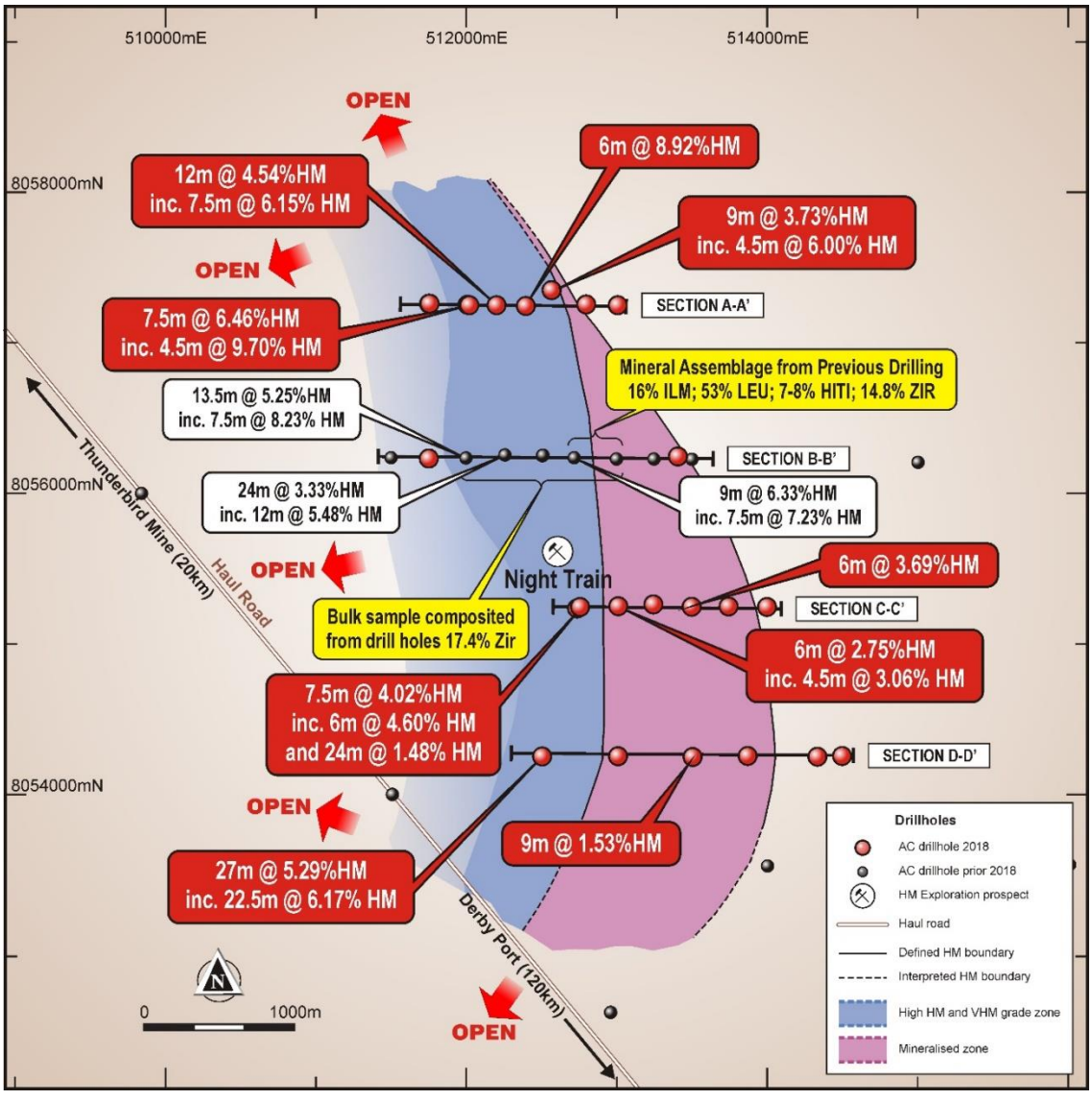

Figure 1: Plan of the Night Train prospect showing significant drill intersections

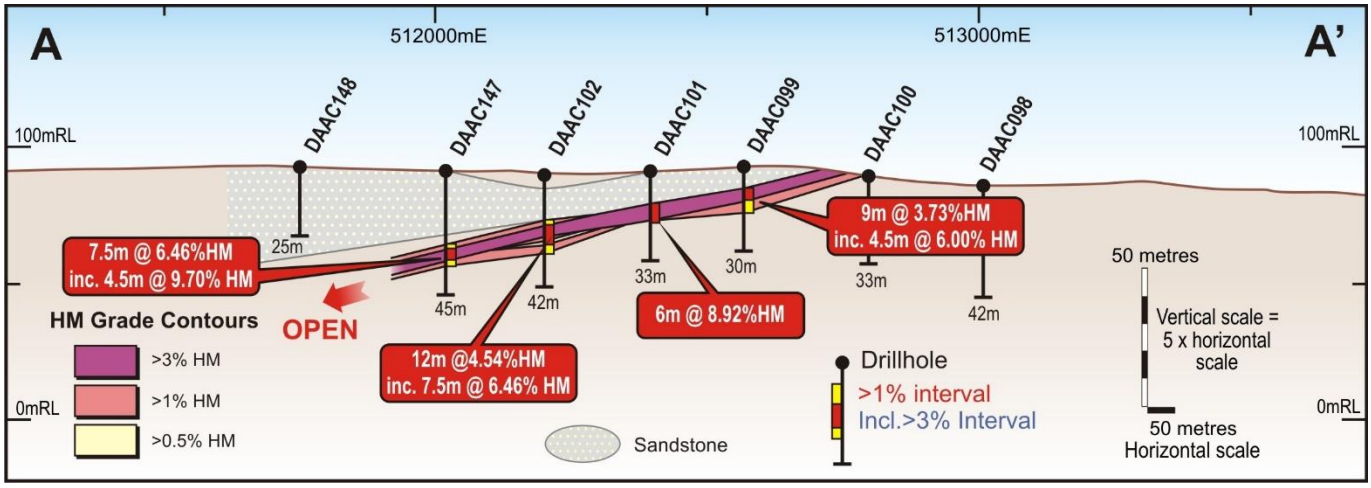

Figure 2: Section A-A'

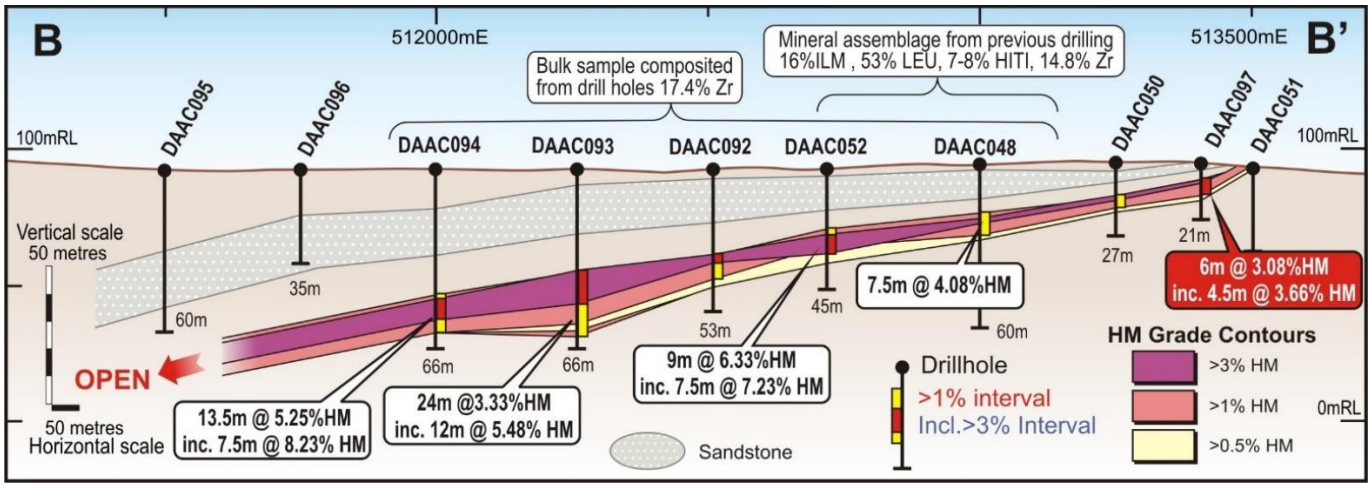

Figure 3: Section B-B'

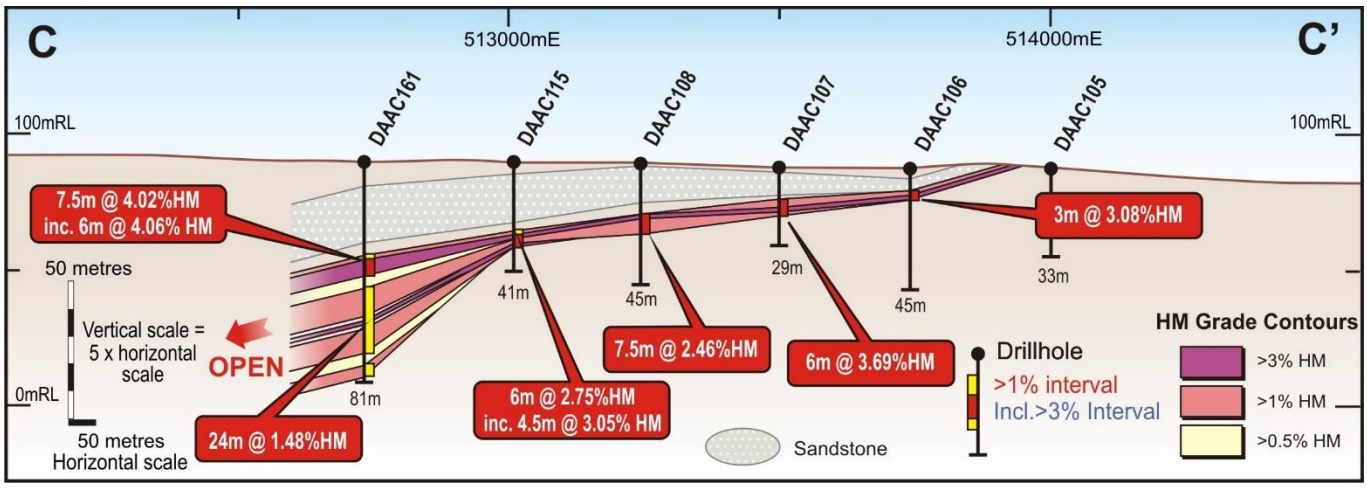

Figure 4: Section C-C'

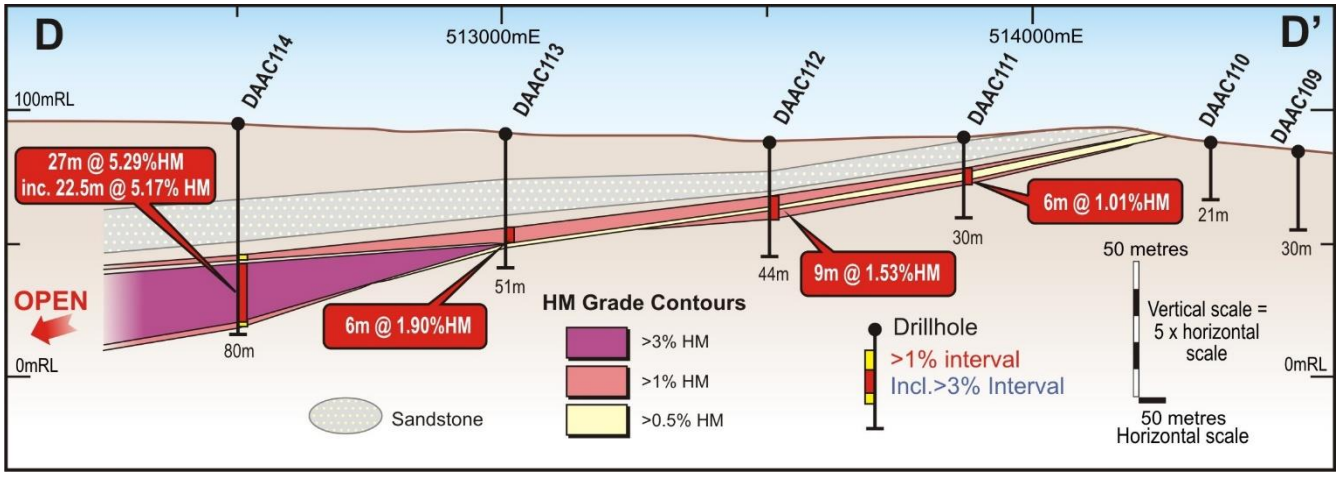

Figure 5: Section D-D'

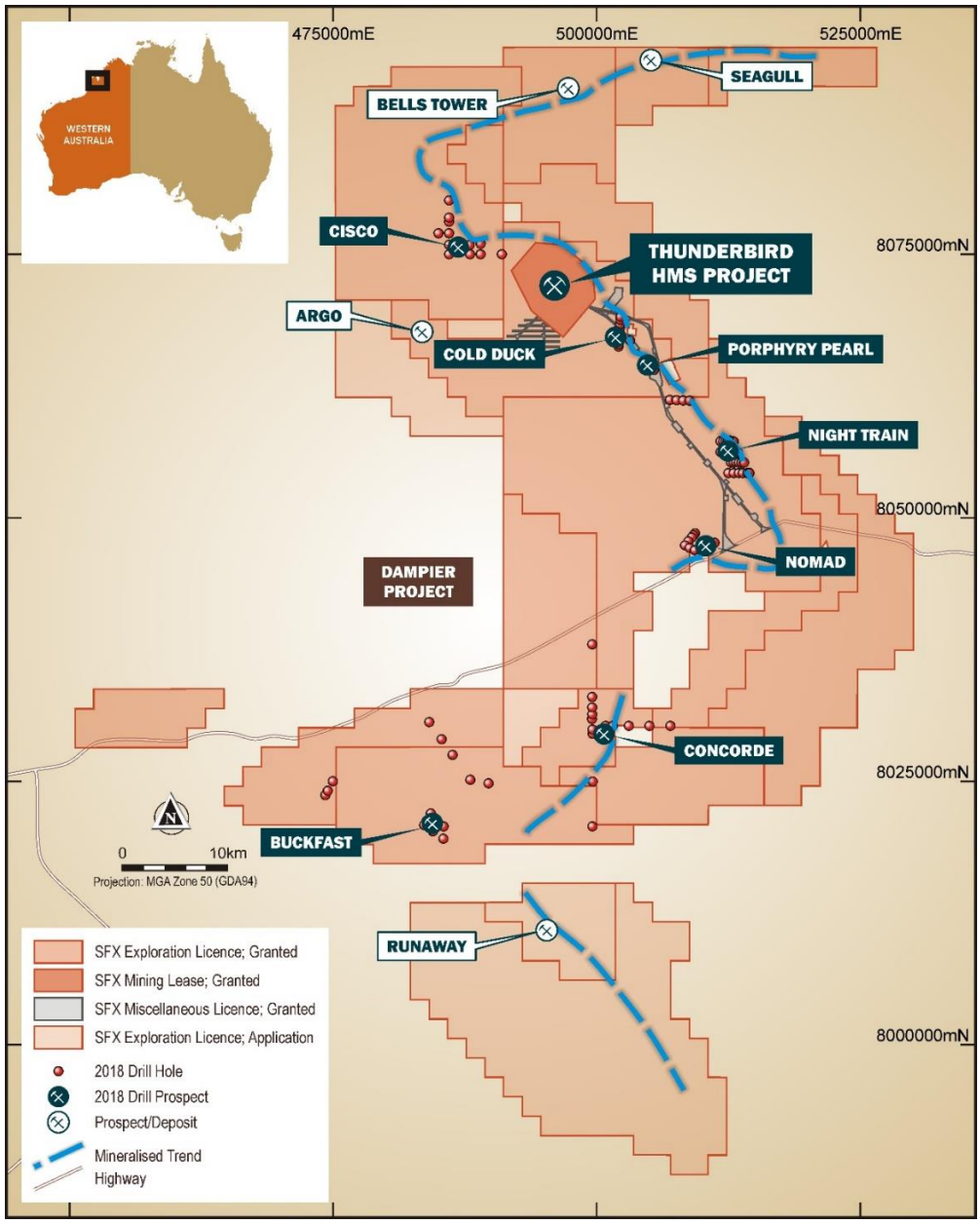

Figure 6: Prospect location plan – Dampier project

About the Night Train Prospect

Night Train is located 20km to the southeast of the Thunderbird deposit and just 2km from the proposed Thunderbird haul road (Figure 6). The prospect is now defined by 31 drill holes, on four drill traverses over a 4.5km strike length.

At a 1% HM cut-off, the mineralisation is 4.5 km long and up to 1.5 km wide and from 3m to 27m in thickness (average 9.5m). At a 3% HM cut-off, mineralisation is 4.5 km long and 1 km wide, ranges from 3m to 22.5m thickness (average 7.5m). The mineralisation is open along strike to the north-west and south and down dip to the west (Figures 2 to 6). The mineralisation thickens significantly on the western limit of the southern two drill lines. Mineral assemblage for the recent drilling is yet to be determined, however visual examination of the HM, and proximity to previously announced results, suggest it is likely these latest samples will have a similar high value mineral assemblage to that obtained from the earlier drilling, i.e. 15% zircon, 53% leucoxene, 8% HiTi leucoxene and 16% ilmenite[1], with a very high VHM component of 92% (ASX announcement dated 25 February 2015).

Figure 7: Panned HM from Night Train drill hole DAAC093

The mineralogical character and stratigraphic setting of Night Train is very encouraging. 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 soft, fine, clean, predominantly quartz sand (Figure 7). The mineralisation occurs below a stacked sequence of fine to coarse grained, highly weathered and partially indurated to indurated sandstones of the Melligo Formation (Figures 2 to 6). Scoping metallurgical testwork indicates the zircon and HiTi products are fine to medium grained with a D_{50} of 79 microns, which is slightly coarser grained than Thunderbird (zircon - D_{50} of 57 microns, Hi-Ti88 - D_{50} of 67 microns) (see ASX announcement of 14 April 2016).

These characteristics are interpreted to represent an offshore depositional setting similar to that of Thunderbird, but at a slightly higher stratigraphic level. This suggests Thunderbird and Night Train may be just the first of a number of stacked mineralised sequences in the region, opening significant scope for further discoveries.

[1]The following TiO_2 content ranges were used in the classification of the titanium minerals: HiTi leucoxene (includes rutile) >90%TiO_2; leucoxene 70-90% TiO_2; ilmenite <70% TiO_2.

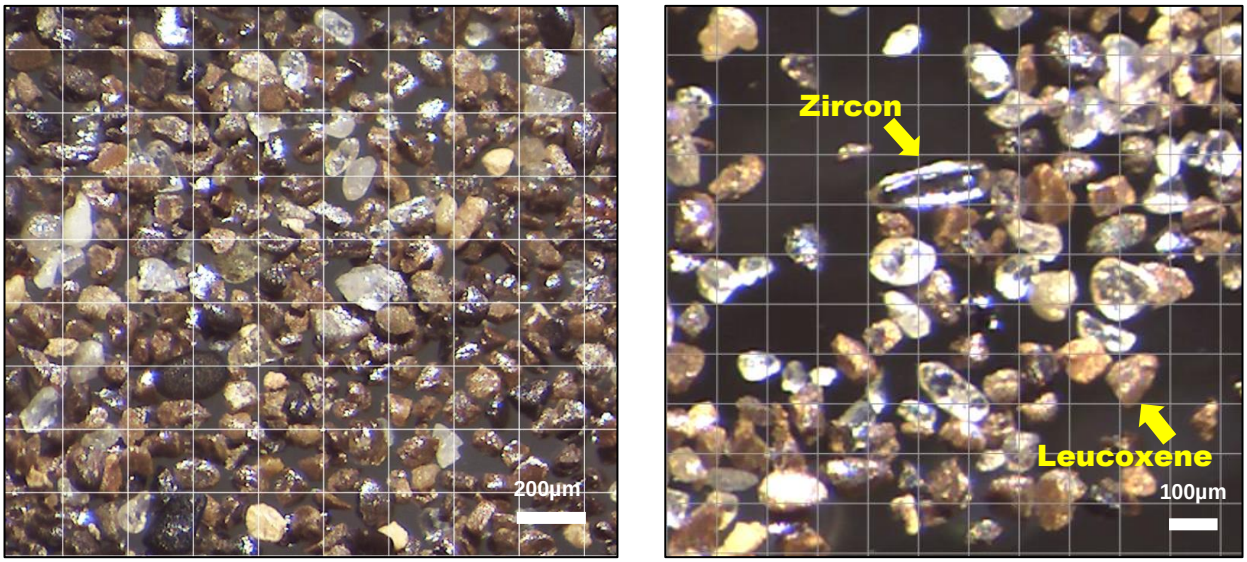

Figure 8: Photomicrographs of HM concentrate from Night Train drill hole DAAC093 (40.5-42m)

Initial scoping metallurgical test work completed in 2016 on a 100kg drill sample composite from the mineralised zone at Night Train showed that high quality zircon which meets ceramic grade specifications can be produced (Table 1 and refer to ASX announcement of 14 April 2016 for further details). Both the primary and secondary zircon products contained low levels of Fe_2O_3 and were produced without a leaching stage. The primary zircon product comprises 78% of the total zircon produced. The composite metallurgical sample averaged 4.7% HM and contained a high proportion of zircon (17.4%) in the heavy mineral assemblage.

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

Further work

Further technical work at Night Train will include mineral assemblage test work with results expected during Q4 2018. Aircore drill samples will be composited to produce a bulk sample and submitted for further metallurgical testwork. The results of this work will be incorporated into the maiden Night Train Mineral Resource estimate, scheduled for completion in Q1 2019. A follow-up aircore drilling program designed to extend and infill the defined mineralisation at Night Train is scheduled for Q2-Q3 2019.

Results from the remaining 71 holes of the recently completed Dampier regional drilling programme will be reported in coming weeks.

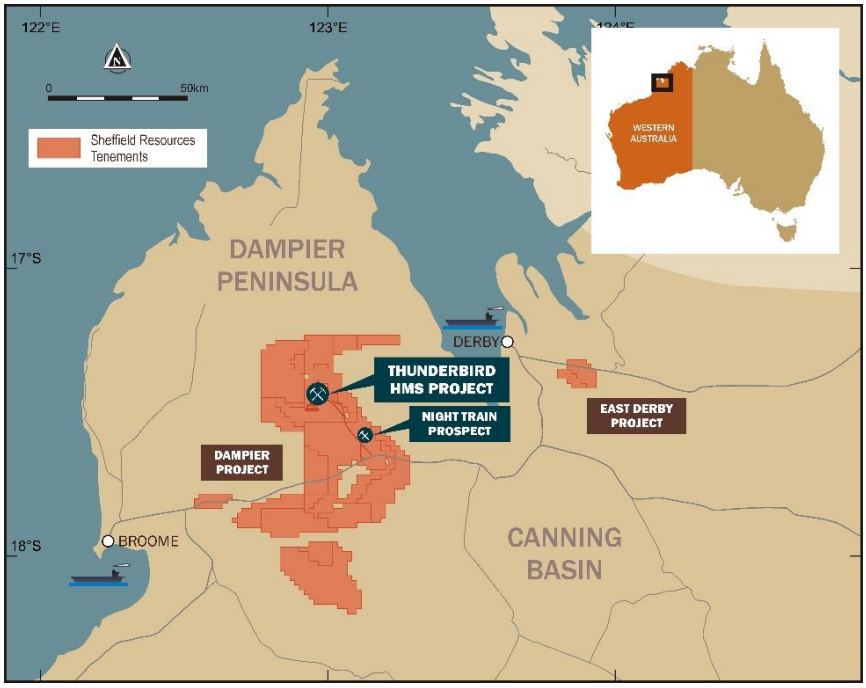

Figure 9: Location of Thunderbird Mineral Sands Project

Figure 10: Sheffield field crew at Night Train

ENDS

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Table 2: Night Train exploration aircore drill results 09 October, 2018

Hole ID	Depth From (m)	Depth To (m)	Interval Width (m)*	HM	Slimes wt%	Osize	Drill Hole Information			
				wt%		wt%	Easting	Northing	RL	Depth (m)
DAAC096	No significant interval, Hole not to depth						511,751	8,056,231	93	35.0
DAAC097	6	12	6	3.08	9.9	1.5	513,405	8,056,246	95	21.0
including	*6*	*10.5*	*4.5*	*3.66*	*10.7*	*1.8*				
DAAC098	No significant interval						513,006	8,057,250	87	42.0
DAAC099	7.5	16.5	9	3.73	15.8	11.7	512,566	8,057,351	92	30.0
including	*7.5*	*12*	*4.5*	*6.00*	*18.3*	*13.6*				
DAAC101	12	18	6	8.92	18.8	1.0	512,395	8,057,245	91	33.0
DAAC102	18	30	12	4.54	14.3	7.2	512,201	8,057,251	91	42.0
including	*19.5*	*27*	*7.5*	*6.15*	*14.2*	*9.2*				
DAAC103	No significant interval, Hole not to depth						512,008	8,057,254	92	3.0
DAAC104	No significant interval, Hole not to depth						511,755	8,057,261	92	3.0
DAAC105	No significant interval						513,999	8,055,245	88	33.0
DAAC106	9	12	3	3.08	14.4	15.3	513,742	8,055,248	88	45.0
DAAC107	12	18	6	3.69	9.1	5.5	513,500	8,055,246	88	28.5
DAAC108	19.5	27	7.5	2.46	8.1	0.3	513,243	8,055,262	89	45.0
DAAC109	No significant interval						514,497	8,054,255	85	30.0
DAAC110	No significant interval						514,333	8,054,250	88	21.0
DAAC111	12	18	6	1.01	10.5	17.1	513,869	8,054,254	90	30.0
DAAC112	21	30	9	1.53	9.2	0.7	513,504	8,054,248	89	43.5
DAAC113	36	42	6	1.90	4.6	5.5	513,008	8,054,253	92	51.0
DAAC114	49.5	76.5	27	5.29	4.0	1.4	512,504	8,054,251	95	79.5
including	*52.5*	*75*	*22.5*	*6.17*	*3.8*	*0.7*				
DAAC115	25.5	31.5	6	2.75	7.9	1.2	513,010	8,055,250	90	40.5
including	*27*	*31.5*	*4.5*	*3.06*	*7.2*	*0.8*				
DAAC116	No significant interval, Hole not to depth						512,756	8,055,245	90	12.0
DAAC147	27	34.5	7.5	6.46	14.2	1.1	512,020	8,057,250	91	45.0
including	*28.5*	*33*	*4.5*	*9.70*	*15.6*	*0.7*				
DAAC148	No significant interval, Hole not to depth						511,752	8,057,261	92	24.5
DAAC161	34.5	42	7.5	4.02	4.3	1.2	512,736	8,055,235	90	81.0
including	*36*	*42*	*6*	*4.60*	*4.4*	*1.5*				
and	46.5	70.5	24	1.48	4.0	0.6				
and	75	79.5	4.5	1.03	8.1	0.8				

Previously Announced Night Train Results

DAAC048	18	25.5	7.5	4.08	9.2	1.5	512,998	8056228	94	60.0
DAAC050	12	16.5	4.5	2.69	8.9	21	513,247	8056229	95	27.0
DAAC051	No significant interval						513,499	8056226	93	30.0
DAAC052	22.5	31.5	9	6.33	9.4	0.8	512,717	8,056,236	93	45.0
including	*24*	*31.5*	*7.5*	*7.23*	*9.7*	*0.9*				
DAAC092	31.5	40.5	9	2.48	16	0.7	512,509	8,056,253	93	52.5
including	*31.5*	*34.5*	*3*	*3.44*	*17.7*	*0.3*				
DAAC093	37.5	61.5	24	3.33	11.7	1.5	512,257	8,056,255	93	66.0
including	*37.5*	*49.5*	*12*	*5.48*	*13.7*	*0.8*				
DAAC094	46.5	60	13.5	5.25	12.8	1.7	511,998	8,056,235	93	66.0
including	*48*	*55.5*	*7.5*	*8.23*	*15*	*1.1*				
DAAC095	No significant interval						511,500	8,056,236	93	60.0

*All intervals calculated using 1% HM lower cut, 3m minimum width, maximum 3m internal waste; "*including*" intervals >3% HM, 3m minimum width, maximum 3m internal waste. HM, Slimes and Oversize ("Osize") determined by Heavy Liquid Separation (HLS) using TBE (sg. 2.96g/cc); screen sizes: slimes 38µm and oversize ("Osize") +1mm. Drill hole collar locations were determined by handheld GPS with expected accuracy of +/- 15m horizontal. RL determined by projection to a regional DTM model created from SRTM data. Easting and Northing coordinate system is MGA Zone 51 (GDA94), RL is AHD. All holes were drilled vertically. See Appendix 1 for additional details.

COMPLIANCE STATEMENTS

EXPLORATION RESULTS

The information in this report that relates to Exploration Results is based on information compiled by Mr Seb Gray, a Competent Person who is a Member of Australian Institute of Geoscientists (AIG). Mr Gray 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 Gray 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 Exploration 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

- Drilling commences: "SHEFFIELD COMMENCES 8,000m REGIONAL DRILLING PROGRAM AT THUNDERBIRD", 01 August 2018
- Quarterly report: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 30 JUNE 2018" 12 July 2018
- Night Train metallurgical scoping results: "PREMIUM ZIRCON AT NIGHT TRAIN", 14 April, 2016
- Night Train Discovery: "NEW MINERAL SANDS DISCOVERY AT NIGHT TRAIN" 22 September, 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 is focused on developing its 100% owned, world class Thunderbird Mineral Sands Project, located in north-west Western Australia. Sheffield continues to also 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.

Sheffield's Bankable Feasibility Study shows Thunderbird is a technically low risk, modest capex project that generates strong cash margins from globally significant levels of production over an exceptionally long mine life of 42 years.

Thunderbird will generate a high-quality suite of mineral sands products with specifications suited to market requirements. These products include Premium Zircon suitable for the ceramic sector and LTR Ilmenite which will be one of the highest-grade sulfate feedstocks available globally.

Thunderbird is located in one of the world's most attractive mining investment jurisdictions and is well placed to deliver long term, secure supply of high quality products to a range of potential customers.

The Company is targeting initial production in 2020. The initial planned production profile is aligned with expected emerging supply gaps in global mineral sands markets.

ASX Code:	SFX	Market Capitalisation:	A$267m
Issued shares:	230.1m	Cash (unaudited, 30 June 2018):	A$23.1m

Appendix 1: JORC (2012) Table 1 Report (09 October, 2018 Night Train drilling results)

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• NQ (70mm) diameter aircore drilling was used by Sheffield to collect rotary split 1-3kg samples at 1.5m intervals down-hole • The air core method of drilling used at Night Train is an Industry Standard for Mineral sands deposits • See below for sample and QAQC procedures and analysis
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Aircore system approx. 70mm diameter holes. • Sheffield used an aircore system using a blade (face sampling) drill bit, NQ size. • An air core bit hammer was used in the first 15m when sandstone was particularly hard and penetration could not be achieved • Drill system used as an industry standard.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Sheffield drilling used a rotary splitter to collect a 1-3 kg sub-sample from 1.5m intervals. • Sample weight was recorded at the laboratory. • Duplicate samples for Sheffield drill holes were collected at the drill site (see below) to enable analysis of data precision. • Sample condition of Sheffield holes (wet to dry and good to poor qualitative recovery) was logged at the drill site. • The sample quality is considered appropriate, for example, to establish context of exploration results and support Mineral Resource estimation.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Every drill sample is washed and panned, then geologically logged on-site in 1.5m intervals • Primary, secondary and oversize lithology, qualitative hardness, grain size, rounding, sorting, and washability, visual estimates of HM%, SL% and OS%, and depth to water table recorded. • Heavy mineral sachets were examined under a microscope following heavy medium separation by laboratory and assessed as to whether sand or from rock. • The entire length of the drill hole is logged;

Criteria	JORC Code explanation	Commentary
		minimum (nominal) interval length is 1.5m. • Logging is suitable such that interpretations of grade and deposit geology can be used to support the Mineral Resource estimation and classification applied.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	**HM%, SL% OS% Determination** Drill Site • A 2-3kg sample was collected at 1.5m intervals in numbered bags at the drill site via rotary splitter at the cyclone discharge point. • • 2-3kg sample collected at 1.5m intervals in numbered bags at the drill site via rotary splitter at cyclone discharge point. • Duplicate samples (field duplicates) collected at drill site 1 in every 40 samples. • Reference standard and blank material samples inserted 1 each in every 40 samples. • Duplicate samples (field duplicates) collected at drill site. • Reference blank (builders sand) and standard samples material samples inserted at site. Laboratory • Samples submitted to an external laboratory for heavy liquid separation (HLS) determination of weight per cent heavy mineral (HM%), slimes (SL%) and oversize (OS%) at a screen split of -38µm, +38µm and +1mm • Laboratory provides a sachet containing the heavy mineral concentrate (HMC) for each sample • Visual estimates of HM%, SL% and OS% logged at the drill site are compared against laboratory results to identify any significant errors. • Spacing of duplicate, standard, blank and laboratory repeat samples for Sheffield drilling are designed to identify sample misplacement or misallocation during sample collection and laboratory analysis. • Laboratory repeats are conducted 1 in every 20 samples, and laboratory reference standard inserted 1 in every 40 samples. • The 200g sample is soaked overnight in water then screened and weighed. • The 2-3kg sample is sub-sampled via a rotary splitter to approx. 200g for analysis. • Sample submitted to external laboratory for heavy liquid separation (HLS) determination of weight per cent heavy mineral (HM), Slimes (SL) and Oversize (OS). • 2-3kg drill sample sub-split via rotary splitter to approx. 200g for analysis. • HM, SL and OS calculated as percentage of total sample weight. All • Spacing of duplicate, standard, blank and lab repeat samples are designed to identify sample misplacement or misallocation during sample

Criteria	JORC Code explanation	Commentary
		collection and laboratory analysis. • Sample representivity and data precision has been determined as acceptable through analysis of results from field duplicate samples and laboratory repeats. • Visual estimates of HM, Slimes and OS logged at the drill site are compared against laboratory results to identify any major errors. • Analysis of duplicates show the data has acceptable precision, indicating sampling techniques are appropriate for the deposit style. • Techniques are considered appropriate for use in public reporting of exploration results and Mineral Resource estimation.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	**HM%, SL% OS% Determination** • Assay and laboratory procedures are industry standard for HMS, although laboratories' methods and heavy liquid composition vary slightly. TBE (2.96g/ml) is used for these results. • SL% determined using a -38µm screen. • OS% was determined using a +1mm screen. • Method produces a total grade as weight per cent of the primary sample. • Method does not determine the relative amounts of valuable (saleable or marketable) and non-valuable heavy mineral species. • QAQC sample frequency is described above. The HM reference sample used is a field-homogenised bulk sample with expected values and ranges determined internally from assay results. • Blank material used is commercially available builder's sand. • Reference standards and blanks are examined for performance over time and within laboratory batches. Batches or sub-batches are re-analysed if unacceptable QAQC data are returned. • Analysis of reference standards, blanks and laboratory repeats show the data to be of acceptable accuracy and precision for use in public reporting of exploration results and Mineral Resource estimation. • HM assemblage determination was by the QEMSCAN™ process which uses 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 (>90% TiO_2), leucoxene (70-90% TiO2) and ilmenite (<70% TiO_2). • Reference material for QEMSCAN analysis is not used. Other measures of accuracy and the method design are considered sufficient to establish acceptable accuracy
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry*	• Significant intervals are reviewed by senior Sheffield personnel prior to release. • Data is logged electronically using "validation at point of entry" systems prior to storage in the Company's drill hole database, which is managed

Criteria	JORC Code explanation	Commentary
	procedures, data verification, data storage (physical and electronic) protocols. • *Discuss any adjustment to assay data.*	by Company personnel and an external consultancy. • Documentation related to data custody and validation are maintained on the Company's' server. • No assay data have been adjusted
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill hole collar locations were determined by handheld GPS with expected accuracy of +/- 5m 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. • Digital elevation models (DEM) were obtained by Sheffield from Landgate, with an accuracy of +/- 1.5m, for the Dampier Project area. The drill hole collar data was projected to the DEM surfaces to determine the collar elevations for sections • The quality and accuracy of the topographic control is considered sufficient for the reporting of exploration results.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Holes were drilled between 200m-500m spacing in four east-west lines spaced 900m to 1,000m apart. • Significant intervals are reported as indicated in the relevant table(s) in the body of the announcement.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Mineralisation is generally flat-lying, vertical drill holes therefore approximate true thickness and perpendicular intersection of mineralisation. • Note sections in the body of the announcement are displayed with 5 x vertical exaggeration to ensure clarity. • The strike direction of the mineralisation isnorth-west bending to the south west and dipping between 2.3° and 3.7° degrees to the west.
Sample security	• *The measures taken to ensure sample security.*	• Sample security is not considered a significant risk given the location of the deposit and bulk nature of mineralisation. • Nevertheless, the use of recognised transport providers, and sample dispatch procedures directly from the field to the laboratory are considered sufficient to ensure appropriate sample security.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No formal external audits or review of sample techniques or data have been conducted. • Audits are not considered necessary at this stage, Industry-standard methods are being employed. • All data has been validated by at least two Company geologists

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Statement	Commentary
Mineral tenement and	• *Type, reference name/number, location and ownership including agreements or material*	• The exploration results reported are from Exploration Licence E04/2171, located on the

Criteria	Statement	Commentary
land tenure status	*issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Dampier Peninsula about 60km west of Derby, and 20km north of the sealed Great Northern Hwy joining Derby and Broome. • E04/2171 was granted on 21/02/2013 and is due to expire on 20/02/2023. The tenement is held 100% by Thunderbird Operations Pty Ltd a fully owned subsidiary of Sheffield Resources Ltd. • There are no known or experienced impediments to obtaining a licence to operate in the area. • Sheffield has been operating successfully in the region for more than 7 years to date.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Night Train was discovered by Sheffield in 2015.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Dampier Project is within the Canning Basin in the Kimberley region of Western Australia. The Canning Basin is an intracratonic basin which contains Ordovician to Cretaceous deposits covered by Cenozoic sediments. • Night Train is within deeply weathered Cretaceous-aged formations. • Night Train is hosted by fine, clean, dominantly quartz sand, below a stacked sequence of fine to very-coarse grained, clean quartz sands. • An offshore depositional setting is interpreted, similar to that of the nearby Thunderbird deposit, but at a higher stratigraphic level. • The heavy mineral has a median diameter (d50) in the range 80-100µm, is dominated by VHM, is free from coatings, and has a high zircon and leucoxene content.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* • *easting and northing of the drill hole collar* • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* • *dip and azimuth of the hole* • *down hole length and interception depth* • *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• Information relating to the number of drill holes, assayed samples, location accuracy, orientation etc. is included in this table, and in the body of the announcement. • Diagrams in the body of the announcement show the location of and distribution of drill holes.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal*	• Criteria for calculating significant intervals are included at the end of Table 2 in the body of the announcement. Minimum widths, maximum internal waste intervals and cut-off grades have been selected to most-appropriately represent the mineralisation. Higher-grade components of significant intervals are detailed in Table 1 preceded by the term "including". • All intervals calculated using 1% HM lower cut, 3m minimum width, maximum 3m internal waste • "Including" intervals >3% HM, 3m minimum width, maximum 3m internal waste. HM, Slimes and Oversize ("Osize")

Criteria	Statement	Commentary
	equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Mineralisation is generally flat-lying to less than 4deg. dip, vertical drill holes therefore approximate true thickness. • Refer to diagrams in the body of the announcement for visual representation of drill hole orientation vs. deposit orientation, note the vertical exaggeration used.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• See body of announcement for plan and cross section views and tabulation of results (Table 1).
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All current drill hole results are reported in this announcement. Where results do not meet the criteria of significant interval these are reported in Table 1 as "no significant interval". • All information considered material to the reader's understanding of the exploration results have been reported.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Where relevant this information has been referred to in the body of this announcement.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Refer to the Further Work section in the body of announcement.