

20 April 2016

ASX Code:
SFX

Directors:

Mr Will Burbury
Non-Executive Chairman

Mr Bruce McFadzean
Managing Director

Mr Bruce McQuitty
Non-Executive Director

Mr David Archer
Technical Director

Registered Office:

Level 2, 41-47 Colin Street
West Perth WA 6005

Share Registry:

Link Market Services
Level 4, Central Park
152 St Georges Terrace
Perth WA 6000

Capital Structure:

As at 31 March 2016
Ordinary Shares: 147.4M
Unlisted Options: 9.9M

Market Capitalisation:

A\$59 million

Cash Reserves:

A\$6.7 million

Investor Relations:

Mr Bruce McFadzean
T: +61 8 6424 8440
E: info@sheffieldresources.com.au

Mr Luke Forrestal
Cannings Purple
T: +61 8 9314 6300
E: lforrestal@canningspurple.com.au



SheffieldResources
LIMITED

QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 MARCH 2016

HIGHLIGHTS

Thunderbird Mineral Sands Project

- Thunderbird Maiden Ore Reserve totalling 682.7 million tonnes @ 11.3% Heavy Mineral (HM) (Proved and Probable)
- Bankable Feasibility Study (BFS) underway with leading engineering group Hatch awarded the project management services contract
- BFS scope includes strategy to mine high grade zones early with throughput commencing at 7.5Mtpa and ramping up to 15Mtpa
- Continued community engagement and support, with Native Title negotiations and Public Environmental Review in progress
- Positive initial metallurgical test work results from the Night Train deposit (located 20km from Thunderbird) indicating potential to produce a premium zircon product

Corporate Activities

- Cash position of A\$6.7 million as at 31 March 2016
- Mr Mark Di Silvio appointed as CFO and Company Secretary during the quarter
- Mr Neil Patten-Williams appointed as Marketing Manager subsequent to the end of the March quarter

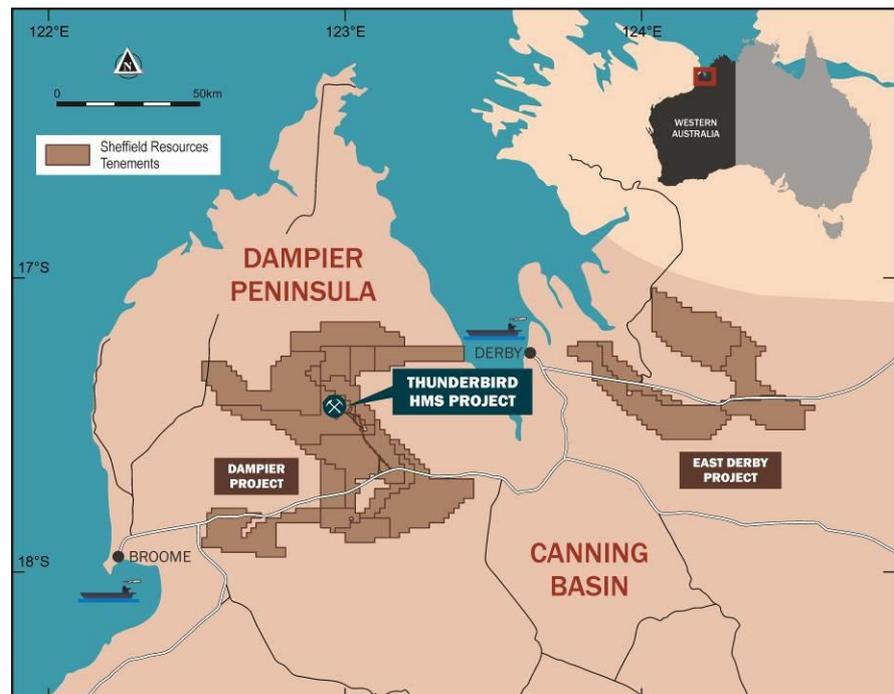


Figure 1: Location of Thunderbird Mineral Sands Project

OPERATIONAL SUMMARY

During the quarter, Sheffield Resources Limited (“Sheffield” or “the Company”) maintained its operational focus on its world class Thunderbird Heavy Mineral Sands Project (“Thunderbird”), located near Derby in the Canning Basin region of Western Australia (Figure 1).

The Thunderbird deposit is one of the largest and highest grade zircon rich mineral sands discoveries in the past 30 years. Following completion of the Thunderbird Pre-Feasibility Study (PFS) in October 2015, engineering work commenced on a Bankable Feasibility Study (BFS), with the appointment of lead engineering group Hatch in March 2016.

Sheffield is well positioned to complete the BFS before the end of 2016, with cash reserves of A\$6.7 million (unaudited) as at 31 March 2016.

During the quarter, the Company continued the community engagement and consultation process associated with Thunderbird. Native Title negotiations and the environmental approvals process both progressed well and have continued into the current quarter.

In February, Sheffield appointed experienced mining executive Mr Mark Di Silvio as CFO and Company Secretary. Mr Di Silvio will assume responsibility for financing activities associated with Thunderbird. Subsequent to quarter end, the Company announced the appointment of Mr Neil Patten-Williams as Marketing Manager. Mr Patten-Williams will be responsible for offtake arrangements and his prior experience extends across a range of mineral sands products.

Also subsequent to quarter end, Sheffield announced results of initial scoping metallurgical test work for the recently discovered Night Train mineral sands deposit, 20km to the south east of Thunderbird (Figure 4). The results indicate high quality zircon that meets ceramic grade specifications can be produced from Night Train using conventional mineral sands processing techniques.

Exploration and evaluation expenditure, including BFS activities, totalled A\$1.2m for the quarter.

THUNDERBIRD MINERAL SANDS PROJECT

Sheffield’s Thunderbird Mineral Sands Project is located near Derby in Western Australia. Thunderbird by virtue of its location, size¹ and quality of product² has the potential to become a globally significant mineral sands operation. The significance of the Project is supported by the “Lead Agency” project status afforded to Thunderbird by the Department of Mines and Petroleum in Western Australia.

Zircon is the key value driver of the Project making up almost 60% of forecast revenue, with the remainder generated from substantial amounts of high grade sulphate ilmenite and “HiTi” leucoxene. The high proportion of zircon sets Thunderbird apart from many of the world’s operating and undeveloped mineral sands projects which are dominated by lower value ilmenite.

The PFS (refer ASX release dated 14 October, 2015) successfully identified and validated key items such as the mine life and mining rate, product type and quality, processing technology and flow sheet design, and product delivery logistics.

¹ The PFS was based on the Thunderbird Mineral Resource announced on 31 July 2015 comprising 3.240Bt @ 6.9% HM (at 3% HM cut off), including a coherent high grade zone of 1.09Bt @ 11.9% HM (at 7.5% cut off) (Measured, Indicated and Inferred). The high grade component contains 9.9Mt of zircon, 3.0Mt of high-titanium leucoxene, 2.8Mt of leucoxene and 36Mt of ilmenite. The Maiden Ore Reserve announced to the ASX 22 January 2016 supports 40 year mine life operation outlined in the PFS.

² Leading global mineral sands consulting group TZMI has confirmed that Sheffield’s primary zircon and LTR ilmenite are high quality products that are likely to receive strong market support. Collectively these products represent 81% of the total projected revenue. Significant interest has been registered in these products by leading marketing specialists and industry groups.



Figure 2: Location of Sheffield Resources Projects in Western Australia

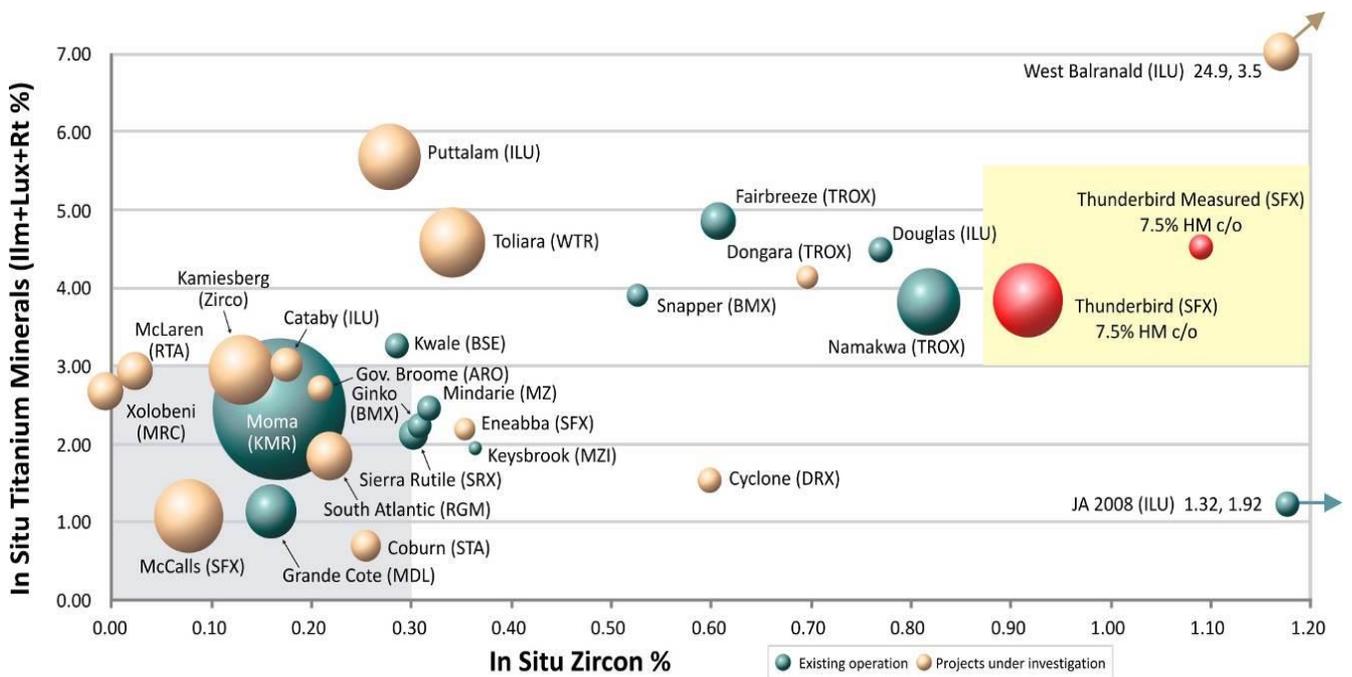


Figure 3: Thunderbird Mineral Resource ranked against current mineral sands operations and projects under investigation globally excluding Rio Tinto projects. Data compiled by Sheffield from open file sources 2015

Thunderbird Bankable Feasibility Study (“BFS”)

The BFS has commenced and is scheduled for completion by the end of 2016. Activity will focus on confirmatory fieldwork and metallurgical test work, preliminary engineering, supply quotation and cost estimation. The BFS will yield reliable estimates of quantities and prices of plant, equipment, buildings and civil structures. The key deliverables of the BFS are detailed estimates of capital and operating costs (generally defined as a Class 3 estimate, typically ± 10 to 15%), accompanied by related risk and opportunities associated with the project. Other deliverables include a preliminary project construction plan, legal, commercial and other factors.

During the BFS, Sheffield will explore opportunities to improve the Project’s robust financial returns with a focus on:

- Capital and operating expenditure reductions and savings identified through engineering and sourcing; and
- Further optimisation of:
 - project definition to provide the best outcome in terms of CAPEX, OPEX and risk;
 - process design, focused on increasing processing efficiency, product quality and recoveries;
 - metallurgical test work and flowsheet development to confirm the PFS outcomes on a larger, 30-tonne sample using full scale equipment, materials handling, thickener design and tails co-disposal studies, and to provide market offtake samples; and
 - product marketing and offtake.

The metallurgical test work on the 30-tonne sample is well advanced, and feed preparation, primary wet concentration and thickener design test work is now complete. The sample recoveries from this work are in line with previous Pre-Feasibility studies. The Thunderbird slimes component is readily thickened to acceptable underflow solids densities with low levels of flocculant additive. The co-disposal tailings test work has also confirmed earlier studies, and indicate successful co-disposal was achieved using appropriate flocculant dose rates. Tailings density and water recovery were also in line with expected outcomes.

Based on the long-life Ore Reserve at Thunderbird, the high quality products, and the likelihood of international funding and offtake, the decision was made to utilise Hatch, an internationally recognised project management, pyrometallurgy and engineering consultant to ensure the study will meet the standards required for investment decisions.

This BFS study will advance in parallel with the environmental approvals process, Native Title negotiations, funding and offtake negotiations.

Thunderbird Maiden Ore Reserve

During the quarter, the Company announced a Maiden Ore Reserve for the Thunderbird Project (refer ASX release dated 22 January, 2016). The Maiden Ore Reserve supports the 40 year mine life as detailed in the PFS released on 14 October 2015 and further highlights the world class significance of the Thunderbird project for the local Kimberley communities and Western Australia at large.

The Ore Reserve estimate for the Thunderbird Mineral Sands Project as at January 2016 is shown in Table 1.

The Ore Reserve estimate was prepared by Entech Pty Ltd, an experienced and prominent mining engineering consultancy with appropriate mineral sands experience.

The Ore Reserve estimate is based on the July 2015 Thunderbird Mineral Resource (see ASX release dated 31 July 2015). Measured and Indicated Mineral resources were converted to Proved and Probable Ore Reserves, subject to mine designs, modifying factors and economic evaluation (refer to ASX release dated 22 January 2016 for further details). All Mineral Resources for Thunderbird referred to in this report are inclusive of the Thunderbird Ore Reserves.

Table 1: Thunderbird Ore Reserve 22 January 2016

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 100,000 tonne, 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.

Environmental Approvals

Sheffield progressed Public Environmental Review (“PER”) documentation during the quarter in accordance with the level of assessment determined by the Environmental Protection Agency. Activity remains on schedule.

Native Title

Native Title negotiations progressed through the quarter with various meetings and discussions with the Traditional Owners. Sheffield is targeting to complete an agreement during 2016.

DAMPIER REGIONAL MINERAL SANDS

Results of initial scoping metallurgical test work for the recently discovered Night Train mineral sands deposit within the Dampier Mineral Sands Project were received subsequent to the end of the quarter.

Night Train is located approximately 20km to the southeast of Thunderbird and is within 2km of the proposed Thunderbird haul road (Figure 4). The results 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 that meets ceramic grade specifications can be produced using conventional mineral sands processing techniques.

The Night Train heavy minerals are low in iron contamination and the zircon was produced without a 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 proportion of zircon (17.4%) in the heavy mineral assemblage. This result compares favourably with earlier mineral assemblage

analysis of 15% zircon, 53% leucoxene, 8% HiTi leucoxene and 16% ilmenite, with a very high total valuable heavy mineral (“VHM”) content of 92%.

The primary zircon product contains 65.9% ZrO_2+HfO_2 and low levels of contaminants while the secondary zircon product contains 65.5% ZrO_2+HfO_2 with slightly higher levels of TiO_2 (Table 2). Both zircon products contain low levels of Fe_2O_3 and were produced without a leaching stage. Overall ZrO_2 recovery into the two zircon products, excluding semi-processed streams and recirculation loads, is calculated at 56.8% and is considered satisfactory at the scoping level of study. The primary zircon product comprises 78% of the total zircon produced.

Table 2: 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

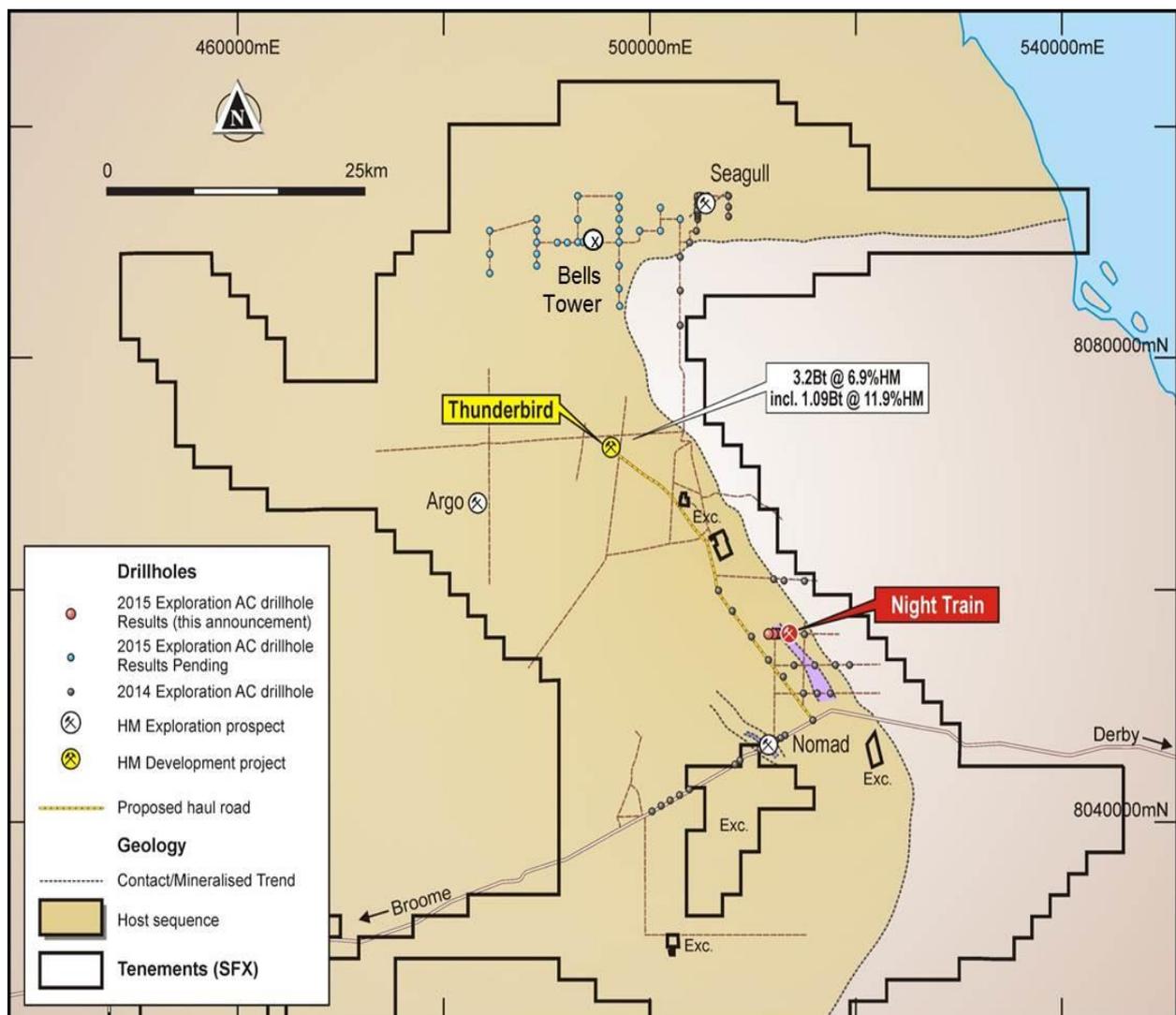


Figure 4: Dampier Project regional plan showing location of Night Train

The scoping metallurgical test work also showed the majority of titanium species comprise leucoxene and HiTi leucoxene (HiTi70 product) with minor components of rutile and altered ilmenite. This potential high titanium product contains 71.1% TiO₂ with low contaminants, apart from elevated thorium levels. Petrological and Scanning Electron Microscope (SEM) studies indicate the elevated thorium is associated with monazite and zircon species not separated from the potential product during this scoping level test work. Future metallurgical test work on larger samples will allow for testing of additional processing stages designed to remove the monazite and zircon responsible for the elevated contaminant levels in this potential product stream.

Full details are contained in the ASX announcement dated 14 April 2016. Further work at Night Train will include follow-up exploration drilling and additional, more detailed metallurgical test work.

DERBY EAST MINERAL SANDS

The Derby East project comprises 4 granted tenements E04/2391, E04/3092, E03/2393 and E04/2394 and one tenement application with a total area of 836km², covering prospective mineral sands ground to the east of Derby (Figure 1). A review of historical exploration data continues.

FRASER RANGE NICKEL

Subsequent to the end of the quarter, final assay results were received from first pass RC and diamond drilling at the Stud nickel-copper prospect, part of Sheffield's 100% owned Red Bull Project, in the Fraser Range region of Western Australia. Stud is located 21km to the south of Independence Group's Nova nickel-copper deposit.

The assay results relate to a drilling program comprising one diamond drill hole with RC pre-collar (total 453.2m) targeting a large bedrock conductor, and 4 RC holes (total 642m) targeting zones of IP anomalism coincident with nickel-copper geochemical anomalism in air core drill holes (Appendix 2).

As reported in the December quarter, and detailed in the ASX announcement dated 23 December 2015, diamond drill hole REDD005 intersected a 12m zone of graphitic meta-sediment from 348m depth, and a 13m interval of brecciated ultramafic with trace disseminated sulphides from 436m depth. A subsequent Down Hole Transient Electromagnetic ('DHTEM') survey confirmed the graphitic meta-sediment from 348m depth as the source of the target bedrock conductor. No anomalous nickel values were returned from this zone.

Anomalous nickel assay results were returned from the deeper interval in REDD005: 16.9m @ 0.13% Ni from 432.2m, associated with a contact zone between brecciated, quartz-carbonate veined peridotite and biotite-rich meta-sediment. Mineralogical analysis identified trace nickel sulphide (pentlandite) and pyrrhotite within the peridotite, with evidence of the pentlandite having dissipated out of olivine silicates, indicating a magmatic source. Whilst the assay results are not considered economic, their association with magmatic nickel sulphide in olivine-rich ultramafic intrusive does indicate the presence of rock types and a geological setting prospective for magmatic nickel sulphide deposits.

Assay results from the 4 RC holes drilled south of REDD005 confirmed visual observations reported in December. Significant results (at >0.2% Ni cut off) are as follows (refer to Appendix 2 & 3 for details):

- 3m @ 0.34% Ni, 100ppm Cu, 168ppm Co from 47m (RERC004)
- 2m @ 0.42% Ni, 148ppm Cu, 151ppm Co from 54m (RERC004)
- 6m @ 0.30% Ni, 216ppm Cu, 239ppm Co from 57m (RERC004)
- 4m @ 0.24% Ni, 128ppm Cu, 278ppm Co from 40m (RERC003)
- 3m @ 0.22% Ni, 167ppm Cu, 292ppm Co from 42m (RERC001)

These intervals occur at or just below the base of weathering, with the elevated Ni results interpreted to relate to supergene enrichment above gabbroic intrusive rocks.

Only selected, geologically anomalous intervals of drill core from REDD005 were analysed. The entire length of the 4 RC holes were sampled and assayed as 2m composites (spear sampled), with 1m samples (riffle split) from the anomalous zones later submitted for analysis and reported here.

Work at Red Bull to date has demonstrated the presence of host rocks and a geological setting highly prospective for the formation of magmatic-hosted nickel sulphide deposits. Sheffield continues to pursue opportunities for the Project whilst focussing on its flagship Thunderbird Mineral Sands Project.

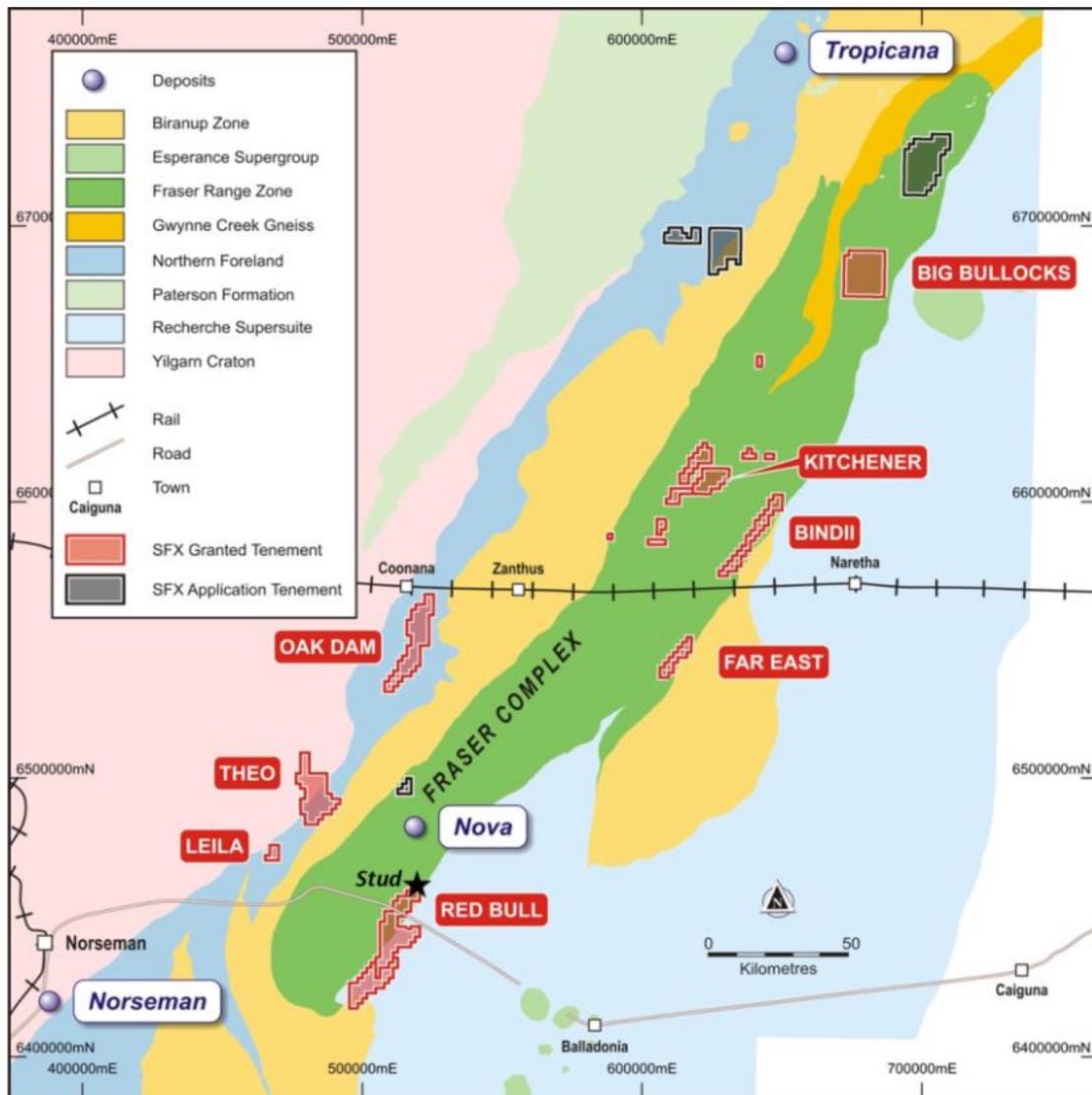


Figure 5: Location of Sheffield's Red Bull project & Stud prospect in relation to Nova Ni-Cu deposit

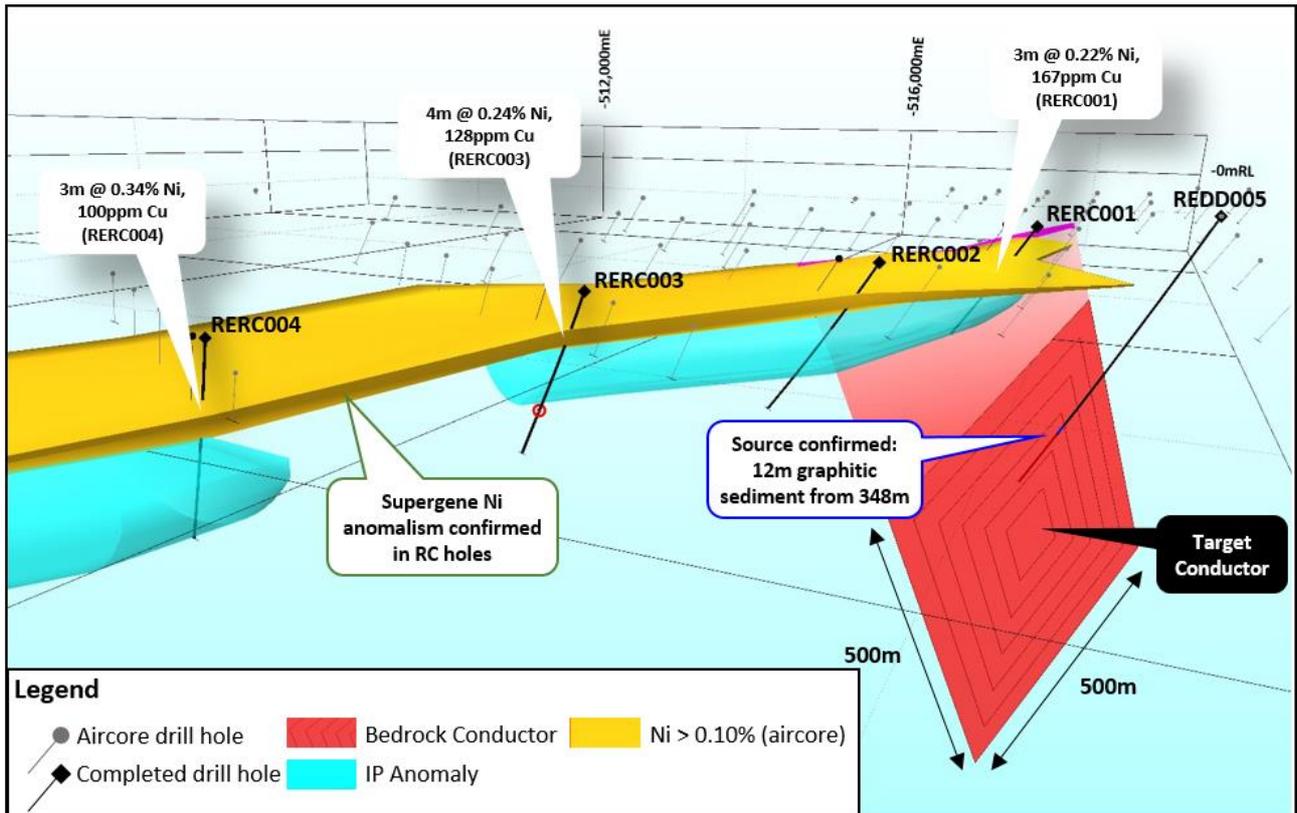


Figure 6: Stud prospect showing drill hole locations and a summary of results

ENEABBA & McCALLS HEAVY MINERAL SANDS

During the quarter, a reconnaissance surface soil sampling program at the Robbs Cross and Thomsons Dunal HM prospects was completed. Robbs Cross and Thomsons were discovered following first-pass aircore drilling testing initial HM anomalies in surface samples (see ASX announcements dated 23 July 2015 and 30 October 2013). The latest program of surface sampling largely confirmed the extent of mineralisation previously outlined by aircore drilling.

OAKOVER COPPER-MANGANESE PROJECT

Sheffield has 2,737 km² of tenements under application for copper and manganese in the eastern Pilbara. Two tenements, E46/1044 and E46/1041, was granted during the quarter. A review of historical exploration data will be undertaken during Q2 2016.

CASH POSITION AND CORPORATE ACTIVITIES

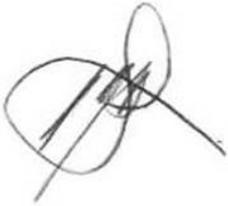
As at 31 March 2016, Sheffield had cash reserves of approximately \$6.7 million (unaudited).

During the quarter, the Company concluded an equity raising (refer ASX announcement 27 November 2015) with the directors of Sheffield contributing \$167,640, following receipt of shareholder approval on 5 February 2016.

Sheffield received \$0.4 million arising from a review of its 2014 Research and Development tax return. The Company has also undertaken a review of the 2012 and 2013 Research and Development tax

returns during the quarter. Subsequent to the end of the quarter, the Company received a refund of \$0.5 million in relation to the 2012 and 2013 periods.

As mentioned previously, Sheffield appointed Mr Mark Di Silvio as CFO and Company Secretary and Mr Neil Patten-Williams as Marketing Manager.

A handwritten signature in black ink, appearing to read 'Bruce McFadzean', written over a horizontal line.

Mr Bruce McFadzean
Managing Director
20 April 2016

Schedule 1: Interests in Mining Tenements at the end of the quarter as required under ASX Listing Rule 5.3.3

Project	Tenement	Holder	Interest	Location ³	Status
Mineral Sands	E04/2081	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2083	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2084	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2159	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2171	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2192	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2193	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2194	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2348	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2349	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2350	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2386	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2390	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2391	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2392	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2393	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2394	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2399	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2400	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2401	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	M04/459	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	L04/82	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	L04/83	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	L04/84	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/85	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/86	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/92	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/93	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E70/3762	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3813	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3814	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3846	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3929	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3931	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3967	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4190	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4292	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4313	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4314	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4434	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4584	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	M70/872 ¹	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	M70/965 ¹	Sheffield Resources Ltd	100%	Perth Basin	Granted

Project	Tenement	Holder	Interest	Location	Status
Mineral Sands	M70/1153 ¹	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	R70/35 ¹	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3859	Sheffield Resources Ltd	100%	Perth Basin	Pending
Mineral Sands	L70/150	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4719	Sheffield Resources Ltd	100%	Perth Basin	Pending
Mineral Sands	E70/4747	Sheffield Resources Ltd	100%	Perth Basin	Pending
Nickel	E69/3033	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E69/3052	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2270	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E39/1733	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2374-l	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2448	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2449	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2450	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2430	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2431	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2563	Sheffield Resources Ltd	100%	Fraser Range	Pending
Gold	E63/1696	Sheffield Resources Ltd	100%	Tropicana Belt	Granted
Nickel/Gold	E28/2481	Sheffield Resources Ltd	100%	Tropicana Belt	Granted
Gold	E28/2453	Sheffield Resources Ltd	100%	Tropicana Belt	Granted
Nickel	E39/1865	Sheffield Resources Ltd	100%	Tropicana Belt	Pending
Copper/Manganese	E46/1041	Sheffield Resources Ltd	100%	Pilbara	Granted
Copper/Manganese	E46/1042	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1044	Sheffield Resources Ltd	100%	Pilbara	Granted
Copper/Manganese	E45/4558	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E45/4573	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E45/4574	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1069	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1070	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1099	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E45/4600	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1116	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1119	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E45/4717	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E45/4719	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1123	Sheffield Resources Ltd	100%	Pilbara	Pending
Copper/Manganese	E46/1124	Sheffield Resources Ltd	100%	Pilbara	Pending

Notes:

¹Iluka Resources Ltd (ASX: ILU) retains a gross sales royalty of 1.5% in respect to tenements R70/35, M70/872, M70/965 & M70/1153.

²All tenements are located in the state of Western Australia.

Details of tenements and/or beneficial interests acquired/disposed of during the March 2016 quarter are provided in Section 6 of the Company's Appendix 5B notice for the March 2016 quarter.

COMPLIANCE STATEMENTS

EXPLORATION RESULTS

The information in this report that relates to Exploration Results is based on information compiled by Mr David Boyd, a Competent Person who is a Member of Australian Institute of Geoscientists (AIG). Mr Boyd 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 Boyd 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, Exploration Targets, Mineral Resources, Ore Reserves and a Pre-feasibility Study which were prepared and first disclosed under the JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows:

- Night Train metallurgical scoping results: *"PREMIUM ZIRCON AT NIGHT TRAIN"*, 14 April, 2016
- Thunderbird Ore Reserve: *"MAIDEN ORE RESERVE – THUNDERBIRD PROJECT"*, 22 January, 2016
- Stud prospect drilling results: *"RED BULL NICKEL PROJECT UPDATE, FRASER RANGE"*, 23 December 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 Mineral Resource: *"THUNDERBIRD HIGH GRADE RESOURCE UPDATE"*, 31 July 2015
- Robbs Cross and Thomsons HM discoveries: *"NEXT GENERATION OF MINERAL SANDS DISCOVERIES AT ENEABBA"*, 23 July, 2015

This report also includes information that relates to Exploration Results and Mineral Resources which were prepared and first disclosed under the JORC Code 2004. The information has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The information was extracted from the Company's previous ASX announcements as follows:

- Ellengail Mineral Resource: *"1MT CONTAINED HM INFERRED RESOURCE AT ELLENGAIL"*, 25 October 2011.
- West Mine North Mineral Resource: *"WEST MINE NORTH MINERAL RESOURCE ESTIMATE EXCEEDS EXPECTATIONS"*, 7 November 2011.
- McCalls Mineral Resource: *"4.4 BILLION TONNE MAIDEN RESOURCE AT MCCALLS HMS PROJECT"*, 20 February 2012.
- Durack Mineral Resource: *"ENEABBA PROJECT RESOURCE INVENTORY EXCEEDS 5MT HEAVY MINERAL"*, 28 August 2012.
- Yandanooka Mineral Resource: *"YANDANOOKA RESOURCE UPGRADE AND METALLURGICAL RESULTS"*, 30 January 2013.
- Drummond Crossing Mineral Resource and Sampling Results from Dunal-Style HM Targets, Eneabba Project: *"1Mt HEAVY MINERAL RESOURCE ADDED TO ENEABBA PROJECT"*, 30 October 2013.

These announcements are available to view 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, Ore Reserves and Pre-feasibility Study results, 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 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", "target", "scheduled", "intends", "potential", "prospective" and similar expressions.

APPENDIX 1: Ore Reserves and Mineral Resources

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.

Sheffield also has a number of Mineral Resource estimates for heavy mineral sands deposits within its Eneabba and McCalls Projects located in the Mid-West Region of Western Australia.

Ore Reserves										
<i>Dampier Project Ore Reserves</i> ^{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 ^{1,2,5}

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

Eneabba Project Mineral Resources ^{2,4,6}

Deposit (cut-off)	Mineral Resource Category	Material Tonnes (millions)	In-situ HM Tonnes (millions)	HM Grade (%)	Mineral Assemblage ³				Slimes (%)	Osize (%)
					Zircon (%)	Rutile (%)	Leuc (%)	Ilmenite (%)		
Yandanooka (> 0.9% HM)	Measured	3	0.1	4.1	10	1.9	2.2	72	15	14
	Indicated	90	2.1	2.3	12	3.7	3.7	69	16	15
	Inferred	3	0.03	1.2	11	3.9	4.6	68	18	21
	Total	96	2.2	2.3	12	3.6	3.7	69	16	15
Durack (>0.9% HM)	Indicated	50	1.0	2.0	14	2.8	4.6	70	15	21
	Inferred	15	0.2	1.2	14	2.4	6.7	67	14	17
	Total	65	1.2	1.8	14	2.8	4.9	70	15	20
Drummond Crossing (>1.1% HM)	Indicated	49	1.0	2.1	14	10	3.6	53	16	9
	Inferred	3	0.05	1.5	13	9.9	2.8	55	16	8
	Total	52	1.1	2.1	14	10	3.6	53	16	9
Ellengail (>0.9% HM)	Inferred	46	1.0	2.2	9	8.7	1.9	64	16	2
	Total	46	1.0	2.2	9	8.7	1.9	64	16	2
West Mine North (>0.9% HM)	Measured	6	0.4	5.6	4	9.6	9.5	54	15	1
	Indicated	36	0.8	2.3	7	9.6	5.4	60	13	3
	Total	43	1.2	2.8	6	9.6	6.6	58	13	3
All Eneabba (various)	Measured	9	0.5	5.2	6	7.7	7.7	59	15	5
	Indicated	225	5.0	2.2	12	5.8	4.2	64	15	13
	Inferred	68	1.3	1.9	10	7.7	2.7	64	15	6
	Total	302	6.8	2.2	11	6.3	4.1	64	15	11

McCalls Project Mineral Resources ^{2,4,6}

Deposit (cut-off)	Mineral Resource Category	Material Tonnes (millions)	In-situ HM Tonnes (millions)	HM Grade (%)	Mineral Assemblage ³				Slimes (%)	Osize (%)
					Zircon (%)	Rutile (%)	Leuc (%)	Ilmenite (%)		
McCalls (>0.9% HM)	Inferred	4,431	53	1.2	7.0	2.0	4.8	81	27	1.4
	Total	4,431	53	1.2	7.0	2.0	4.8	81	27	1.4

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. For Dampier the mineral assemblage was 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. For Eneabba & McCalls determination was by QEMSCAN, with TiO₂ minerals defined according to the following ranges: Rutile >95% TiO₂; Leucoxene 85-95% TiO₂; Ilmenite <55-85% TiO₂

4) West Mine North, Durack, Drummond Crossing and McCalls are reported below a 35% Slimes upper cutoff.

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

6) Mineral Resources reported for the Eneabba and McCalls Projects were prepared and first disclosed under the JORC Code 2004. These have not been updated since to comply with the JORC Code 2012 on the basis that the information on which the Resource estimates are based has not materially changed since it was last reported.

The Company's Ore Reserves and Mineral Resources Statement is 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. Mineral Resources reported for the Eneabba and McCalls Projects were prepared and first disclosed under the JORC Code 2004, these have not been updated since to comply with the JORC Code 2012 on the basis that the information on which the Resource estimates are based has not materially changed since it was last reported.

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

Mineral Resources prepared and first disclosed under the JORC Code 2004:

Item	Report Title	Report Date
Ellengail Mineral Resource	1Mt Contained HM Inferred Resource at Ellengail	25 October 2011
West Mine North Mineral Resource	West Mine North Mineral Resource Estimate Exceeds Expectations	7 November 2011
McCalls Mineral Resource	4.4 Billion Tonne Maiden Resource At McCalls HMS Project	20 February 2012
Durack Mineral Resource	Eneabba Project Resource Inventory Exceeds 5Mt Heavy Mineral	28 August 2012
Yandanooka Mineral Resource	Yandanooka Resource Upgrade and Metallurgical Results	30 January 2013
Drummond Crossing Mineral Resource	1Mt Heavy Mineral Resource Added to Eneabba Project	30 October 2013

Appendix 2: Stud Prospect Reverse Circulation and Diamond Drilling significant intersects (>1000ppm Ni)

Hole ID	Depth From (m)	Depth To (m)	Interval Width (m)	Ni (ppm)	Cu (ppm)	Co (ppm)	Cr (ppm)	Ni:Cr Ratio	Drill Collar Information^						Comment
									Easting	Northing	RL	Depth (m)	Dip	Azi	
RERC001	41	50	9	1,781	84	254	2,597	0.69	518240	6458920	254	162	-58	270	Lower saprolite, gabbro
<i>including</i>	42	45	3	2,244	167	292	4,641	0.48							Lower saprolite
RERC002	80	88	8	1,183	7	57	1,110	1.07	518155	6458440	258	160	-57	270	Undivided ultramafic/ gneissic arenite
<i>and</i>	144	146	2	1,184	15	66	1,154	1.03							Gabbro
RERC003	34	36	2	1,298	112	73	1,890	0.69	518019	6458179	258	160	-57	300	Lower saprolite
<i>and</i>	39	46	7	1,993	123	216	672	2.97							Lower saprolite
<i>including</i>	40	44	4	2,443	128	278	588	4.15							Lower saprolite
<i>and</i>	97	101	4	1,304	2	54	1,358	0.96							Gabbro
<i>and</i>	104	107	3	1,418	5	62	1,151	1.23							Porphyritic feldspar
<i>and</i>	120	126	6	1,161	40	82	982	1.18							Gneissic arenite
RERC004	47	51	4	2,951	90	166	1,891	1.56	517950	6457941	259	160	-57	300	Lower saprolite - pyroxenite boundary
<i>including</i>	47	50	3	3,379	100	168	2,177	1.55							Lower saprolite - pyroxenite boundary
<i>and</i>	54	64	10	2,993	172	201	1,861	1.61							Pyroxenite
<i>including</i>	54	56	2	4,234	148	151	1,419	2.98							Pyroxenite
<i>also including</i>	57	63	6	2,991	216	239	1,799	1.66							Pyroxenite
REDD005 (RC)	No Significant Results			-	-	-	-	-	518440	6459160	261	119.9	-65.4	269.6	RC Results
REDD005 (DDH)	432.2	449.1	16.9	1,337	79	78	3,006	0.44				453.2			Gneissic arenite, talc-chloritic peridotite

*Intervals calculated from 1m intervals, 2m minimum width =>1000ppm Ni with 2m maximum internal waste; including 2m minimum width =>2000ppm, 0m maximum internal waste. ^ Hole co-ordinates in MGA (GDA94) Zone 51 RL is AHD, Hole locations surveyed by handheld GPS with expected accuracy of +/- 15m horizontal, RL determined by projection to a regional SRTM DEM model.

Appendix 3: JORC (2012) Table 3 Report (Stud Prospect assay results)

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Sawn half-NQ diamond core cut at maximum one meter intervals to geological boundaries. 5.5in. RC drilling: 2m composite samples speared from drill spoil producing a 2-3kg sample. Riffle split 1m samples ~1-3kg in weight collected at the cyclone in pre-numbered calico bags at time of drilling. Reference standard and blank material samples inserted 1 each in every 40 samples for both the composite and individual samples. Drill cutting (chips) samples placed in 1m piles on the ground in order of downhole progress. Industry-standard technique.
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> REDD005 comprised a 5.5inch diameter RC pre-collar to 119.9m, and NQ diamond tail to 453.2m. Core was orientated using downhole orientation tool and referenced to downhole gyroscopic survey. RC drilling was 5.5inch face sampling RC hammer drilled to set depth (RERC001-004).
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Reverse circulation sample quality (including wet vs. dry and qualitative recovery) is logged at the drill site. Duplicate reverse circulation samples are collected at the drill site (see below) to enable analysis of data precision. One meter samples riffle split at the cyclone. Diamond core orientated using a downhole tool, depths measured and marked.
Logging	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All reverse circulation samples are geologically logged to a minimum 1m downhole spacing using a coded system. Diamond core is logged to geological and alteration boundaries to a minimum of 0.1m downhole spacing using a coded system. Logging was carried out using a 'validated at source' digital data entry system. Geological logs are qualitative and all intervals were logged. Logging is suitable such that interpretations of grade and deposit geology can be used, for example, to establish context of exploration results.
Sub-sampling techniques and sample	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, 	<p>Sub-sampling RC</p> <ul style="list-style-type: none"> A ~1-1.5kg spear sample was taken from drill spoil

Criteria	JORC Code explanation	Commentary
preparation	<p>rotary split, etc and whether sampled wet or dry.</p> <ul style="list-style-type: none"> 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. 	<p>piles every 1m downhole and composited into a 2m sample (total ~2-3kg) and placed into uniquely numbered bags. Each sample submitted for analysis</p> <ul style="list-style-type: none"> 1m riffle split samples collected from rig at time of drilling and put aside for later analysis. Results of 2m spear samples assessed and 1m riffle split samples from intervals >4m >900ppm Ni submitted for analysis. Only results from 1m riffle split samples are reported. Reference standard and blank material samples inserted 1 each in every 40 samples. Field duplicate samples collected regularly down-hole for 1m riffle split samples. <p>Diamond Core</p> <ul style="list-style-type: none"> Geological intervals selected for sampling and analysis, maximum 1m lengths, minimum 0.1m. Half NQ core sawn on core orientation line. <p>Laboratory</p> <ul style="list-style-type: none"> Entire sample dry crushed ~10mm, and pulverised to nominal 85% passing 75µm. Sub-sample split for analysis, weight determined by laboratory appropriate for element and analysis method. Laboratory check assays completed as determined by laboratory appropriate for element and analysis method. <p>All</p> <ul style="list-style-type: none"> Spacing of standard, blank and repeat samples are designed to identify sample misplacement or misallocation during sample collection and laboratory analysis. Sample data precision has been determined as acceptable through analysis of results from and laboratory repeats. Techniques are considered appropriate for use in public reporting of exploration results.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Ni, Cu, Co, Cr, Fe, Pb, Zn, Ca, Mg assayed by 4-acid digest with ICP-OES finish; Au, Pd, Pt by 25g fire assay, with MS finish; C, S by induction furnace. QAQC sample frequency is described above. One reference standard is used from a certified provider. Builder sand used as a blank material. 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.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> Significant intervals are reviewed by senior Company 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 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.

Criteria	JORC Code explanation	Commentary
Location of data points	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Hole locations were surveyed by handheld GPS system with expected accuracy of +/- 15m horizontal. RL determined by projection to a SRTM DEM model. Easting and Northing coordinate system is MGA Zone 51 (GDA94), RL is AHD. Dip and azimuth for REDD005 by downhole gyroscopic survey tool. Dip for RC holes by downhole multi-shot tool. Azimuth for RC holes is planned azimuth. Vertical datum geoid model is AUSGE0ID98 (Australia).
Data spacing and distribution	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> See body of report for drill hole details. This is a first-pass exploration drill program with EM targeted reverse circulation and diamond drilling, with supporting air core drilling. Significant intervals are reported as indicated in the relevant figure(s) and table(s) in the body of the announcement, note downhole intervals quoted. Drill hole and sample spacing is appropriate to test EM targets. Additional data from any future closer-spaced (infill) drilling may change the shape and tenor of stated anomalies and geological interpretation. Composited 2m speared samples, except were grade equal or greater than 900ppm to minimum of 3m, in which case 1m riffle split samples.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Mineralisation and stratigraphy is assumed to be sub-vertical, and in drill core the rock fabric is generally at a high angle to the core axis, however insufficient work has been completed to date to confirm these relationships. Downhole widths are quoted only.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Sample security is not considered a significant risk given the location of the Project. 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	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> No formal external audits or review have been conducted. Audits are not considered necessary at this stage of the Project's development. Industry-standard methods are being employed.

Section 2 Reporting of Exploration Results

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

Criteria	Statement	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material 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. 	<ul style="list-style-type: none"> Data reported is from Exploration Licence E69/3052 which was granted on 27/07/2012 and is due to expire on 26/07/2017. The tenement is held 100% by 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 3 years.

Criteria	Statement	Commentary
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The Red Bull Project area was explored by Gold Partners between 1995 and 1999. An aeromagnetic interpretation was completed showing the extent of magnetic units followed up by 3,943m of air core drilling exploring for base metal mineralisation potential. Further details are included in Sheffield's ASX release entitled 'New Nickel-Copper Discovery Near Sheffield's Red Bull Project' 20 July 2012 (available from the company's website: www.sheffieldresources.com.au).
<i>Geology</i>	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> Included in the body of the announcement.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Included in the body of announcement.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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 equivalent values should be clearly stated. 	<ul style="list-style-type: none"> Results from selected intervals of 1m riffle split samples only are reported. These intervals were selected from 2m spear composite samples averaging >900ppm Ni over minimum 4m downhole width. Significant intervals are reported as indicated in the relevant table(s) in the body of the announcement, note downhole intervals quoted.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> 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 (eg 'down hole length, true width not known'). 	<ul style="list-style-type: none"> Mineralisation and stratigraphy is assumed to be sub-vertical, and in drill core the rock fabric is generally at a high angle to the core axis, however insufficient work has been completed to date to confirm these relationships. Therefore the downhole widths quoted in the body of the announcement can be considered an approximation only of true width at this stage. Given the purpose and context in which the exploration results are reported any difference between true and downhole width is not considered material.
<i>Diagrams</i>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Included in the body of announcement.

Criteria	Statement	Commentary
	collar locations and appropriate sectional views.	
<i>Balanced reporting</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All new exploration results relating to the announcement are reported. In the case of previously-announced results, the initial announcement is referenced. Terms like “best”, “strongest” or “significant” are used to highlight those results considered most important in the context of the announcement.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No data, other than that reported here, is considered relevant to the reporting of these exploration results.
<i>Further work</i>	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. 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. 	<ul style="list-style-type: none"> Included in the body of announcement.