### 30 January 2019

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 12, QV1 Building 250 St Georges Terrace Perth WA 6000

#### Capital Structure:

Ordinary Shares: 255.4M Unlisted Options: 11.9M Unlisted Rights: 9.3M

Market Capitalisation: A\$169 million

Cash Reserves: A\$13.4 million

(as at 31 December 2018)

### **Investor Relations:**

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# QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 DECEMBER 2018

# HIGHLIGHTS

Thunderbird Mineral Sands Project

- Delivery of final major milestones marks Thunderbird Mineral Sands Project being fully permitted and construction ready
- Native Title Co-existence Agreement signed by Traditional Owners
- Execution of Engineering, Procurement and Construction (EPC) agreement with GR Engineering Services Limited
- Execution of US\$175 million debt facility agreement with Taurus Mining Finance
- Completion of planned Early Works and Project Infrastructure activities enabling rapid start of construction activities
- Execution of LNG gas supply agreement following the end of the Quarter

### Exploration

- The completion of the 2018 regional drilling program identifies multiple new mineral sand prospects, confirming the Canning Basin as a major new mineral sand province.
- New prospects occur along a 160km highly prospective mineralised trend
- Exceptional zircon rich drill results at Night Train and the new prospects of Cold Duck, Porphyry Pearl, Cisco and Nomad
  - o 27m @ 5.29% HM from 49.5m (DAAC114), inc 22.5m @ 6.17% HM from 52.5m (Night Train)
  - o 7.5m @ 6.46% HM from 27.0m (DAAC147), inc 4.5m @ 9.70% HM from 28.5m (Night Train)
  - o 37.5m @ 3.56% HM from 1.5m (DAAC131), incl 16.5m @ 5.49% HM from 21.0m (Cold Duck)
  - o 19.5m @ 2.93% HM from 19.5m (DAAC141), incl 6.0m @ 5.80% HM from 21.0m (Porphyry Pearl)
- New broad sheet-like mineral sands discoveries identified from drilling at Buckfast, Bohemia and Concorde prospects
  - o 46.5m @ 5.50% HM from 57.0m (NLAC025), incl 21m @ 9.12% HM from 64.5m (Buckfast)
  - o 43.5m @ 2.35% HM from 16.5m (NLAC018), incl 10.5m @ 4.25% HM from 25.5m (Bohemia)
  - o 24m @ 1.68% HM from 34.5m (NLAC001) (Concorde)
- Porphyry Pearl, Cisco, Cold Duck, Nomad, Buckfast, Bohemia and Concorde mineral assemblage determination work scheduled for completion in Q1 2019
- Night Train Maiden Mineral Resource estimate scheduled for completion in Q1 2019

### **Corporate Activities**

- Successful completion of share placement and share purchase plan raising \$17 million.
- Cash position of A\$13.4 million as at 31 December 2018
- Appointment of UBS AG to facilitate third-party strategic partner to advance the development the Thunderbird Mineral Sands Project



## OPERATIONAL AND EXPLORATION SUMMARY

During the Quarter, Sheffield Resources Limited ("Sheffield" or "the Company") progressed its world class Thunderbird Mineral Sands Project (Thunderbird) to be fully permitted and construction ready with the achievement of the final major Project milestones. This included the signing of the Native Title Coexistence Agreement with the Traditional Owners, confirming Sheffield's social licence to operate in the Kimberley, execution of a fixed price EPC agreement with GR Engineering Services Limited (GRES), an experienced Australian construction contractor with significant mineral sands construction experience and the execution of a US\$175 million debt facility agreement with Taurus Mining Finance Fund and Taurus Mining Finance Annex Fund (Taurus), following completion of a detailed due diligence process during 2018. The delivery of the final Project milestones mean the Project is now significantly de-risked, fully permitted, approved and construction ready.

Following the end of the Quarter, Sheffield appointed UBS AG, Australia Branch (UBS), a leading global investment bank, to act as corporate adviser to the Company. UBS is assisting the Company in considering third party strategic partner interest for the funding and development of the Thunderbird Mineral Sands Project. UBS will manage a structured, formal process to evaluate and progress the introduction of a strategic party that would assist the Company in achieving Thunderbird's development objectives.

The Kimberley Land Council held an Authorisation Meeting of Traditional Owners from the area surrounding Thunderbird. The meeting authorised the Named Applicants to execute the Thunderbird Project Co-existence Agreement. The Agreement establishes a framework by which the Company will work with the Traditional Owners to protect Aboriginal heritage and the environment and deliver sustainable employment and business outcomes for Traditional Owners and the wider Aboriginal community.

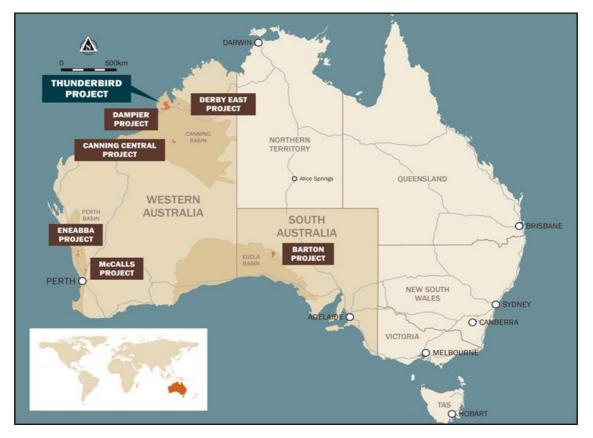


Figure 1: Location of Sheffield Mineral Sands Projects

Site access work and Project infrastructure was completed by local Kimberley businesses, in accordance with the State Government approved Minor or Preliminary Works (MoPW). The first stage of the accommodation village and associated ancillary buildings was completed and commissioned during the Quarter. The installation of the communication towers and equipment was also completed and commissioned. Preparation for the wet season was completed with the lock down of key infrastructure assets.



Figure 2: (above) Construction of Thunderbird accommodation village

Significant progress was achieved on mine development during the Quarter and ahead of the wet season. Key mine development expenditures included commissioning of 52 rooms (approximately 90 rooms now available), messing and laundry facilities within the accommodation village (\$1.6m), mine site arterial road construction (\$1.6m), construction of communications infrastructure and waste water treatment plant (\$0.5m). In addition to mine development infrastructure expenditure, approximately \$4.3m was incurred on engineering and design. Expenditure directly associated with local contractors and staffing in the Kimberley region totalled \$5.2m.

The Project accommodation, communications and the site access road are now construction ready providing the opportunity to immediately commence construction upon the completion of the strategic partner process.



Figure 3: (left) Thunderbird accommodation village, offices and (right) waste water treatment & fuel tankage



Figure 4: (above) Thunderbird mine access road and water drainage works



Figure 5: (above) Thunderbird IT communications infrastructure

As expected, zircon pricing continued to strengthen during Q4 2018 with strong demand and supply constraints being the major contributing factor. The present independently projected zircon pricing further enhances Thunderbird's project economics over the projected 42-year mine life. TiO<sub>2</sub> feedstock markets softened slightly during the latter part of 2018, however both industry and independent groups are reporting that the latter part of 2019 should see a more balanced market with 2020 likely to see some supply deficit at a time when global demand is expected to increase.

Discussions continued with several potential counterparties for the potential supply of ilmenite into either sulfate pigment production or as a chloride slag feedstock. A range of potential customers received

samples and Sheffield continues to progress supply opportunities and negotiations. Interest in Thunderbird products remains strong and engagement with a number of groups continues in 2019.

Sheffield and GRES executed a fixed price lump sum EPC agreement incorporating improvements in design, throughput and operability, identified through the variance due diligence processes. Under the A\$366 million turnkey fixed price EPC agreement, GRES will design and construct a 7.5 million tonne per annum Stage 1 mineral processing plant and supporting infrastructure. The EPC agreement accounts for approximately 80% of Thunderbird's estimated total Stage 1 capital cost of A\$463 million. The execution of this agreement achieves significant de-risking of the Project, with GRES providing ramp up support and metallurgical performance responsibilities during the Project delivery.

Sheffield executed the debt facility agreement and the related financing documentation for the US\$175 million debt facility with Taurus. The Company has progressed a total of A\$335 million in loan facilities, represented by:

- US\$175 million (A\$240 million) syndicated facility agreement with Taurus Mining Finance Fund and Taurus Mining Finance Annex Fund for a seven-year term loan; and
- Agreed term sheet to support a A\$95 million investment decision by the Northern Australia Infrastructure Fund.

These facilities are subject to a range of Conditions Precedent that are typical for a financing arrangement of this nature. These conditions include the raising of the required equity that would, in conjunction with the A\$335 million debt facilities, allow the Company to fully fund the estimated construction costs of Thunderbird Stage 1 (Stage 1 capital expenditure estimated at A\$463 million), plus a provision of the estimated capital expenditure to cover start-up working capital requirements, corporate overheads and other customary lender requirements, during the two year construction period (including cost over-run provision, financing fees, interest on drawn debt and debt service reserve account funding).

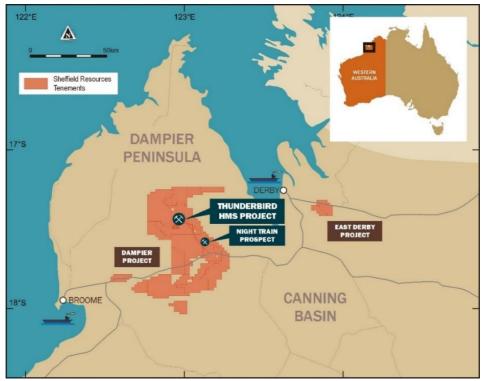


Figure 6: Location of Thunderbird Mineral Sands Project

Following the end of the Quarter, the Company announced it has secured a 15-year agreement with Woodside Energy Limited (Woodside) and Energy Developments Pty Ltd (EDL) for the supply and delivery of 1,950 terajoules per annum of liquified natural gas (LNG) to the Thunderbird Mineral Sands Project.

LNG will be supplied from Woodside's Pluto LNG Truck Loading Facility near Karratha in Western Australia and transported to Thunderbird's LNG storage facility by a newly formed joint venture between Woodside and EDL. The joint venture will own and operate a purpose-built road tanker fleet to safely and reliably deliver the LNG to Thunderbird, as is customary with gas logistic arrangements for the towns of Broome and Derby and for communities in the Kimberley. The advantage of using LNG at Thunderbird is three-fold, providing Sheffield with a low cost, low emission fuel source that is ideally suited to the ilmenite low temperature roast (LTR) process proposed for the Thunderbird processing plant.



Figure 7: (from left) Mr Geoff Hobley (EDL), Mr Michael Buzzard (EDL), Sheffield Managing Director Mr Bruce McFadzean, Mr Robert Chamalaun (Woodside) and Mr Reinhardt Matisons (Woodside) executing the LNG Supply Agreement

The 2018 regional exploration program was completed at the Dampier Mineral Sands Project during the Quarter. The program returned exceptional zircon rich drill results at Night Train and also at the new discoveries at the Cold Duck, Porphyry Pearl, Cisco and Nomad prospects with the follow outstanding intervals being returned;

- Night Train: 27m @ 5.29% HM from 49.5m (DAAC114), incl 22.5m @ 6.17% HM from 52.5m
- Night Train: 7.5m @ 6.46% HM from 27.0m (DAAC147), incl 4.5m @ 9.70% HM from 28.5m (refer ASX announcement dated 9 October for further details)
- Cold Duck: 37.5m @ 3.56% HM from 16.5m (DAAC131), incl 16.5m @ 5.49% HM from 21.0m
- Cisco: 34.5m @ 2.64% HM from 58.5m (DAAC149), incl 12.0m @ 3.74% HM from 81.0m. (refer ASX announcement dated 17 October for further details)

The program also discovered new broad sheet-like mineral sands prospects at Buckfast, Bohemia and Concorde, with mineral assemblages based on visual examination, featuring high proportions of valuable

heavy mineral (VHM) dominated by leucoxene, altered ilmenite and zircon with low to moderate levels of trash and including the following significant intervals:

- Buckfast: 46.5m @ 5.50% HM from 57.0m (NLAC025), incl 21m @ 9.12% HM from 64.5m
- Bohemia: 43.5m @ 2.35% HM from 16.5m (NLAC018), incl 10.5m @ 4.25% HM from 25.5m
- Concorde: 24m @ 1.68% HM from 34.5m (NLAC001) (refer ASX announcement dated 13 November for further details)

The multiple new mineral sand prospects identified during the 2018 regional exploration program confirm the Canning Basin as a major new mineral sand province.

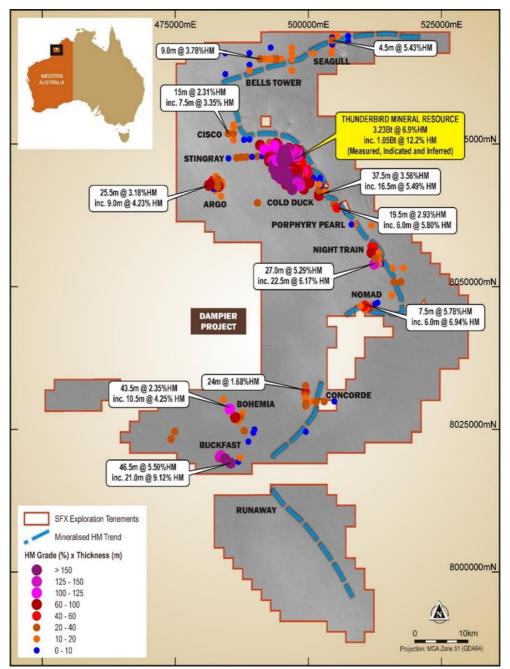


Figure 8: Regional drilling compilation showing grade times thickness<sup>1</sup> and prospect locations

<sup>1</sup>HM grade times thickness for intervals. All intervals calculated using 1% HM lower cut, 3m minimum width, maximum 3m internal waste, if multiple intersections per hole the maximum interval is used. Includes Sheffield drill holes, Rio Tinto historic drill holes (Muggeridge 2007, Muggeridge 2008). and Iluka historic drill holes (Northcott 2017) excluding Runaway. Background HM grade in holes at Thunderbird and Cold Duck has been halved to account for dilution by iron oxides.

The discovery of mineralisation at higher stratigraphic levels than the Thunderbird stratigraphic position, opens up the potential for stacked mineralised sequences, deposited during multiple Cretaceous transgressions, significantly increasing the potential of the mineralised trend.

Mineral assemblage composites have been dispatched for QEMSCAN<sup>™</sup> analysis for Night Train, Cisco, Cold Duck, Porphyry Pearl, Nomad, Bohemia, Buckfast and Concorde with results due in Q1 2019. A maiden Mineral Resource estimate for the zircon rich Night Train prospect is in preparation and due for completion in Q1 2019.

An updated Mineral Resource and Ore Reserve Statement (refer ASX announcement 3 October 2018) reported Sheffield's total in-situ valuable heavy mineral inventory contained within all Mineral Resource estimates (Measured, Indicated and Inferred at various cut-offs) stands at 173 million tonnes including, 23 million tonnes of zircon and 132 million tonnes of ilmenite. The updated Mineral Resource Statement includes the Thunderbird deposit, seven deposits from the Eneabba Project and the two deposits from the McCalls Project.

Sheffield's total Ore Reserve estimate remains unchanged at 680.5 million tonnes @ 11.3% HM (Proved and Probable) which is contained within the Mineral Resource at the Thunderbird deposit (refer ASX announcement 3 October 2018).

# THUNDERBIRD MINERAL SANDS PROJECT

# Early Works Program

Site access and Project infrastructure for Thunderbird was completed in accordance with the State Government approved Minor or Preliminary Works (MoPW). The accommodation village and associated ancillary buildings were completed and commissioned. The installation of 52 accommodation units (approximately 90 rooms now operational) and the kitchen and dining area was completed by local Kimberley businesses. The potable and waste water treatment equipment was completed and commissioned in preparation for occupancy of the accommodation village upon the completion of the funding process.

The installation of communications infrastructure for the Project was completed with the communication towers and equipment at Jillian Ridge and Thunderbird commissioned and operational. The communication infrastructure provides coverage over the village accommodation and EPC construction sites which is key to accommodate immediate commencement of construction.

Eighteen kilometres of site access roads and other infrastructure on the Miscellaneous Licences were completed by local Kimberley businesses. Preparation for the wet season was completed with the lock down of key infrastructure and the setup of a care and maintenance program. Temporary cut off drains and protection of key infrastructure were installed following completion of a wet season risk assessment.

First stages of project accommodation and associated facilities, communications and site access roads are progressed to a level to ensure Thunderbird is construction ready.

# Engineering, Procurement and Construction

In November 2018 the A\$366m fixed price, lump sum engineering, procurement and construction contract (EPC) with GRES was executed for the design and construction of the Thunderbird mineral processing plant, supporting infrastructure and associated facilities.

Under the EPC contract, GRES will design and construct a 7.5 million tonne per annum (Mtpa) Stage 1 mineral processing plant and supporting infrastructure. The EPC contract is a fixed price, lump sum arrangement of approximately A\$366 million and covers approximately 80% of Thunderbird's estimated total Stage 1 capital cost of A\$463 million.

The EPC contract provides for the turnkey delivery of the Project's processing infrastructure, including process design engineering, procurement, construction, commissioning and performance testing of the facilities over a construction and commissioning period of approximately two years.

Engineering and design activities undertaken by GRES throughout 2018 and reviewed by Taurus and its nominated Independent Technical Expert (Metifex), have enabled Sheffield to assess several design developments focussed on increasing throughput, operational efficiencies and the functionality of the processing plant, substantially de-risking metallurgical performance and overall project execution.

The EPC contract includes the following items:

- Plant area civils and process water
- Wet concentrator plant
- Concentrate upgrade plant
- Zircon processing plant
- Ilmenite processing plant
- Low temperature roast plant (ilmenite upgrade)
- Hot acid leach
- Site administration complex, stores and process workshops
- Bore field headworks and high voltage (HV) distribution
- Internal roads, hardstand and other infrastructure to support the processing operations
- Operational support during the first six months of ramp-up

Significant progress was achieved on mine development during the Quarter and ahead of the wet season. Key mine development expenditures included commissioning of 52 rooms (approximately 90 rooms now available), messing and laundry facilities within the accommodation village (\$1.6m), mine site arterial road construction (\$1.6m), construction of communications infrastructure and waste water treatment plant (\$0.5m). In addition to mine development infrastructure expenditure, approximately \$4.3m was incurred on engineering and design. Expenditure directly associated with local contractors and staffing in the Kimberley region totalled \$5.2m.

The Company also progressed other key contract negotiations for the EPC construction of the power station and gas storage facilities, mining services and power supply.

### Aboriginal Engagement

In November 2018, Sheffield recognised its inaugural graduate trainees at a formal dinner in Broome. Having successfully completed the Thunderbird six month construction Work Ready Program in 2017, the trainees were offered positions in the Thunderbird Group Training Program. Following 14 months of intensive training, four trainees graduated with a Certificate 3 in Civil Construction and the opportunity for an employment position with the Thunderbird construction workforce.

### **Sustainability**

On 31 October 2018, the Kimberley Land Council (KLC) held an Authorisation Meeting in Broome, where the Traditional Owners for the Mt Jowalenga Polygon #2 Native Title Claimant Application met to discuss the Thunderbird Project Co-existence Agreement. The meeting authorised the Named Applicants to sign the Agreement making the Agreement binding on both Sheffield and the Traditional Owners.

The Agreement establishes the framework by which the Company can work with the Traditional Owners to protect Aboriginal heritage and the environment and deliver sustainable employment and business outcomes for Traditional Owners and the wider Aboriginal community.

# Marketing and Offtake

As expected, zircon pricing continued to strengthen during Q4 2018 with consistent demand and supply constraints being the major contributing factors. Reports from global markets indicate consumers have adequate feedstock. With adequate stock levels and market typical end of year de-stocking, there was a reduction in supply volumes during the last quarter of 2018. Currently market conditions appear to be in balance and this position is expected to continue during the first half of 2019. Historically, Chinese markets remain subdued through to the Chinese New Year, with reduced market activity and with India and Europe also slowing around the festive season.

The longer-term view for zircon remains unchanged, with significant supply constraints expected. Depletion of existing mines and lack of new development has not abated the upward pricing pressure. The predicted supply deficit and growth in zircon demand enhances Thunderbird's project economics over the projected 42 year mine life.

During Q4 2018, pricing for TiO<sub>2</sub> feedstock indicated a slight market softening with some suppliers reducing prices marginally. It appeared that regular de-stocking activities by some major consumers along with continued stringent environmental auditing in China, (forcing some plants to shut down temporarily whilst upgraded equipment is installed to meet environmental requirements) were the major causes for the shift in product pricing. Trade war tension between the US and China has also impacted upon production in China, however part of the revised Chinese strategy is to target European and Middle Eastern markets more aggressively. Expectations for TiO<sub>2</sub> feedstock, as reported by industry and independent groups, indicate a balanced market in late 2019 and heading towards a supply deficit longer term. This bodes well for both zircon and TiO2 feedstock market pricing for the mid to long term.

Discussions continued with several potential counterparties for the potential supply of ilmenite into either sulfate pigment production or as a chloride slag feedstock. A range of potential customers received samples and Sheffield continues to progress supply opportunities ad negotiations. Interest in Thunderbird products remains strong and engagement with a number of groups continues in 2019.

# Project Financing and Funding Strategy

In November 2018, the debt facility agreement with Taurus was executed. Under the terms of the Facility Agreement, Taurus has provided US\$175 million of senior loan facilities, which will be used to partially fund the construction of Thunderbird. Execution of the debt facility agreement follows thorough technical due diligence by Taurus of process design criteria and commercial, operational and construction agreements. The third party due diligence process significantly de-risks the delivery of Thunderbird for Sheffield shareholders.

The due diligence process was led by Taurus' nominated independent technical expert, Metifex Pty Ltd (Metifex), in collaboration with Taurus, Sheffield and GRES. This process has enabled improvements in throughput, material handling and operability of the Thunderbird processing plant and an increase in investment in mineral sands recovery and processing equipment, leading to a more robust and flexible project. These improvements include:

- Inclusion of filter belts and direct forward feed of products by conveyor. The BFS assumed the use of drain pad and forward feed of products by loader;
- Increase in consumables storage from 5 days to 10 days;
- Installation of lift bays in dry buildings;
- Optimised thickener size for tailings material, improving water recovery;
- Improvements in Wet Concentrator Plant capacity and additional cleaner scavenger spiral bank, reducing circulating load;

• Installation of additional High Tension Roll and Induced Roll Separators, increasing recovery capacity for Valuable Heavy Minerals in the dry plant.

Importantly, the majority of the additional capital expenditure to optimise and improve the plant has been facilitated by the NAIF project debt facility (A\$30 million) minimising the impact on shareholder equity requirements.

As a result of the NAIF investment decision (announced 19 September 2018), Sheffield will not require the previously announced Taurus US\$25 million Contingent Instrument Facility. This Facility was solicited for bonding requirements for key third party-owned non-processing Project infrastructure. This infrastructure will now be insourced and owned by a subsidiary of Sheffield Resources.

While the Company has completed permitting and is now construction ready at Thunderbird, Sheffield has continued to hold discussions with a broad range of interested parties with a view to strategic investment. Interest from a number of credible strategic parties, including in relation to the funding of the Project, has increased following completion of key permitting and debt funding milestones.

Following the end of the Quarter, Sheffield announced the appointment of UBS as its corporate advisor, initiating a structured, formal process to evaluate and progress this interest and identify whether the introduction of a strategic party would assist in achieving the Company's objective of optimising the outcome to shareholders through Thunderbird's development.

The introduction of a strategic party to Thunderbird via this process could have the effect of reducing the residual equity funding requirement attributable to Sheffield, as the strategic partner may acquire an ownership interest either through investing in Sheffield or at the project level. In the case of a project level investment, the strategic partner would likely be responsible for their proportionate share of the residual capital requirements.

# **EXPLORATION ACTIVITIES**

During the Quarter, all outstanding drilling results were received from the 2018 regional exploration air core drill program. In total 94 aircore holes were drilled for 4,829m. Results include three exciting new discoveries, Concorde, Bohemia and Buckfast, all located in the southern region of the Dampier Project (refer ASX announcement dated 13 November 2018). Composite samples for mineral assemblage analysis by QEMSCAN<sup>™</sup> have been submitted for Night Train, Cold Duck, Porphyry Pearl, Cisco, Nomad, Concorde, Bohemia and Buckfast with results expected during Q1 2019. Resource modelling has commenced on the zircon rich Night Train deposit with a maiden Mineral Resource estimate due for completion in Q1 2019.

# Dampier Project

Exploration to date has identified fourteen prospects containing large, laterally extensive fine to medium grained sheet-like heavy mineral accumulations, within a 160km long highly mineralised trend, extending from Seagull in the North to Runaway in the south (Figure 8). This includes the world class Thunderbird deposit which has a Mineral Resource of 3.23 billion tonnes @ 6.9% HM above a 3.0% HM cut-off (Measured, Indicated and Inferred), including a high-grade component of 1.05 billion tonnes @ 12.2% HM above 7.5% HM cut-off (Measured, Indicated and Inferred) (refer ASX announcement 03 October 2018).

Results from Night Train (refer ASX announcement 09 October 2018), Nomad and the newly identified prospects of Cold Duck, Porphyry Pearl, and Cisco (refer ASX announcement 17 October 2018), were detailed in the previous Quarterly Activities Report (refer ASX announcement 31 October 2018).

Drilling at Concorde, Bohemia and Buckfast resulted in exciting new discoveries of HM mineralisation in a region located approximately 50km south of the Thunderbird Deposit and between 10km to 15km

south of the Great Northern Highway (Figure 9). Mineralisation is characterised by broad sheet-like geometries up to 51m thick (Figure 10) and mineral assemblages (based on visual examination) featuring high proportions of VHM dominated by leucoxene, altered ilmenite and zircon (Figure 11) with low to moderate levels of trash (refer ASX announcement 13 November 2018).

Significant intersections from Buckfast include:

- 46.5m @ 5.50% HM from 57.0m (NLAC025), including 21m @ 9.12% HM from 64.5m
- 37.5m @ 5.01% HM from 67.5m (NLAC027), including 25.5m @ 5.74% HM from 75m (intervals reported above a 1% HM cut-off, including above 3% HM cut-off refer to ASX announcement 13 November 2018)

Significant intersections from Bohemia include:

- 43.5m @ 2.35% HM from 16.5m (NLAC018), incl 10.5m @ 4.25% HM from 25.5m
- 51m @ 1.85% HM from 15m (NLAC017), incl 6m @ 4.84% HM from 18m (intervals reported above a 1% HM cut-off, including above 3% HM cut-off refer to ASX announcement 13 November 2018)

Significant intersections from Concorde include:

- 24m @ 1.68% HM from 34.5m (NLAC001)
- 18m @ 1.36% HM from 4.5m (NLAC007)

(intervals reported above a 1% HM cut-off, including above 3% HM cut-off refer to ASX announcement 13 November 2018)

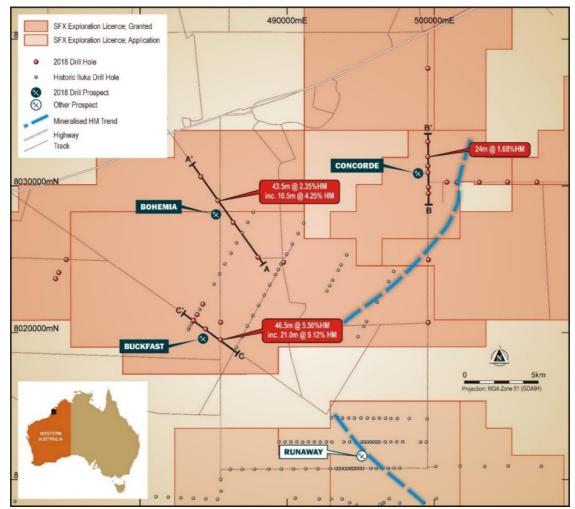


Figure 9: Plan of the Buckfast, Bohemia and Concorde prospects showing significant drill intersections

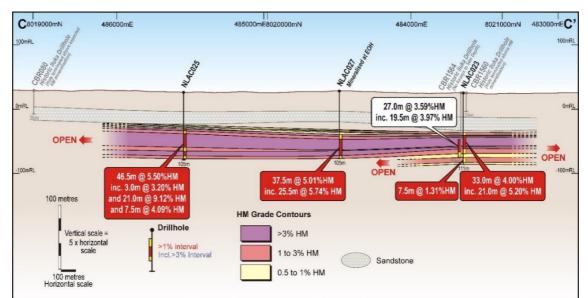
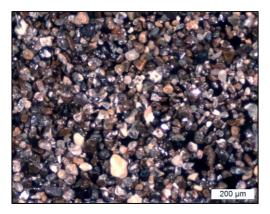


Figure 10: Buckfast Section C - C'



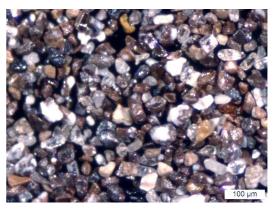


Figure 11: Photomicrograph of HM concentrate from Bohemia, drill hole NLAC017 (19.5-21m)

The variable mineral assemblages identified at these prospects suggest a variety of depositional environments and hinterland sources. The high value zircon and leucoxene rich mineral assemblage observed at many of the new discoveries (e.g. Night Train, Cisco, Concorde and Bohemia) provides for very attractive exploration targets.

Mineralisation has been discovered at higher stratigraphic levels (i.e. Argo and possibly Bohemia) above the extensively mineralised Thunderbird stratigraphic position. The different mineralised zones are thought to represent potential stacked shoreline facies that accumulated during marine transgressions in the Cretaceous. This opens up the potential for multiple target horizons on which to focus future exploration programs.

# Derby East

Derby East project comprises a large deposit of construction quality sand, located 24km east of the port of Derby. During the previous Quarter, nine aircore drill holes were completed for 416m, with holes up to a maximum depth of 66m.

Samples from the drilling have been relocated to Sheffield's warehouse in Perth where sample compositing and further evaluation will be undertaken to assess suitability for end-use commercial requirements.

# <u>Barton</u>

The Barton project, located in the Eucla Basin region of South Australia, comprises exploration licence application ELA 2018-00046. No work was carried out during the Quarter.

# Canning Central Project

The Canning Central exploration licence application E45/5214 was relinquished during the reporting period.

# Further Work

Work has commenced on a maiden Mineral Resource estimate and exploration target for the Night Train deposit, scheduled for completion in Q1 2019. Bulk sample mineral characterisation test work at Night Train is planned for later in 2019.

Mineral assemblage determination testwork for Night Train, Cold Duck, Porphyry Pearl, Cisco, Nomad, Concorde, Bohemia and Buckfast is scheduled for completion in Q1 2019.

Follow up aircore drilling to extend the regional discoveries and infill at Night Train is scheduled for Q3 2019 in conjunction with geotechnical and geochemical test work on the Derby East silica sands samples.

# CORPORATE ACTIVITIES

In December 2018, the Company announced that it had successfully completed an equity raising of approximately A\$16.2 million before costs, by way of a share placement (Placement) to professional, sophisticated and other institutional investors. The shares issued under the Placement are within the Company's existing placement capacity under ASX Listing Rule 7.1 and therefore not requiring shareholder approval. Additionally, a share purchase plan (SPP) launched in conjunction with the Placement closed on 25 January 2019, raising a further \$0.7 million from shareholders.

The proceeds of the Placement and SPP will enable the Company to formally evaluate and progress strategic partner interest and fund the Company's corporate administration costs (including transaction costs).

As at 31 December 2018, Sheffield held cash reserves of approximately \$13.4 million (unaudited).

Mr Bruce McFadzean Managing Director 30 January 2019

Project	Tenement	Holder	Interest	Location <sup>3</sup>	Status
Mineral Sands	E04/2455	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2456	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2081 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2083 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2084 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2159 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2171 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2192 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2193 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2194 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2348 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2349 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2350 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2390 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2399 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2400 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2554 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2571 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2596 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2597 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Pending
Mineral Sands	L04/84 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/85 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/86 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/92 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/93 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2478	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/82	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	L04/83	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2494 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	M04/459 <sup>2</sup>	Thunderbird Operations Pty 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	E70/3929	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	E70/4584	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4292	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4719	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4747	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	L70/150	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	M70/8721	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	M70/9651	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	M70/11531	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	R70/351	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4922	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3859	Sheffield Resources Ltd	100%	Perth Basin	Pending
Mineral Sands	E04/2509 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2510 <sup>2</sup>	Thunderbird Operations Pty Ltd	100%	Canning Basin	Pending
Mineral Sands	ELA 2018-00046	Moora Talc Pty Ltd	100%	Eucla Basin (SA)	Pending
willicial JalluS	LLA 2010-00040	moura raic Fly Llu	100%	Canning Basin	renuing

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

Notes: <sup>1</sup>Iluka Resources Ltd (ASX: ILU) retains a gross sales royalty of 1.5% in respect to tenements R70/35, M70/872, M70/965 & M70/1153. <sup>2</sup>Thunderbird Operations Pty Ltd is a 100% owned subsidiary of Sheffield Resources Ltd.

Details of tenements and/or beneficial interests acquired/disposed of during the quarter are provided in Section 10 of the Company's accompanying Appendix 5B notice.

### COMPLIANCE STATEMENTS

#### PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Exploration Results, Mineral Resources and Ore Reserves prepared and first disclosed under the JORC Code (2012) and a Bankable Feasibility Study. The information was extracted from the Company's previous ASX announcements as follows:

- Buckfast, Bohemia and Concorde results "NEW LARGE HIGH GRADE DISCOVERY SOUTH OF THUNDERBIRD" 13 November 2018
- September 2018 Quarterly Report: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 30 SEPTEMBER 2018" 31 October 2018
- Cold Duck, Porphyry Pearl, Cisco and Nomad results "THREE NEW MINERAL SANDS DISCOVERIES NEAR THUNDERBIRD", 17 October 2018
- Night Train results: "EXCEPTIONAL RESULTS CONFIRM MAJOR DISCOVERY AT NIGHT TRAIN", 09 October 2018
- Mineral Resource and Ore Statement "MINERAL RESOURCE AND RESERVE STATEMENT" 03 October, 2018
- Drilling commences: "SHEFFIELD COMMENCES 8,000m REGIONAL DRILLING PROGRAM AT THUNDERBIRD", 01 August 2018
- Ilmenite offtake: "SHEFFIELD SIGNS MAIDEN BINDING ILMENITE OFFTAKE AGREEMENT" 21 June, 2018
- Port Agreement: "SHEFFIELD SECURES DERBY PORT ACCESS AGREEMENT" 16 May, 2018
- December 2017 Quarterly Report (Robbs Cross and Thomsons Mineral Resources): "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 DECEMBER 2017" 30 January, 2018
- September 2017 Quarterly Report: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 30 SEPTEMBER 2017" 31 October, 2017
- Thunderbird Ore Reserve: "THUNDERBIRD ORE RESERVE UPDATE" 16 March, 2017
- Thunderbird Bankable Feasibility Study: "THUNDERBIRD BFS DELIVERS OUTSTANDING RESULTS" 24 March, 2017
- McCalls Mineral Resource: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 30 JUNE 2016" 25 July 2016.
- Thunderbird Mineral Resource: "SHEFFIELD DOUBLES MEASURED MINERAL RESOURCE AT THUNDERBIRD" 5 July, 2016
- 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
- Robbs Cross and Thomsons Discovery: "NEXT GENERATION OF MINERAL SANDS DISCOVERIES AT ENEABBA" 23 July, 2015
- Night Train Drilling: "THREE NEW MINERAL SANDS DISCOVERIES IN CANNING BASIN" 25 February, 2015

#### These announcements are available to view on Sheffield's website 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 relevant market announcements and, in the case of estimates of Mineral Resources, Ore Reserves and the Bankable Feasibility Study, 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 relevant original market announcements.

#### CAUTIONARY STATEMENTS AND RISK FACTORS

The contents of this report reflect various technical and economic conditions at the time of writing. Given the nature of the resources industry, these conditions can change significantly over relatively short periods of time. Consequently, actual results may vary from those contained in this report.

Some statements in this report regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "predict", "foresee", "proposed", "aim", "target", "opportunity", "could", "nominal", "conceptual" and similar expressions. Forward-looking statements, opinions and estimates included in this report are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. So there can be no assurance that actual outcomes will not materially differ from these forward-looking statements.

#### **APPENDIX 1: Ore Reserves and Mineral Resources**

### SHEFFIELD HM ORE RESERVE

### 1) DAMPIER PROJECT

#### SHEFFIELD ORE RESERVE FOR DAMPIER PROJECT AT 01 OCTOBER 2018 (in-situ assemblage)

Summary of C	ummary of Ore Reserve <sup>1,2,3,4</sup>				In-situ Ass				
Deposit	Ore Reserve Category	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	HiTi Leuc (%)	Leuco- xene (%)	llmenite (%)	Oversize (%)	Slimes (%)
Thunderbird	Proved	235.8	13.3	1.00	0.29	0.26	3.55	13.7	16.5
	Probable	444.8	10.2	0.80	0.26	0.26	2.85	11.0	15.2
	Total	680.5	11.3	0.87	0.27	0.26	3.10	12.0	15.7

#### SHEFFIELD ORE RESERVE FOR DAMPIER PROJECT AT 01 OCTOBER 2018 (HM assemblage)

Summary of (	Dre Reserve <sup>1,</sup>	,2,3,4			HM Asse				
Deposit	Ore Reserve Category	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	HiTi Leuc (%)	Leuco- xene (%)	llmenite (%)	Oversize (%)	Slimes (%)
Thunderbird	Proved	235.8	13.3	7.5	2.2	1.9	26.7	13.7	16.5
	Probable	444.8	10.2	7.8	2.5	2.6	28.0	11.0	15.2
	Total	680.5	11.3	7.7	2.4	2.3	27.4	12.0	15.7

Notes:

<sup>1</sup>The Ore Reserve estimate was prepared by Entech Pty Ltd and first disclosed under the JORC Code (2012), refer to ASX announcement 16 March 2017 for further details including Table 1. Ore Reserve is reported to a design overburden surface with appropriate consideration of modifying factors, costs, mineral assemblage, process recoveries and product pricing.

<sup>2</sup>Ore Reserve is a sub-set of Mineral Resource

<sup>3</sup>THM is within the 38µm to 1 mm size fraction and reported as a percentage of the total material, slimes is the -38µm fraction and oversize is the +1mm fraction.

<sup>4</sup>Tonnes and grades have been rounded to reflect the relative accuracy and confidence level of the estimate, thus the sum of columns may not equal. <sup>5</sup>The in-situ assemblage grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage at the resource block model scale.

<sup>6</sup>Mineral Assemblage is reported as a percentage of HM Grade, it is derived by dividing the in-situ grade by the HM grade.

The Ore Reserve estimate was prepared by Entech Pty Ltd, an experienced and prominent mining engineering consultancy with appropriate mineral sands experience in accordance with the JORC Code (2012 Edition) and announced to the ASX on 16 March 2017. The Ore Reserve is estimated using all available geological and relevant drill hole and assay data, including mineralogical sampling and test work on mineral recoveries and final product qualities. The Company is not aware of any new information or data that materially affects the information included in the Ore Reserve estimate and confirms that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed. The Ore Reserve estimate is based on the current, July 2016 Thunderbird Mineral Resource estimate, announced to the ASX on 5 July 2016. Measured and Indicated Mineral Resources were converted to Proved and Probable Ore Reserves respectively, subject to mine design, modifying factors and economic evaluation.

# SHEFFIELD HM MINERAL RESOURCE

### 1) DAMPIER PROJECT

#### SHEFFIELD MINERAL RESOURCE FOR DAMPIER PROJECT AT 01 OCTOBER 2018 (in-situ assemblage)

Summary of M	lineral Resour	Ce <sup>1,2,3</sup>				In-situ As				
Deposit	Mineral Resource Category	Cut off (THM%)	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	HiTi Leuc (%)	Leuco- xene (%)	Ilmenite (%)	Oversize (%)	Slimes (%)
	Measured	3.0	510	8.9	0.71	0.20	0.19	2.4	12	18
	Indicated	3.0	2,120	6.6	0.55	0.18	0.20	1.8	9	16
Thunderbird	Inferred	3.0	600	6.3	0.53	0.17	0.20	1.7	8	15
	Total	3.0	3,230	6.9	0.57	0.18	0.20	1.9	9	16
	Measured	7.5	220	14.5	1.07	0.31	0.27	3.9	15	16
	Indicated	7.5	640	11.8	0.90	0.28	0.25	3.3	11	14
Thunderbird	Inferred	7.5	180	10.8	0.87	0.27	0.26	3.0	9	13
	Total	7.5	1,050	12.2	0.93	0.28	0.26	3.3	11	15

#### SHEFFIELD MINERAL RESOURCES FOR DAMPIER PROJECT AT 01 OCTOBER 2018 (HM assemblage)

Summary of N	lineral Resour	ce <sup>1,2,3</sup>				HM Ass				
Deposit	Mineral Resource Category	Cut off (THM%)	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	HiTi Leuc (%)	Leuco- xene (%)	llmenite (%)	Oversize (%)	Slimes (%)
	Measured	3.0	510	8.9	8.0	2.3	2.2	27	12	18
	Indicated	3.0	2,120	6.6	8.4	2.7	3.1	28	9	16
Thunderbird	Inferred	3.0	600	6.3	8.4	2.6	3.2	28	8	15
	Total	3.0	3,230	6.9	8.3	2.6	2.9	28	9	16
	Measured	7.5	220	14.5	7.4	2.1	1.9	27	15	16
	Indicated	7.5	640	11.8	7.6	2.4	2.1	28	11	14
Thunderbird	Inferred	7.5	180	10.8	8.0	2.5	2.4	28	9	13
	Total	7.5	1,050	12.2	7.6	2.3	2.1	27	11	15

Notes:

<sup>1</sup>The Mineral Resource estimate was prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to ASX announcement 5 July 2016 for further details including Table 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.

<sup>2</sup> THM is within the 38µm to 1mm size fraction and reported as a percentage of the total material, slimes is the -38µm fraction and oversize is the +1mm fraction.

<sup>3</sup>Tonnes and grades have been rounded to reflect the relative accuracy and confidence level of the estimate, thus the sum of columns may not equal.

<sup>4</sup>Estimates of Mineral Assemblage are presented as percentages of the Heavy Mineral (HM) component of the deposit, as determined by magnetic separation, QEMSCAN and XRF. Magnetic fractions were analysed by QEMSCAN for mineral determination as follows: Ilmenite: 40-70% TiO<sub>2</sub> >90% Liberation; Leucoxene: 70-94% TiO<sub>2</sub> >90% Liberation; High Titanium Leucoxene (HiTi Leucoxene): >94% TiO<sub>2</sub> >90% Liberation; and Zircon: 66.7% ZrO<sub>2</sub>+HfO<sub>2</sub> >90% Liberation. The non-magnetic fraction was submitted for XRF analysis and minerals determined as follows: Zircon: ZrO<sub>2</sub>+HfO<sub>2</sub>/0.667 and High Titanium Leucoxene (HiTi Leucoxene): TiO<sub>2</sub>/0.94.

<sup>5</sup>The in-situ assemblage grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage at the resource block model scale.

Summary of M	lineral Resourc	e <sup>1,2,3</sup>			In-situ T	onnes <sup>4</sup>		
Deposit	Mineral Resource Category	Cut off (THM%)	THM Tonnes Millions (Mt)	Zircon (kt)	HiTi Leuc (kt)	Leuco- xene (kt)	llmenite (kt)	Total VHM (kt)
	Measured	3.0	45	3,600	1,000	1,000	12,000	17,700
	Indicated	3.0	140	11,800	3,800	4,300	39,100	59,000
Thunderbird	Inferred	3.0	38	3,200	1,000	1,200	10,500	15,900
	Total	3.0	223	18,600	5,900	6,500	61,700	92,600
	Measured	7.5	32	2,300	700	600	8,400	12,000
	Indicated	7.5	76	5,800	1,800	1,600	21,000	30,200
Thunderbird	Inferred	7.5	20	1,600	500	500	5,600	8,200
	Total	7.5	127	9,700	3,000	2,700	35,000	50,400

#### SHEFFIELD MINERAL RESOURCE FOR THUNDRBIRD PROJECT AT 01 OCTOBER 2018 (in-situ tonnes)

Notes:

<sup>1</sup>The Mineral Resource estimate was prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to ASX announcement 5 July 2016 for further details including Table 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.

<sup>2</sup> THM is within the 38µm to 1mm size fraction and reported as a percentage of the total material, slimes is the -38µm fraction and oversize is the +1mm fraction.

<sup>3</sup>Tonnes and grades have been rounded to reflect the relative accuracy and confidence level of the estimate, thus the sum of columns may not equal.

<sup>4</sup>The contained in-situ tonnes for the valuable heavy minerals were derived from information from the Mineral Resource tables

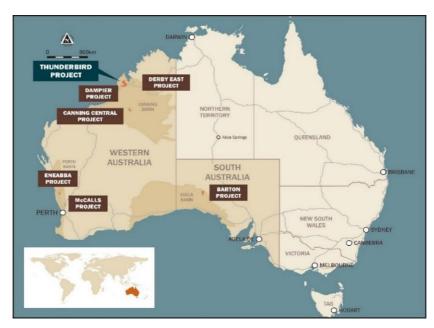


Figure 1: Location of Sheffield's Mineral Sands Projects

### 2) ENEABBA PROJECT

#### SHEFFIELD MINERAL RESOURCES FOR THE ENEABBA PROJECT AT 01 OCTOBER 2018 (in-situ assemblage)

Summary of Mine	eral Resource	<del>9</del> 1,2				In-situ Ass	emblage <sup>11</sup>		_	
Deposit	Mineral Resource Category	Cut off (THM %)	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	Rutile (%)	Leuco- xene (%)	llmenite (%)	Oversize (%)	Slimes (%)
	Measured	1.4	2.6	4.3	0.44	0.09	0.10	3.08	11.3	15
	Indicated	1.4	57.7	3.0	0.37	0.11	0.11	2.08	11.4	15
Yandanooka4,6,8	Inferred	1.4	0.4	1.5	0.16	0.05	0.07	1.01	21.9	20
	Total	1.4	60.8	3.0	0.37	0.11	0.11	2.11	11.5	15
	Indicated	1.4	20.7	2.9	0.40	0.09	0.11	2.07	14.7	14
Durack4,6,7,8	Inferred	1.4	5.6	2.6	0.37	0.07	0.19	1.68	18.3	16
	Total	1.4	26.3	2.8	0.39	0.08	0.13	1.99	15.5	14
	Indicated	1.4	35.5	2.4	0.33	0.24	0.08	1.26	7.7	14
Drummond	Inferred	1.4	3.3	2.3	0.26	0.21	0.06	1.31	7.2	12
Crossing <sup>3,4,6,8</sup>	Total	1.4	38.8	2.4	0.33	0.24	0.08	1.26	7.7	14
	Indicated	1.4	14.0	1.9	0.27	0.24	0.09	0.88	6.2	6
Robbs Cross <sup>5,6,8</sup>	Inferred	1.4	3.8	2.0	0.29	0.22	0.08	1.02	8.1	6
C10553,0,0	Total	1.4	17.8	1.9	0.28	0.23	0.09	0.91	6.6	6
	Inferred	1.4	26	2.0	0.38	0.28	0.11	0.85	6.9	18
Thomson <sup>5,8,</sup>	Total	1.4	26	2.0	0.38	0.28	0.11	0.85	6.9	18
West	Indicated	2.0	10.2	7.3	0.43	0.48	0.13	3.51	2.3	11
Mine	Inferred	2.0	1.8	2.7	0.25	0.23	0.06	1.31	3.0	17
North <sup>3,4,6,9,</sup>	Total	2.0	12.0	6.6	0.40	0.44	0.12	3.18	2.4	12
	Indicated	2.0	6.5	5.3	0.53	0.43	0.55	3.49	3.2	15
Ellengail <sup>3,4,9,10</sup>	Inferred	2.0	5.3	4.1	0.41	0.34	0.35	2.55	2.5	15
-	Total	2.0	11.8	4.8	0.47	0.39	0.46	3.07	2.9	15
	Measured	1.4	2.6	4.3	0.44	0.09	0.10	3.08	11	15
	Indicated	Various	144.6	3.1	0.37	0.19	0.12	1.92	9	14
Total	Inferred	Various	46.0	2.4	0.36	0.24	0.14	1.21	8	16
	Total	Various	193.3	3.0	0.36	0.20	0.13	1.77	9	14

<sup>1</sup>The Mineral Resource estimates were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to this ASX announcement and December 2017 Quarterly Activities Report for Robbs Cross and Thomson deposits for further details

<sup>2</sup>All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal.

<sup>3</sup>THM %: Samples from 1989 and 1996 (Drummond Crossing, Ellengail and West Mine North) were analysed using a -75 µm slimes / +2 mm oversize screen. Separation of HM% was by heavy liquid TBE (density 2.84 g/ml) from the -710µm+75µm fraction.

<sup>4</sup>THM %: RGC samples from 1998 and Iluka samples (Drummond Crossing, Durack, Ellengail, West Mine North and Yandanooka) were analysed using a -53 μm slimes / +2 mm oversize screen. Separation of total HM% was by heavy liquid TBE (density 2.90 g/ml) from the -710μm+53μm fraction.

<sup>5</sup>THM %: Samples from Robbs Cross and Thomson analysed by Diamantina Laboratories in Perth using a -45 μm slimes / +1 mm oversize screen (method DIA\_HLS\_45μm\_1mm). Separation of total HM% was by heavy liquid TBE (density 2.96g/ml) from the -45 μm+1mm fraction.

<sup>6</sup>THM %: Samples from Drummond Crossing, Durack, West Mine North and Yandanooka were analysed by Western Geolabs in Perth using a -53 µm slimes / +1 mm oversize screen. Separation of total HM% was by heavy liquid TBE (density 2.96 g/ml) from the +53µm-1mm fraction.

<sup>7</sup>Reported below an upper cut-off grade of 35% slimes.

<sup>8</sup>Estimates of mineral assemblage are presented as percentages of the total heavy mineral (THM) component of the deposit, as determined by QEMSCAN analysis. For the TiO<sub>2</sub> minerals specific breakpoints are used to distinguish between rutile (>95% TiO<sub>2</sub>), leucoxene (85-95% TiO<sub>2</sub>) and ilmenite (<55-85% TiO<sub>2</sub>).
<sup>9</sup>At West Mine North and Ellengail mineral assemblage data determined by Iluka using Method 4 (HMC is separated into magnetics and non-magnetics) was used with the Sheffield QEMSCAN data

<sup>10</sup>At Ellengail mineral assemblage data determined by Iluka using Method 3 (magnetic separation and XRF analysis) was used with the Sheffield QEMSCAN data and Iluka Method 4 data

<sup>11</sup>The in-situ assemblage grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage at the resource block model scale.

Summary of Mine	eral Resource	e <sup>1,2</sup>				HM Assen	nblage <sup>8,9,10</sup>		-	
Deposit	Mineral Resource Category	Cut off (THM %)	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	Rutile (%)	Leuco- xene (%)	llmenite (%)	Oversize (%)	Slimes (%)
	Measured	1.4	2.6	4.3	10	2.1	2.3	72	11.3	15
	Indicated	1.4	57.7	3.0	12	3.6	3.7	69	11.4	15
Yandanooka <sup>4,6,8</sup>	Inferred	1.4	0.4	1.5	11	3.0	4.4	68	21.9	20
	Total	1.4	60.8	3.0	12	3.5	3.6	70	11.5	15
	Indicated	1.4	20.7	2.9	14	2.9	3.7	71	14.7	14
Durack4,6,7,8	Inferred	1.4	5.6	2.6	14	2.6	7.4	64	18.3	16
-	Total	1.4	26.3	2.8	14	2.9	4.4	70	15.5	14
	Indicated	1.4	35.5	2.4	14	10.3	3.4	53	7.7	14
Drummond	Inferred	1.4	3.3	2.3	11	9.0	2.7	56	7.2	12
Crossing <sup>3,4,6,8</sup>	Total	1.4	38.8	2.4	14	10.2	3.4	54	7.7	14
	Indicated	1.4	14.0	1.9	15	12.7	5.0	47	6.2	6
Robbs	Inferred	1.4	3.8	2.0	14	10.9	4.1	50	8.1	6
Cross <sup>5,6,8</sup>	Total	1.4	17.8	1.9	15	12.3	4.8	48	6.6	6
	Inferred	1.4	26	2.0	19	13.8	5.4	42	6.9	18
Thomson <sup>5,8,</sup>	Total	1.4	26	2.0	19	13.8	5.4	42	6.9	18
West	Indicated	2.0	10.2	7.3	6	6.5	1.8	48	2.3	11
Mine	Inferred	2.0	1.8	2.7	9	8.6	2.1	50	3.0	17
North <sup>3,4,6,9,</sup>	Total	2.0	12.0	6.6	6	6.6	1.8	48	2.4	12
	Indicated	2.0	6.5	5.3	10	8.0	10.4	66	3.2	15
Ellengail <sup>3,4,9,10</sup>	Inferred	2.0	5.3	4.1	10	8.2	8.4	62	2.5	15
-	Total	2.0	11.8	4.8	10	8.1	9.6	64	2.9	15
	Measured	1.4	2.6	4.3	10	2.1	2.3	72	11	15
	Indicated	Various	144.6	3.1	12	6.1	3.9	62	9	14
Total	Inferred	Various	46.0	2.4	15	10.3	5.8	51	8	16
	Total	Various	193.3	3.0	12	6.8	4.2	60	9	14

#### SHEFFIELD MINERAL RESOURCE FOR ENEABBA PROJECT AT 01 OCTOBER 2018 (HM assemblage)

<sup>1</sup>The Mineral Resource estimates were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to this ASX announcement and December 2017 Quarterly Activities Report for Robbs Cross and Thomson deposits for further details

<sup>2</sup>All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal.

<sup>3</sup>THM %: Samples from 1989 and 1996 (Drummond Crossing, Ellengail and West Mine North) were analysed using a -75 μm slimes / +2 mm oversize screen. Separation of HM% was by heavy liquid TBE (density 2.84 g/ml) from the -710μm+75μm fraction.

<sup>4</sup>THM %: RGC samples from 1998 and Iluka samples (Drummond Crossing, Durack, Ellengail, West Mine North and Yandanooka) were analysed using a -53 μm slimes / +2 mm oversize screen. Separation of total HM% was by heavy liquid TBE (density 2.90 g/ml) from the -710μm+53μm fraction.

<sup>5</sup>THM %: Samples from Robbs Cross and Thomson analysed by Diamantina Laboratories in Perth using a -45 µm slimes / +1 mm oversize screen (method DIA\_HLS\_45µm\_1mm). Separation of total HM% was by heavy liquid TBE (density 2.96g/ml) from the -45 µm+1mm fraction.

<sup>6</sup>THM %: Samples from Drummond Crossing, Durack, West Mine North and Yandanooka were analysed by Western Geolabs in Perth using a -53 μm slimes / +1 mm oversize screen. Separation of total HM% was by heavy liquid TBE (density 2.96 g/ml) from the +53μm-1mm fraction.

<sup>7</sup>Reported below an upper cut-off grade of 35% slimes.

<sup>8</sup>Estimates of mineral assemblage are presented as percentages of the total heavy mineral (THM) component of the deposit, as determined by QEMSCAN analysis. For the TiO<sub>2</sub> minerals specific breakpoints are used to distinguish between rutile (>95% TiO<sub>2</sub>), leucoxene (85-95% TiO<sub>2</sub>) and ilmenite (<55-85% TiO<sub>2</sub>).

<sup>9</sup>At West Mine North and Ellengail mineral assemblage data determined by Iluka using Method 4 (HMC is separated into magnetics and non-magnetics) was used with the Sheffield OFMSCAN data

<sup>10</sup>At Ellengail mineral assemblage data determined by Iluka using Method 3 (magnetic separation and XRF analysis) was used with the Sheffield QEMSCAN data and luka Method 4 data

<sup>11</sup>The in-situ assemblage grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage at the resource block model scale.

Summary of Mir	eral Resource <sup>2</sup>	1,2,3			In-situ	Tonnes		
Deposit	Mineral Resource Category	- Cut off (THM%)	THM Tonnes Millions (kt)	Zircon (kt)	Rutile (kt)	Leuco- xene (kt)	llmenite (kt)	Total VHM (kt)
	Measured	1.4	112	12	2	3	81	98
Yandanooka <sup>,4,</sup>	Indicated	1.4	1,726	212	63	63	1,197	1,535
6,8	Inferred	1.4	7	1	0.2	0.3	4	6
	Total	1.4	1,845	224	65	66	1,283	1,639
	Indicated	1.4	600	82	18	22	429	551
Durack4,6,7,8	Inferred	1.4	148	21	4	11	95	130
	Total	1.4	748	104	21	33	523	681
	Indicated	1.4	838	118	86	29	447	680
Drummond	Inferred	1.4	77	9	7	2	43	61
Crossing <sup>3,4,6,8</sup>	Total	1.4	915	127	93	31	490	741
	Indicated	1.4	261	38	33	13	123	208
Robbs	Inferred	1.4	77	11	8	3	39	61
Cross <sup>5,6,8</sup>	Total	1.4	338	50	41	16	162	269
	Inferred	1.4	516	97	71	28	219	415
Thomson <sup>5,8,</sup>	Total	1.4	516	97	71	28	219	415
West	Indicated	2.0	748	44	49	13	359	465
Mine	Inferred	2.0	48	5	4	1	24	34
North <sup>3,4,6,9,</sup>	Total	2.0	796	48	53	14	383	498
	Indicated	2.0	346	34	28	36	227	325
Ellengail <sup>3,4,9,10</sup>	Inferred	2.0	218	22	18	18	136	193
-	Total	2.0	565	56	46	54	363	519
	Measured	1.4	112	12	2	3	81	98
	Indicated	Various	4,519	529	276	176	2,782	3,764
Total	Inferred	Various	1,091	165	113	64	559	900
	Total	Various	5,723	705	392	242	3,423	4,762

#### SHEFFIELD MINERAL RESOURCE FOR ENEABBA PROJECT AT 01 OCTOBER 2018 (in-situ tonnes)

Notes:

<sup>1</sup>The Mineral Resource estimates were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to this ASX announcement and December 2017 Quarterly Activities Report for Robbs Cross and Thomsondeposits for further details

<sup>2</sup>All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal.

<sup>3</sup>THM %: Samples from 1989 and 1996 (Drummond Crossing, Ellengail and West Mine North) were analysed using a -75 µm slimes / +2 mm oversize screen. Separation of HM% was by heavy liquid TBE (density 2.84 g/ml) from the -710µm+75µm fraction.

<sup>4</sup>THM %: RGC samples from 1998 and Iluka samples (Drummond Crossing, Durack, Ellengail, West Mine North and Yandanooka) were analysed using a -53 µm slimes / +2 mm oversize screen. Separation of total HM% was by heavy liquid TBE (density 2.90 g/ml) from the -710µm+53µm fraction.

<sup>5</sup>THM %: Samples from Robbs Cross and Thomson analysed by Diamantina Laboratories in Perth using a -45 µm slimes / +1 mm oversize screen (method DIA\_HLS\_45µm\_1mm). Separation of total HM% was by heavy liquid TBE (density 2.96g/ml) from the -45 µm+1mm fraction.

<sup>6</sup>THM %: Samples from Drummond Crossing, Durack, West Mine North and Yandanooka were analysed by Western Geolabs in Perth using a -53 μm slimes / +1 mm oversize screen. Separation of total HM% was by heavy liquid TBE (density 2.96 g/ml) from the +53μm-1mm fraction.

<sup>7</sup>Reported below an upper cut-off grade of 35% slimes.

<sup>8</sup>Estimates of mineral assemblage are presented as percentages of the total heavy mineral (THM) component of the deposit, as determined by QEMSCAN analysis. For the TiO<sub>2</sub> minerals specific breakpoints are used to distinguish between rutile (>95% TiO<sub>2</sub>), leucoxene (85-95% TiO<sub>2</sub>) and ilmenite (<55-85% TiO<sub>2</sub>).

<sup>9</sup>At West Mine North and Ellengail mineral assemblage data determined by Iluka using Method 4 (HMC is separated into magnetics and non-magnetics) was used with the Sheffield QEMSCAN data

<sup>10</sup>At Ellengail mineral assemblage data determined by Iluka using Method 3 (magnetic separation and XRF analysis) was used with the Sheffield QEMSCAN data and Iluka Method 4 data

<sup>11</sup>The in-situ assemblage grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage at the resource block model scale.

# 3) McCALLS PROJECT

### SHEFFIELD MINERAL RESOURCES FOR McCALLS PROJECT AT 01 OCTOBER 2018 (in-situ assemblage)

Summary of N	lineral Resour	Ces <sup>1,2,3,4,7</sup>				In-situ As				
Deposit	Mineral Resource Category	Cut off (THM%)	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	Rutile (%)	Leuco- xene (%)	llmenite (%)	Oversize (%)	Slimes (%)
	Indicated	1.1	1,630	1.4	0.07	0.05	0.04	1.10	1.1	21
McCalls	Inferred	1.1	1,980	1.2	0.06	0.05	0.04	1.00	1.1	26
	Total	1.1	3,600	1.3	0.07	0.05	0.04	1.05	1.1	24
Mindarra	Inferred	1.1	2,200	1.6	0.07	0.01	0.05	1.32	5.1	20
Springs	Total	1.1	2,200	1.6	0.07	0.01	0.05	1.32	5.1	20
	Indicated	1.1	1,630	1.4	0.07	0.05	0.04	1.10	1.1	21
Total	Inferred	1.1	4,180	1.5	0.07	0.03	0.05	1.17	3.2	23
	Total	1.1	5,800	1.4	0.07	0.03	0.04	1.15	2.6	22

SHEFFIELD MINERAL RESOURCES FOR McCALLS PROJECT AT 01 OCTOBER 2018 (HM assemblage)

Summary of M	lineral Resour	°C <b>es</b> 1,2,3,4,7				HM Ass				
Deposit	Mineral Resource Category	Cut off (THM%)	Material Tonnes Millions (Mt)	THM (%)	Zircon (%)	Rutile (%)	Leuco- xene (%)	llmenite (%)	Oversize (%)	Slimes (%)
	Indicated	1.1	1,630	1.4	5.2	3.3	2.8	77	1.1	21
McCalls	Inferred	1.1	1,980	1.2	5.0	3.8	3.2	81	1.1	26
	Total	1.1	3,600	1.3	5.1	3.6	3.0	79	1.1	24
Mindarra	Inferred	1.1	2,200	1.6	4.2	0.9	3.1	80	5.1	20
Springs	Total	1.1	2,200	1.6	4.2	0.9	3.1	80	5.1	20
	Indicated	1.1	1,630	1.4	5.2	3.3	2.8	77	1.1	21
Total	Inferred	1.1	4,180	1.5	4.5	2.1	3.2	81	3.2	23
	Total	1.1	5,800	1.4	4.7	2.4	3.1	79	2.6	22

#### SHEFFIELD MINERAL RESOURCES FOR McCALLS PROJECT AT 01 OCTOBER 2018 (in-situ tonnes)

Summary of	Mineral Resourc	es <sup>1,2,3,4,7</sup>			In-situ	Tonnes		
Deposit	Mineral Resource Category	Cut off (THM%)	THM Tonnes Millions (Mt)	Zircon (kt)	Rutile (kt)	Leuco- xene (kt)	llmenite (kt)	Total VHM (kt)
	Indicated	1.1	23.3	1,210	770	650	17,940	20,570
McCalls	Inferred	1.1	24.4	1,210	930	790	19,790	22,720
	Total	1.1	47.7	2,430	1,700	1,430	37,730	43,290
Mindarra	Inferred	1.1	36.3	1,520	320	1,130	29,080	32,050
Springs	Total	1.1	36.3	1,520	320	1,130	29,080	32,050
	Indicated	1.1	23.3	1,210	770	650	17,940	20,570
Total	Inferred	1.1	60.7	2,740	1,250	1,920	48,860	54,770
	Total	1.1	84.0	3,950	2,020	2,570	66,810	75,340

<sup>1</sup>The Mineral Resource estimates were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to this ASX announcement

<sup>2</sup>All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal. <sup>3</sup>THM is within the 45μm to 1mm size fraction and reported as a percentage of the total material, slimes is the -45μm fraction and oversize is the +1mm fraction.

<sup>4</sup>Reported below an upper cut-off grade of 35% slimes.

<sup>5</sup>Estimates of mineral assemblage (Sheffield) are presented as percentages of the total heavy mineral (THM) component of the deposit, as determined by QEMSCAN analysis. For the TiO<sub>2</sub> minerals specific breakpoints are used to distinguish between rutile (>95% TiO<sub>2</sub>), leucoxene (85-95% TiO<sub>2</sub>) and ilmenite (<55-85% TiO<sub>2</sub>). Estimates of mineral assemblage (BHP) HM assemblage determination was by magnetic separation and observation (grain-counting) <sup>6</sup>The in-situ assemblage grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage at the resource block model scale.

<sup>7</sup>Excludes Mineral Resources within the Mogumber Nature Reserve

### **GOVERNANCE AND INTERNAL CONTROLS**

Mineral Resource and Ore Reserve are compiled by qualified Sheffield personnel and/or independent consultants following industry standard methodology and techniques. The underlying data, methodology, techniques and assumptions on which estimates are prepared are subject to internal peer review by senior Company personnel, as is JORC compliance. Where deemed necessary or appropriate, estimates are reviewed by independent consultants. Competent Persons named by the Company are members of the Australasian Institute of Mining and Metallurgy and/or the Australian Institute of Geoscientists and qualify as Competent Persons as defined in the JORC Code 2012.

#### COMPETENT PERSONS AND COMPLIANCE STATEMENTS

The information in this report that relates to Exploration Results is based on information compiled by Mr David Archer, a Competent Person who is a Member of Australian Institute of Geoscientists (AIG). Mr Archer 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 Archer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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's website www.sheffieldresources.com.au. Mineral Resources and Ore Reserves reported for the Dampier Project and Mineral Resources reported for the Eneabba and McCalls Projects, are prepared and disclosed under the JORC Code 2012. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant original market announcement continue to apply and have not materially changed.

The information in this report that relates to the estimation of the Ore Reserve is based on information compiled by Mr Per Scrimshaw, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Scrimshaw is employed by Entech Pty 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 Scrimshaw consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the estimation of the Mineral Resources is based on information compiled by Mrs Christine Standing, a Competent Person who is a Member of the Australian Institute of Geoscientists (AIG) and the Australasian Institute of Mining and Metallurgy (AusIMM). Mrs Standing is a full-time employee of Optiro Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking 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'. Mrs Standing consents to the inclusion in this report of the matters based on her information in the form and context in which it appears.

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

The Competent Persons for reporting of Mineral Resources and Ore Reserves in the relevant original market announcements are listed below. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the relevant original market announcement.

ltem	Report title	Report Date	Competent Person(s)
Thunderbird Ore Reserve	Thunderbird Ore Reserve Update	16 March 2017	P. Scrimshaw
Thunderbird Mineral Resource	Sheffield Doubles Measured Mineral Resource At Thunderbird	5 July 2016	M. Teakle, C. Standing
Robbs Cross Mineral Resource	Quarterly Activities Report For The Period Ended 31 December 2017	25 January 2017	C. Standing
Thomson Mineral Resource	Quarterly Activities Report For The Period Ended 31 December 2017	25 January 2017	C. Standing
Yandanooka Mineral Resource	This announcement	This announcement	C. Standing
Durack Mineral Resource	This announcement	This announcement	C. Standing
Drummond Crossing Mineral Resource	This announcement	This announcement	C. Standing
West Mine North Mineral Resource	This announcement	This announcement	C. Standing
Ellengail Mineral Resource	This announcement	This announcement	C. Standing
McCalls Mineral Resource	This announcement	This announcement	C. Standing
Mindarra Springs Mineral Resource	This announcement	This announcement	C. Standing

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

Item	Name	Company	Professional Affiliation
Exploration Results	Mr David Archer	Sheffield Resources	MAIG
Mineral Resource Reporting	Mr Mark Teakle	Sheffield Resources	MAIG, MAusIMM
Mineral Resource Estimation	Mrs Christine Standing	Optiro	MAIG, MAusIMM
Ore Reserve	Mr Per Scrimshaw	Entech	MAusIMM

### SUPPORTING INFORMATION REQUIRED UNDER ASX LISTING RULES, CHAPTER 5

The supporting information below is required, under Chapter 5 of the ASX Listing Rules, to be included in market announcements reporting estimates of Mineral Resources and Ore Reserves.

Section 1, Section 2, Section 3 and Section 4 of JORC Table 1 can be found in Appendices 1 and 2.

### PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Exploration Results, Mineral Resources and Ore Reserves prepared and first disclosed under the JORC Code 2012 and a Bankable Feasibility Study. The information was extracted from the Company's previous ASX announcements as follows:

- Thomson and Robbs Cross Mineral Resources: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 DECEMBER 2017" 30 January, 2018
- Thunderbird Ore Reserve: "THUNDERBIRD ORE RESERVE UPDATE" 16 March, 2017
- Thunderbird Bankable Feasibility Study: "THUNDERBIRD BFS DELIVERS OUTSTANDING RESULTS" 24 March, 2017
- McCalls Mineral Resource: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 30 JUNE 2016" 25 July 2016.
- Thunderbird Mineral Resource: "SHEFFIELD DOUBLES MEASURED MINERAL RESOURCE AT THUNDERBIRD" 5 July, 2016
- Robbs Cross and Thomson Discovery: "NEXT GENERATION OF MINERAL SANDS DISCOVERIES AT ENEABBA" 23 July, 2015.

These announcements are available to view on Sheffield's website 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 relevant market announcements and, in the case of estimates of Mineral Resources, Ore Reserves and the Bankable Feasibility Study, 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 Persons' findings are presented have not been materially modified from the relevant original market announcements.

### FORWARD LOOKING AND CAUTIONARY STATEMENTS

The contents of this report reflect various technical and economic conditions at the time of writing. Given the nature of the resources industry, these conditions can change significantly over relatively short periods of time. Consequently, actual results may vary from those contained in this report.

Some statements in this report regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "predict", "foresee", "proposed", "aim", "target", "opportunity", "could", "nominal", "conceptual" and similar expressions. Forward-looking statements, opinions and estimates included in this report are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. So there can be no assurance that actual outcomes will not materially differ from these forward-looking statements.