# QUARTERLY ACTIVITIES REPORT
# FOR THE PERIOD ENDED 31 MARCH 2020

8 April 2020

**ASX Code:**
SFX

**Directors:**

Mr John Richards
**Non-Executive Chairman**

Mr Bruce McFadzean
**Managing Director**

Mr David Archer
**Non-Executive Director**

Mr Will Burbury
**Non-Executive Director**

Mr Ian Macliver
**Non-Executive 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: | 309.0M |
| Unlisted Options: | 4.5M |
| Unlisted Rights: | 8.2M |

**Market Capitalisation:**
A$34 million

**Cash Reserves:**
A$7.7 million
(as at 31 March 2020)

**Investor Relations:**

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## HIGHLIGHTS

*Thunderbird Mineral Sands Project*

- Thunderbird Project strategy review and cost management initiatives implemented
- Actively assessing materially reduced capital cost development options for the world class Thunderbird Mineral Sands Project
- Thunderbird Project care and maintenance activity suspended whilst ensuring Project approvals are maintained.
- Community and stakeholder communications held to ensure all key stakeholder are aware of the Company activities
- A representative twenty-tonne bulk ore sample was prepared for dispatch to offtake partner Bengbu Zhongheng New Materials S&T Co. Ltd (Bengbu) to undertake metallurgical test work
- Review and rationalisation of non-core exploration tenements initiated in line with cost management initiatives, saving approximately $0.5m in annual expenditure commitments.

*Corporate Activities*

- $7.7m in cash at quarter end (unaudited) with forecast expenditure of $1.8m in the June quarter
- Board renewal process continues with Mr John Richards appointed Non-Executive Chairman.
- Cost control measures implemented with a 25% salary reduction for key management personnel and director fee reductions of a minimum of 25%.
- The Company received a 2019 Research and Development tax refund of $0.7m during the Quarter.
- The Company is well prepared in Perth and the Kimberley region, implementing COVID-19 protocols to secure the safety and well-being of all personnel.

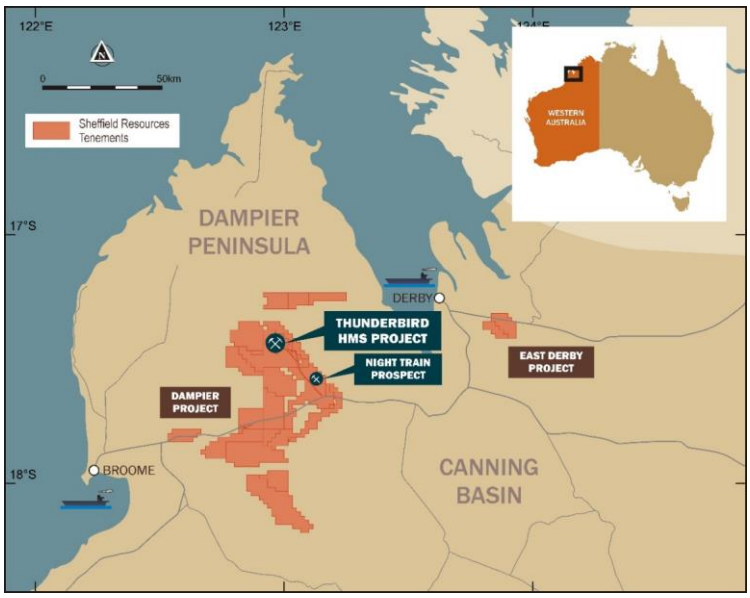


**Figure 1: Location of Sheffield's Dampier Mineral Sands Projects**

## OPERATIONAL AND EXPLORATION SUMMARY

Sheffield Resources Limited ("Sheffield" or "the Company") initiated a development strategy review of its world-class Thunderbird Mineral Sands Project ("Thunderbird" or "Project") during the Quarter.

*Business Review*

Following a strategic business review and in the context of the high cost level associated with maintaining the Project in a "shovel-ready" state, it was determined by the Board to pause strategic partner sourcing whilst the Project underwent an assessment to deliver a materially lower capital project. Discussions with third parties who have expressed an interest in project financing and investment have continued throughout the Quarter.

The Company implemented appropriate corporate and organisational changes to preserve cash and allow the rescoping works to advance under a materially lower cost structure, with targeted savings of A$7.5 million per annum.

Moving forward, Sheffield is focused on two core objectives:

i) Preserving cash reserves to ensure that the Company has a cash runway well into 2021; while
ii) Defining a revised project scope for Thunderbird which will provide a lower capital cost, more readily financeable project when favourable market conditions return.

*Commercial, Exploration and Site Activities*

During the Quarter, the Company's initiatives to preserve cash and shareholder value resulted in a number of personnel changes, whilst retaining the core skills necessary to deliver near term technical and commercial outcomes for the Project. Executive management and employee positions in both Perth and the Kimberley have reduced, including the suspension of active care and maintenance activities at the Thunderbird Project. A 25% salary reduction has been implemented for key management personnel, along with reduced full-time equivalent working arrangements for other personnel. The Company has implemented security, environmental monitoring and other arrangements to ensure the Thunderbird site remains in readiness for construction.

The above initiatives are further supported by our key partner Taurus Mining Finance, who have agreed to defer the project financing commitment fee arrangements from the end of the March 2020 quarter, until such time that a Final Investment Decision can be reached for Thunderbird.

The Sheffield Board renewal process continues with Mr John Richards appointed Non-Executive Chairman and Mr Will Burbury and Mr David Archer stepping into Non-Executive Directors roles. Through the change in Board composition, the Board has initiated changes to Director remuneration, with Non-Executive Director fees being reduced by a minimum of 25% of agreed Director remuneration.

The Company undertook a number of stakeholder and community engagements to ensure that all stakeholders were updated on corporate and operational changes, particularly in the Kimberley in relation to the suspension of the care and maintenance activities at the Thunderbird Project and the Project strategy.

Sheffield prepared a representative twenty-tonne bulk ore sample for dispatch to Bengbu Zhongheng New Materials S&T Co. Ltd (Bengbu), which shall undertake metallurgical test work relating to the production of an ilmenite concentrate as a chloride slag feedstock.

A review of exploration tenure has commenced to reduce expenditure commitments. At the Dampier Project, Sheffield voluntarily surrendered granted exploration tenure from five tenements. The Barton Project and Ceduna Project (South Australian) exploration lease applications were withdrawn, relinquishing Sheffield interest in South Australia. No change occurred to the Eneabba Project which is predominantly under retention status and the McCalls Projects which is fully under retention status. The

Derby East Project tenure also remains unchanged. These changes have reduced annual expenditure commitments by approximately $0.5m. The Company continues exploration tenure management and reductions in line with cost management initiatives and COVID-19 measures announced by government.

Cost savings effected to date have resulted in an annualised cost of approximately A$7.5 million below the rate incurred when in “shovel-ready” status for Thunderbird, in line with the cost reduction plan set in place earlier in the quarter.

## THUNDERBIRD MINERAL SANDS PROJECT

### Early Works Program

The focus of work was on the orderly suspension of care and maintenance activities at the Thunderbird Project and the implementation of security measures including the extension of the remote security cameras network, environmental and baseline water monitoring requirements and caretaking arrangements to ensure the site remains secure and in readiness for future construction activities. The Company assisted Kimberley based employees in their transition to other employment opportunities.

A twenty-tonne bulk sample from the Thunderbird deposit was homogenised using material from the 2015 Bauer drilling program. The bulk sample has been dispatched to Bengbu Zhongheng New Materials S&T Co. Ltd (‘Bengbu’) to undertake metallurgical test work relating to the production of an ilmenite concentrate as a chloride slag feedstock.

**Figure 2: Homogenisation of bulk sample (left), re-bagging of bulk sample (right)**

### Aboriginal and Community Engagement

The Company held a number of engagement meetings and media communications events to ensure the community and the key Project stakeholders were fully informed regarding the Company’s strategy and particularly the suspension of care and maintenance activities at the Thunderbird Project.

A meeting was held with the Native Title Party regarding the Company activities and the results of the final artefact checks over 285 hectares of land required for construction activities.

### Sustainability

Following the suspension of care and maintenance activities, the Company completed an audit of environmental and associated licence conditions to ensure the Project remains compliant and retains all required Project approvals.

### Project Scope

Following the pause in the strategic partner process, Sheffield has moved to consider revisions to the BFS Update project scope with a focus on delivering a project which has lower initial capital costs and a

lower equity capital component while retaining the high rates of return of the BFSU project. Initial work is directed at a flowsheet which delivers two products: an ilmenite-rich magnetic concentrate and a zircon-rich non-magnetic concentrate. This work, supported by advice from industry consultants, is at an early stage and will be continued in the June Quarter.

Thunderbird remains the only Tier 1 mineral sands project in a Tier 1 jurisdiction which is fully permitted and able to be brought into production at a time when the gap between consumption and production of both zircon and titanium minerals is rapidly emerging.

Marketing and Offtake

In conjunction with the Company's forward business strategy, discussions with potential offtake partners continued in the Quarter. Many potential offtake groups demonstrate very strong interest in a range of product mixes, particularly the supply of magnetic and non-magnetic concentrates. IHC Robbins has been engaged to perform test work with test results and product samples for offtake partners expected during the June quarter.

The zircon sand market saw some price softening late in 2019 with pricing, supply and demand less certain ahead of the Chinese New Year and exacerbated by the COVID-19 events in China. With some delay from Chinese production facilities, volumes were lower than expected however as the year has moved ahead, China has regained momentum with solid volumes being secured by consumers and pricing has stabilised. Recent communication with Chinese groups have been very positive more recently, with industry operating at either full production or heading into full production. China is the largest market for zircon material with approximately 50% of the market volume, along with India and Europe. Long range forecasts continue to indicate significant supply shortages for zircon sand in the coming years. Zircon sand production and supply has been further interrupted by the temporary closure of Richards Bay Mineral operations in South Africa and other global supply issues caused by the COVID-19 pandemic.

The full year 2019 represented a very strong year for the titanium feedstock industry, with demand remaining solid during the year with all suppliers able to steadily increase pricing during the year. Market conditions have remained strong heading into 2020 with long range supply and demand forecasts also indicating a healthy market. In general, western producers dominate the production and supply of chloride pigment, however Chinese processors have been developing technology and recently have expanded capacity for chloride pigment production. Again, the industry supply issues related to the COVID-19 pandemic have placed further stress on the global supply outlook.

## EXPLORATION ACTIVITIES

Dampier Project

Sheffield undertook a review of Dampier exploration tenements during the Quarter to reduce expenditure commitments of approximately $0.5m p.a., with granted exploration tenure being voluntarily surrendered from five tenements. A full tenure surrender was completed at Foldnose (E04/2192), Dingo Plains (E04/2399) and Yulleroo South (E04/2400). A partial surrender was undertaken on the maturing tenements of Country Downs (E04/2084) and Little Logue (E04/2171). Sheffield will continue to review the Dampier exploration tenement package in the upcoming Quarter to further refine tenure.

The Collins (E04/2597) tenement was granted during the Quarter located 5km north of the Bohemia Heavy mineral ('HM') occurrence. Bohemia was discovered by Sheffield during an exploratory air core program in 2018. Mineralisation at Bohemia is hosted by soft, fine clean predominantly light grey quartz sands, in the form of a thick blanket which remains open in all directions.

Significant results from Bohemia include **43.5m @ 2.35% HM** from 16.5m in NLAC018 (applying a 1.0% HM cut-off), including **10.5m @ 4.25% HM** from 25.5m (applying a 3.0% HM cut-off) (refer to ASX

announcement dated 13 November 2018). QEMSCAN™ mineral assemblage by particle classification analysis at Bohemia returned 15% zircon, 26% ilmenite and 23% leucoxene with high titanium and rutile and a $D_{50}$ for the zircon grain size of 62µm (refer to ASX Quarterly announcement dated 1 May 2019). Sheffield has interpreted that the mineralisation is likely to shallow towards the newly granted Collins tenement to the north of the Bohemia HM occurrence.

Eneabba & McCalls Projects

Sheffield's 100% owned Eneabba Project is located about 110km north of Perth in Western Australia's Midwest region. The Eneabba Project has a Mineral Resource inventory totalling 193.3 million tonnes @ 3.0% HM containing 4.8 million tonnes of Valuable Heavy Mineral above various HM cut-offs (Measured, Indicated and Inferred) (refer to ASX announcement 3 October 2018 and 24 September 2019). The mineralisation is across seven Mineral Resources including Yandanooka, Durack, Drummond Crossing, Robbs Cross, Thomson, West Mine North and Ellengail.

The McCalls Mineral Sands Project (McCalls) is located 110km to the north of Perth near the town of Gingin. Across two deposits (McCalls and Mindarra Springs) the Project has a Mineral Resource of 5,800 million tonnes @ 1.4% HM above a 1.1% HM cut-off (Indicated and Inferred). The McCalls Project contains 67 million tonnes of chloride ilmenite grading 59-66% $TiO_2$ and is considered a longer-term strategic asset (refer to ASX announcement 03 October 2018 and 24 September 2019). Both HM deposits in the McCalls Project have retention status. A review of all project data and Mineral Resource data for Eneabba & McCalls Projects continued during the Quarter.

Barton & Ceduna Projects

The exploration licence applications of Sherrin (ELA2018/0046), Sleeper (ELA2019/0152) and Camel (ELA2019/0145) were withdrawn.

Derby East Project

The Derby East Project comprises of a large occurrence of construction quality sand, located 24km east of the Port of Derby. No work was undertaken during the Quarter.

## CORPORATE ACTIVITIES

*Business Review*

Following a strategic business review, it was determined by the Board to pause the strategic partner sourcing activities whilst the Project commenced an assessment to deliver a materially lower project capital options. Discussions with third parties who have expressed an interest in project financing and investment has continued throughout the Quarter.

The Company implemented appropriate corporate and organisational changes to preserve cash resources and allow the rescoping works to advance under a materially lower cost structure. A 25% salary reduction has been implemented for key management personnel, along with reduced full-time equivalent working arrangements for other personnel.

The Company has negotiated a commitment fee suspension with key partner Taurus Mining Finance, who have agreed to defer the project financing commitment fee arrangements from the end of the March 2020 quarter, until such time that a Final Investment Decision (FID) can be reached for Thunderbird.

*Other Business*

Following on from the announcement last year that a Board renewal process was underway, the Company advised that founding Board members, Mr Will Burbury and Mr David Archer had stepped into Non-Executive Directors roles with the Board appointing Mr John Richards, a current Non-Executive Director to serve as Non-Executive Chairman. Through the change in Board composition, the Board has initiated

changes to Director remuneration, with Non-Executive Director fees being reduced by a minimum of 25% of agreed Director remuneration. The Board remains focused upon generation of long term shareholder value whilst navigating the COVID-19 global pandemic and related market volatility.

In response to the COVID-19 pandemic, the Company has implemented appropriate protocols aimed at supporting both employees and core business processes.

The Company received a 2019 Research and Development tax refund of $0.7m during the Quarter.

As at 31 March 2020, Sheffield held cash reserves of approximately A$7.7 million (unaudited) and following one-off reorganisation costs incurred in the current quarter, forecasts $1.8 million of expenditure in the June quarter. The cash forecast of $1.8m includes an outlay of $0.6m associated with the recently suspended Taurus financing commitment fees, paid in early April 2020.

Mr Bruce McFadzean
Managing Director
8 April 2020

## 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 | Status |
|---|---|---|---|---|---|
| Mineral Sands | E04/2081[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2083[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2084[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2159[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2171[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2193[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2194[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2348[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2349[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2350[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2390[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2494[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2554[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2571[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2509[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2510[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2540[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2554[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2596[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2597[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2642[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2643[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2644[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2645[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | L04/82[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | L04/83[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | L04/84[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | L04/85[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | L04/86[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | L04/92[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | L04/93[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | M04/459[2] | Thunderbird Operations Pty Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2455 | Sheffield Resources Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2456 | Sheffield Resources Ltd | 100% | Canning Basin | Granted |
| Mineral Sands | E04/2478 | 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 | E70/3859 | Sheffield Resources Ltd | 100% | Perth Basin | Pending |
| 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 | E70/4292 | Sheffield Resources Ltd | 100% | Perth Basin | Granted |
| Mineral Sands | E70/4584 | 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 | E70/4922 | 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 |
| Mineral Sands | M70/1153[1] | Sheffield Resources Ltd | 100% | Perth Basin | Granted |
| Mineral Sands | R70/35[1] | Sheffield Resources Ltd | 100% | Perth Basin | Granted |

Notes:
[1]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.
[2]Thunderbird Operations Pty Ltd and [3]Moora Talc Pty Ltd are wholly owned subsidiaries 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.

Appendix 1

ORE RESERVES AND MINERAL RESOURCES

SHEFFIELD ORE RESERVE AS OF 31 MARCH 2020

## DAMPIER PROJECT ORE RESERVES

### SHEFFIELD ORE RESERVE FOR DAMPIER PROJECT AT 31 MARCH 2020 (in-situ assemblage)

| Summary of Ore Reserve[1,2,3,4] | | | | | Valuable HM Assemblage (in-situ)[5] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Ore Reserve Category | Material (Million Tonnes) | In-situ Total HM[7] (Million Tonnes) | Total HM Grade (%) | Zircon (%) | HiTi Leuc (%) | Leuco -xene (%) | Ilmenite (%) | Oversize (%) | Slimes (%) |
| **Thunderbird** | Proved | **219** | 30.0 | 13.7 | 1.02 | 0.30 | 0.28 | 3.68 | 14.0 | 16.1 |
| | Probable | **529** | 53.4 | 10.1 | 0.79 | 0.26 | 0.27 | 2.87 | 10.5 | 14.5 |
| | **Total** | **748** | 83.8 | **11.2** | **0.86** | **0.27** | **0.27** | **3.11** | **11.6** | **15.0** |

### SHEFFIELD ORE RESERVE FOR DAMPIER PROJECT AT 31 MARCH 2020 (HM assemblage)

| Summary of Ore Reserve[1,2,3,4] | | | | | Valuable HM Assemblage[6] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Ore Reserve Category | Material (Million Tonnes) | In-situ Total HM[7] (Million Tonnes) | Total HM Grade (%) | Zircon (%) | HiTi Leuc (%) | Leuco -xene (%) | Ilmenite (%) | Oversize (%) | Slimes (%) |
| **Thunderbird** | Proved | **219** | 30.0 | 13.7 | 7.4 | 2.2 | 2.0 | 26.9 | 14.0 | 16.1 |
| | Probable | **529** | 53.4 | 10.1 | 7.8 | 2.6 | 2.7 | 28.4 | 10.5 | 14.5 |
| | **Total** | **748** | **83.8** | **11.2** | **7.7** | **2.4** | **2.4** | **27.8** | **11.6** | **15.0** |

[1]The Ore Reserves are presented with in-situ HM grade, and mineral assemblage. 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. This Ore Reserve reported for the Dampier Project was prepared and first disclosed under the JORC Code (2012) in the announcement 31 July 2019 Titled "Thunderbird 10% Ore Reserve Increase". The Ore Reserve is reported to a design overburden surface with appropriate consideration for modifying factors, costs, mineral assemblage, process recoveries and product pricing
[2].Ore Reserve is a sub-set of Mineral Resource
[3]Total HM 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.
[4]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.
[5]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.
[6]Mineral Assemblage is reported as a percentage of HM Grade, it is derived by dividing the in-situ grade by the HM grade.
[7] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables

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). The Ore Reserve was 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 too Proved and Probable Ore Reserves respectively, subject to mine design, modifying factors and economic evaluation.

## SHEFFIELD MINERAL RESOURCE

## 1) DAMPIER PROJECT MINERAL RESOURCES

### SHEFFIELD MINERAL RESOURCE FOR DAMPIER PROJECT AT 31 MARCH 2020 (in-situ assemblage)

| Summary of Mineral Resource[1,2,3] | | | | | | In-situ Assemblage[4, 5] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource Category | Cut off (Total HM%) | Material (Million Tonnes) | In-situ Total HM[6] (Million Tonnes) | Total HM Grade (%) | Zircon (%) | HiTi Leuc (%) | Leuco-xene (%) | Ilmenite (%) | Over size (%) | Slimes (%) |
| Thunderbird (low-grade) | Measured | 3.0 | 510 | 45 | 8.9 | 0.71 | 0.20 | 0.19 | 2.4 | 12 | 18 |
| | Indicated | 3.0 | 2,120 | 140 | 6.6 | 0.55 | 0.18 | 0.20 | 1.8 | 9 | 16 |
| | Inferred | 3.0 | 600 | 38 | 6.3 | 0.53 | 0.17 | 0.20 | 1.7 | 8 | 15 |
| | **Total** | 3.0 | 3,230 | 223 | 6.9 | 0.57 | 0.18 | 0.20 | 1.9 | 9 | 16 |
| Night Train (low-grade) | Inferred | 1.2 | 130 | 4.2 | 3.3 | 0.45 | 0.18 | 1.5 | 0.71 | 2.2 | 8.7 |
| | **Total** | 1.2 | 130 | 4.2 | 3.3 | 0.45 | 0.18 | 1.5 | 0.71 | 2.2 | 8.7 |
| All Dampier Project (low grade cut-off) | Measured | 3.0 | 510 | 45 | 8.9 | 0.71 | 0.20 | 0.19 | 2.4 | 12 | 18 |
| | Indicated | 3.0 | 2,120 | 140 | 6.6 | 0.55 | 0.18 | 0.20 | 1.8 | 9 | 16 |
| | Inferred | Various | 730 | 42 | 5.8 | 0.51 | 0.17 | 0.43 | 1.6 | 7.2 | 13 |
| | **Total** | **Various** | **3,360** | **227** | **6.8** | **0.57** | **0.18** | **0.25** | **1.9** | **8.7** | **15** |
| Thunderbird (high-grade) | Measured | 7.5 | 220 | 32 | 14.5 | 1.07 | 0.31 | 0.27 | 3.9 | 15 | 16 |
| | Indicated | 7.5 | 640 | 76 | 11.8 | 0.90 | 0.28 | 0.25 | 3.3 | 11 | 14 |
| | Inferred | 7.5 | 180 | 20 | 10.8 | 0.87 | 0.27 | 0.26 | 3.0 | 9 | 13 |
| | **Total** | 7.5 | 1,050 | 127 | 12.2 | 0.93 | 0.28 | 0.26 | 3.3 | 11 | 15 |
| Night Train (high-grade) | Inferred | 2.0 | 50 | 3.0 | 5.9 | 0.82 | 0.33 | 2.9 | 1.06 | 2.2 | 10.2 |
| | **Total** | 2.0 | 50 | 3.0 | 5.9 | 0.82 | 0.33 | 2.9 | 1.06 | 2.2 | 10.2 |
| All Dampier Project (high grade cut-off) | Measured | 7.5 | 220 | 32 | 14.5 | 1.07 | 0.31 | 0.27 | 3.9 | 15 | 16 |
| | Indicated | 7.5 | 640 | 76 | 11.8 | 0.90 | 0.28 | 0.25 | 3.3 | 11 | 14 |
| | Inferred | Various | 230 | 23 | 9.7 | 0.85 | 0.28 | 0.83 | 2.6 | 7.2 | 12 |
| | **Total** | **Various** | **1,090** | **130** | **11.9** | **0.92** | **0.29** | **0.38** | **3.2** | **11** | **14** |

[1] Night Train: The Mineral Resource estimate was prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to ASX announcement 31 January 2019 for further details including Table 1. The Mineral Resource reported above 1.2% heavy mineral (HM) cut-off is inclusive of (not additional to) the Mineral Resource reported above 2.0% HM cut-off. Thunderbird: 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 3.0% HM cut-off is inclusive of (not additional to) the Mineral Resource reported above 7.5% HM cut-off.

[2]Total HM 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.

[3]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.

[4] Night Train: 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 for one of 12 composite samples. Magnetic fractions were analysed by QEMSCAN™ for mineral determination as follows: Ilmenite: 40-70% $TiO_2$ >90% Liberation; leucoxene: 70-90% $TiO_2$ >90% Liberation; High titanium leucoxene (HiTi leucoxene) and rutile 90% $TiO_2$ >90% Liberation, and zircon: 66.7% $ZrO_2$+$HfO_2$ >90% Liberation. The non-magnetic fraction was submitted for XRF analysis and minerals determined as follows: zircon: ZrO2+Hf02/0.667 and HiTi leucoxene: $TiO_2$/0.94. HM assemblage determination was by the QEMSCAN™ process for 11 of 12 composite samples which uses observed mass and chemistry to classify particles according to their average chemistry, and then report mineral abundance by dominant % mass in particle. For the $TiO_2$ minerals the following breakpoints were used to distinguish between Ilmenite 40% to 70% $TiO_2$, leucoxene 70% to 90% $TiO_2$, HiTi leucoxene and rutile > 90%, Screening of the heavy mineral was not required. Thunderbird: estimates of Mineral Assemblage are presented as percentages of the 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% $TiO_2$ >90% Liberation; leucoxene: 70-94% $TiO_2$ >90% Liberation; HiTi leucoxene: >94% $TiO_2$ >90% Liberation; and zircon: 66.7% $ZrO_2$+$HfO_2$ >90% Liberation. The non-magnetic fraction was submitted for XRF analysis and minerals determined as follows: zircon: $ZrO_2$+$HfO_2$/0.667 and HiTi leucoxene: $TiO_2$/0.94.

[5]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.

[6] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables.

## SHEFFIELD MINERAL RESOURCES FOR DAMPIER PROJECT AT 31 MARCH 2020 (HM assemblage)

| Summary of Mineral Resource[1,2,3] | | | | | | HM Assemblage[4] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource Category | Cut off (Total HM%) | Material (Million Tonnes) | In-situ Total HM[6] (Million Tonnes) | Total HM Grade (%) | Zircon (%) | HiTi Leuc[5] (%) | Leuco-xene (%) | Ilmenite (%) | Over size (%) | Slimes (%) |
| Thunderbird (low-grade) | Measured | 3.0 | 510 | 45 | 8.9 | 8.0 | 2.3 | 2.2 | 27 | 12 | 18 |
| | Indicated | 3.0 | 2,120 | 140 | 6.6 | 8.4 | 2.7 | 3.1 | 28 | 9 | 16 |
| | Inferred | 3.0 | 600 | 38 | 6.3 | 8.4 | 2.6 | 3.2 | 28 | 8 | 15 |
| | **Total** | 3.0 | 3,230 | 223 | 6.9 | 8.3 | 2.6 | 2.9 | 28 | 9 | 16 |
| **Night Train** (low-grade) | Inferred | 1.2 | 130 | 4.2 | 3.3 | 14 | 5.4 | 46 | 22 | 2.2 | 8.7 |
| | **Total** | 1.2 | 130 | 4.2 | 3.3 | 14 | 5.4 | 46 | 22 | 2.2 | 8.7 |
| **All Dampier Project** (low grade cut-off) | Measured | 3.0 | 510 | 45 | 8.9 | 8.0 | 2.3 | 2.2 | 27 | 12 | 18 |
| | Indicated | 3.0 | 2,120 | 140 | 6.6 | 8.4 | 2.7 | 3.1 | 28 | 9 | 16 |
| | Inferred | Various | 730 | 42 | 5.8 | 8.9 | 2.9 | 7.5 | 27 | 7.2 | 13 |
| | **Total** | **Various** | **3,360** | **227** | **6.8** | **8.4** | **2.7** | **3.7** | **28** | **8.7** | **15** |
| Thunderbird (high-grade) | Measured | 7.5 | 220 | 32 | 14.5 | 7.4 | 2.1 | 1.9 | 27 | 15 | 16 |
| | Indicated | 7.5 | 640 | 76 | 11.8 | 7.6 | 2.4 | 2.1 | 28 | 11 | 14 |
| | Inferred | 7.5 | 180 | 20 | 10.8 | 8.0 | 2.5 | 2.4 | 28 | 9 | 13 |
| | **Total** | 7.5 | 1,050 | 127 | 12.2 | 7.6 | 2.3 | 2.1 | 27 | 11 | 15 |
| **Night Train** (high-grade) | Inferred | 2.0 | 50 | 3.0 | 5.9 | 14 | 5.6 | 49 | 18 | 2.2 | 10.2 |
| | **Total** | 2.0 | 50 | 3.0 | 5.9 | 14 | 5.6 | 49 | 18 | 2.2 | 10.2 |
| **All Dampier Project** (high grade cut-off) | Measured | 7.5 | 220 | 32 | 14.5 | 7.4 | 2.1 | 1.9 | 27 | 15 | 16 |
| | Indicated | 7.5 | 640 | 76 | 11.8 | 7.6 | 2.4 | 2.1 | 28 | 11 | 14 |
| | Inferred | Various | 230 | 23 | 9.7 | 8.8 | 2.9 | 8.6 | 27 | 7.2 | 12 |
| | **Total** | **Various** | **1,090** | **130** | **11.9** | **7.8** | **2.4** | **3.2** | **27** | **11** | **14** |

[1] Night Train: The Mineral Resource estimate was prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to ASX announcement 31 January 2019 for further details including Table 1. The Night Train Mineral Resource reported above 1.2% heavy mineral (HM) cut-off is inclusive of (not additional to) the Mineral Resource reported above 2.0% HM cut-off. Thunderbird: 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. Thunderbird: The Mineral Resource reported above 3.0% HM cut-off is inclusive of (not additional to) the Mineral Resource reported above 7.5% HM cut-off.

[2] Total HM 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.

[3] 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.

[4] Night Train: Estimates of Mineral Assemblage are presented as percentages of the HM component of the deposit, as determined by magnetic separation, QEMSCAN™ and XRF for one of 12 composite samples. Magnetic fractions were analysed by QEMSCAN™ for mineral determination as follows: Ilmenite: 40-70% $TiO_2$ >90% Liberation; leucoxene: 70-90% $TiO_2$ >90% Liberation; High titanium leucoxene (HiTi leucoxene) and rutile 90% $TiO_2$ >90% Liberation, and zircon: 66.7% $ZrO_2$+$HfO_2$ >90% Liberation. The non-magnetic fraction was submitted for XRF analysis and minerals determined as follows: zircon: ZrO2+Hf02/0.667 and HiTi leucoxene: $TiO_2$/0.94. HM assemblage determination- was by the QEMSCAN™ process for 11 of 12 composite samples which uses observed mass and chemistry to classify particles according to their average chemistry, and then report mineral abundance by dominant % mass in particle. For the $TiO_2$ minerals the following breakpoints were used to distinguish between Ilmenite 40% to 70% $TiO_2$, Leucoxene 70% to 90% $TiO_2$, HiTi leucoxene and rutile > 90%, Screening of the heavy mineral was not required. Thunderbird: estimates of Mineral Assemblage are presented as percentages of the 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% $TiO_2$ >90% Liberation; leucoxene: 70-94% $TiO_2$ >90% Liberation; HiTi leucoxene: >94% $TiO_2$ >90% Liberation; and zircon: 66.7% $ZrO_2$+$HfO_2$ >90% Liberation. The non-magnetic fraction was submitted for XRF analysis and minerals determined as follows: zircon: $ZrO_2$+$HfO_2$/0.667 and HiTi leucoxene: $TiO_2$/0.94.

[5] HiTi leucoxene and rutile (%) combined for Night Train at a >90% $TiO_2$ (as one assemblage sample utilised=> 90% rutile and HiTi leucoxene), HiTi leucoxene for Thunderbird > 94% $TiO_2$

[6] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables.

## SHEFFIELD MINERAL RESOURCE FOR DAMPIER PROJECT AT 31 MARCH 2020 (in-situ tonnes)

| Summary of Mineral Resource[1,2,3] | | | | In-situ Tonnes[4] | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource Category | Cut off (Total HM%) | Material (Million Tonnes) | In-situ Total HM[6] (Million Tonnes) | Zircon (Thousand Tonnes) | HiTi Leuc[5] (Thousand Tonnes) | Leucoxene (Thousand Tonnes) | Ilmenite (Thousand Tonnes) | Total VHM (Thousand Tonnes) |
| Thunderbird (low-grade) | Measured | 3.0 | 510 | 45 | 3,600 | 1,000 | 1,000 | 12,000 | 17,700 |
| | Indicated | 3.0 | 2,120 | 140 | 11,800 | 3,800 | 4,300 | 39,100 | 59,000 |
| | Inferred | 3.0 | 600 | 38 | 3,200 | 1,000 | 1,200 | 10,500 | 15,900 |
| | **Total** | 3.0 | 3,230 | 223 | 18,600 | 5,900 | 6,500 | 61,700 | 92,600 |
| **Night Train** (low-grade) | Inferred | 1.2 | 130 | 4.2 | 560 | 220 | 1,900 | 900 | 3,590 |
| | **Total** | 1.2 | 130 | 4.2 | 560 | 220 | 1,900 | 900 | 3,590 |
| **All Dampier Project** (low grade cut-off) | Measured | 3.0 | 510 | 45 | 3,600 | 1,000 | 1000 | 12,000 | 17,700 |
| | Indicated | 3.0 | 2,120 | 140 | 11,800 | 3,800 | 4,300 | 39,100 | 59,000 |
| | Inferred | Various | 730 | 42 | 3,760 | 1,220 | 3,100 | 11,400 | 19,490 |
| | **Total** | **Various** | **3,360** | **227** | **19,160** | **6,020** | **8,400** | **62,600** | **96,190** |
| **Thunderbird** (high-grade) | Measured | 7.5 | 220 | 32 | 2,300 | 700 | 600 | 8,400 | 12,000 |
| | Indicated | 7.5 | 640 | 76 | 5,800 | 1,800 | 1,600 | 21,000 | 30,200 |
| | Inferred | 7.5 | 180 | 20 | 1,600 | 500 | 500 | 5,600 | 8,200 |
| | **Total** | 7.5 | 1,050 | 127 | 9,700 | 3,000 | 2,700 | 35,000 | 50,400 |
| **Night Train** (high-grade) | Inferred | 2.0 | 50 | 3.0 | 420 | 170 | 1,500 | 540 | 2,600 |
| | **Total** | 2.0 | 50 | 3.0 | 420 | 170 | 1,500 | 540 | 2,600 |
| **All Dampier Project** (high grade cut-off) | Measured | 7.5 | 220 | 32 | 2,300 | 700 | 600 | 8,400 | 12,000 |
| | Indicated | 7.5 | 640 | 76 | 5,800 | 1,800 | 1,600 | 21,000 | 30,200 |
| | Inferred | Various | 230 | 23 | 2,020 | 670 | 2,000 | 6,140 | 10,800 |
| | **Total** | **Various** | **1,090** | **130** | **10,120** | **3,170** | **4,200** | **35,540** | **53,000** |

[1] Night Train: The Mineral Resource estimate was prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to ASX announcement 31 January 2019 for further details including Table 1. The Night Train Mineral Resource reported above 1.2% heavy mineral (HM) cut-off is inclusive of (not additional to) the Mineral Resource reported above 2.0% HM cut-off. Thunderbird: 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. Thunderbird: The Mineral Resource reported above 3.0% HM cut-off is inclusive of (not additional to) the Mineral Resource reported above 7.5% HM cut-off.

[2] Total HM 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.

[3] 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.

[4] The contained in-situ tonnes for the valuable heavy minerals were derived from information from the Mineral Resource tables. 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.

[5] HiTi leucoxene and rutile (%) combined for Night Train at a >90% $TiO_2$ (as one assemblage sample utilised=> 90% Rutile and HiTi leucoxene), HiTi leucoxene for Thunderbird > 94% $TiO_2$

[6] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables

## 2) ENEABBA PROJECT MINERAL RESOURCES

### SHEFFIELD MINERAL RESOURCES FOR THE ENEABBA PROJECT AT 31 MARCH 2020 (in-situ assemblage)

| Summary of Mineral Resource[1,2] | | | | | | In-situ Assemblage[11] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource Category | Cut off (Total HM%) | Material (Million Tonnes) | In-situ Total HM[12] (Thousand Tonnes) | Total HM Grade (%) | Zircon (%) | Rutile (%) | Leuco-xene (%) | Ilmenite (%) | Over size (%) | Slimes (%) |
| Yandanooka[4,6,8] | Measured | 1.4 | 2.6 | 112 | 4.3 | 0.44 | 0.09 | 0.10 | 3.08 | 11.3 | 15 |
| | Indicated | 1.4 | 57.7 | 1,726 | 3.0 | 0.37 | 0.11 | 0.11 | 2.08 | 11.4 | 15 |
| | Inferred | 1.4 | 0.4 | 7 | 1.5 | 0.16 | 0.05 | 0.07 | 1.01 | 21.9 | 20 |
| | **Total** | 1.4 | 60.8 | 1,845 | 3.0 | 0.37 | 0.11 | 0.11 | 2.11 | 11.5 | 15 |
| Durack[4,6,7,8] | Indicated | 1.4 | 20.7 | 600 | 2.9 | 0.40 | 0.09 | 0.11 | 2.07 | 14.7 | 14 |
| | Inferred | 1.4 | 5.6 | 148 | 2.6 | 0.37 | 0.07 | 0.19 | 1.68 | 18.3 | 16 |
| | **Total** | 1.4 | 26.3 | 748 | 2.8 | 0.39 | 0.08 | 0.13 | 1.99 | 15.5 | 14 |
| Drummond Crossing[3,4,6,8] | Indicated | 1.4 | 35.5 | 838 | 2.4 | 0.33 | 0.24 | 0.08 | 1.26 | 7.7 | 14 |
| | Inferred | 1.4 | 3.3 | 77 | 2.3 | 0.26 | 0.21 | 0.06 | 1.31 | 7.2 | 12 |
| | **Total** | 1.4 | 38.8 | 915 | 2.4 | 0.33 | 0.24 | 0.08 | 1.26 | 7.7 | 14 |
| Robbs Cross[5,6,8] | Indicated | 1.4 | 14.0 | 261 | 1.9 | 0.27 | 0.24 | 0.09 | 0.88 | 6.2 | 6 |
| | Inferred | 1.4 | 3.8 | 77 | 2.0 | 0.29 | 0.22 | 0.08 | 1.02 | 8.1 | 6 |
| | **Total** | 1.4 | 17.8 | 338 | 1.9 | 0.28 | 0.23 | 0.09 | 0.91 | 6.6 | 6 |
| Thomson[5,8,] | Inferred | 1.4 | 26 | 516 | 2.0 | 0.38 | 0.28 | 0.11 | 0.85 | 6.9 | 18 |
| | **Total** | 1.4 | 26 | 516 | 2.0 | 0.38 | 0.28 | 0.11 | 0.85 | 6.9 | 18 |
| West Mine North[3,4,6,9] | Indicated | 2.0 | 10.2 | 748 | 7.3 | 0.43 | 0.48 | 0.13 | 3.51 | 2.3 | 11 |
| | Inferred | 2.0 | 1.8 | 48 | 2.7 | 0.25 | 0.23 | 0.06 | 1.31 | 3.0 | 17 |
| | **Total** | 2.0 | 12.0 | 796 | 6.6 | 0.40 | 0.44 | 0.12 | 3.18 | 2.4 | 12 |
| Ellengail[3,4,9,10] | Indicated | 2.0 | 6.5 | 346 | 5.3 | 0.53 | 0.43 | 0.55 | 3.49 | 3.2 | 15 |
| | Inferred | 2.0 | 5.3 | 218 | 4.1 | 0.41 | 0.34 | 0.35 | 2.55 | 2.5 | 15 |
| | **Total** | 2.0 | 11.8 | 565 | 4.8 | 0.47 | 0.39 | 0.46 | 3.07 | 2.9 | 15 |
| Total | Measured | 1.4 | 2.6 | 112 | 4.3 | 0.44 | 0.09 | 0.10 | 3.08 | 11 | 15 |
| | Indicated | Various | 144.6 | 4,519 | 3.1 | 0.37 | 0.19 | 0.12 | 1.92 | 9 | 14 |
| | Inferred | Various | 46.0 | 1,091 | 2.4 | 0.36 | 0.24 | 0.14 | 1.21 | 8 | 16 |
| | **Total** | **Various** | **193.3** | **5,723** | **3.0** | **0.36** | **0.20** | **0.13** | **1.77** | **9** | **14** |

[1]The Mineral Resource estimates were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer 03 October 2018 ASX announcement for Yandanooka, Durack, Drummond Crossing, West Mine North and Ellengail. Refer to December 2017 Quarterly Activities Report for Robbs Cross and Thomson deposits for further details
[2]All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal.
[3]Total heavy mineral (HM) %: 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.
[4]Total HM %: 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.
[5]Total HM %: 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.
[6]Total HM %: 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.
[7]Reported below an upper cut-off grade of 35% slimes.
[8]Estimates of mineral assemblage are presented as percentages of the total HM component of the deposit, as determined by QEMSCAN™ analysis. For the $TiO_2$ minerals specific breakpoints are used to distinguish between rutile (>95% $TiO_2$), leucoxene (85-95% $TiO_2$) and ilmenite (<55-85% $TiO_2$).
[9]At West Mine North and Ellengail mineral assemblage data determined by Iluka using Method 4 (HM concentrate is separated into magnetics and non-magnetics) was used with the Sheffield QEMSCAN™ data
[10]At Ellengail mineral assemblage data determined by Iluka using Method 3 (magnetic separation and XRF) was used with the Sheffield QEMSCAN™ data and Iluka Method 4
[11]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.
[12] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables

## SHEFFIELD MINERAL RESOURCE FOR ENEABBA PROJECT AT 31 MARCH 2020 (HM assemblage)

| Summary of Mineral Resource[1,2] | | | | | | HM Assemblage[8,9,10] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource Category | Cut off (Total HM%) | Material (Million Tonnes) | In-situ Total HM[11] (Thousand Tonnes) | Total HM Grade (%) | Zircon (%) | Rutile (%) | Leuco-xene (%) | Ilmenite (%) | Over size (%) | Slimes (%) |
| Yandanooka[4,6,8] | Measured | 1.4 | 2.6 | 112 | 4.3 | 10 | 2.1 | 2.3 | 72 | 11.3 | 15 |
| | Indicated | 1.4 | 57.7 | 1,726 | 3.0 | 12 | 3.6 | 3.7 | 69 | 11.4 | 15 |
| | Inferred | 1.4 | 0.4 | 7 | 1.5 | 11 | 3.0 | 4.4 | 68 | 21.9 | 20 |
| | **Total** | 1.4 | 60.8 | 1,845 | 3.0 | 12 | 3.5 | 3.6 | 70 | 11.5 | 15 |
| Durack[4,6,7,8] | Indicated | 1.4 | 20.7 | 600 | 2.9 | 14 | 2.9 | 3.7 | 71 | 14.7 | 14 |
| | Inferred | 1.4 | 5.6 | 148 | 2.6 | 14 | 2.6 | 7.4 | 64 | 18.3 | 16 |
| | **Total** | 1.4 | 26.3 | 748 | 2.8 | 14 | 2.9 | 4.4 | 70 | 15.5 | 14 |
| Drummond Crossing[3,4,6,8] | Indicated | 1.4 | 35.5 | 838 | 2.4 | 14 | 10.3 | 3.4 | 53 | 7.7 | 14 |
| | Inferred | 1.4 | 3.3 | 77 | 2.3 | 11 | 9.0 | 2.7 | 56 | 7.2 | 12 |
| | **Total** | 1.4 | 38.8 | 915 | 2.4 | 14 | 10.2 | 3.4 | 54 | 7.7 | 14 |
| Robbs Cross[5,6,8] | Indicated | 1.4 | 14.0 | 261 | 1.9 | 15 | 12.7 | 5.0 | 47 | 6.2 | 6 |
| | Inferred | 1.4 | 3.8 | 77 | 2.0 | 14 | 10.9 | 4.1 | 50 | 8.1 | 6 |
| | **Total** | 1.4 | 17.8 | 338 | 1.9 | 15 | 12.3 | 4.8 | 48 | 6.6 | 6 |
| Thomson[5,8,] | Inferred | 1.4 | 26 | 516 | 2.0 | 19 | 13.8 | 5.4 | 42 | 6.9 | 18 |
| | **Total** | 1.4 | 26 | 516 | 2.0 | 19 | 13.8 | 5.4 | 42 | 6.9 | 18 |
| West Mine North[3,4,6,9,] | Indicated | 2.0 | 10.2 | 748 | 7.3 | 6 | 6.5 | 1.8 | 48 | 2.3 | 11 |
| | Inferred | 2.0 | 1.8 | 48 | 2.7 | 9 | 8.6 | 2.1 | 50 | 3.0 | 17 |
| | **Total** | 2.0 | 12.0 | 796 | 6.6 | 6 | 6.6 | 1.8 | 48 | 2.4 | 12 |
| Ellengail[3,4,9,10] | Indicated | 2.0 | 6.5 | 346 | 5.3 | 10 | 8.0 | 10.4 | 66 | 3.2 | 15 |
| | Inferred | 2.0 | 5.3 | 218 | 4.1 | 10 | 8.2 | 8.4 | 62 | 2.5 | 15 |
| | **Total** | 2.0 | 11.8 | 565 | 4.8 | 10 | 8.1 | 9.6 | 64 | 2.9 | 15 |
| Total | Measured | 1.4 | 2.6 | 112 | 4.3 | 10 | 2.1 | 2.3 | 72 | 11 | 15 |
| | Indicated | Various | 144.6 | 4,519 | 3.1 | 12 | 6.1 | 3.9 | 62 | 9 | 14 |
| | Inferred | Various | 46.0 | 1,091 | 2.4 | 15 | 10.3 | 5.8 | 51 | 8 | 16 |
| | **Total** | **Various** | **193.3** | **5,723** | **3.0** | **12** | **6.8** | **4.2** | **60** | **9** | **14** |

[1] The Mineral Resource estimates were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer 03 October 2018 ASX announcement for Yandanooka, Durack, Drummond Crossing, West Mine North and Ellengail. Refer to December 2017 Quarterly Activities Report for Robbs Cross and Thomson deposits for further details

[2]All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal.

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

[4]Total HM %: 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.

[5]Total HM %: Samples from Robbs Cross and Thomson analysed by Diamantina Laboratories in Perth using a -45µm slimes / +1mm 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.

[6]Total HM %: 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 2.96g/ml) from the +53µm-1mm fraction.

[7]Reported below an upper cut-off grade of 35% slimes.

[8]Estimates of mineral assemblage are presented as percentages of the total HM component of the deposit, as determined by QEMSCAN™ analysis. For the $TiO_2$ minerals specific breakpoints are used to distinguish between rutile (>95% $TiO_2$), leucoxene (85-95% $TiO_2$) and ilmenite (<55-85% $TiO_2$).

[9]At West Mine North and Ellengail mineral assemblage data determined by Iluka using Method 4 (HM concentrate is separated into magnetics and non-magnetics) was used with the Sheffield QEMSCAN™ data

[10]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

[11] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables

## SHEFFIELD MINERAL RESOURCE FOR ENEABBA PROJECT AT 31 MARCH 2020 (in-situ tonnes)

| Summary of Mineral Resource[1,2,3] | | | | In-situ Tonnes | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource Category | Cut off (Total HM%) | Material (Million Tonnes) | In-situ Total HM[11] (Thousand Tonnes) | Zircon (Thousand Tonnes) | Rutile (Thousand Tonnes) | Leuco-xene (Thousand Tonnes) | Ilmenite (Thousand Tonnes) | Total VHM (Thousand Tonnes) |
| Yandanooka[4,6,8] | Measured | 1.4 | 2.6 | 112 | 12 | 2 | 3 | 81 | 98 |
| | Indicated | 1.4 | 57.7 | 1,726 | 212 | 63 | 63 | 1,197 | 1,535 |
| | Inferred | 1.4 | 0.4 | 7 | 1 | 0.2 | 0.3 | 4 | 6 |
| | **Total** | 1.4 | 60.8 | 1,845 | 224 | 65 | 66 | 1,283 | 1,639 |
| Durack[4,6,7,8] | Indicated | 1.4 | 20.7 | 600 | 82 | 18 | 22 | 429 | 551 |
| | Inferred | 1.4 | 5.6 | 148 | 21 | 4 | 11 | 95 | 130 |
| | **Total** | 1.4 | 26.3 | 748 | 104 | 21 | 33 | 523 | 681 |
| Drummond Crossing[3,4,6,8] | Indicated | 1.4 | 35.5 | 838 | 118 | 86 | 29 | 447 | 680 |
| | Inferred | 1.4 | 3.3 | 77 | 9 | 7 | 2 | 43 | 61 |
| | **Total** | 1.4 | 38.8 | 915 | 127 | 93 | 31 | 490 | 741 |
| Robbs Cross[5,6,8] | Indicated | 1.4 | 14.0 | 261 | 38 | 33 | 13 | 123 | 208 |
| | Inferred | 1.4 | 3.8 | 77 | 11 | 8 | 3 | 39 | 61 |
| | **Total** | 1.4 | 17.8 | 338 | 50 | 41 | 16 | 162 | 269 |
| Thomson[5,8,] | Inferred | 1.4 | 26 | 516 | 97 | 71 | 28 | 219 | 415 |
| | **Total** | 1.4 | 26 | 516 | 97 | 71 | 28 | 219 | 415 |
| West Mine North[3,4,6,9,] | Indicated | 2.0 | 10.2 | 748 | 44 | 49 | 13 | 359 | 465 |
| | Inferred | 2.0 | 1.8 | 48 | 5 | 4 | 1 | 24 | 34 |
| | **Total** | 2.0 | 12.0 | 796 | 48 | 53 | 14 | 383 | 498 |
| Ellengail[3,4,9,10] | Indicated | 2.0 | 6.5 | 346 | 34 | 28 | 36 | 227 | 325 |
| | Inferred | 2.0 | 5.3 | 218 | 22 | 18 | 18 | 136 | 193 |
| | **Total** | 2.0 | 11.8 | 565 | 56 | 46 | 54 | 363 | 519 |
| Total | Measured | 1.4 | 2.6 | 112 | 12 | 2 | 3 | 81 | 98 |
| | Indicated | Various | 144.6 | 4,519 | 529 | 276 | 176 | 2,782 | 3,764 |
| | Inferred | Various | 46.0 | 1,091 | 165 | 113 | 64 | 559 | 900 |
| | **Total** | **Various** | **193.3** | **5,723** | **705** | **392** | **242** | **3,423** | **4,762** |

[1] The Mineral Resource estimates were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer 03 October 2018 ASX announcement for Yandanooka, Durack, Drummond Crossing, West Mine North and Ellengail. Refer to December 2017 Quarterly Activities Report for Robbs Cross and Thomson deposits for further details

[2] All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal.

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

[4] Total HM %: 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.

[5] Total HM %: 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.

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

[7] Reported below an upper cut-off grade of 35% slimes.

[8] Estimates of mineral assemblage are presented as percentages of the total HM) component of the deposit, as determined by QEMSCAN™ analysis. For the $TiO_2$ minerals specific breakpoints are used to distinguish between rutile (>95% $TiO_2$), leucoxene (85-95% $TiO_2$) and ilmenite (<55-85% $TiO_2$).

[9] At West Mine North and Ellengail mineral assemblage data determined by Iluka using Method 4 (HM concentrate is separated into magnetics and non-magnetics) was used with the Sheffield QEMSCAN™ data

[10] 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

[11] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables

## 3) McCALLS PROJECT MINERAL RESOURCES

### SHEFFIELD MINERAL RESOURCES FOR McCALLS PROJECT AT 31 MARCH 2020 (in-situ assemblage)

| Summary of Mineral Resources[1,2,3,4] | | | | | | In-situ Assemblage[5, 6] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource | Cut off | Material | In-situ Total HM[6] | Total HM Grade | Zircon | Rutile | Leuco-xene | Ilmenite | Over size | Slimes |
| | Category | (Total HM%) | (Million Tonnes) | (Million Tonnes) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| McCalls | Indicated | 1.1 | 1,630 | 23.3 | 1.4 | 0.07 | 0.05 | 0.04 | 1.10 | 1.1 | 21 |
| | Inferred | 1.1 | 1,980 | 24.4 | 1.2 | 0.06 | 0.05 | 0.04 | 1.00 | 1.1 | 26 |
| | Total | 1.1 | 3,600 | 47.7 | 1.3 | 0.07 | 0.05 | 0.04 | 1.05 | 1.1 | 24 |
| Mindarra Springs[7] | Inferred | 1.1 | 2,200 | 36.3 | 1.6 | 0.07 | 0.01 | 0.05 | 1.32 | 5.1 | 20 |
| | Total | 1.1 | 2,200 | 36.3 | 1.6 | 0.07 | 0.01 | 0.05 | 1.32 | 5.1 | 20 |
| Total | Indicated | 1.1 | 1,630 | 23.3 | 1.4 | 0.07 | 0.05 | 0.04 | 1.10 | 1.1 | 21 |
| | Inferred | 1.1 | 4,180 | 60.7 | 1.5 | 0.07 | 0.03 | 0.05 | 1.17 | 3.2 | 23 |
| | **Total** | **1.1** | **5,800** | **84.0** | **1.4** | **0.07** | **0.03** | **0.04** | **1.15** | **2.6** | **22** |

### SHEFFIELD MINERAL RESOURCES FOR McCALLS PROJECT AT 31 MARCH 2020 (HM assemblage)

| Summary of Mineral Resources[1,2,3,4,7] | | | | | | HM Assemblage[5, 6] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource | Cut off | Material | In-situ Total HM[6] | Total HM Grade | Zircon | Rutile | Leuco-xene | Ilmenite | Over size | Slimes |
| | Category | (Total HM%) | (Million Tonnes) | (Million Tonnes) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| McCalls | Indicated | 1.1 | 1,630 | 23.3 | 1.4 | 5.2 | 3.3 | 2.8 | 77 | 1.1 | 21 |
| | Inferred | 1.1 | 1,980 | 24.4 | 1.2 | 5.0 | 3.8 | 3.2 | 81 | 1.1 | 26 |
| | Total | 1.1 | 3,600 | 47.7 | 1.3 | 5.1 | 3.6 | 3.0 | 79 | 1.1 | 24 |
| Mindarra Springs[7] | Inferred | 1.1 | 2,200 | 36.3 | 1.6 | 4.2 | 0.9 | 3.1 | 80 | 5.1 | 20 |
| | Total | 1.1 | 2,200 | 36.3 | 1.6 | 4.2 | 0.9 | 3.1 | 80 | 5.1 | 20 |
| Total | Indicated | 1.1 | 1,630 | 23.3 | 1.4 | 5.2 | 3.3 | 2.8 | 77 | 1.1 | 21 |
| | Inferred | 1.1 | 4,180 | 60.7 | 1.5 | 4.5 | 2.1 | 3.2 | 81 | 3.2 | 23 |
| | **Total** | **1.1** | **5,800** | **84.0** | **1.4** | **4.7** | **2.4** | **3.1** | **79** | **2.6** | **22** |

[1]The Mineral Resource estimates for McCalls and Mindarra Springs were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to ASX announcement 03 October 2018

[2]All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal

[3]Total heavy mineral (HM) 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

[4]Reported below an upper cut-off grade of 35% slimes

[5]Estimates of mineral assemblage (Sheffield) are presented as percentages of the total HM) component of the deposit, as determined by QEMSCAN™ analysis. For the $TiO_2$ minerals specific breakpoints are used to distinguish between rutile (>95% $TiO_2$), leucoxene (85-95% $TiO_2$) and ilmenite (<55-85% $TiO_2$). Estimates of mineral assemblage (BHP) HM assemblage determination was by magnetic separation and observation (grain-counting)

[6] The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables

[7]Excludes Mineral Resources within the Mogumber Nature Reserve

## SHEFFIELD MINERAL RESOURCES FOR McCALLS PROJECT AT 31 MARCH 2020 (in-situ tonnes)

| Summary of Mineral Resources[1,2,3,4] | | | | In-situ Tonnes | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Deposit | Mineral Resource Category | Cut off (Total HM%) | Material (Million Tonnes) | In-situ Total HM[7] (Million Tonnes) | Zircon (Thousand Tonnes) | Rutile (Thousand Tonnes) | Leuco-xene (Thousand Tonnes) | Ilmenite (Thousand Tonnes) | Total VHM (Thousand Tonnes) |
| McCalls | Indicated | 1.1 | 1,630 | 23.3 | 1,210 | 770 | 650 | 17,940 | 20,570 |
| | Inferred | 1.1 | 1,980 | 24.4 | 1,210 | 930 | 790 | 19,790 | 22,720 |
| | **Total** | 1.1 | 3,600 | 47.7 | 2,430 | 1,700 | 1,430 | 37,730 | 43,290 |
| Mindarra Springs[8] | Inferred | 1.1 | 2,200 | 36.3 | 1,520 | 320 | 1,130 | 29,080 | 32,050 |
| | **Total** | 1.1 | 2,200 | 36.3 | 1,520 | 320 | 1,130 | 29,080 | 32,050 |
| Total | Indicated | 1.1 | 1,630 | 23.3 | 1,210 | 770 | 650 | 17,940 | 20,570 |
| | Inferred | 1.1 | 4,180 | 60.7 | 2,740 | 1,250 | 1,920 | 48,860 | 54,770 |
| | **Total** | **1.1** | **5,800** | **84.0** | **3,950** | **2,020** | **2,570** | **66,810** | **75,340** |

[1]The Mineral Resource estimates for McCalls and Mindarra Springs were prepared by Optiro Pty Ltd and first disclosed under the JORC Code (2012) refer to ASX announcement 03 October 2018

[2]All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate, thus the sums of columns may not equal

[3]Total heavy mineral (HM) 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

[4]Reported below an upper cut-off grade of 35% slimes

[5]Estimates of mineral assemblage (Sheffield) are presented as percentages of the total HM component of the deposit, as determined by QEMSCAN™ analysis. For the $TiO_2$ minerals specific breakpoints are used to distinguish between rutile (>95% $TiO_2$), leucoxene (85-95% $TiO_2$) and ilmenite (<55-85% $TiO_2$). Estimates of mineral assemblage (BHP) HM assemblage determination was by magnetic separation and observation (grain-counting)

[6]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

[7]The contained in-situ tonnes derived from HM and material tonnes from information in the Mineral Resource tables

[8]Excludes mineralisation within the Mogumber Nature Reserve

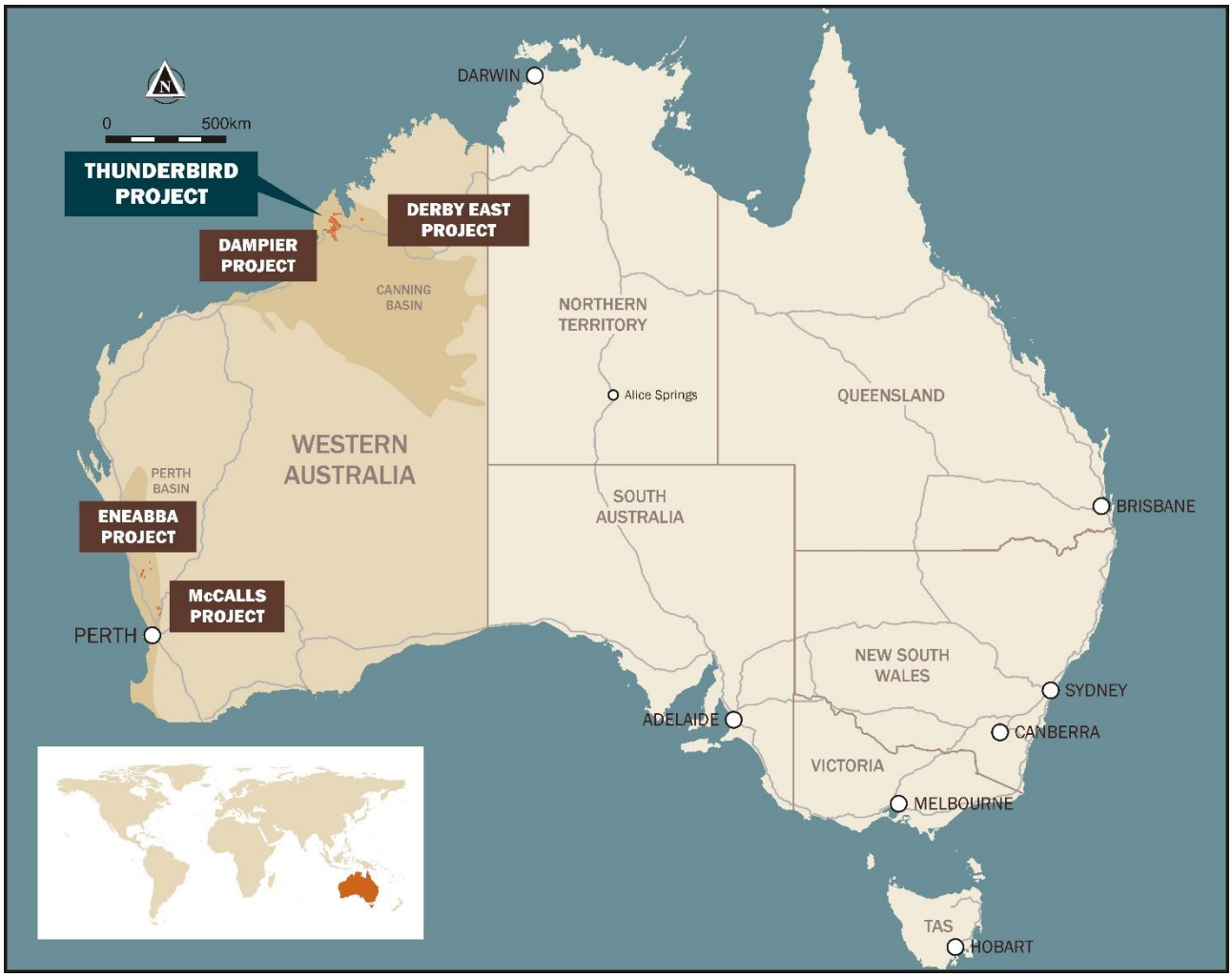


Figure 4: Location of Sheffield's Mineral Sands Projects

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

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.

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

| Item | Report title | Report Date | Competent Person(s) |
|---|---|---|---|
| Thunderbird Ore Reserve | Thunderbird 10% Ore Reserve Increase | 31 July 2019 | P. Scrimshaw |
| Thunderbird Mineral Resource | Sheffield Doubles Measured Mineral Resource at Thunderbird | 05 July 2016 | M. Teakle, C. Standing |
| Night Train Mineral Resource | High Grade Maiden Mineral Resource at Night Train | 31 January 2019 | C. Standing |
| Robbs Cross Mineral Resource | Quarterly Activities Report for The Period Ended 31 December 2017 | 30 January 2018 | C. Standing |
| Thomson Mineral Resource | Quarterly Activities Report for The Period Ended 31 December 2017 | 30 January 2018 | C. Standing |
| Yandanooka Mineral Resource | Mineral Resource and Ore Reserve Statement | 03 October 2018 | C. Standing |
| Durack Mineral Resource | Mineral Resource and Ore Reserve Statement | 03 October 2018 | C. Standing |
| Drummond Crossing Mineral Resource | Mineral Resource and Ore Reserve Statement | 03 October 2018 | C. Standing |
| West Mine North Mineral Resource | Mineral Resource and Ore Reserve Statement | 03 October 2018 | C. Standing |
| Ellengail Mineral Resource | Mineral Resource and Ore Reserve Statement | 03 October 2018 | C. Standing |
| McCalls Mineral Resource | Mineral Resource and Ore Reserve Statement | 03 October 2018 | C. Standing |
| Mindarra Springs Mineral Resource | Mineral Resource and Ore Reserve Statement | 03 October 2018 | C. Standing |

| Item | Name | Company | Professional Affiliation |
|---|---|---|---|
| Exploration Results | Mr Seb Gray | 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.

## 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:

- Mineral Resource and Ore Reserve Statement: "MINERAL RESOURCE AND ORE RESERVE STATEMENT" 24 September 2019
- Mineral Resource and Reserve Statement: "MINERAL RESOURCE AND ORE RESERVE STATEMENT" 24 September 2019
- Thunderbird Ore Reserve Update: "THUNDERBIRD ORE RESERVE UPDATE" 31 July 2019
- Thunderbird BFS Update: "BFS UPDATE MATERIALLY REDUCES CAPITAL", 31 July 2019
- Bengbu Zhongheng New Materials S&T Co. Ltd binding offtake agreement: "SHEFFIELD SIGNS BINDING PRIMARY ILMENITE OFFTAKE AGREEMENT "01 July 2019
- Regional mineral assembly analysis: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 MARCH 2019" 1 May, 2019
- Night Train Inferred Resource and Mineral Assemblage results "HIGH GRADE MAIDEN MINERAL RESOURCE AT NIGHT TRAIN" 31 January 2019
- Bohemia aircore drill results: "NEW LARGE HIGH GRADE DISCOVERY SOUTH OF THUNDERBIRD" 13 November 2018
- Yandanooka, Durack, Drummond Crossing, West Mine North, Ellengail, McCalls and Mindarra Springs Resource Estimates and including Mineral Resource and Ore Statement "*MINERAL RESOURCE AND RESERVE STATEMENT*" 03 October, 2018
- Thomson and Robbs Cross Mineral Resources: "QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 31 DECEMBER 2017" 30 January, 2018

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 are provided as a general guide only and should not be relied on as a guarantee of future performance. 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 5B

# Mining exploration entity or oil and gas exploration entity quarterly cash flow report

| Name of entity | |
|---|---|
| Sheffield Resources Limited | |
| **ABN** | **Quarter ended ("current quarter")** |
| 29 125 811 083 | 31 March 2020 |

| | Consolidated statement of cash flows | Current quarter $A'000 | Year to date (9 months) $A'000 |
|---|---|---|---|
| **1.** | **Cash flows from operating activities** | | |
| 1.1 | Receipts from customers | - | 2 |
| 1.2 | Payments for | | |
| | (a) exploration & evaluation (if expensed) | - | - |
| | (b) development | (2,210) | (7,435) |
| | (c) production | - | - |
| | (d) staff costs | (1,483) | (3,007) |
| | (e) administration and corporate costs | (181) | (745) |
| 1.3 | Dividends received (see note 3) | - | - |
| 1.4 | Interest received | 32 | 64 |
| 1.5 | Interest and other costs of finance paid | - | - |
| 1.6 | Income taxes paid | - | - |
| 1.7 | Government grants and tax incentives | 713 | 713 |
| 1.8 | Other (provide details if material) | - | - |
| **1.9** | **Net cash from / (used in) operating activities** | **(3,129)** | **(10,408)** |

| | | | |
|---|---|---|---|
| **2.** | **Cash flows from investing activities** | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | - | - |
| | (c) property, plant and equipment | - | - |
| | (d) exploration & evaluation (if capitalised) | (81) | (1,018) |
| | (e) investments | - | - |
| | (f) other non-current assets | - | - |

| Consolidated statement of cash flows | | Current quarter $A'000 | Year to date (9 months) $A'000 |
|---|---|---|---|
| 2.2 | Proceeds from the disposal of: | | |
| | (a) entities | - | - |
| | (b) tenements | - | - |
| | (c) property, plant and equipment | - | 5 |
| | (d) investments | - | - |
| | (e) other non-current assets | - | - |
| 2.3 | Cash flows from loans to other entities | - | - |
| 2.4 | Dividends received (see note 3) | - | - |
| 2.5 | Other (provision of bonds/guarantees) | - | (67) |
| **2.6** | **Net cash from / (used in) investing activities** | **(81)** | **(1,080)** |

| | | | |
|---|---|---|---|
| **3.** | **Cash flows from financing activities** | | |
| 3.1 | Proceeds from issues of equity securities (excluding convertible debt securities) | - | 18,000 |
| 3.2 | Proceeds from issue of convertible debt securities | - | - |
| 3.3 | Proceeds from exercise of options | - | - |
| 3.4 | Transaction costs related to issues of equity securities or convertible debt securities | (24) | (1,436) |
| 3.5 | Proceeds from borrowings | - | - |
| 3.6 | Repayment of borrowings | (34) | (113) |
| 3.7 | Transaction costs related to loans and borrowings | - | - |
| 3.8 | Dividends paid | - | - |
| 3.9 | Other (provide details if material) | - | - |
| **3.10** | **Net cash from / (used in) financing activities** | **(58)** | **16,451** |

| | | | |
|---|---|---|---|
| **4.** | **Net increase / (decrease) in cash and cash equivalents for the period** | (3,268) | 4,963 |
| 4.1 | Cash and cash equivalents at beginning of period | 10,950 | 2,719 |
| 4.2 | Net cash from / (used in) operating activities (item 1.9 above) | (3,129) | (10,408) |
| 4.3 | Net cash from / (used in) investing activities (item 2.6 above) | (81) | (1,080) |
| 4.4 | Net cash from / (used in) financing activities (item 3.10 above) | (58) | 16,451 |

| Consolidated statement of cash flows | | Current quarter $A'000 | Year to date (9 months) $A'000 |
|---|---|---|---|
| 4.5 | Effect of movement in exchange rates on cash held | - | - |
| **4.6** | **Cash and cash equivalents at end of period** | **7,682** | **7,682** |

| 5. | Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts | Current quarter $A'000 | Previous quarter $A'000 |
|---|---|---|---|
| 5.1 | Bank balances | 2,682 | 5,950 |
| 5.2 | Call deposits | 5,000 | 5,000 |
| 5.3 | Bank overdrafts | - | - |
| 5.4 | Other (provide details) | - | - |
| **5.5** | **Cash and cash equivalents at end of quarter (should equal item 4.6 above)** | **7,682** | **10,950** |

| 6. | Payments to related parties of the entity and their associates | Current quarter $A'000 |
|---|---|---|
| 6.1 | Aggregate amount of payments to related parties and their associates included in item 1 – Salary & Directors fees | 335 |
| 6.2 | Aggregate amount of payments to related parties and their associates included in item 2 | - |

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments

| 7. | **Financing facilities**<br>*Note: the term "facility' includes all forms of financing arrangements available to the entity.*<br>*Add notes as necessary for an understanding of the sources of finance available to the entity.* | **Total facility amount at quarter end $A'000** | **Amount drawn at quarter end $A'000** |
|---|---|---|---|
| 7.1 | Loan facilities | - | - |
| 7.2 | Credit standby arrangements | - | - |
| 7.3 | Other (please specify) | - | - |
| 7.4 | **Total financing facilities** | - | - |

| | | |
|---|---|---|
| 7.5 | **Unused financing facilities available at quarter end** | - |
| 7.6 | Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well. | |

| | | |
|---|---|---|
| **8.** | **Estimated cash available for future operating activities** | **$A'000** |
| 8.1 | Net cash from / (used in) operating activities (Item 1.9) | (3,129) |
| 8.2 | Capitalised exploration & evaluation (Item 2.1(d)) | (81) |
| 8.3 | Total relevant outgoings (Item 8.1 + Item 8.2) | (3,210) |
| 8.4 | Cash and cash equivalents at quarter end (Item 4.6) | 7,682 |
| 8.5 | Unused finance facilities available at quarter end (Item 7.5) | - |
| 8.6 | Total available funding (Item 8.4 + Item 8.5) | 7,682 |
| 8.7 | **Estimated quarters of funding available (Item 8.6 divided by Item 8.3)** | 2.4 |

8.8 If Item 8.7 is less than 2 quarters, please provide answers to the following questions:

1. Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer:

2. Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer:

3. Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

## Compliance statement

1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.

2 This statement gives a true and fair view of the matters disclosed.

Date: 8 April 2020

Authorised by: By the Board

**Notes**

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.

2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.

3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".

5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.