Sheffield Resources Ltd
ACN 125 811 083
L1, 57 Havelock Street West Perth WA

30 April 2014

QUARTERLY REPORT FOR PERIOD ENDING 31 MARCH 2014

HIGHLIGHTS

Dampier HMS project

- Exceptional results from Thunderbird scoping study, with projected and estimated production and financial parameters as follows:
  - Initial mine life of **32 years**, targeting first production in 2017
  - Life of mine (LOM) revenue of **$10.0 billion**
  - LOM operating cash flow of **$5.0 billion*** ($204 million per annum for first 10 years of production)
  - Average LOM annual EBITDA of **$140 million** ($187 million per annum for first 10 years of production)
  - Pre-production capital expenditure of $257 million plus $37 million of contingency, with identified opportunities that may reduce capital expenditure
  - Capital payback in 2.0 years
  - Average annual production of 118,200 tonnes zircon, 545,000 tonnes ilmenite, and 21,700 tonnes of HiTi80 leucoxene (circa 8% and 4% of global zircon and ilmenite markets respectively)
  - Very low LOM strip ratio of 0.6:1 (first 10 years 0.2:1)
- Considerable upside potential – high grade Inferred Resources excluded from the current study and mineralisation remains open in several directions
- Pre-feasibility studies commenced with completion anticipated Q1 2015
- Resource update confirms Thunderbird is in top tier of mineral sands deposits globally:
  - Total Mineral Resource of **2.62 billion tonnes (Bt) @ 6.5% HM** (Measured, Indicated and Inferred)
  - Includes a coherent higher grade component of **740Mt @ 12.1% HM** (Measured, Indicated and Inferred) with very high in-situ zircon (0.92%) and ilmenite (3.4%) grades

Senior Appointment

- Appointment of Wayne Groeneveld as Sustainability Manager to drive permitting of Thunderbird project and stakeholder engagement.

As at 31/03/14:

Issued Shares	**119.6M**	ASX Code	**SFX**	Closing Price	**$0.68**
Market Cap	**$81.3M**	Cash Reserves	**$2.0M**		

*Excluding taxes, royalties, closure costs, sale of capital equipment

SUMMARY

Key events of the March 2014 quarter were the announcement on 19 March 2014 of an updated Mineral Resource for the Thunderbird deposit and, subsequent to the quarter's end, the completion of the Thunderbird Scoping Study which delivered exceptional results.

The updated total Mineral Resource of 2.62Bt @ 6.5% HM (Measured, Indicated and Inferred) (at 3% HM cut-off) doubled the previous December 2012 Mineral Resource in terms of contained Valuable Heavy Mineral and upgraded the majority of the resource to the Measured and Indicated categories (see Appendix 1 for full details).

The Scoping Study, which is based on the updated Mineral Resource, demonstrates Thunderbird is a world class, long life mineral sands project that is anticipated to provide exceptional financial returns.

The Company has commenced the Thunderbird Pre-feasibility Study, during which opportunities will be pursued to enhance the already outstanding cash margins and reduce the modest development capital requirement.

Wayne Groeneveld was appointed as Sustainability Manager to drive permitting of Thunderbird project and stakeholder engagement. Mr Groeneveld's achievements during a 30 year career include the successful negotiation of land access agreements with private landowners preceding the development of several Australian mineral sands operations and building lasting relationships with Native Title claimant groups.

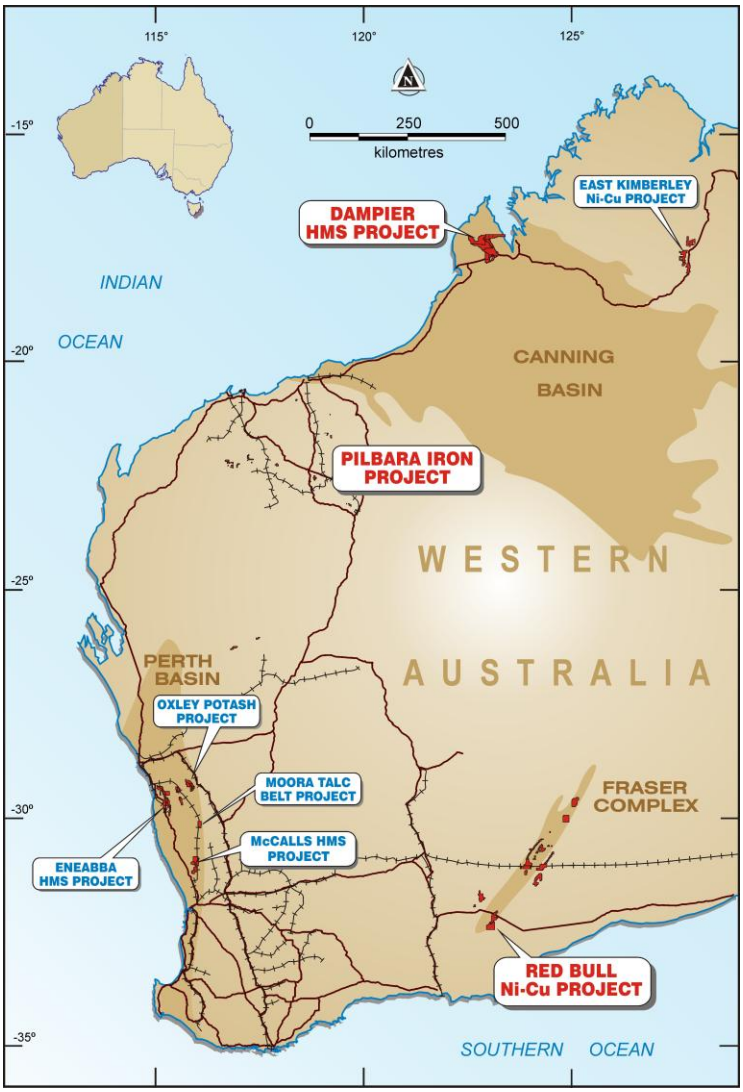

Figure 1: Location of Sheffield's Projects

Exploration expenditure for the quarter is $1,323,000. Exploration expenditure for Q2 2014 is estimated to be $0.75 million.

DAMPIER HEAVY MINERAL SANDS

Sheffield's flagship Dampier Heavy Mineral Sands (HMS) project is located in northwestern Western Australia and contains the world class Thunderbird mineral sands deposit (Figures 1 & 2).

On 19 March 2014, the Company released an updated Mineral Resource for the deposit of **2.62Bt @ 6.5% HM** (Measured, Indicated and Inferred) (at 3% HM cut-off), containing 14.3Mt of zircon, 47.9Mt of ilmenite, 5.2Mt of leucoxene and 4.7Mt of HiTi leucoxene.

The resource has a coherent higher grade component of **740Mt @ 12.1% HM** (Measured, Indicated and Inferred) (at 7.5% HM cut-off) containing 6.8Mt of zircon, 2.1Mt of high-titanium leucoxene, 1.9Mt of leucoxene and 25Mt of ilmenite (Appendix 1).

Thunderbird is one of the largest and highest grade mineral sands deposits to be discovered in the last 30 years.

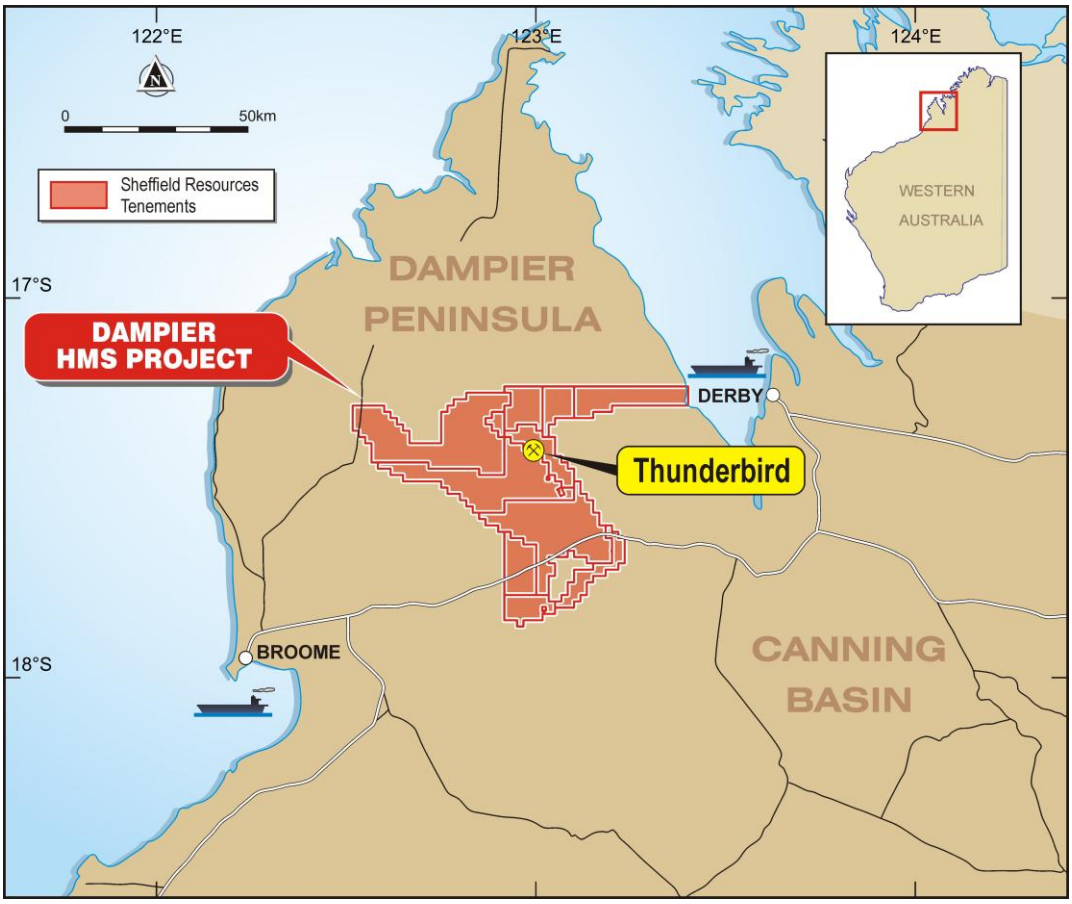

Figure 2: Location of Dampier HMS project

The updated Mineral Resource forms the basis of the Thunderbird Scoping Study, the results of which were announced on 14 April 2014.

The Scoping Study results demonstrate Thunderbird has the potential to generate consistently strong cash margins from globally significant levels of production over a 32 year mine life. The Company is targeting initial production in 2017.

At the current modelled production rates, Thunderbird would supply approximately 8% and 4% of the global zircon and ilmenite markets respectively. Furthermore, the large scale and favourable geometry of the deposit are conducive to significant production expansions.

The strong LOM cash flows are supported by a 30% higher cash flow in the first 10 years of operations, advantaging estimated capital payback and project financing.

The Pre-feasibility Study has commenced, during which opportunities will be pursued to enhance the already outstanding margins and reduce the modest development capital requirement of $294 million, which includes $37 million contingency.

The Scoping Study highlights the world class status of the Thunderbird deposit, which is characterised by:

- large scale and high grade;
- thick, sheet-like ore body geometry;
- low stripping ratio;
- conventional processing flowsheet;
- modest pre-production capital requirement;
- favourable location and logistics; and
- readily saleable products.

Average annual production following ramp-up to a 20.8 Mtpa mining rate is estimated to be 118,200t zircon, 545,000t ilmenite and 21,700t HiTi80 over an initial mine life of 32 years, which will position Sheffield as a globally significant mineral sands producer. During the first 10 years the projected annual zircon production averages 135,100tpa.

The mining inventory that forms the basis of the Scoping Study was derived from an optimised pit shell giving a 32 year mine life and comprises 669 million tonnes averaging 10.2% HM, with in-situ grades of 0.83% zircon, 0.27% HiTi leucoxene, 0.26% leucoxene and 2.9% ilmenite (from Measured and Indicated Resources only).

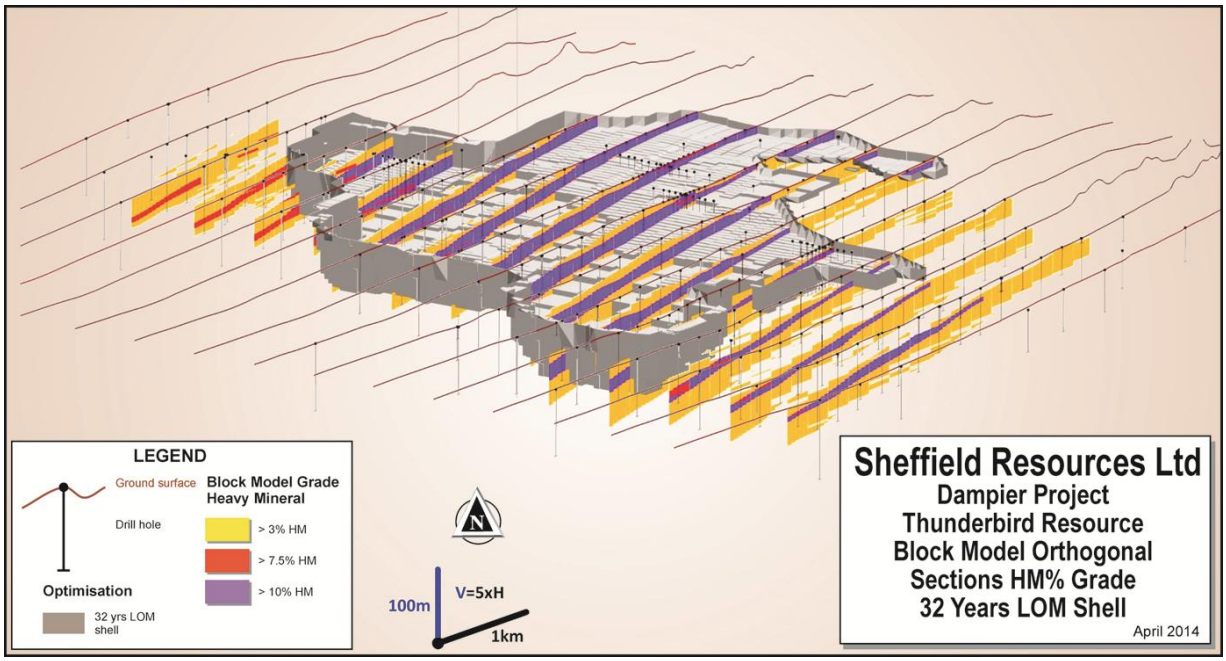

Figure 3: Oblique view of the Thunderbird Deposit 32 Year Pit Shell Outline on stacked sections

Product prices used in the study were derived from a combination of price forecasts from industry sources. At the assumed pricing of US$1,475/t for zircon, US$185/t for ilmenite and US$870 for HiTi80 leucoxene over the life of the mine, and a A$/US$ exchange rate of US$0.90, the project is anticipated to generate average operating cash flows of $156 million per annum. The life of mine revenue is forecast to be $10.0 billion and C1 cash operating costs over life of mine are $5.0 billion*.

The products were assessed for their marketability by industry experts TZMI, and Chinese marketing group Ruidow Information Technology Co Ltd.

The primary zircon product meets the premium classification for the requirements of the ceramic zircon sector, and is considered readily saleable.

The primary ilmenite product is a suitable feedstock for the sulphate-route TiO_2 pigment process, or as a feed for either titanium sulphate- or chloride-slag manufacture. The low levels of alkalis and chromium also make this an attractive feedstock for blending with ilmenite from other deposits with higher levels of these contaminants.

Secondary ilmenite, high-TiO_2 leucoxene and rutile are likely to be produced in smaller volumes. These products can be combined into a HiTi80 product with specifications suited to the welding rod market. This has the advantage of simplifying the conductors circuit in the MSP.

Key project parameters are tabled below:

Table 1: Thunderbird Project Scoping Study Key Physical Parameters

Average Mining Rate	**mtpa**	**20.8**
Mine Life	**years**	**32**
HMC Produced	**ktpa**	**1,477**
Production - Zircon	**ktpa**	**118.2**
Production - HiTi 80	**ktpa**	**21.7**
Production - Ilmenite	**ktpa**	**545**
Strip Ratio (average LOM)	**waste:ore**	**0.6:1**
Strip Ratio (first 10 years)	**waste:ore**	**0.2:1**

Table 2: Thunderbird Project Scoping Study Key Financial Parameters

LOM revenue	**A$m**	**10,010**
Average Operating Cash Flow* (first 10 years)	**A$mpa**	**204**
Average Operating Cash Flow* (LOM)	**A$mpa**	**156**
EBITDA (first 10 years)	**A$mpa**	**187**
EBITDA	**A$mpa**	**140**
EBIT	**A$mpa**	**126.4**
EBIT (first 10 years)	**A$mpa**	**179**
EBIT Margin	**A$/tonne product**	**183**
Unit Revenue (average LOM)	**A$/tonne product**	**457**
Unit Cash Cost (exc. Royalties) (average LOM)	**A$/tonne product**	**230**
Royalties (average LOM)	**A$/tonne product**	**22.8**
Pre-production Capital	**A$m**	**257.3**
Pre-production Capital Contingency	**A$m**	**36.9**
Payback	**Years**	**2.0**

*Excluding taxes, royalties, closure costs, sale of capital equipment

Value Enhancement Opportunities

Sheffield has identified a number of opportunities that could provide significant enhancement to the Thunderbird economics. These opportunities, to be evaluated during pre-feasibility, include:

- production of an ilmenite product and a non-magnetic concentrate to simplify processing, expected to lower capital costs by approximately $60 million;
- incremental step changes in the mining rate;
- the leasing of mining units, mobile plant and equipment to lower capital costs;
- the potential for dredge mining which would significantly lower operating costs, but increase capital costs;
- using locally sourced gas from recently discovered nearby gas fields for power generation;
- using two smaller capacity WCPs to improve operational flexibility;
- further enhancement of recoveries from revised process flowsheet design;

- optimised mine scheduling based on the results of further infill drilling; and
- exploration for additional shallow high grade mineralisation.

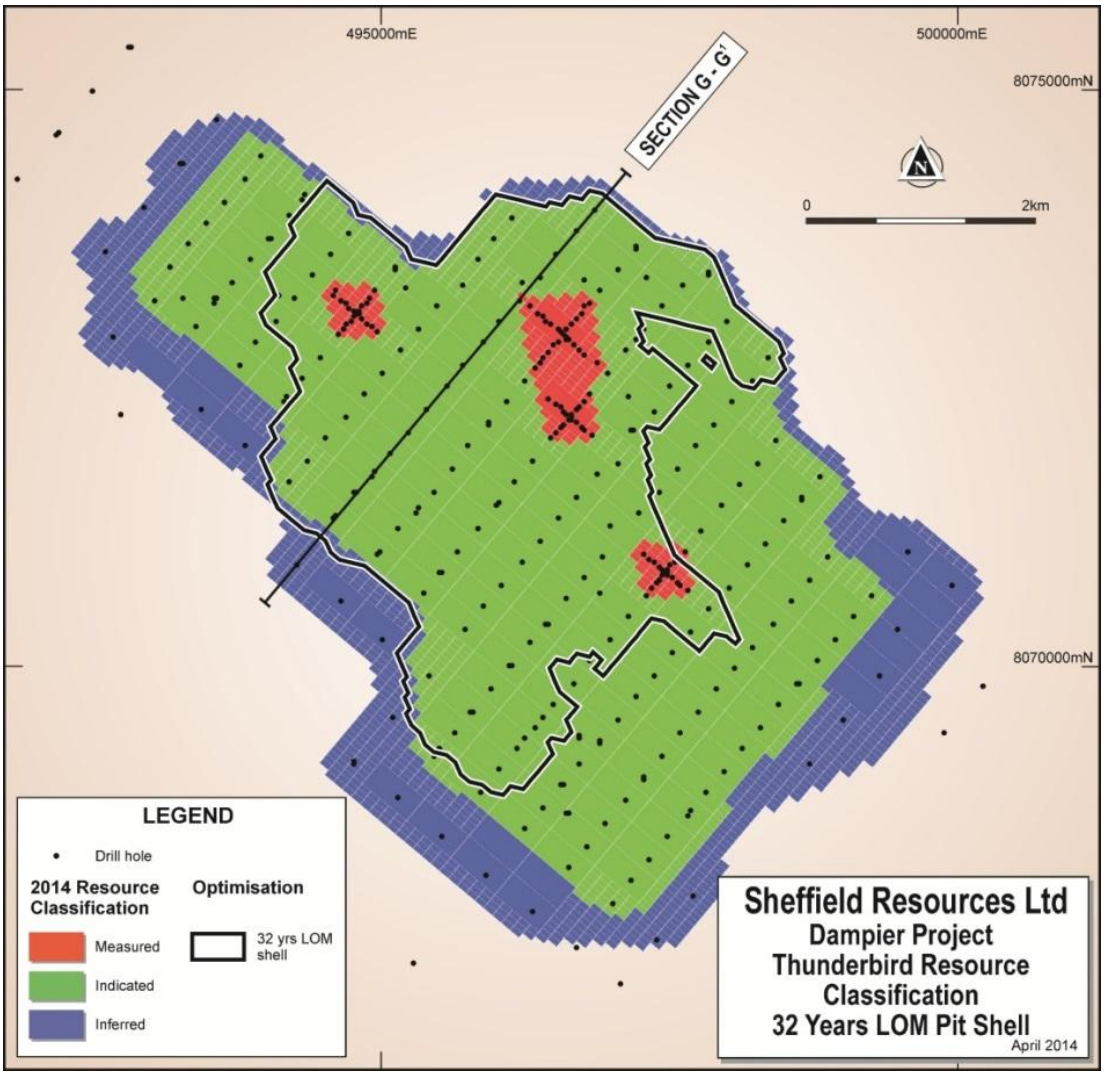

Figure 4: Thunderbird Deposit 32 Year Pit Shell Outline on Mineral Resource Classifications

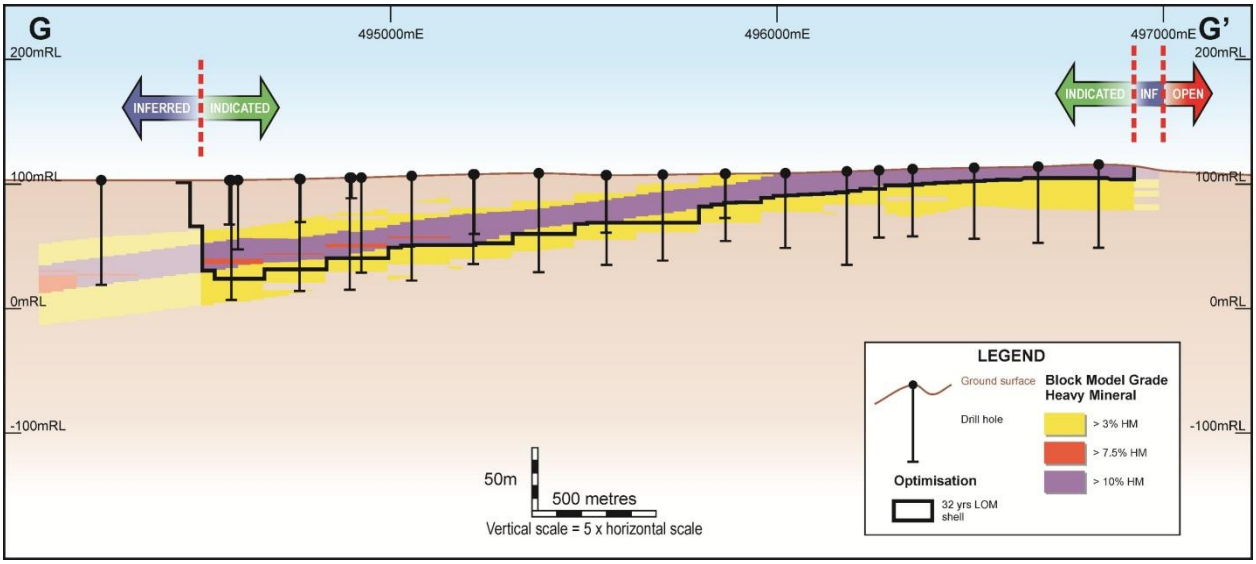

Figure 5: Cross-section G-G' through the Thunderbird resource block model showing the 32 Year Pit Shell Outline in relation to Mineral Resource Classifications

Next Steps

The Company has commenced a Pre-Feasibility Study (PFS) which is expected to be completed during Q1 2015. Work conducted during the course of the PFS has the scope to further improve the already robust project economics by exploring the opportunities referred to above.

Sheffield intends to complete an infill and step-out drilling programme and a resource update by Q4 2014. Step-out drilling will target extensions of shallow, high grade mineralisation to the north and northeast of the deposit. The discovery of additional high grade mineralisation in this area is likely to further improve the project economics.

The PFS will include a hydrogeological study and a water drilling programme to model the impact of processing water abstraction and to obtain the relevant approvals. Port and infrastructure studies are planned, as is investigation of potential improvements to the processing flow sheet design.

Level 2 flora and vegetation and terrestrial and subterranean fauna assessments have already been completed over the project. Further baseline studies outside of the immediate project area are planned during 2014.

Geotechnical drilling and analysis is planned to assist with detailed mine planning studies.

Sheffield plans to complete a Definitive Feasibility Study during 2015, followed by mine construction in 2016, with first production targeted for 2017.

Throughout these processes and programmes, Sheffield will place a strong focus on increasing stakeholder engagement.

Dampier Regional

Several new mineral sands targets have been identified from a review of historical exploration data, airborne geophysical survey data and from the 2013 regional geological mapping and reconnaissance programme. These targets are scheduled for drilling during H2 2014.

RED BULL NICKEL

The Red Bull project comprises two tenements with a total area of 525km^2 located 120km east of Norseman in WA. The northern tenement E69/3052 lies within 20km of Sirius Resources NL's (ASX:SIR) Nova and Bollinger Ni-Cu deposits and covers mafic and ultramafic rocks of the Fraser Complex which are prospective for magmatic Ni-Cu deposits.

The next phase of work is planned to commence during Q2 2014 and will include soil sampling over the Hook prospect trend, infill aircore drilling at Stud and Hook, followed by ground geophysical surveys and deeper drilling of targets.

Including the two Red Bull tenements, Sheffield has a total of 17 tenements in the Fraser Range, with a combined area of 2,420km^2. Seven of these have multiple competing applications, with the successful applicant likely to be determined by ballot.

The majority of these tenements lie over the large regional gravity high associated with the prospective, denser mafic/ultramafic rocks of the Fraser Complex (Figure 6).

During the quarter, the Company announced the results of its second phase of aircore drilling on the Northern Targets at Red Bull. The Phase 2 aircore drilling programme of 96 holes for 4,334m completed in December 2013 followed a successful Phase 1 programme which identified the Earlobe, Stud and Sleeper prospects and returned a best intersection of 5m @ 0.73% Ni (REAC240) from Stud (see ASX release dated 27 November, 2013 and Figures 7 & 8).

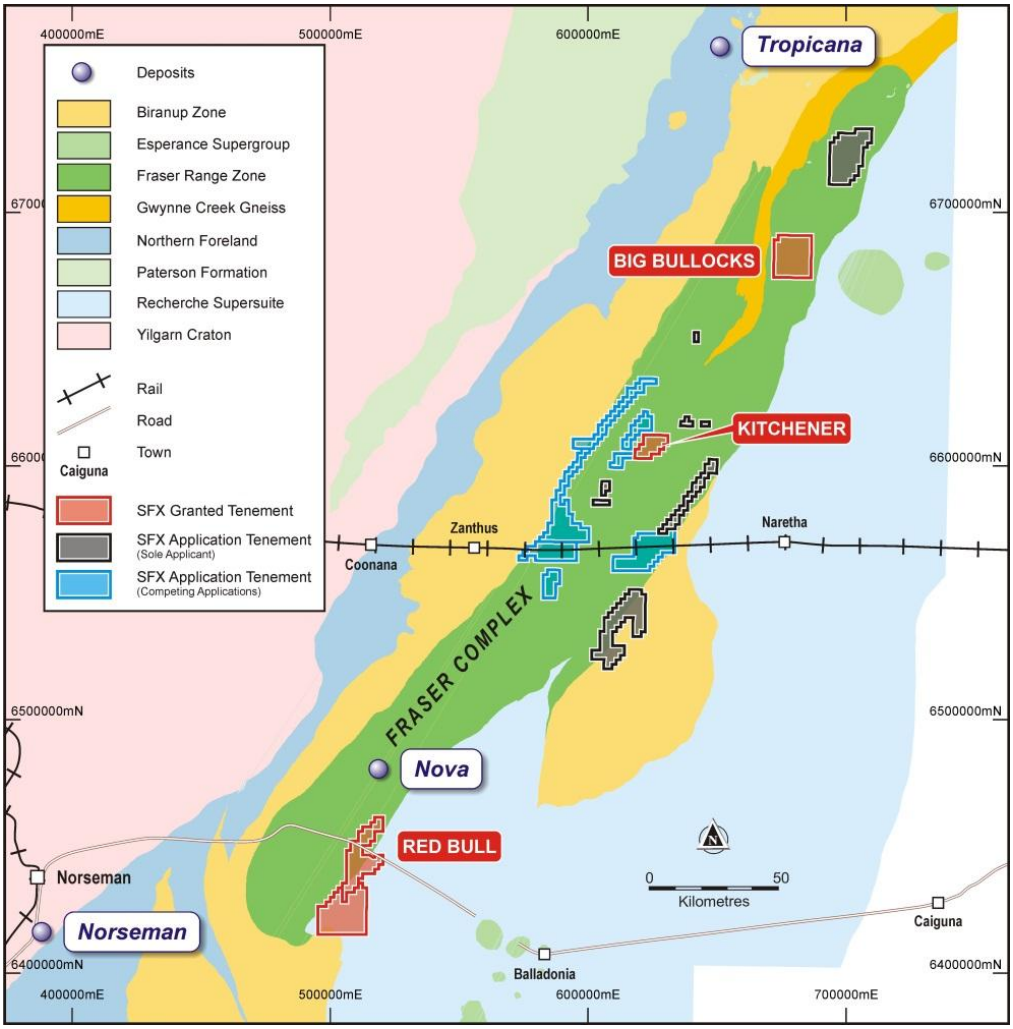

Figure 6: Location of Sheffield's tenements in the Fraser Range region

Significant results from Phase 2 aircore drilling include:

Stud

- **4m @ 0.31% Ni, 0.11% Cu, 0.05% Co**, 7ppb Pd, 5ppb Pt, 0.11% Cr from 56m (REAC401)
- **8m @ 0.37% Ni**, 0.01% Cu, 0.01% Co, 4.6ppb Pd, 4.4ppb Pt, 0.18% Cr from 47m (REAC413)
- **8m @ 0.30% Ni**, 0.03% Cu, 0.04% Co, 5ppb Pd, 10.5ppb Pt, 0.19% Cr from 43m (REAC407)

Earlobe

- **8m @ 0.29% Ni**, 0.02% Cu, 0.02% Co, 4ppb Pd, 3.5ppb Pt, 0.19% Cr from 36m (REAC375)

Hook

- **2m @ 0.25% Ni, 0.07% Cu, 0.03% Co, 34ppb Pd, 25ppb Pt, 0.64% Cr** from 54m (REAC458)

(Refer to ASX release of 11 February 2014 for further details.)

The Stud nickel anomaly has emerged as a substantial target zone over 1.8km long at a 0.2% Ni cut-off. The prospectivity is further enhanced by elevated copper (to 0.11% Cu) and cobalt (to 0.05% Co) values. The anomaly is currently defined by broadly spaced aircore drilling (480m x 80m and 240m x 80m).

The new target at Hook is also significant, featuring elevated platinum group elements and chromium in addition to anomalous Ni-Cu-Co. Hook has been tested by just one line of aircore drilling so far. The anomaly is located on an untested linear magnetic low, which has coincident Ni-Cu-Co soil anomalies (Figures 7 & 8).

Nickel sulphide mineral Violarite $FeNi_2S_4$, a supergene sulphide mineral associated with the weathering and oxidation of primary pentlandite $(Fe,Ni)_9S_8$, has been observed in trace amounts in drill holes from both phases of aircore drilling on the Northern Targets.

The tenor of aircore drilling results received to date, and identification of nickel-sulphide minerals associated with a layered mafic-ultramafic intrusive sequence, highlight the potential of the Red Bull project to host a significant nickel sulphide deposit.

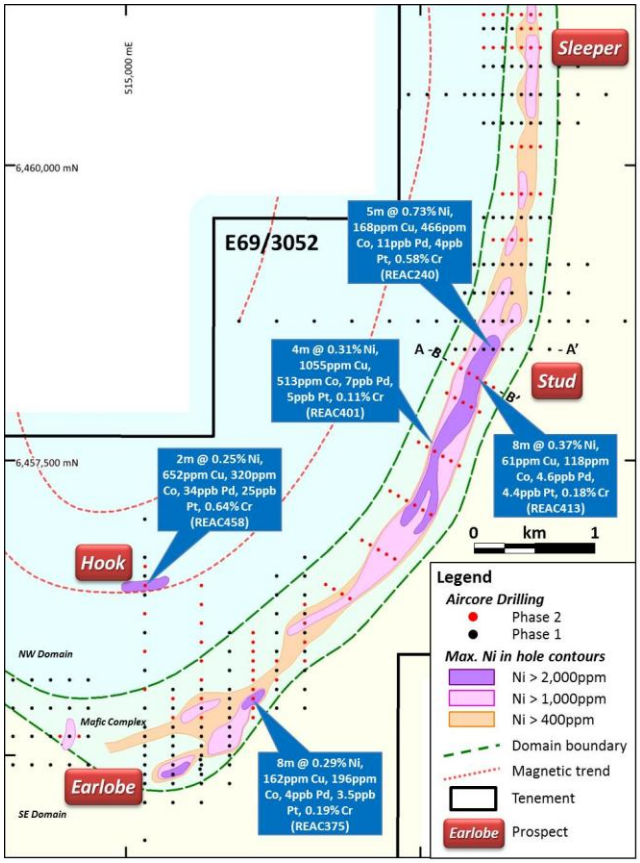

Figure 7: Aircore drill plan showing contours of maximum Ni in hole at the Northern Targets

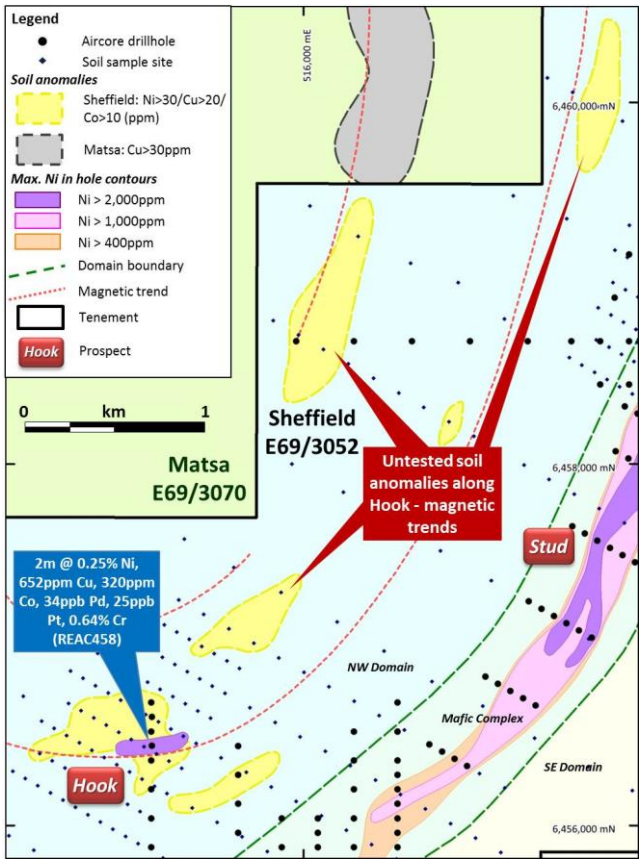

Figure 8: Hook aircore Ni and soil anomalies

Work has begun on Sheffield's two other granted tenements in the Fraser Range, with field visits and previous exploration reviews completed over the Kitchener and Big Bullocks tenements. Target generation work will continue on these tenements during Q2 2014, including a detailed aeromagnetic survey planned for E39/1733 Big Bullocks.

PILBARA IRON

During the quarter, the Company made preparations for an initial RC drilling programme targeting high grade outcropping iron mineralisation at Mt Vettel (E45/4029). Mt Vettel lies 20km to the west of Atlas Iron's (ASX:AGO) Mt Webber iron project, within potential trucking distance of Port Hedland. Drilling is scheduled to commence in Q2 2014.

ENEABBA HEAVY MINERAL SANDS

During the quarter, Sheffield completed an optimisation study on the West Mine North deposit. West Mine North is located on freehold property, 6km west of Eneabba and is held under granted Mining Leases. The deposit has a mineral resource of 42.58Mt @ 2.8% HM (Measured and Indicated) (at 0.9% HM cut-off) including a high grade component of 10.09Mt @ 7.7% HM containing 779,000t of HM (Measured and Indicated) (at 1.5% HM cut-off). (Refer to Appendix 1 and ASX release of 7 November 2011 for full details).

The pit optimization study indicated the higher value portion of the deposit lies at its southern end, with the highest value shell indicating an inventory of 13.7Mt at 4.6% HM and a likely strip ratio of approximately 0.7 to 1. Future work will include assessing the sensitivities of the project to operating costs, product prices and recoveries.

The optimization study is part of the Company's ongoing scoping assessment of the overall Eneabba project which comprises five mineral sands deposits: West Mine North, Ellengail, Yandanooka, Durack and Drummond Crossing with combined resources of 6.76Mt of HM (Appendix 1). Sheffield's strategy is to evaluate these deposits with a view to developing a sequential mining operation, whilst actively exploring the region for further deposits.

MCCALLS HEAVY MINERAL SANDS

The McCalls project, located 110km north of Perth, has an Inferred Resource of 4.4Bt @ 1.2% HM containing 53Mt of HM (Appendix 1). Of this, 43 million tonnes is chloride grade ilmenite (66% TiO_2) ranking McCalls as one of the largest undeveloped chloride ilmenite deposits in the world. The deposit also contains approximately 3.5 million tonnes of zircon and 1 million tonnes of rutile. A mineral resource update is planned for Q3 2014.

Sheffield is evaluating McCalls as a potential dredging project. An initial geotechnical appraisal of the McCalls deposit, undertaken in Q4 2013, comprised four cone penetrometer test holes. The results of this work, obtained during the March 2014 quarter, indicate the hydrogeological environment is complex with likely perched water tables and variable sandy and silty horizons present. The hydrogeological regime requires further investigation to enable a more definitive assessment of the dredgeability of the deposit. Additional hydrogeological testing may be undertaken later in 2014, following the resource update.

OXLEY POTASH

The Oxley potash project is located near Morawa in Western Australia's Mid-west region. Oxley has an unconventional, hard rock style of potash mineralisation, hosted by a series of ultrapotassic microsyenite lavas, which typically contain over 90% sanidine (potash) feldspar. Sheffield controls the entire 32km strike extent of the prospective units within the northern Moora Basin.

Sheffield's maiden drilling programme at Oxley (which was co-funded by the State Government under its Exploration Incentive Scheme), returned thick, high grade potash intervals averaging 8.4% K_2O over 36m width with higher grade intervals averaging 9.9% K_2O over 15m width. (Refer to ASX release of 19 July 2013 for full details).

During the quarter, Sheffield continued preliminary scoping metallurgical test work to investigate whether the fresh and oxidised potash bearing target horizon can be effectively upgraded using standard beneficiation techniques. In addition, the work will outline a number of process pathways for the potential development of products suitable for the fertiliser market and potential by-products suitable for the feldspar and iron markets.

The metallurgical test work includes feed characterisation, DTR test work and Qemscan and petrological investigation on selected feed and products. In addition grinding, LIMS and WHIMS analysis will be completed. The initial laboratory test work is near completion and a report is due during Q2 of 2014.

MOORA TALC

Sheffield's current focus in the Moora Talc Project is the Fowlers talc deposit, located near Marchagee. Sheffield has previously outlined an Exploration Target[1] of 5-8 million tonnes of talc at Fowlers, based on a keel-shaped deposit with a maximum area of 520m x 220m, a mineralised thickness of between 45m and 90m and a bulk density of 2.7t/m^3 (refer to Sheffield's June 2013 Quarterly Report for full details).

The Fowlers talc has extremely low calcium content but the elevated iron content and low brightness limit some potential commercial applications (see ASX release dated 4/10/2011).

During the quarter, the Company continued beneficiation test work to investigate cost effective ways of reducing the iron content and increasing the brightness of the talc. The test work is being undertaken on core samples from diamond drill hole MODD008, drilled by Sheffield in 2011. Much of the iron in the talc occurs as films along fracture planes, and as fine iron-rich clays, whereas the massive, competent talc has a lower iron content.

The test work will evaluate the effectiveness of standard, low cost beneficiation techniques including crushing, screening and washing. Final products will then be tested for marketable specifications including chemistry, brightness, mineralogy (Qemscan and SEM) and a suite of additional physical attributes. Product specifications will enable initial market soundings for the potential demand for the Fowlers talc. The initial laboratory test work is near completion and a report is due during Q2 of 2014.

CASH POSITION

As at 31 December 2013, the Company had cash reserves of approximately $2.0 million.

Bruce McQuitty
Managing Director
30 April 2014

[1]Sheffield Resources has not yet reported Mineral Resources for Fowlers and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

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

Project	Tenement	Holder	Interest	Location[3]	Status
Mineral Sands	E04/2081	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2083	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2084	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2159	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2171	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2192	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2193	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E04/2194	Sheffield Resources Ltd	100%	Canning Basin	Granted
Mineral Sands	E70/3761	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3762	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3812	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3813	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3814	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3846	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3901	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3929	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3931	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3967	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/3970	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4190	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4273	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4292	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4313	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4314	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4434	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E70/4484	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	M70/872[1]	Sheffield Resources Ltd	100%	Perth Basin	Granted
Mineral Sands	E04/2348	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2349	Sheffield Resources Ltd	100%	Canning Basin	Pending
Mineral Sands	E04/2350	Sheffield Resources Ltd	100%	Canning Basin	Pending
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
Mineral Sands	E70/3859	Sheffield Resources Ltd	100%	Perth Basin	Pending
Mineral Sands	L70/150	Sheffield Resources Ltd	100%	Perth Basin	Pending
Nickel	E69/3033	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E69/3052	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E28/2270	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E39/1733	Sheffield Resources Ltd	100%	Fraser Range	Granted
Nickel	E69/3181	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2323	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2374	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2426	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2427	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2428	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2429	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2430	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2431	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2432	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2448	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2449	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E28/2450	Sheffield Resources Ltd	100%	Fraser Range	Pending
Nickel	E80/4866	Sheffield Resources Ltd	100%	East Kimberley	Pending
Nickel	E80/4867	Sheffield Resources Ltd	100%	East Kimberley	Pending
Nickel	E80/4868	Sheffield Resources Ltd	100%	East Kimberley	Pending
Gold	E28/2453	Sheffield Resources Ltd	100%	Tropicana Belt	Pending
Gold	E63/1696	Sheffield Resources Ltd	100%	Tropicana Belt	Pending
Iron	E45/3662-I	Ironbridge Resources Pty Ltd[2]	100%	Pilbara	Granted
Iron	E47/2642-I	Sheffield Resources Ltd	100%	Pilbara	Granted
Iron	E45/3822-I	Sheffield Resources Ltd	100%	Pilbara	Granted
Iron	E45/4029	Sheffield Resources Ltd	100%	Pilbara	Granted
Iron	E47/2793-I	Sheffield Resources Ltd	100%	West Pilbara	Pending
Iron	E47/2794-I	Sheffield Resources Ltd	100%	West Pilbara	Pending

Project	Tenement	Holder	Interest	Location	Status
Iron	E47/2861-I	Sheffield Resources Ltd	100%	West Pilbara	Pending
Iron	E51/1608-I	Sheffield Resources Ltd	100%	Mid-West	Pending
Iron	E20/843-I	Sheffield Resources Ltd	100%	Mid-West	Pending
Iron	E47/3031-I	Sheffield Resources Ltd	100%	Pilbara	Pending
Iron	E47/3032-I	Sheffield Resources Ltd	100%	Pilbara	Pending
Iron	E47/3033-I	Sheffield Resources Ltd	100%	Pilbara	Pending
Iron	E47/3083	Sheffield Resources Ltd	100%	Pilbara	Pending
Talc	E70/3776	Moora Talc Pty Ltd[2]	100%	Moora	Granted
Talc	E70/4004	Moora Talc Pty Ltd[2]	100%	Moora	Granted
Potash	E70/3777	Moora Talc Pty Ltd[2]	100%	Morawa	Granted
Potash	E70/4318	Sheffield Resources Ltd	100%	Morawa	Granted
Potash	E70/4319	Sheffield Resources Ltd	100%	Morawa	Granted
Potash	E70/4320	Sheffield Resources Ltd	100%	Morawa	Granted
Potash	E70/4378	Sheffield Resources Ltd	100%	Morawa	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]Moora Talc Pty Ltd and Ironbridge Resources Pty Ltd are 100% owned subsidiaries of Sheffield Resources Ltd.
[3]All tenements are located in the state of Western Australia.

Details of tenements and/or beneficial interests acquired/disposed of during the March 2014 Quarter are provided in Section 6 of the Company's Appendix 5B notice for the March 2014 Quarter.

COMPLIANCE STATEMENTS

PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Exploration Results which were prepared and first disclosed under the JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows:

- Thunderbird Drilling Results: *"THUNDERBIRD HIGH GRADE MINERALISATION EXTENDS BEYOND DEFINED RESOURCE"*, 16 December 2013.
- Thunderbird Resource Update: *"SHEFFIELD DOUBLES TOTAL MINERAL RESOURCES AT WORLD CLASS THUNDERBIRD HMS DEPOSIT"*, 19 March 2014
- Thunderbird Scoping Study: *"SCOPING STUDY HIGHLIGHTS THUNDERBIRD'S EXCEPTIONAL FINANCIAL RETURNS"*, 14 April, 2014
- Red Bull Results: *"LARGE Ni-Cu-Co ANOMALIES IDENTIFIED IN THE FRASER RANGE"*, 11 February, 2014

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

- Fowlers Talc Drilling Results: *"ASSAY RESULTS CONFIRM HIGH QUALITY TALC INTERSECTIONS"*, 4 October 2011.
- Ellengail Mineral Resource: *"1MT CONTAINED HM INFERRED RESOURCE AT ELLENGAIL"*, 25 October 2011.
- West Mine North Mineral Resource: *"WEST MINE NORTH MINERAL RESOURCE ESTIMATE EXCEEDS EXPECTATIONS"*, 7 November 2011.
- McCalls Mineral Resource: *"4.4 BILLION TONNE MAIDEN RESOURCE AT MCCALLS HMS PROJECT"*, 20 February 2012.
- Durack Mineral Resource: *"ENEABBA PROJECT RESOURCE INVENTORY EXCEEDS 5MT HEAVY MINERAL"*, 28 August 2012.
- Thunderbird Mineral Resource: *"LARGE HIGH GRADE MAIDEN RESOURCE FOR THUNDERBIRD HMS DEPOSIT"*, 18 December 2012.
- Yandanooka Mineral Resource: *"YANDANOOKA RESOURCE UPGRADE AND METALLURGICAL RESULTS"*, 30 January 2013.
- Oxley Potash Drilling Results: *"MAJOR NEW POTASH DISCOVERY IN WA'S MID-WEST"*, 19 July 2013.
- Fowlers Talc Exploration Target: *"QUARTERLY REPORT FOR PERIOD ENDING JUNE 2013"*, 31 July 2013.
- Mt Vettel Iron Sample Results: *"HIGH GRADE IRON RESULTS FROM NORTH PILBARA PROJECT"*, 23 October 2013.
- Drummond Crossing Mineral Resource and Sampling Results from Dunal-Style HM Targets, Eneabba Project: *"1Mt HEAVY MINERAL RESOURCE ADDED TO ENEABBA PROJECT"*, 30 October 2013.
- Red Bull Nickel Targets from Soil Sampling and Petrography Results: *"AIRCORE DRILLING UNDERWAY AT RED BULL NICKEL PROJECT"*, 27 November 2013.

These announcements are available to view on Sheffield Resources Ltd's web site www.sheffieldresources.com.au.

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

FORWARD LOOKING AND EXPLORATION TARGET STATEMENTS

Some statements in this report regarding estimates or future events are forward-looking statements. They involve risk and uncertainties that could cause actual results to differ from estimated results. Forward-looking statements include, but are not limited to, statements concerning the Company's exploration programme, outlook, target sizes and mineralised material estimates. They include statements preceded by words such as "anticipated", "expected", "target", "scheduled", "intends", "potential", "prospective" and similar expressions.

The terms "Target" and "Exploration Target", where used in this report, should not be misunderstood or misconstrued as an estimate of Mineral Resources and Reserves as defined by the JORC Code 2012, and therefore the terms have not been used in this context. Exploration Targets are conceptual in nature and it is uncertain if further exploration or feasibility study will result in the determination of a Mineral Resource or Reserve.

APPENDIX 1: MINERAL RESOURCES

Table 1: Sheffield's contained Valuable HM (VHM) Resource inventory at 19 March 2014

Deposit	Resource Category	Zircon (kt)*	Rutile (kt)*	HiTi Leuc. (kt)*	Leuc. (kt)*	Ilmenite (kt)*	**Total VHM (kt)***
Thunderbird	Measured	510	-	150	140	1,660	**2,450**
Thunderbird	Indicated	10,170	-	3,350	3,550	34,110	**51,170**
Thunderbird	Inferred	4,270	-	1,230	1,470	12,110	**18,420**
Yandanooka	Measured	13	2		3	87	**105**
Yandanooka	Indicated	240	81		83	1,440	**1,840**
Yandanooka	Inferred	4	1		2	23	**29**
Durack	Indicated	144	29		52	703	**928**
Durack	Inferred	26	5		13	121	**164**
Drummond Crossing	Indicated	143	101		37	542	**823**
Drummond Crossing	Inferred	7	5		1	28	**41**
Ellengail	Inferred	92	90		19	658	**859**
West Mine North	Measured	18	33		42	200	**293**
West Mine North	Indicated	71	87		46	506	**709**
McCalls	Inferred	3,490	1,060		2,580	42,910	**50,040**
Total	Measured	540	35	150	180	1,950	**2,850**
Total	Indicated	10,770	300	3,350	3,760	37,300	**55,470**
Total	Inferred	7,220	1,160	1,230	4,080	55,850	**69,550**
Total	**All**	**18,530**	**1,500**	**4,730**	**8,020**	**95,100**	**127,870**

All tonnages have been rounded to reflect the relative uncertainty of the estimate, thus sum of columns may not equal. The contained VHM tonnages in the above table are derived from Mineral Resource Estimates for the Yandanooka, Ellengail , West Mine North, McCalls, Durack deposits (estimated using a 0.9% HM cut-off), the Drummond Crossing deposit (estimated using a 1.1% HM cut-off) and the Thunderbird deposit (estimated using a 3% HM cut-off) as detailed in Table 2.

* Valuable Heavy Minerals are classified as zircon, rutile, HiTi leucoxene, leucoxene and ilmenite.

Table 2: Sheffield's HMS Mineral Resource[2] Inventory at 19 March 2014

Project	Deposit	Resource Category	Cut-off (% HM)[3]	Material (Mt)*	Bulk Density	HM %	Slimes %[3]	Osize %	Insitu HM (Mt)*	Zircon[2] %	Rutile[2] %	HiTi [2] Leuc. %	Leuc.[2] %	Ilm.[2] %
Dampier	Thunderbird	Measured	3.0	75	2.1	7.5	19	11	6	9.1	-	2.7	2.4	30
	Thunderbird	Indicated	3.0	1,805	2.1	6.8	17	9	122	8.3	-	2.7	2.9	28
	Thunderbird	Inferred	3.0	740	2.0	5.7	15	9	42	8.5	-	2.9	3.5	29
	Total Dampier	**All**	**3.0**	**2,620**	**2.1**	**6.5**	**17**	**9**	170	**8.4**	**-**	**2.8**	**3.0**	**29**
Eneabba	Yandanooka	Measured	0.9	3	2.0	4.1	15	14	0.1	11	1.9	-	2.2	72
	Yandanooka	Indicated	0.9	90	2.0	2.3	16	15	2.1	11	3.9	-	3.9	69
	Yandanooka	Inferred	0.9	3	2.0	1.2	18	21	0.03	11	3.9	-	4.6	68
	Yandanooka	All	0.9	96	2.0	2.3	16	15	2.2	11	3.8		3.9	69
	Durack	Indicated	0.9	50	2.0	2.0	15	21	1.0	14	2.8		5.1	69
	Durack	Inferred	0.9	15	1.9	1.2	14	17	0.2	14	2.5		7.2	66
	Durack	All	0.9	65	2.0	1.8	15	20	1.2	14	2.8		5.6	68
	Drummond Crossing	Indicated	1.1	49	2.0	2.1	16	9	1.0	14	10		3.6	53
	Drummond Crossing	Inferred	1.1	3	2.0	1.5	16	8	0.05	13	10		2.8	55
	Drummond Crossing	All	1.1	52	2.0	2.1	16	9	1.1	14	10		3.5	53
	Ellengail	Inferred	0.9	46.	2.0	2.2	16	2	1.0	8.9	8.7		1.9	64
	Ellengail	All	0.9	46	2.0	2.2	16	2	1.0	8.9	8.7		1.9	64
	West Mine North	Measured	0.9	6	2.0	5.6	15	1	0.4	4.9	9.1		12	55
	West Mine North	Indicated	0.9	36	1.9	2.3	13	3	0.8	8.4	10		5.4	60
	West Mine North	All	0.9	43	1.9	2.8	13	3	1.2	7.9	10		6.4	59
	Total Eneabba	Measured	var.	9	2.0	5.2	15	5	0.5	6.7	6.8		8.7	60
	Total Eneabba	Indicated	var.	225	2.0	2.2	15	13	5.0	12	6.0		4.4	64
	Total Eneabba	Inferred	var.	68	2.0	1.9	15	6	1.3	10	7.2		3.2	64
	Total Eneabba	**All**	**var.**	**302**	**2.0**	**2.2**	**15**	**11**	**6.8**	**12**	**6.3**		**4.2**	**64**
McCalls	McCalls	Inferred	0.9	4,431	2.3	1.2	27	1.4	53	6.6	2.0		4.9	81
	Total McCalls	**All**	**0.9**	**4,431**	**2.3**	**1.2**	**27**	**1.4**	**53**	**6.6**	**2.0**		**4.9**	**81**

** All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate and maintain consistency throughout the table, thus sum of columns may not equal.*
[1] See the compliance statements in this report for important information relating to the reporting of these Mineral Resources. [2] The Mineral Assemblage is represented as the percentage of the Heavy Mineral (HM) component of the deposit, determined by QEMSCAN for Eneabba & McCalls, with TiO_2 minerals defined according to the following ranges: Rutile >95% TiO_2; Leucoxene 85-95% TiO_2; Ilmenite <55-85% TiO_2; for Dampier the mineral assemblage was determined by screening and magnetic separation. 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; High Titanium Leucoxene (HiTi Leucoxene): >94% TiO_2 >90% Liberation; and Zircon: 66.7% ZrO_2+HfO_2 >90% Liberation. Non-magnetic fractions were submitted for XRF analysis and minerals determined as follows: Zircon: ZrO_2+HfO_2/0.667 and High Titanium Leucoxene (HiTi Leucoxene): TiO_2/0.94. [3] West Mine North, Drummond Crossing, Durack and McCalls deposits are reported below 35% slimes cut-off.