



SheffieldResources  
LIMITED

ASX and Media Release

17 July 2013

## RED BULL PROJECT - DRILLING UPDATE

### KEY POINTS

- **Diamond drilling programme targeting first three high order bedrock conductor anomalies complete**
- **Graphite determined as likely conductive source at two targets: RB VA1 and RB VA2**
- **Semi-massive pyrrhotite (iron sulphide) and graphite likely conductive source at RB VA3**
- **Systematic Fraser Range exploration campaign continues with a focus on the Northern Drill Targets**
- **Regional aircore drilling programme 85% complete, Ni-Cu prospective rock types intersected, consistent with layered mafic-ultramafic intrusive complex**
- **Exploration fully funded with cash at bank of \$8.5 million**

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**Sheffield Resources ("Sheffield", "the Company") (ASX:SFX)** today announced it has completed the current phase of diamond drilling at its Red Bull Nickel-Copper Project. The Red Bull Project is within 20km of Sirius Resources NL's (ASX:SIR) Nova/Bollinger Nickel-Copper deposit, in the Fraser Range Nickel Province in Western Australia (Figure 1).

This first diamond drilling programme was designed to test the source of each of the three high-order bedrock conductors RB VA1 to VA3 (Figure 2), identified from Fixed Loop EM surveys (see ASX release 27 June, 2013). Three holes were completed, one at each conductor, with a total of 1,062m drilled. The results of preliminary geological logging of the core are summarised below.

At RB VA1, drill hole REDD001 intersected a 104.5m thick interval of moderately graphitic metasediment from 31.3m depth, containing four 0.8m to 4.7m thick zones of intense graphite mineralisation. This mineralisation will be further evaluated as a potential graphite deposit.

At RB VA2, drill hole REDD002 intersected 1m to 17m thick bands of weakly graphitic and sulphidic metasediment from 237.5m to 383.6m.

At RB VA3, drill hole REDD003 intersected a 3.8m thick zone of semi-massive and massive sulphide (pyrrhotite dominant) from 298.1m to 301.9m, followed by a 4.3m thick zone of disseminated sulphide and graphite in narrow bands from 301.9m to 306.2m.

Managing Director, Bruce McQuitty said that while the diamond drilling results are not indicative of nickel sulphide mineralisation, further work will be undertaken to properly evaluate their significance.

*"These are the first targets in our Fraser Range package that we have tested with diamond drilling. With any large prospective land package in the Fraser Range, continuing systematic exploration is important for success."*

*"Two of the three diamond drill holes intersected anomalous mineralisation; one hit a wide zone of graphite, and the other massive and semi-massive sulphide. In addition to undertaking*

down-hole EM surveys, we will process and analyse the drill core for elements of economic significance.”

“As part of our systematic exploration approach we are currently undertaking a regional aircore drilling programme which aims to generate new targets for subsequent RC/diamond drilling.”

“This drilling is presently focusing on our Northern Drill Targets where Ni-Cu prospective rock types have been intersected, consistent with a layered mafic-ultramafic intrusive complex, in an area where previous explorers report Ni-Cu geochemical anomalism.”

“Importantly, we remain well funded to continue our Fraser Range exploration programme.”

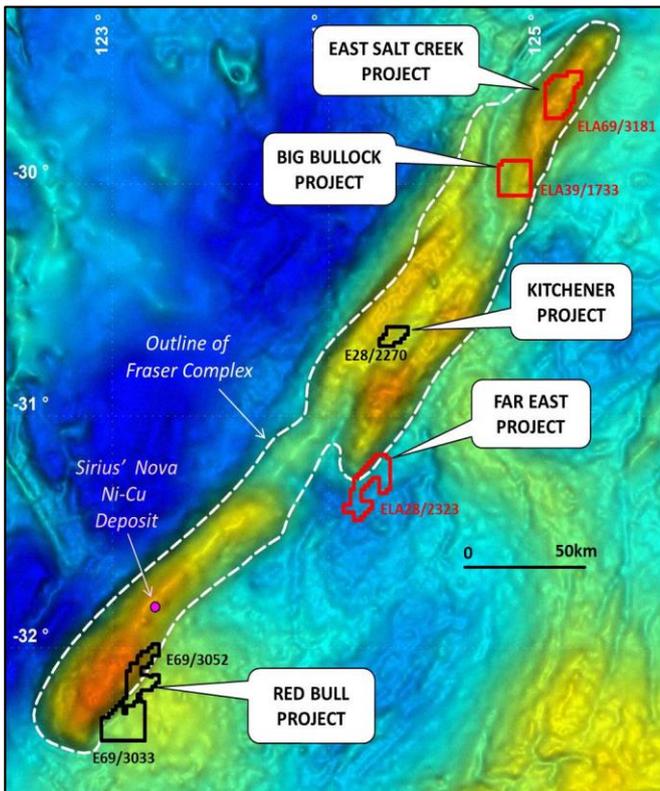


Figure 1: Location of Red Bull Project on a gravity image outlining the Fraser Complex

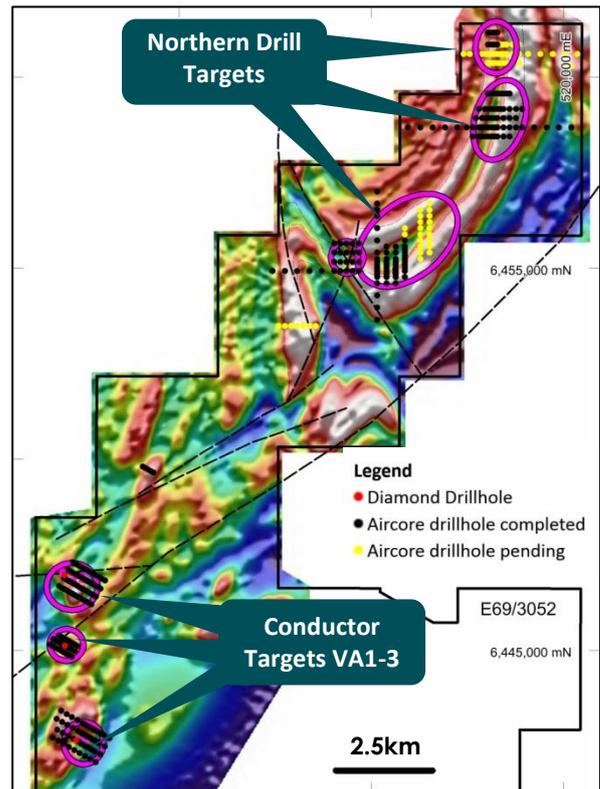


Figure 2: Status of regional aircore drilling programme

### Preliminary Results from Drill Core<sup>1</sup>

Hole REDD001 (179.7m eoh) targeted the RB VA1 conductor at about 100m depth and intersected a graphitic and sulphidic metasediment from 31.3m to 135.8m down hole. The graphite occurs as disseminations and as films along foliations throughout the interval, including four zones of intense graphite development at 31.3-32.3m; 66.4-69.3m; 72.0-72.8m, and; 84.0-88.7m (e.g. Figure 3). Sulphide species are dominated by pyrrhotite (iron-sulphide) and are disseminated throughout the interval.

Hole REDD002 (480m eoh) targeted the RB VA2 conductor at about 320m depth and intersected 1m to 17m thick bands of weakly graphitic metasediment within a sequence of granulites and metasediments from 237.5m to 383.6m.

Hole REDD003 (402m eoh) targeted the RB VA3 conductor at about 350m depth and intersected a 3.8m thick zone of semi-massive and massive sulphides (pyrrhotite dominant) from 298.1m to 301.9m (e.g. Figure 4), and a 4.3m thick zone of disseminated sulphide and graphite from 301.9m to 306.2m, within foliated metasediment.

<sup>1</sup> All thicknesses and depths are down-hole, holes were angled at -60°.

Sheffield will complete detailed geological logging and geochemical analysis of the mineralised zones in each hole. A downhole electromagnetic (DHEM) survey is currently underway to further evaluate each target conductor.



**Figure 3: Graphite mineralisation in REDD001, HQ core, 87m depth.**



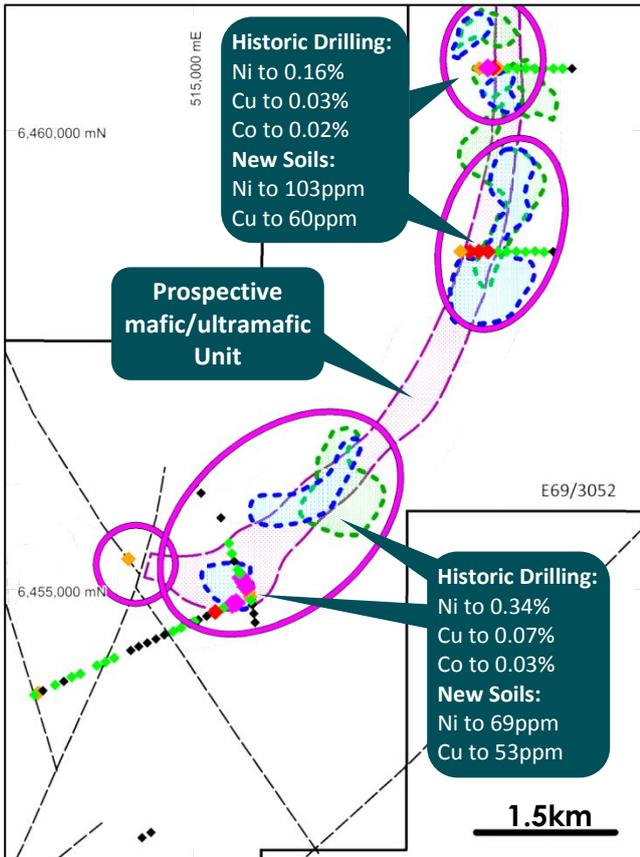
**Figure 4: Massive and semi-massive sulphide in drill hole REDD003, NQ core, 300.4m depth.**

### **Current Aircore Drilling Programme**

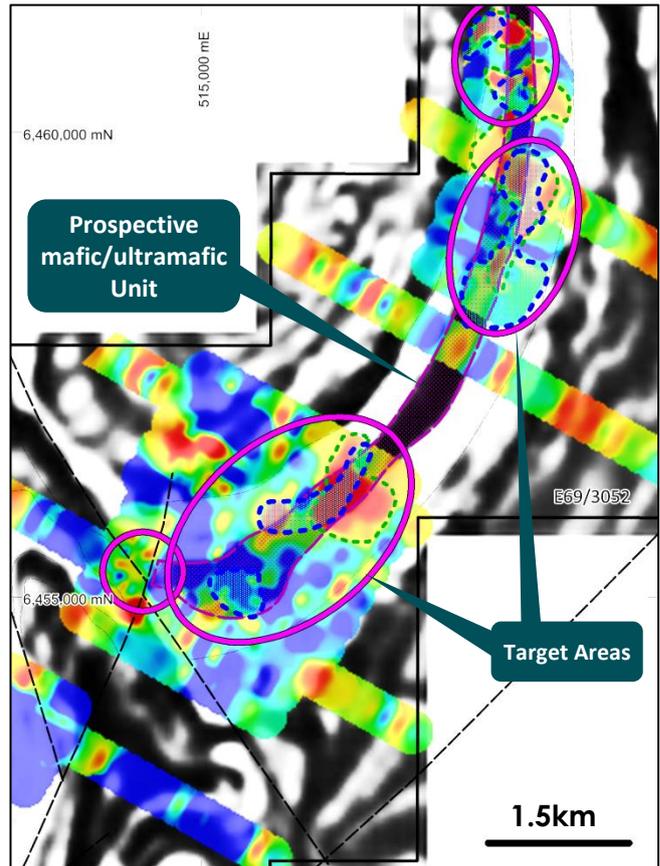
Regional aircore drilling continues, with approximately 85% of holes completed (Figure 2) (see ASX release 1 May, 2013 for details of the target areas). The remainder of the programme is expected to take two weeks to complete, with evaluation of results expected to be completed by early Q4.

#### *Northern Drill Targets*

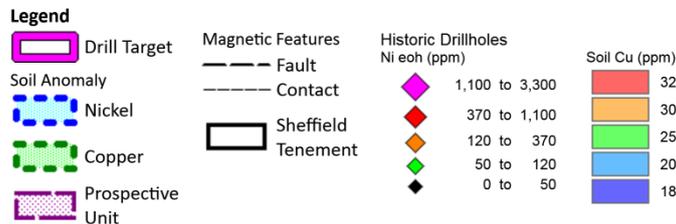
Significantly, drill holes amongst the Northern Drill Targets (Figure 2) have intersected rocks consistent with a folded and faulted, layered mafic-ultramafic complex. Such complexes are considered prospective for sulphide nickel and copper mineralisation. Sheffield's ASX release dated 1 May, 2013 describes the Northern Drill Targets in detail; Figures 5 and 6 (below) have been reproduced from that release to provide the appropriate context.



**Figure 5: Ni-Cu soil anomaly outlines, historic drill collars coloured by eoh Ni, and drill target areas**



**Figure 6: Greyscale RTP1VD aeromagnetic image with gridded Cu soil results and drill target areas**



ENDS

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**COMPETENT PERSONS' STATEMENT**

The information in this announcement that relates to exploration results is based on information compiled by David Boyd. Mr Boyd is a full time employee of the Company. Mr Boyd is a Member of the Australasian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity to which they are undertaking to qualify as Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code")'. Mr Boyd consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

## FORWARD LOOKING STATEMENTS

Some statements in this announcement 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 "expected", "planned", "target", "scheduled", "intends", "potential", "prospective", "strategy" and similar expressions.

## ABOUT SHEFFIELD RESOURCES

Sheffield Resources Limited (**Sheffield**) is a rapidly emerging heavy mineral sands (HMS) company.

ASX Code – SFX

Market Cap @ 27cps - \$31.9m

Issued shares – 118.3m

Cash - \$8.5m (approx.)

The Company has over 6,000km<sup>2</sup> of highly prospective tenure, all situated within the state of Western Australia.

## HEAVY MINERAL SANDS

The Dampier project, located near Derby in WA's Canning Basin region, contains the large, high grade zircon-rich Thunderbird HMS deposit.

The Eneabba project comprises multiple HMS deposits and is located near Eneabba approximately 140km south of the port of Geraldton in WA's Mid-West region.

Sheffield is also evaluating the large McCalls chloride ilmenite project, located 110km to the north of Perth.

## NICKEL-COPPER

Sheffield's Red Bull project is located in the highly prospective Fraser Complex within 20km of Sirius Resources NL's (ASX:SIR) Nova Ni-Cu discovery.

## IRON

Sheffield holds four exploration licences prospective for iron in the North Pilbara region, all near existing iron ore mine sites or major development projects and within potential trucking distance of Port Hedland. Following its recent sale of the South Pilbara Iron tenements, Sheffield continues to seek to unlock value on its remaining Pilbara iron tenements through consolidation and/or further exploration.

## POTASH

The Oxley potash project is located in the northern part of the Proterozoic Moora Basin, approximately 38km northeast of Three Springs. Sheffield is exploring the Oxley Potash project for unconventional hard rock potash mineralisation suitable for open pit mining.