



SheffieldResources  
LIMITED

ASX and Media Release

27 June 2013

## DIAMOND DRILLING COMMENCES AT RED BULL Ni-Cu PROJECT

### KEY POINTS

- Diamond drilling programme at Red Bull testing three high order bedrock conductor anomalies has commenced, expected completion in 2-3 weeks.
- Programme designed to directly test the source of conductors:
  - RB VA1: target depth 100m
  - RB VA2: target depth 320m
  - RB VA3: target depth 350m
- Regional aircore drilling programme continuing with 70% of holes completed
- Fraser Range tenure increased to 1,400km<sup>2</sup> with two recent tenement applications, including E39/1733 awarded to Sheffield in a ballot

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Sheffield Resources ("Sheffield", "the Company") (ASX:SFX) today announced it has commenced diamond drilling of three strong bedrock conductors 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).

### Diamond Drilling Programme

The diamond drilling programme comprises three holes totalling approximately 1,000m and is designed to test the source of each of the three high-order bedrock conductors RB VA1 to VA3, identified from Fixed Loop EM surveys (see ASX release 11 February, 2013; Figures 2-4, below).

RB VA1 will be tested with an angled, 180m-deep hole, target depth at about 100m. RB VA2 will be tested with an angled, 460m-deep hole, target depth at about 320m. RB VA3 will be tested with an angled, 480m-deep hole, target depth at about 350m.

Drilling at RB VA1 began today; the entire programme is expected to take 2-3 weeks to complete and will be followed by down-hole EM surveys.

Managing Director, Bruce McQuitty said the Company was now transitioning to a new phase of direct drill targeting at Red Bull.

*"We look forward to testing these high priority targets, which we see as an important step in our systematic evaluation of the mineral potential of the Red Bull Project."*

*"The targets have modelled conductances in the range 4,000 to 9,000 Siemens. Conductance signatures of greater than 5,000 Siemens are considered consistent with the presence of massive or strongly developed sulphides."*

## Tenement Holding Increased

Sheffield recently increased its tenement holding over the Fraser Range Nickel Province with the addition of exploration licence applications E28/2323 and E39/1733, the latter being first-drawn in a ballot. Sheffield now has 3 granted tenements and 3 applications totalling 1,400km<sup>2</sup> in the Fraser Range region - one of the largest holdings by an ASX-listed company (see Figure 1).

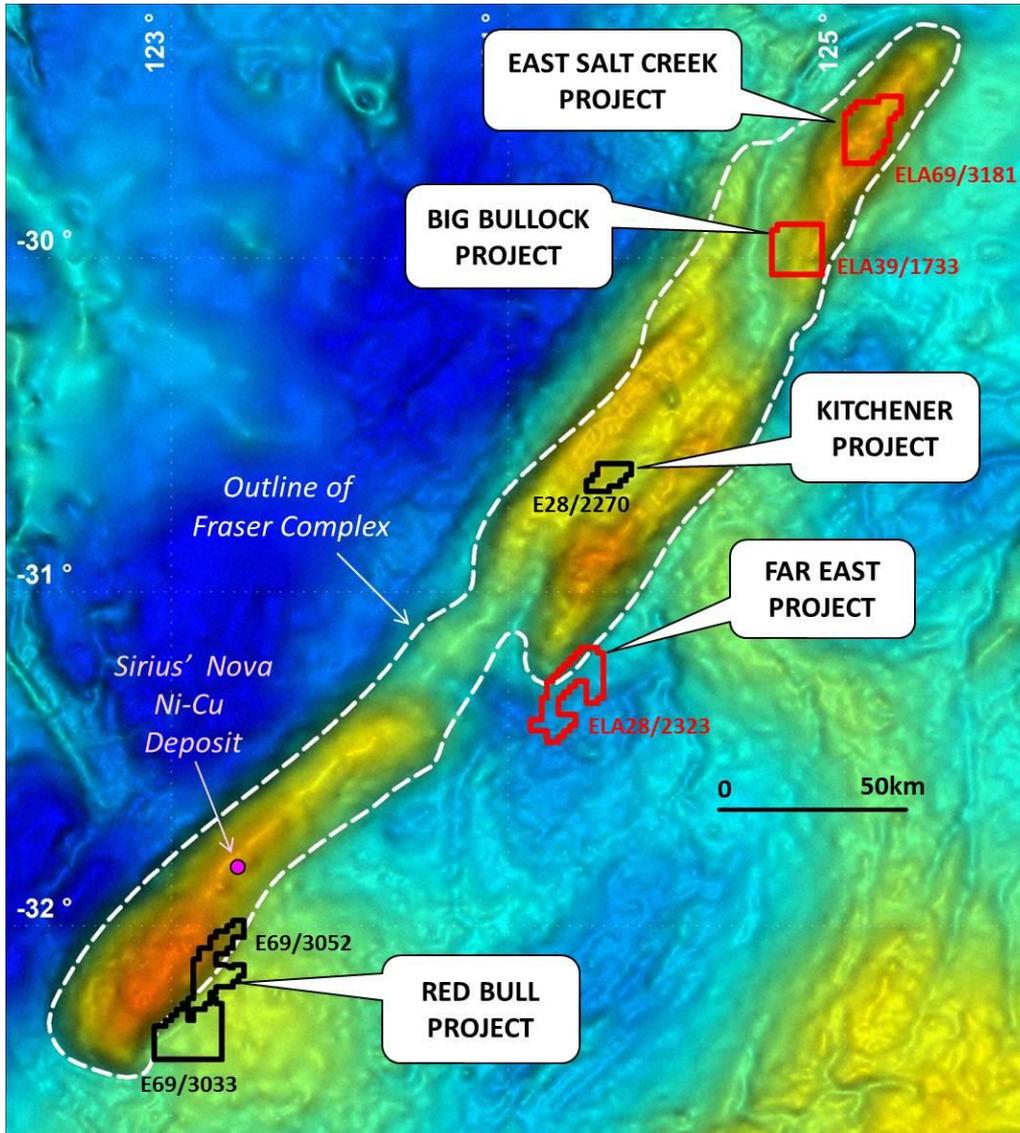


Figure 1: Location of Sheffield's Ni-Cu Projects tenements on a Gravity image outlining the Fraser Complex.

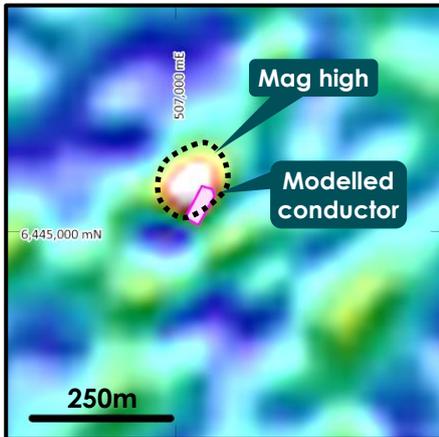
## Target Details

Anomaly RB VA1 is modelled by Southern Geoscience Consultants (SGC) as having a high conductance at >9,000S, indicating the source may be related to massive sulphide. It is 120m x 50m in area, flat lying, with a depth to top of 70-90m, and is coincident with a localised aeromagnetic high and anomalous Ni (36-46ppm) and Cu (20-24ppm) soil values (Figure 2).

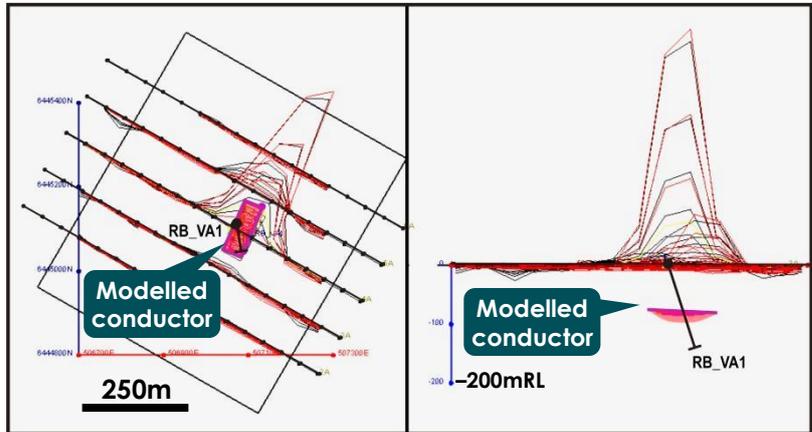
Anomaly RB VA2 is modelled as having a high conductance at >6000S, indicating the source may be strongly sulphidic. It is at least 400m x 125m in area, has a moderate westerly dip, and a depth to top of 200m. The conductor is adjacent to an aeromagnetic high and its projected surface position is coincident with anomalous Ni (30-65ppm) and Cu (20-42ppm) soil values (Figure 3).

Modelling of anomaly RB VA3 characterises the source as having high conductance >4000S, indicating the source may be strongly sulphidic. It is 300m x 150m in area, has a moderate south-westerly dip, and a depth to top of 250m. The conductor is also within a broad, ring-shaped aeromagnetic feature (Figure 4). Transported soils above the anomaly show no strong Ni or Cu anomalism. This may be due to the depth of the conductor and does not reduce the prospectivity of the target (Figure 4).

Figure 2: RB VA1

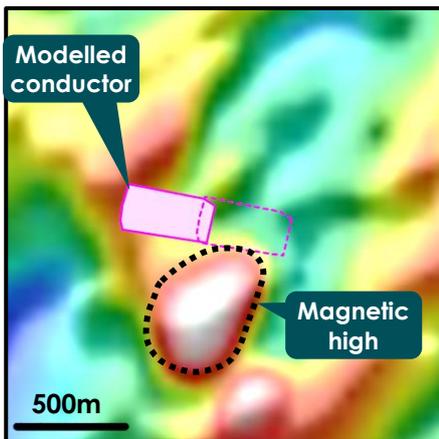


VA1 plate conductor model over RTP1VD magnetics image

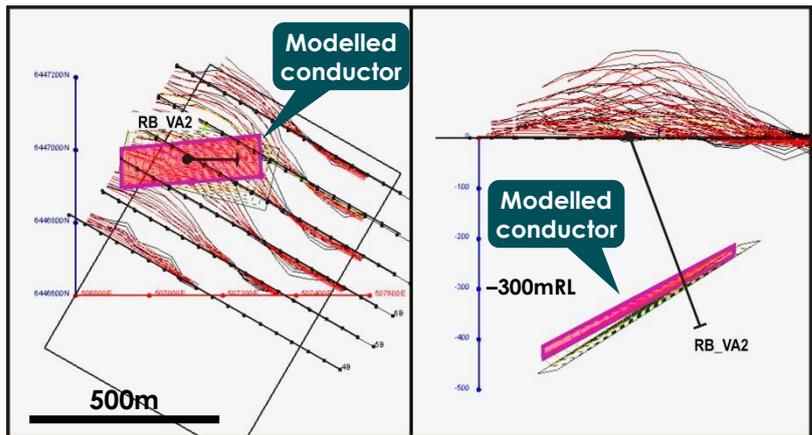


VA1 modelled conductor plan view & section

Figure 3: RB VA2

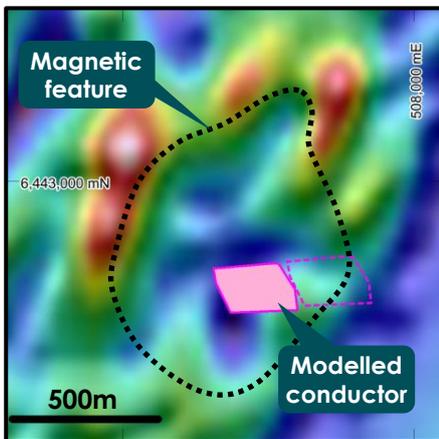


VA2 plate conductor over RTP magnetics image

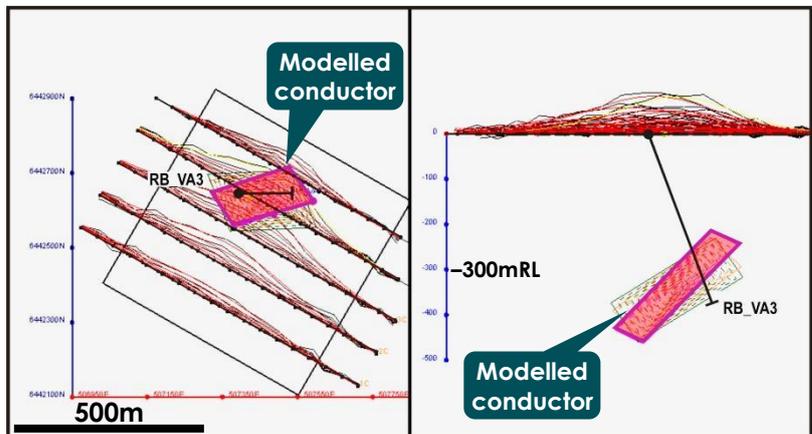


VA2 modelled conductor plan view & section

Figure 4: RB VA3



VA3 plate conductor over RTP1VD magnetics image



VA3 modelled conductor plan view & section

## **Current Aircore Drilling Programme**

Aircore drilling is continuing, with about 70% of holes completed and assays pending (see ASX release 1 May, 2013 for details of the target areas). The remainder of the programme is expected to take three weeks to complete, with full results due later in Q3.

Importantly, geological field logging of aircore holes drilled over the bedrock conductors RB VA1-3 indicate shallow weathering depths (<25m). This is further evidence that the modelled conductors have deeper bedrock sources and are not due to near-surface conductive clays or saline water.

## **Regional Soil Sampling Programme**

Sheffield has successfully completed an auger soil sampling programme of 1,557 samples across both Red Bull project tenements (E69/3052 and E69/3033). The results, due in Q3 2013, will be evaluated in combination with existing surface soil sampling and the results of the aircore drilling, to generate additional targets.

ENDS

For further information please contact:

Bruce McQuitty  
Managing Director  
Tel: 08 6424 8440  
[bmcquitty@sheffieldresources.com.au](mailto:bmcquitty@sheffieldresources.com.au)

Media: Annette Ellis  
Cannings Purple  
Tel: 08 6314 6300  
[aellis@canningspurple.com.au](mailto:aellis@canningspurple.com.au)

Website: [www.sheffieldresources.com.au](http://www.sheffieldresources.com.au)

## **COMPETENT PERSONS' STATEMENT**

The information in this announcement that relates to exploration results is based on information compiled by David Archer. Mr Archer is a full time employee of the Company. Mr Archer 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 Archer 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 @ 33.5cps - \$35.6m
Issued shares – 106.4m	Cash - \$6.2m (at 31/3/2013)
Anticipated cash inflow 30/06/13 ITM options - \$2.5m	

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.