



**Breakaway  
Research**

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### Company Information

ASX Code	SFX
Share Price	A\$0.46
Ord Shares	95.6m
Options	31.0m
<b>Market Cap</b>	<b>A\$44.0m</b>
Diluted MCAP	A\$57.5m
Cash (June 12)	A\$9.3m
Total Debt	A\$0m
<b>Enterprise Value</b>	<b>A\$34.7m</b>

### Directors

Chairman	Will Burbury
Managing Director	Bruce McQuitty
Technical Director	David Archer

### Substantial Share Holders

Citi Corp Nominees	6.70%
Bruce McQuitty	5.29%
Will Burbury	5.29%
David Archer	5.29%

### Company Details

Address	14 Prowse Street West Perth WA 6005
Phone	+618 6424 8440
Web	www.sheffieldresources.com.au

### 1 Year Price Chart



Source: Bloomberg

# Sheffield Resources (SFX)

*Dampier shaping up to be a 'tier 1'  
company making asset*

**Recommendation: Speculative BUY**

## Company Update

### Key Points

- **Initial drill results at Dampier confirm large widths of high grade HM mineralisation**
- **~7,000m of assays still pending – further high grade results likely**
- **Thunderbird prospect exploration target of 450-850Mt @ 5-10% HM**
- **JORC resource upgraded to 226Mt @ 2.3% HM at Eneabba**
- **Scoping study confirms robust economics – advancing to feasibility**
- **Fraser Range 'Red Bull' prospect ~20km from Nova discovery**

*The large, high grade Thunderbird prospect (within the Dampier project) has the potential to become a 'tier 1' company making asset. Initial drill results indicate large, high grade intersections with further positive news flow expected imminently. A resource upgrade at Eneabba enhances the already robust economics of the project as it advances through the feasibility stage.*

## Company Update

Sheffield Resources (ASX: SFX) recently embarked on a 12,500m drill campaign targeting the Thunderbird and Argo prospects at the highly prospective Dampier project, in northern WA.

~170 drill holes (~8,000m) have now been completed at Thunderbird with the remaining 4,500m of drilling ear-marked for the nearby Argo prospect during the 2013 dry season. Initial results from the first 24 Thunderbird drill holes have confirmed the prospectivity of the target, **including high grade Heavy Minerals (HM's) and widths of up to 42m.**

Breakaway is confident further high grade, large width intercepts will be announced in the coming weeks, placing the company firmly on track to meet their exploration target of 450-850Mt @ 5-10% HM.

Sheffield's Perth Basin 'Eneabba' project also continues to make steady progress with the resource recently upgraded to 226Mt @ 2.3% HM, **for a total of 5.3Mt of contained HM.** A scoping study confirmed the robust economics of the project, however the upgrade is likely to further improve the economics as the company advances through the project feasibility stage.

Sheffield's 'Red Bull' project, located 20km south of Sirius Resources' recent Cu-Ni Nova discovery, remains prospective for a similar style of mineralisation, as well as being prospective for shallow mineral sands. An EM survey is planned a head of formal granting of the licence application.



## Investment Review

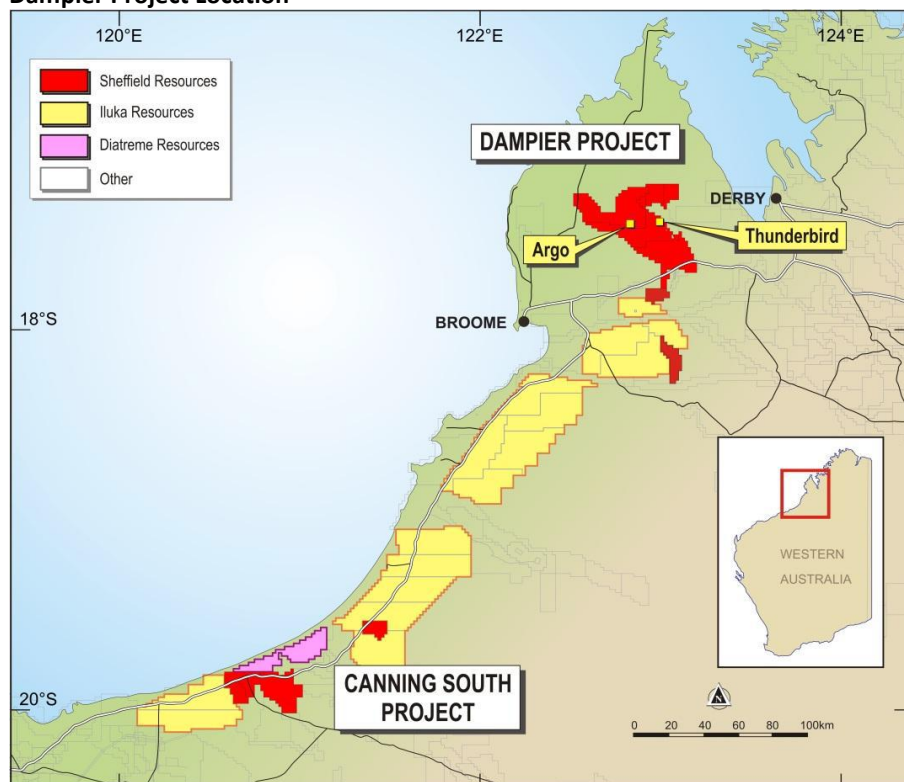
### Dampier – A company maker: Potential ‘tier one’ high grade, large tonnage project

Sheffield Resources recently embarked on a 12,500m drill program at the Dampier project, located in the Canning Basin, Northern WA, targeting the large and shallow Thunderbird prospect and the smaller, deeper prospect, Argo. The program has been designed to allow estimation of a resource and to provide material for metallurgical test work.

8,000m drill program  
at Thunderbird  
completed – assays  
pending

4,500m drill program  
at Argo - commencing  
2013

#### Dampier Project Location



Source: Sheffield Resources

450-850Mt @ 5-10%  
HM exploration target

The company has an exploration target for Dampier of 450-850Mt @ 5-10% HM (at least double in size and grade to that of the more advanced Eneabba project) for just the ‘core’ of the Thunderbird prospect.

Thunderbird has been allocated approximately 8,000m (of 12,500m) with assays recently announced for the first 24 holes.

#### Thunderbird Prospect – Highlights from 24 holes (~146 holes still to be drilled)

Interval	Hole	Notes
33m @ 6.3% HM	THAC 022	from surface including 21m @ 8.9% HM from surface
31.5m @ 5.3% HM	THAC 001	from surface including 12m @ 9.0% HM from surface
28.5m @ 6.1% HM	THAC 017	from 1.5m including 16.5m @ 8.7% HM from 3m
30m @ 7.2% HM	THAC 016	from 3m including 18m @ 10.1% HM from 13.5m
42m @ 6.0% HM	THAC 006	from 6m including 25.5m @ 8.2% HM from 12m
40.5m @ 6.5% HM	THAC 024	from 13.5m including 25.5m @ 8.6% HM from 19.5m
20.5m @ 9.5% HM	THAC 013	from 24m

Source: Sheffield Resources



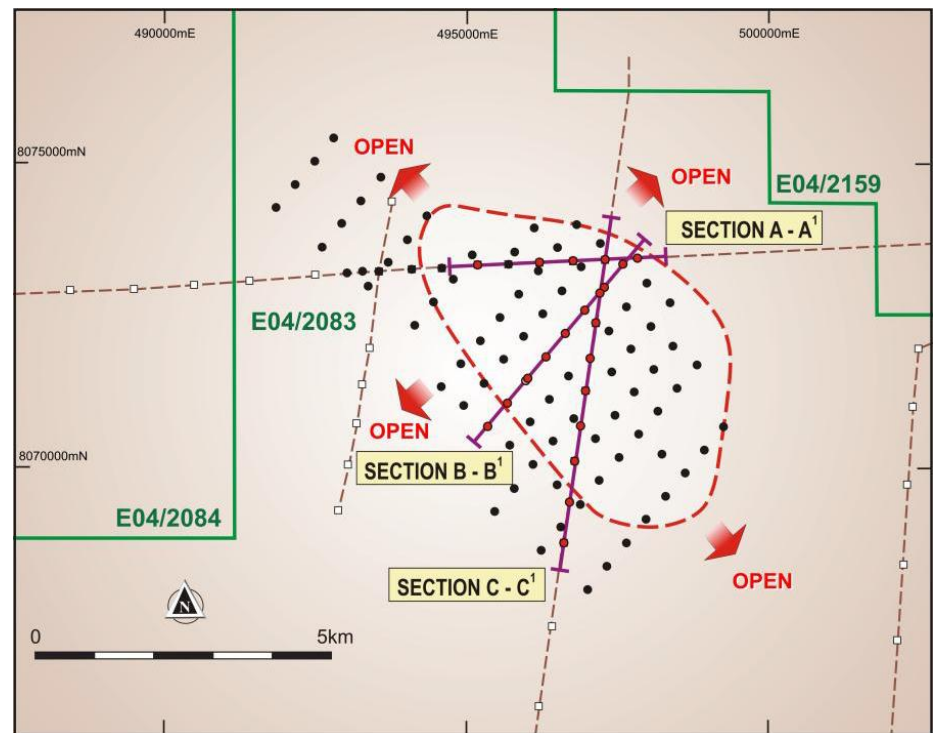
The results highlighted in the previous table indicate large widths of shallow, high grade HM mineralisation and bode well for the company to meet its HM exploration target of 450-850Mt @ 5-10%.

The mineral assemblage of the first 24 holes has not yet been determined however historical drilling at Thunderbird, undertaken by Rio, indicated ~8% zircon, 2.3% rutile, 6% limonite and 33.5% leucoxene. Breakaway expects a similar assemblage however this will not be determined until the JORC resource is announced (end of CY 2012).

### Thunderbird Prospect – Drill plan

*Initial assays taken from three lines across the prospect*

*Mineralisation open in all directions*



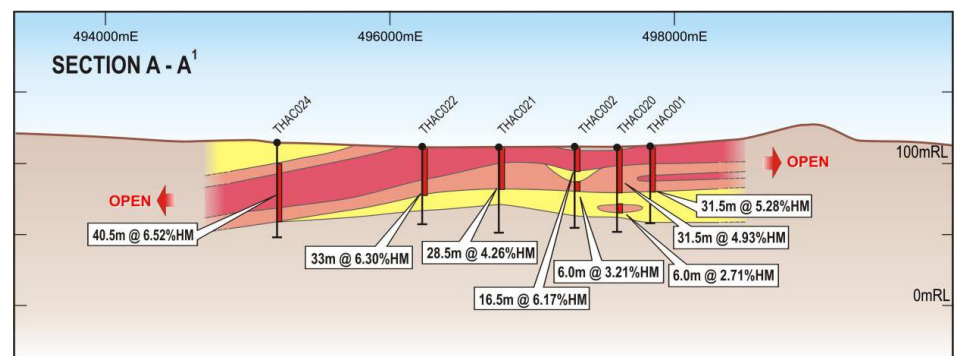
Source: Sheffield Resources

- Sheffield Drillhole - Results Received
- Sheffield Drillhole - Results Pending
- Rio Tinto Drillhole (2005-2007)
- Track
- Sheffield tenement boundary
- Exploration Target

The 24 drill holes which have been assayed to date are represented by the three cross section drill lines (A-A, B-B and C-C) and relate to an area 5km long by 4km wide (20km<sup>2</sup>) within the broader Thunderbird prospect.

### Line Section A-A

*Shallow mineralisation*

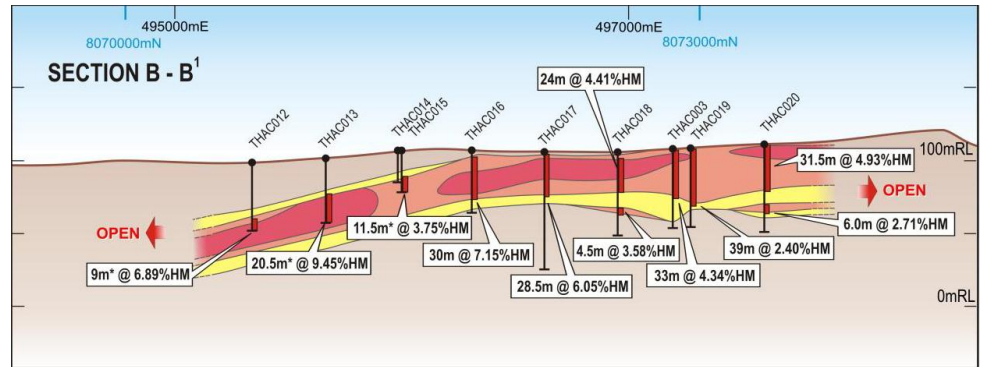


Source: Sheffield Resources



## Line Section B-B

Large widths of high grade HM



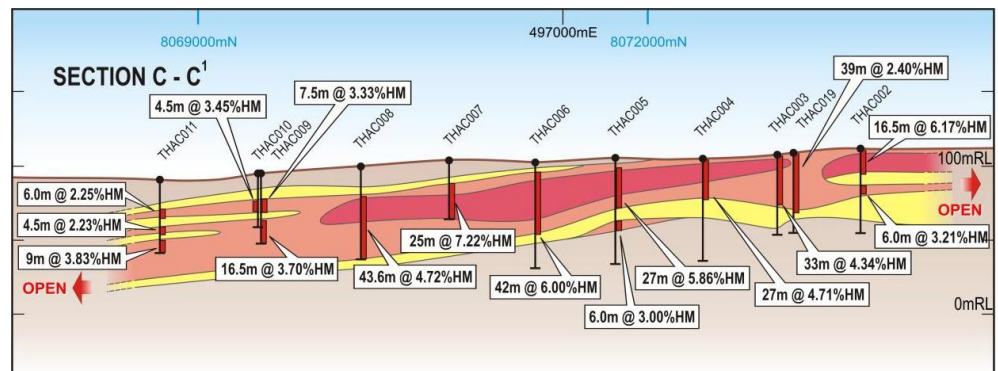
Source: Sheffield Resources

## Line Section C-C

'High grade' core of >5%HM with average width of 16m

Upcoming resource estimate by year end

Likely to be a company making asset



Source: Sheffield Resources

Breakaway is highly encouraged by the drilling to date. At a 2% HM cut-off, the mineralisation varies in thickness from 16.5m to 42m, with an average of 31m. Sheffield has identified a higher grade core (>5% HM) which varies in thickness from 7.5m to 25.5m, with an average thickness of 16m. **Importantly, mineralisation remains open in all directions.**

Drilling at Thunderbird has now been essentially completed and further assays will flow through to the market over the next two months. Breakaway is anticipating further high grade, large width intersections will be announced ahead of a maiden resource estimate by year end.

**The size and quality of the Thunderbird prospect is not to be underestimated. It has the potential to become a tier one project and a 'company maker' for Sheffield Resources. Importantly, the project is well located next to supporting infrastructure with limited overburden.**

Dampier is likely to become the priority project for the company over the next few years as it is advanced through to production.

## Additional Exploration Potential

Neighbouring Argo prospect yet to be drill tested

Significant exploration potential still exists beyond the boundaries of current Thunderbird drill program with several km's of strike yet to be tested.

At Argo, a Cultural Heritage Survey is currently being advanced ahead of a 4,500m drill program set to commence mid 2013 (during the dry season). Historical drilling highlights include 12m @ 3.49% HM from 42m and 7.5m @ 3.44% HM from 27m.

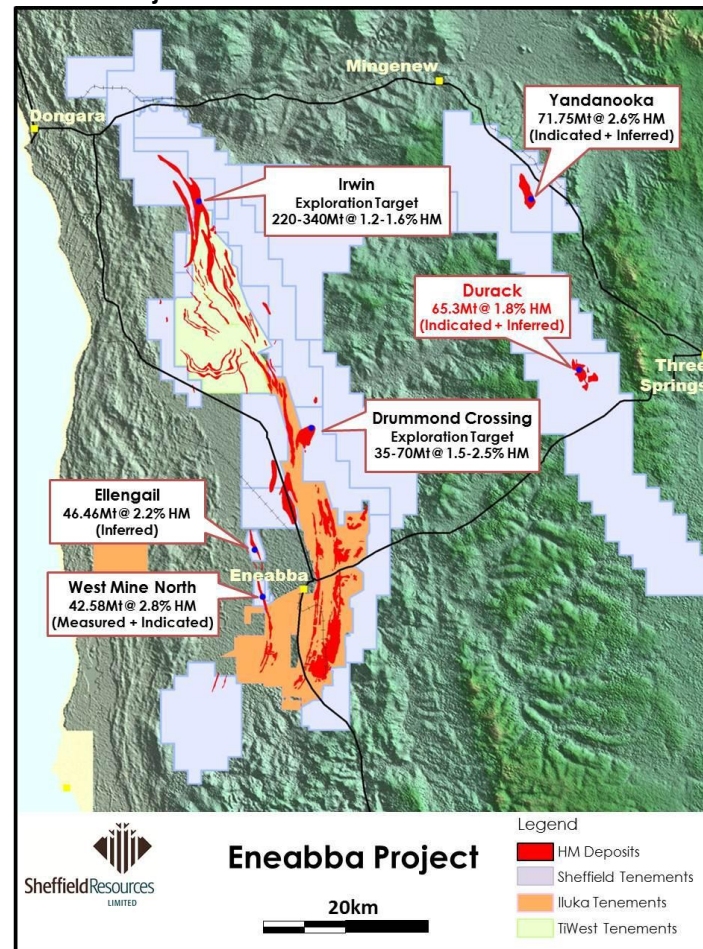


## Eneabba Update

The Eneabba project, located within the North Perth Basin, is currently the most advanced project in the Sheffield Resource's portfolio.

### Eneabba Project Locations

*Completed Scoping Study confirms robust economics*



*Resource upgrade to 226Mt @ 2.3% HM*

A drilling campaign recently completed at Durack resulted in a near surface maiden resource of 65.3Mt @ 1.8% HM, increasing the total Eneabba resource from 161Mt to 226Mt @ 2.3% HM, for a total of 5.3Mt of contained HM. Durack's mineral assemblage is made up of a high proportion of zircon (~14%) further adding to the attractiveness of the deposit.

The total combined resource (226Mt @ 2.3% HM) is now made up from four deposits, namely; West Mine North, Yandanooka, Durack and Ellengail. Further drilling is required at Drummond Crossing and Irwin before a resource estimate can be made.

*Irwin and Drummond Crossing yet still to be drill tested*

A scoping study completed by TZMI initially focused on advancing just the West Mine North, Yandanooka and Ellengail deposits through to production, indicating robust economics. This study will be updated to include Durack (and eventually Irwin and Drummond Crossing) as it advances through the pre-feasibility stage.



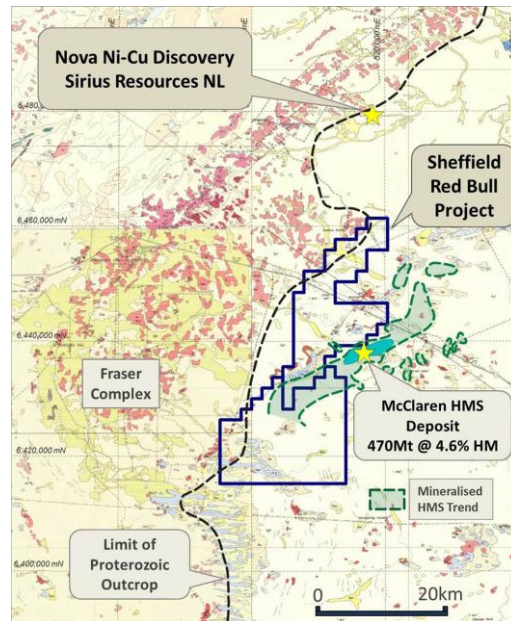
## 'Sirius' Discovery at Fraser Range

The recent 'Nova' nickel-copper discovery by Sirius Resources (ASX: SIR), located in the Fraser Range in southern WA, has aroused significant investor interest in recent weeks.

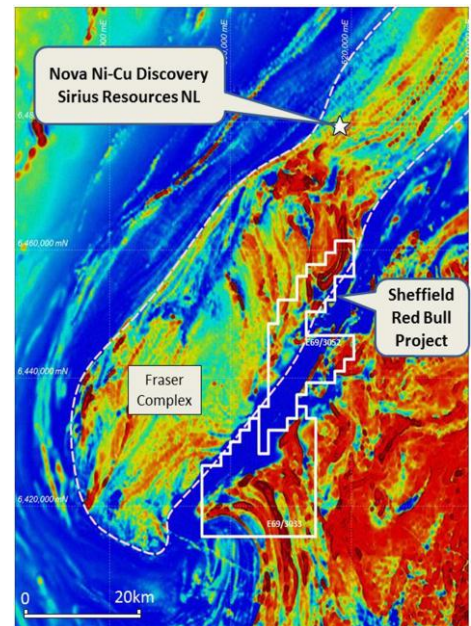
Sheffield Resources' Red Bull project is located ~20km south of the Nova deposit and comprises of one exploration licence and one exploration licence application (the northern licence - expected to be granted before year end) for a total area of ~525km<sup>2</sup>.

*Red Bull project  
~20km south of recent  
Ni-Cu Nova discovery*

### Local Geology and Magnetic Image of Red Bull Project



Source: Sheffield Resources



*Red Bull also  
prospective for  
mineral sands*

The licences were initially applied for on basis of the prospectivity for near surface Heavy Mineral Sands (HMS), however, the success at Nova has highlighted the potential for a new 'nickel-copper' province and adds to the exploration appeal in the region.

*An EM survey will be  
conducted to better  
define drill targets*

Sheffield is currently reviewing historical results from the both licence areas and is planning to fly an EM survey, particularly focusing on the northern licence, in the near term. Following the EM survey Sheffield will conduct a targeted drill campaign to test both the mineral sands potential as well as the deeper bedrock mineralisation potential.



### **Analyst Verification**

We, Grant Craighead and Andrew McLeod, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

### **Disclosure**

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Sheffield Resources and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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