



**Breakaway  
Research**

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### Company Information

ASX Code	SFX
Share Price	A\$0.49
Ord Shares	98.6m
Options	28.1m
<b>Market Cap</b>	<b>A\$48.3m</b>
Diluted MCAP	A\$61.2m
Cash (Sept 12)	A\$7.3m
Total Debt	A\$0m
<b>Enterprise Value</b>	<b>A\$41.0m</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)

*Maiden JORC Resource surpasses  
size and grade expectations*

**Recommendation: Speculative BUY**

## Company Update

### Key Points

- **Maiden JORC Resource of 1.37Bn tonnes @ 6.1% HM**
- **'High grade core' of 517Mt @ 10.1% HM**
- **Resource still remains open in most directions**
- **Thunderbird is a top tier, globally significant asset**
- **Metallurgical test work underway ahead of a scoping study**
- **Four priority targets identified at highly prospective Red Bull project, located ~20km from Nova discovery**

*Sheffield's Thunderbird prospect has shaped up to be a 'top tier' mineral sands deposit of global significance. Although a 1.37Bn tonne resource has been defined in just 15 months since Sheffield took control of the tenements, there is still further exploration upside as the resource is still open in most directions. Metallurgical test work is now underway which will pave the way for a scoping study set to commence in Q2 2013.*

### Investment Thesis

Sheffield Resources has surpassed expectations by delivering a maiden JORC resource of **1.37Bn tonnes @ 6.1% HM** (vs guidance of 450-850Mt @ 5-10% HM) with mineralisation still open in most directions. Within this resource, the company has identified a 'high grade core' which hosts **517Mt @ 10.1% HM** for a total of 52Mt of valuable Heavy Minerals.

This resource now cements the Thunderbird deposit as a 'top tier', globally significant asset which, once in production, should provide the foundations for building a significant new player in the mineral sands market. A six tonne bulk sample has been sent for metallurgical test work, with results expected within Q1 2013. A scoping study is then set to commence by Q2 2013.

With the size, grade and overall quality of the Thunderbird resource now better understood, it is likely the Dampier Project (encompassing Argo and Thunderbird prospects) will become the company focus while the more advanced, but smaller and lower grade Eneabba Project is likely to become a secondary focus.

At the Red Bull copper-nickel prospect within the Fraser Range, Sheffield has now completed multiple airbourne EM surveys and has identified four high priority targets. Field work and ground EM surveys are underway aimed at better defining the drill targets ahead of a drill program targeted for Q2 2013.



## Company Update

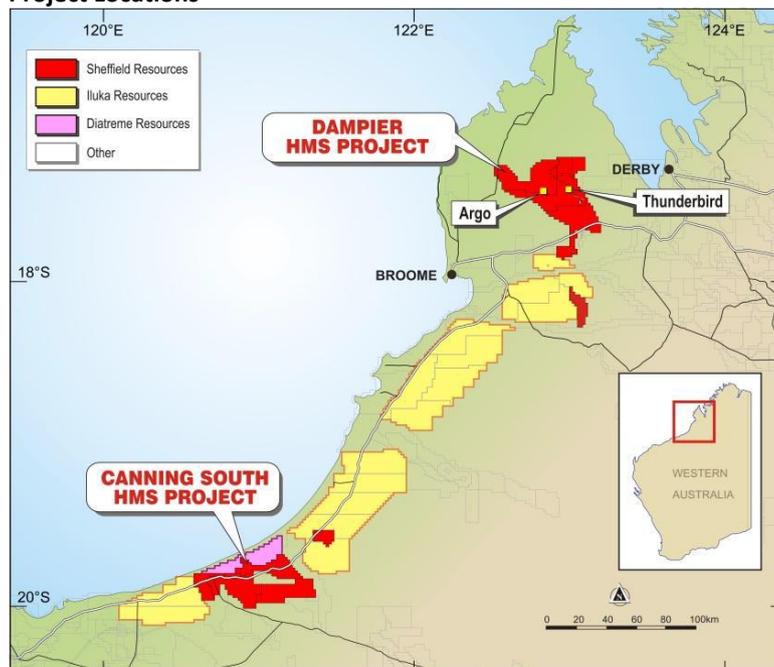
### Dampier Project

Resource surpasses expectations

Sheffield Resources has released a maiden JORC resource at the Thunderbird prospect which is significantly larger and of a higher grade than previously issued guidance. The resource now stands at **1.37Bn tonnes @ 6.1% HM for 83Mt of contained Heavy Minerals**. Within this Resource, Sheffield has identified a ‘**high grade core**’ which hosts 517Mt @ 10.1% HM for 52Mt of contained Heavy Minerals.

Favourable location

#### Project Locations



Source: Sheffield Resources

#### Thunderbird Deposit: JORC Resource

Resource Category	Mineral Resource			In-Situ HM (Mt)	Heavy Mineral Assemblage			
	Cut-off HM%	Million tonnes (Mt)	HM %		Zircon %	Rutile %	Leucoxene %	Ilmentite %
Indicated	2.0	299	7.2	21.5	6.9	1.6	4.3	29
Inferred	2.0	1,075	5.8	61.9	6.9	1.6	4.3	29
<b>Total</b>	<b>2.0</b>	<b>1,374</b>	<b>6.1</b>	<b>83.4</b>	<b>6.9</b>	<b>1.6</b>	<b>4.3</b>	<b>29</b>
Indicated	7.5	137	11.5	15.8	6.9	1.6	4.3	29
Inferred	7.5	379	9.6	36.5	6.9	1.6	4.3	29
<b>Total</b>	<b>7.5</b>	<b>517</b>	<b>10.1</b>	<b>52.3</b>	<b>6.9</b>	<b>1.6</b>	<b>4.3</b>	<b>29</b>

Source: Sheffield Resources

High grade core constitutes >60% of contained HM

Resource is 6 times larger and triple the grade of Eneabba project

Scoping study set to commence soon

To put the Thunderbird resource into perspective, the Resource is at least six times larger and triple the grade to that of Sheffield’s Eneabba project (located within the North Perth Basin of WA) which currently hosts 226Mt @ 2.3% HM, for a total of 5.3Mt of contained HM.

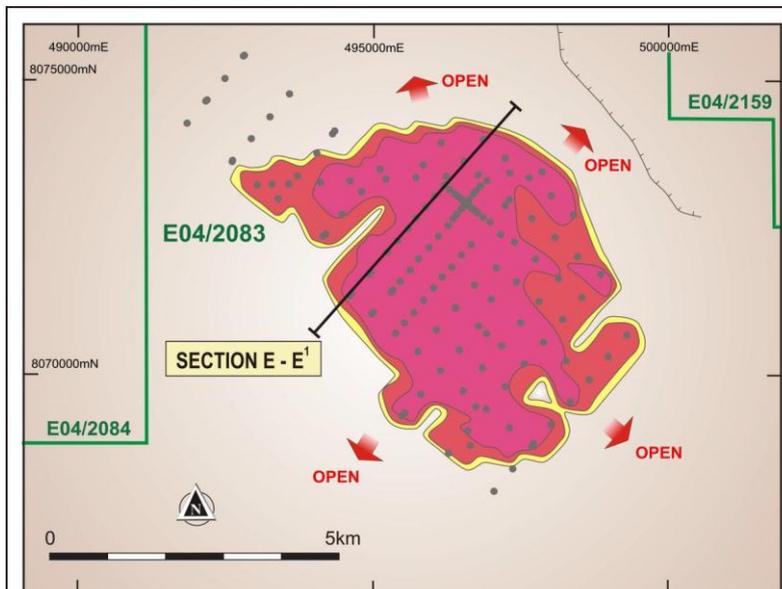
Sheffield is undertaking metallurgical test work on a six tonne bulk sample with results due within Q1 2013. A scoping study is then expected to commence in Q2 2013.



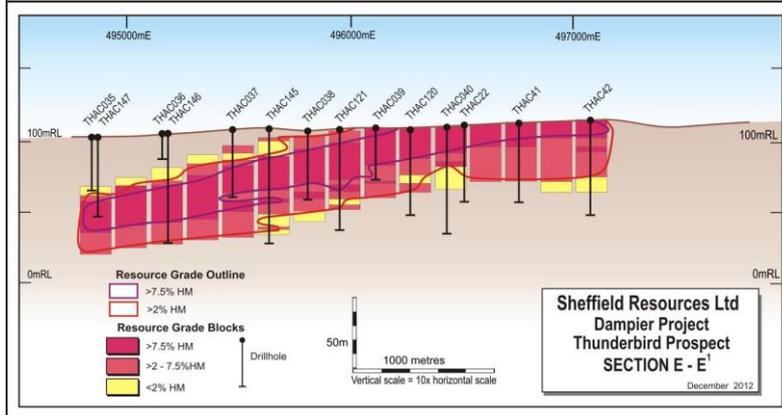
The delivery of this large resource, just 15 months after grant of the tenement, is a significant achievement for the company. Importantly, the mineralisation at Thunderbird still open along most directions which will likely lead to further resource upgrades from ongoing exploration.

### Thunderbird Resource Outline

*Mineralisation still open in all directions*



*Mineralisation starts at surface with an average thickness of 38m*



Source: Sheffield Resources

Using the 2% HM cut-off, the resource covers an area of ~7km x 5km and occurs as a shallow dipping zone with an **average thickness of 38m**. Mineralisation extends from surface to a maximum depth of 94m with 40% of the total resource occurring within 3m of surface.

### Additional Exploration Potential

*Nearby Argo prospect may significantly increase the size of the project*

Significant exploration potential still exists beyond the boundaries of current Thunderbird resource with several km's of strike yet to be tested. At the nearby Argo prospect, 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.

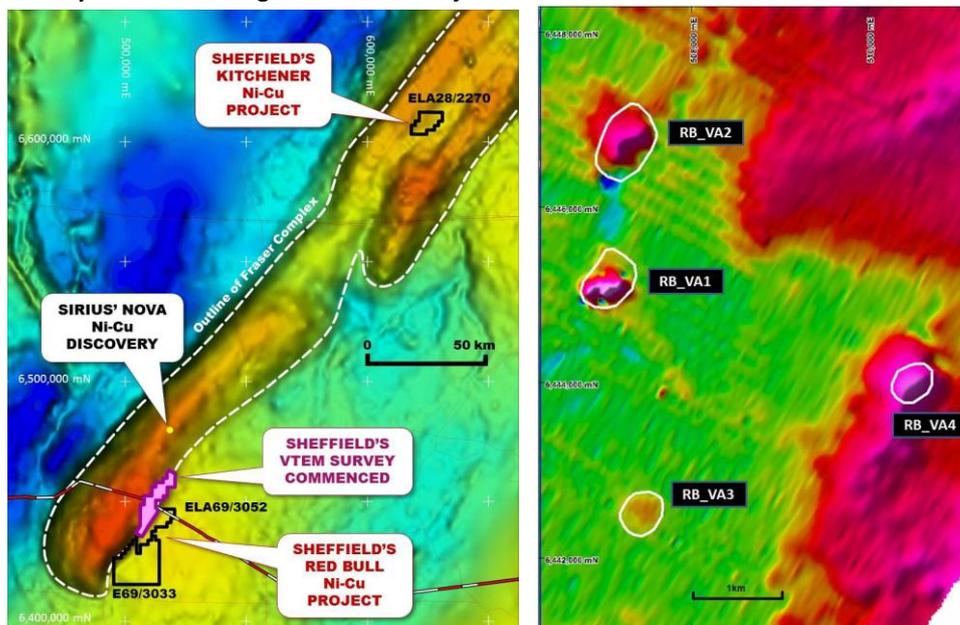


## Red Bull Nickel Copper Project – Fraser Range

Following the recent granting of E69/3052, the Red Bull project now encompasses two exploration licences for a total of ~525km<sup>2</sup>. The project is located approximately 20km south of Sirius’s Nova deposit; within the newly identified nickel province of Fraser Range, south west WA. A further exploration licence known as the “Kitchener Project” is currently under application and is located ~160km north east of the Nova deposit, still within the Fraser Range complex.

*Red Bull located ~20km south of the Nova discovery*

### Gravity and VTEM Image of Red Bull Project



Source: Sheffield Resources

The southern licences were initially applied for on basis of the prospectivity for Heavy Mineral Sands (HMS); however, the success at Nova has highlighted the potential for a new ‘nickel-copper’ province, adding to the exploration appeal in the region.

### Historical Exploration at Red Bull

*Four high priority targets identified*

A limited reconnaissance aircore drill program carried out by Gold Partners NL between 1995 and 1997 identified a 8km long Ni-Cu-Co anomalous trend overlying mafic and ultramafic rocks. Analysis of this historical data confirmed the prospectivity of the region and prompted Sheffield to complete an airborne VTEM survey over an area of 144km<sup>2</sup> within the north western zone of E69/3052 (shaded in pink in the above image).

Initial interpretation of the survey identified **four high priority targets**, three of which show a correlation with magnetic anomalies, which together, are a strong indicator of mineralised systems.

### Field Work Commenced

*Field work underway to be followed up by drill program*

A soil sampling program is now underway within the prospective zone which hosts the four high priority targets. Sheffield has also commenced ground based EM surveys set which are likely to be followed by a drill campaign (targeting Q2 2013) once the targets are better defined.



### **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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