Sheffield Resources (SFX)

Advancing multiple high quality mineral sands assets

Recommendation: Speculative BUY

April 2012

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Company Information

ASX Code	**SFX**
Share Price	A$0.44
Ord Shares	94.3m
Options	31.8m
Market Cap	**A$41.5m**
Diluted MCAP	A$54.4m
Cash (Mar 12)	A$11.3m
Total Debt	A$0m
Enterprise Value	**A$30.2m**

Directors

Chairman	Will Burbury
Managing Director	Bruce McQuitty
Technical Director	David Archer

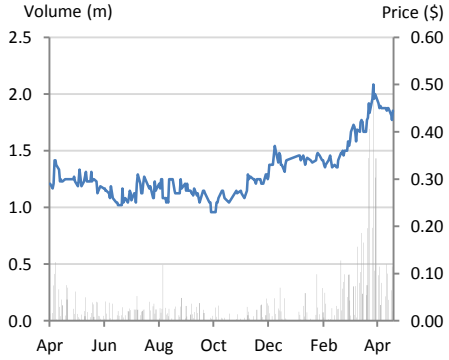
Substantial Share Holders

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

Key Points

- ***Eneabba scoping study indicates the potential for robust returns***
- ***Pre-feasibility study underway - first production targeted for 2015***
- ***12,500m Dampier drilling campaign to commence imminently***
- ***Dampier has the potential to become a 'company maker'***
- ***Strong project pipeline for future development***
- ***Mineral sands pricing are elevated and likely to remain so***

Sheffield Resources is an advanced mineral sands explorer with high quality assets located in Western Australia. The Company is advancing the Eneabba project with a pre-feasibility underway and first production targeted for 2015. Stage two envisages development of the large, higher grade Dampier deposit which has the potential to generate significant returns once in production.

Company Overview

Sheffield Resources (ASX: SFX) has a portfolio of mineral sands, iron ore and talc projects, all located within Western Australia, however the principle focus for the company is the development of the Eneabba and Dampier mineral sands projects.

The Eneabba project is the most advanced and was recently the subject of a scoping study completed by mineral sand industry experts TZMI. Eneabba hosts a 161Mt @ 2.5% VHM (Valuable Heavy Minerals) resource comprised from three closely spaced deposits. Further opportunity exists to extend this resource with infill and extensional drilling on other nearby, already defined prospects. The outcome of the scoping study showed the project to be technically sound and economically attractive under various commodity price assumptions. Sheffield is now progressing with a pre-feasibility study with the goal of first production by 2015.

Stage two in the company growth profile envisages advancing the potentially high grade, large tonnage Dampier project in northern WA. Dampier has an exploration target of 450-840Mt @ 5–10% VHM, more than twice the size and grade of the Eneabba project, and is viewed as the 'company maker'. A 12,500m drilling program is about to commence with a maiden JORC resource expected in early in Q4 2012.

Mineral sand prices remain at elevated levels and are likely to advance on these levels in the medium term with supply and demand fundamentals underpinning the upward trend.

Investment Review

Sheffield Resources has a large portfolio of advanced mineral sands projects, the most advanced of which is the Eneabba project, located in the North Perth Basin, WA.

Eneabba – Scoping study highlights economic potential of project

Eneabba project will be the first to be developed

A scoping study was recently completed by industry experts TZMI, assessing the economic potential of initially advancing three of deposits within the Eneabba project through to production, namely; West Mine North, Yandanooka and the Ellengail. The combined resource of the three deposits is 161Mt @ 2.5% for approximately 3.5Mt of contained Valuable Heavy Minerals.

Scoping study indicates robust economics

The results from the TZMI study indicate that the Eneabba project is viable and indeed, has the potential for robust returns over the life of the project. TZMI also completed a sensitivity analysis to assess the impact of varying commodity prices on the project NPV. Based on a 42% decrease in the VHM prices from current pricing levels (low case scenario), the Eneabba project was assessed to have a US$54M NPV. When substituting the commodity prices for current pricing (high side of range), **the NPV increases to US$336m (A$2.72/share).**

Pre-feasibility underway

Sheffield is now advancing the Eneabba project through the feasibility stages with first production slated as early as 2015. Encouragingly, one of the deposits, West Mine North, already sits within a granted Mining Lease.

Dampier – Flagship project: Potential 'tier one' high grade, large tonnage project

Dampier is a potential 'tier-one' asset

The investment case for Sheffield Resources is further enhanced by the Dampier project, located in northern WA. Dampier is less advanced than Eneabba, however, it has the potential to become a 'tier one' asset and the flagship project for Sheffield.

The potential value of the Dampier project should not be underestimated. The company has an exploration target for Dampier of 450-850Mt @ 5-10% HM (at least double in size and grade to that of Eneabba) for just the 'core' of the Thunderbird prospect. Previous drilling undertaken by Rio Tinto intersected large widths of high grade mineralisation highlighting the prospectivity of the area.

Significant re-rating in company valuation likely with JORC resource in line with target

Sheffield Resources is conducting Aboriginal Heritage surveys ahead of a 12,500m drilling program. A maiden JORC resource estimate is expected early in Q4 2012. Should Sheffield identify a JORC resource in line with the exploration target, Breakaway would expect a significant re-rating in the company valuation.

McCalls – Large deposit for long term supply of titanium rich feedstock

McCalls is a large deposit with high % of ilmenite within HM

The McCalls project offers Sheffield Resources a substantial long term supply option with a current JORC resource of 4.4Bt @ 1.2% HM. While the grade of the heavy minerals is lower than that of Eneabba and Dampier, the mineral assemblage has a high concentration (~80.8%) of titanium rich ilmenite. The total contained ilmenite in this deposit is currently 43Mt (with further exploration potential) making this one of the largest accumulations of chloride grade ilmenite in the world.

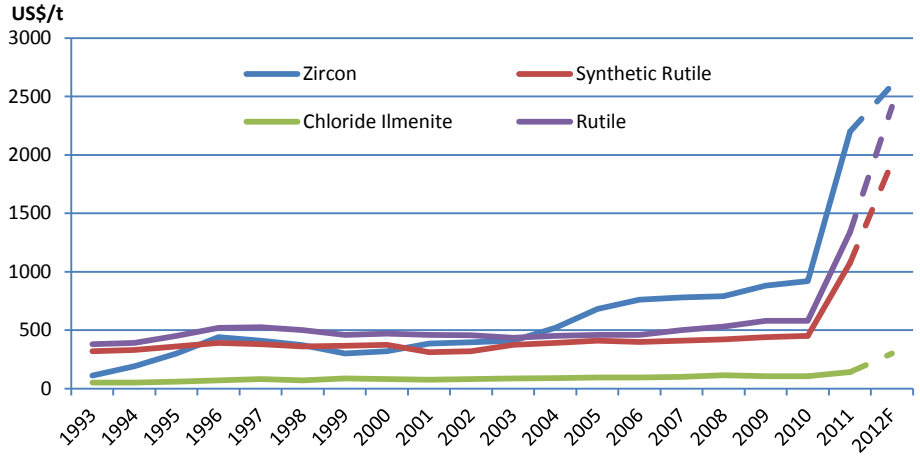
McCalls is strategically located near the town of Gingin, 110km north of Perth. The project is well serviced by existing infrastructure, including main roads, rail and power. A railway line is situated 10km to the east of the project and connects to Fremantle/Kwinana ports approximately 160km to the south.

The outlook for mineral sands remain robust with long term demand continuing to be underpinned by urbanisation of the emerging Asian economies.

Iluka Resources recently increased the expected price received for, TiO_2 related products (Rutile and Synthetic Rutile) by 80 – 85% to US$2,412 and US$1,935 respectively for the first of 2012 whilst also currently receiving ~US$ 2,500/t for zircon. Ilmenite is currently trading at ~US$300/t (up from ~US$ 80/t in 2010).

Mineral sand price trends from 1993 to 2012F

Mineral sand prices have seen a material step change in recent times



*Source: TZMI and Iluka Resources *Forecast Rutile assumptions from Iluka announcement 8/12/11*

While there appears the likelihood of a softening in prices in the short term, following the accelerated price increases recently witnessed, the longer term price uptrend should be supported by broad structural supply issues.

Additional Projects

Iron ore targets of between 20-60Mt

Elsewhere the **Pilbara iron ore project**, located in WA, is progressing well with the company targeting of between 20 and 60 million tonnes of hematite iron ore grading between 56% to 60% Fe within the 'Three Pools' project area based on first pass drilling in 2011. Further drilling is planned for 2H 2012 and a JORC resource estimate possible by Q4 2012.

Sheffield is also one of very few listed public companies in the world offering significant exposure to talc which is principally used in the manufacture of paper, ceramics and plastics.

Drilling underway at Talc project

Drilling has commenced on the company's Moora Talc Belt project. A focused programme of 20 RC drill holes and 3 diamond drill holes will follow up encouraging intercepts of high grade talc obtained in last year's drill programme.

Breakaway's View

Potential for significant cash flow

Sheffield Resources has a strong pipeline of quality projects which all have the potential to deliver significant cashflow for the company. Assuming a 42% decrease in mineral sand pricing, the Eneabba project alone still justifies the current enterprise value of the company.

In the short term, the Dampier project provides the opportunity for a step change in the company valuation should the upcoming 12,500m drilling campaign be successful in replicating the high grade, wide intersections achieved by RIO's 8 hole program.

What Are Mineral Sands?

Mineral sands or 'Heavy Minerals' (HM) generally refer to minerals with a specific gravity greater than that of 2.85 and the grade of a given deposit is characterised by the percentage of HM found. These Heavy Minerals fall within two discreet product streams. The first is titanium dioxide (TiO_2) in the form of rutile, ilmenite and leucoxene and the second is zircon.

Titanium Dioxide (TiO_2)

The titanium products of ilmenite, rutile, and leucoxene as well as upgraded products from synthetic rutile and titanium slag are used principally as feed for the production of white pigment. This accounts for over 90% of global titanium dioxide consumption. The remaining 10% is used in the production of titanium sponge, used in the manufacture of titanium metal, welding and electrode flux.

TiO_2 Content of Titanium Dioxide Products

Form of Titanium	% TiO_2 Content
Rutile	+95%
Leucoxene	85-95%
Titanium slag/ Synthetic Rutile	88–94%
Ilmenite	54–85%

Source: Iluka Resources and Sheffield Resources

Titanium dioxide predominantly used as a feed for white pigment

Titanium dioxide has a high refractive index which allows it to bend and scatter light. When enough titanium oxide is used in a medium, almost all visible light will be reflected giving it the appearance of it being opaque, white and bright. It is this quality which is extensively used in the manufacture of paints, plastics, paper and in a range of other applications including inks, fibres, rubber, food, cosmetics and pharmaceuticals. Plastics are the fastest growing sector with its major application in the packaging industry.

TiO_2 pigment is non-toxic and biologically inert making it safe for use in foods, cosmetics and pharmaceuticals. TiO_2 replaced lead in many applications, such as paint due to health issues related to lead toxicity.

Titanium Metal

Titanium dioxide is principle feed in manufacture of titanium metal

Titanium dioxide products are also the principle feed in the manufacture of titanium metal. Applications for titanium are wide ranging from aerospace and military applications to common infrastructure we use every day. Titanium has the highest strength to weight ratio of any metal as well as particularly good resistance to corrosion. In its unalloyed form, titanium is as strong as steel but 45% lighter. The obvious advantage of this property is fuel efficiency in the aerospace industry. The Airbus A380 uses ~67 tonnes in the aircraft body and ~10 tonnes in the engines.

Zircon

Zircon is highest price commodity in mineral sand mix

The largest end use of zircon is as an opacifier (an opacifier is a substance added to a material in order to make the ensuing system opaque) used in the manufacture of ceramics including tiles and sanitary ware (toilets, baths etc). One of the biggest growing sectors for the use of zircon is in the production of zirconium chemicals used in paper coatings, paint driers, antiperspirants and catalysts. Zirconium metal has a high melting point and is chemically resistant which makes it ideal for use in specialised metal alloys and nuclear fuel rods.

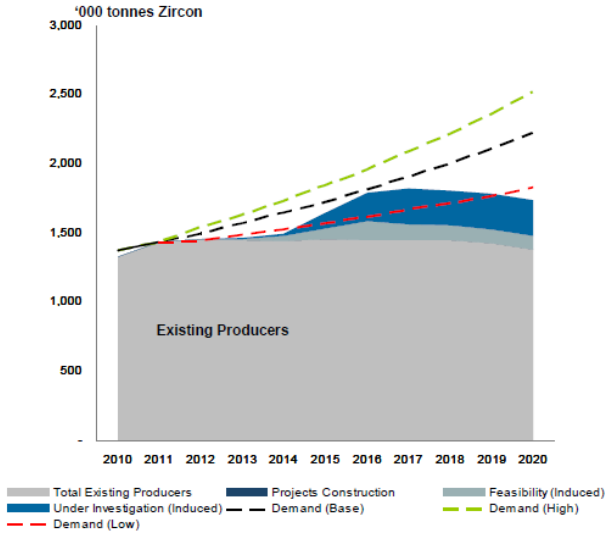
The outlook for mineral sands

Mineral sand pricing has seen a step change in recent times with prices received for zircon, rutile, synthetic rutile and ilmenite all reaching record highs. With such an accelerated move in prices, there does appear room for short term softening however the longer term upward trend appears intact.

Mineral sand growth underpinned by developing economy growth

The growth in demand for mineral sands is primarily driven by GDP growth and urbanisation in developing countries such as China, India and Brazil. In 2010, 9.4m tiles were produced globally with ~58% consumed by China alone. (Source: Iluka)

Zircon Supply and Demand (including induced projects)



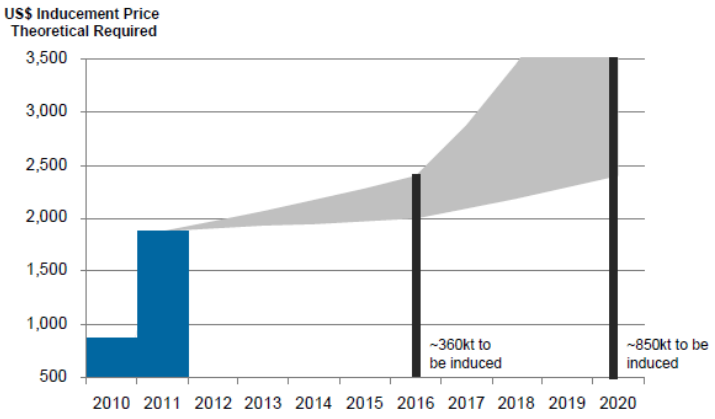
Source: Iluka Resources

The chart above highlights the apparent disconnect between current supply with that of perceived demand until 2020. Only in a 'low case' scenario (3% pa growth) would the market be able to keep up with demand and this assumes all assessed projects commence production by 2014.

The following chart, compiled by Iluka, shows that sustained higher pricing is required to rationally induce new supply to the market to meet perceived demand.

Inducement Price Required to fill Supply Shortage in 2016

Higher mineral sand prices required to induce further supply



Source: Iluka Resources

While there remains opportunity for volatility in mineral sand pricing (following the recent rise), Breakaway expect prices will be largely be supported in the medium term due to broad structural supply issues.

Project Review

Sheffield Resources has over 30 granted tenements totalling ~1,500km^2 and a further 5,000km^2 of exploration licences under application, all within Western Australia.

Within the large tenure position, the company is actively exploring for and developing projects in three key areas:

Diverse project pipeline

- **Heavy Mineral Sands** (HMS) projects in the Mid-West and Kimberly regions
- The Moora **Talc** Belt project
- The Three Pools and Panorama **Iron Ore** projects located in the Pilbara

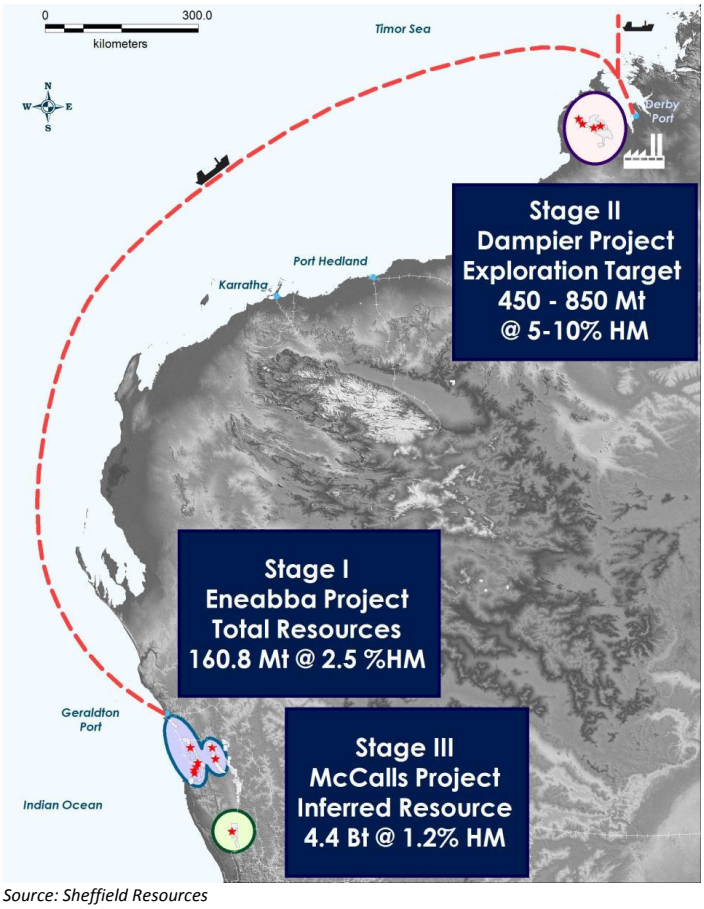
Heavy Mineral Sands

The principle focus for the company is the development of three significant Heavy Mineral Sands (HMS) projects located in the North Perth Basin and the Canning Basin in northern WA.

- **Eneabba Project** – Near term production, pre-feasibility study underway
- **Dampier Zircon Project** – Flagship, high grade project
- **McCalls Project** - Large, longer term project

Sheffield Resources - HMS Project Locations

3 stage growth plan for mineral sands



Source: Sheffield Resources

The most advanced of the projects is Eneabba and its development should pave the way for subsequent development of the higher grade Dampier Project and the much larger but lower grade McCalls project.

The Eneabba Project

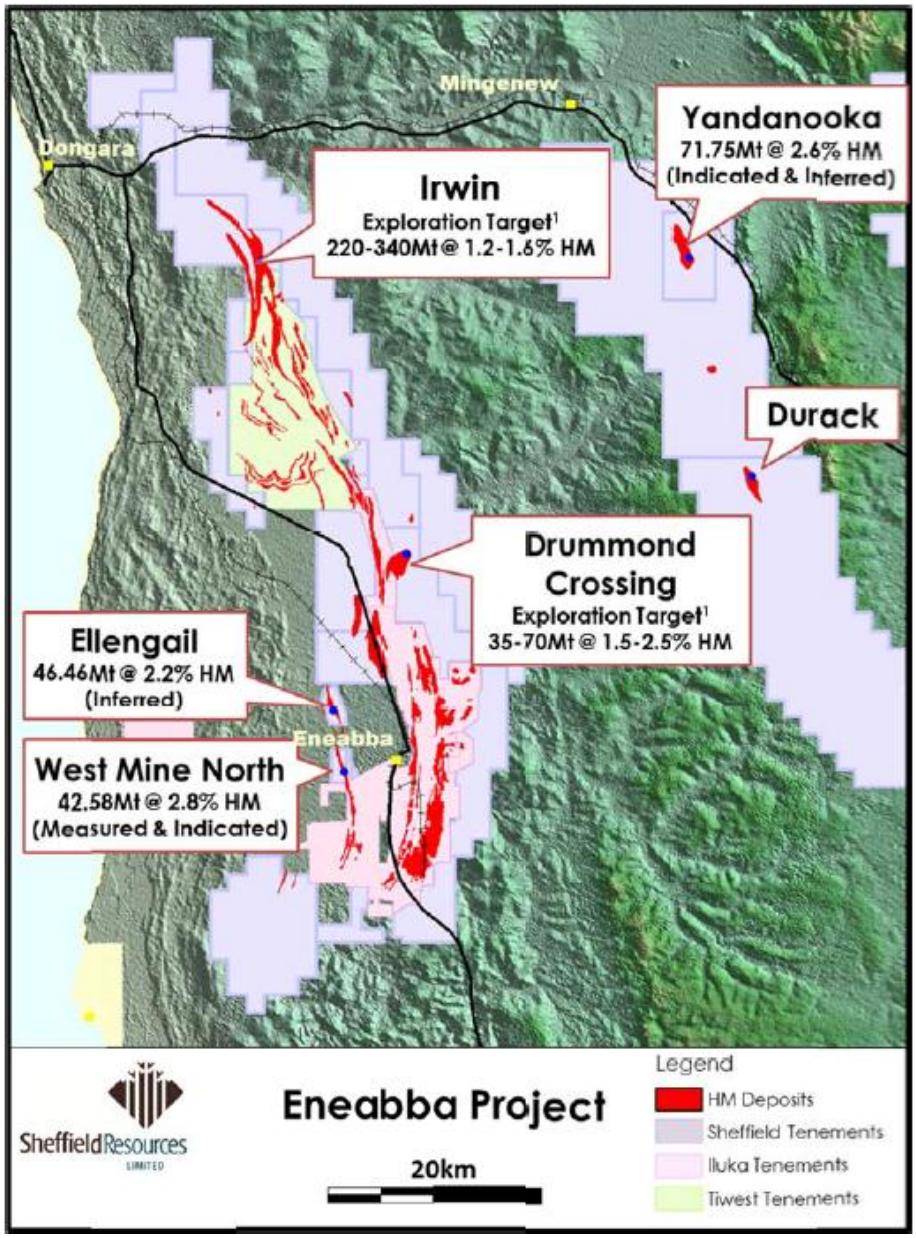
Stage 1 in SFX development plan – In feasibility, near term production

Eneabba project encompasses 8 advanced exploration projects

The largest grouping of tenements in Sheffield's portfolio lies within the North Perth Basin, encompassing approximately 2,500km^2 of tenure and is host to eight advanced exploration projects. The West Mine North, Ellengail, BeeKeepers, Yandanooka, Durack, Drummond Crossing, and Irwin projects are all located in the Eneabba region and as such have been grouped together in the **'Eneabba Project'.** The eighth project is the large 4.4Bt @ 1.2% HM McCalls deposit, located further to the south near Gingin, which is a standalone project in its own right.

Strategically located next to supporting infrastructure

Eneabba Project - Individual HMS Project Locations



Source: Sheffield Resources

The Eneabba Project is a medium sized project focused on the development of three deposits; namely West Mine North, Yandanooka and the Ellengail. These deposits have a combined resource of **161Mt @ 2.5% HM** and are currently the subject of a pre-feasibility study. Whilst the grade appears relatively modest, the potential for development is enhanced by the proximity to established infrastructure.

The table below summarises the total contained Heavy Minerals within these deposits including the larger McCalls deposit for which a maiden resource was recently announced. (McCalls will be developed in 'stage 3' and is not included in the Eneabba development plan).

Large global resource

Sheffield Resources – Contained Valuable Heavy Minerals (VHM) @ 0.9% HM cutoff

Deposit	JORC Category	Zircon (kt)	Rutile (kt)	Leucoxene (kt)	Ilmenite (kt)	Total VHM (kt)
West Mine North	Measured	18	33	42	200	293
West Mine North	Indicated	71	87	46	506	710
Yandanooka	Indicated	201	117	168	1,072	1,558
Yandanooka	Inferred	12	9	15	73	109
Ellengail	Inferred	92	90	20	658	860
McCalls	Inferred	3,491	1,063	2,576	42,911	50,041
Total:	Measured	18	33	42	200	293
	Indicated	272	204	214	1,577	2,267
	Inferred	3,595	1,162	2,611	43,641	51,009
Total		**3,885**	**1,399**	**2,867**	**45,418**	**53,569**

Source: Sheffield Resources

West Mine North

West mine north comprises of three granted mining leases

West Mine North comprises of three granted mining leases and is the most advanced project within the broader Eneabba project. The deposit hosts a JORC resource of **42.58Mt @ 2.8% HM** (Measured + Indicated) for a total of 1,003kt of contained HM and is one of several sub-parallel heavy mineral strand lines in the region. The project was originally purchased from Iluka (who retain a 1.5% royalty) early in 2011 along with the adjacent Ellengail project

The deposit is located 5km from the sealed Brand Highway, 115km south of the Geraldton Port and just 6km west of the large, Iluka owned, Eneabba Deposit. The deposit is on freehold farm land and already has a granted mining lease.

The West Mine North deposit is typical of the Eneabba deposits mined in the region with a coarse grain size and a valuable mineral assemblage.

Valuable mineral assemblage

West Mine North – Mineral Resources @ 0.9% HM cutoff

Resource Category	Size (Mt)	HM %	In-situ HM (kt)	Zircon %	Rutile %	Leuc. %	Ilmenite %
Measured	6.47	5.6	364	4.9	9.1	11.6	54.9
Indicated	36.11	2.3	843	8.4	10.3	5.4	60
Total	42.58	2.8	1,207	7.9	10.1	6.4	59.2

Source: Sheffield Resources

The deposit runs along strike for approximately 4km, up to 270m wide, and is between 10m and 35m thick. The overburden on the deposit is between 5m and 20m.

West Mine North has established surrounding infrastructure and is already on a granted mining licence.

Yandanooka

The Yandanooka project is located approximately 35km east of Eneabba and comprises three contiguous exploration licences covering a total tenement package area of 983km^2.

SFX envisage Yandanooka will be the first to be mined

Within the tenure, there are three prospects namely Yandanooka, Arrino and Durack. Yandanooka is of most interest as it is one of the few remaining outcropping HMS deposits in the mid west. The deposit is situated on cleared freehold land, 2.5km from a sealed highway and a railway which connects through to the Geraldton Port, 140km to the North West.

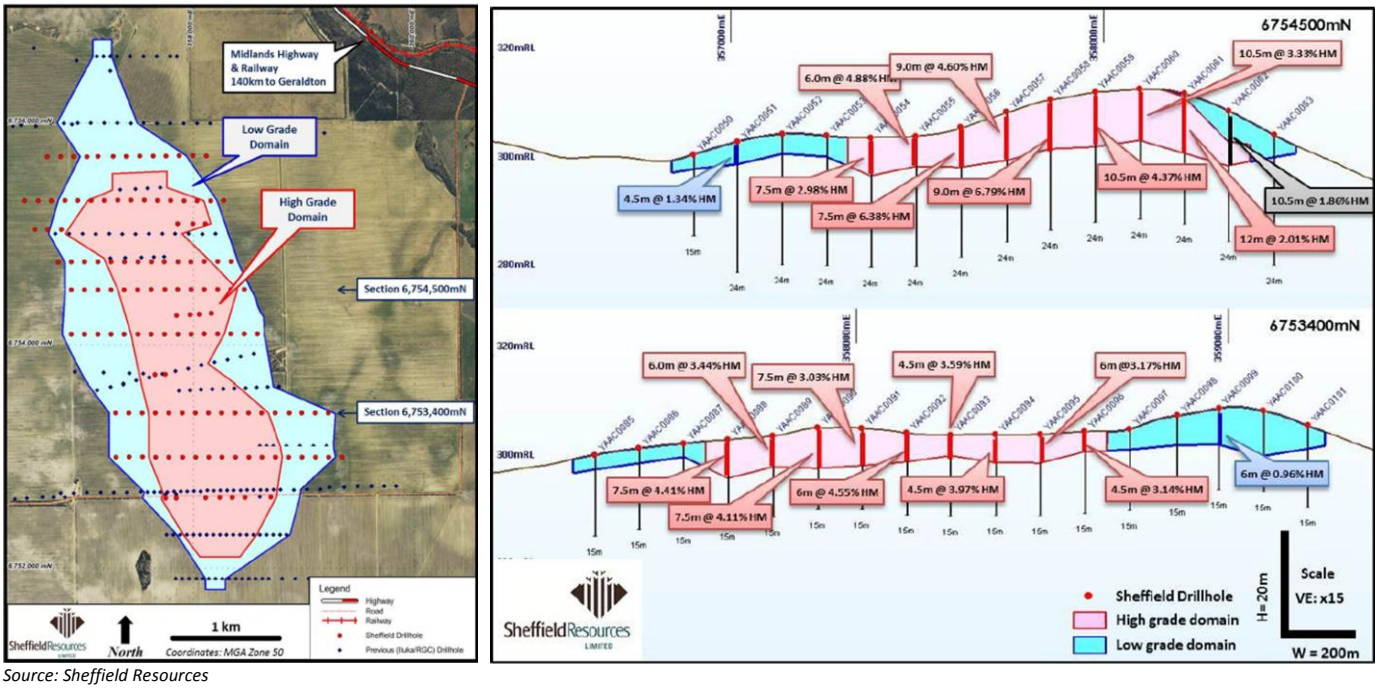
Yandanooka Project – Mineral Resources @ 0.9% HM cutoff

Resource Category	Size (Mt)	HM %	In-situ HM (kt)	Zircon %	Rutile %	Leuc. %	Ilmenite %
Indicated	61	2.8	1,720	11.7	6.8	9.8	62.3
Inferred	10.75	1.1	120	10.1	7	12.5	59.8
Total	71.75	2.6	1,840	11.5	6.9	10.2	61.9

Source: Sheffield Resources

The Yandanooka deposit has a JORC resource of **71.75Mt @ 2.6% HM** and has a central high-grade core (>2% HM) which is enveloped by a lower grade (>0.9% HM) halo. The deposit is 5km long, 1.7km wide and between 2m and 20m thick with minimal overburden.

Yandanooka – Drill collars and typical cross section looking North



Source: Sheffield Resources

In addition to elevated zircon and rutile content, the heavy mineral assemblage comprises a significant proportion of TiO_2 rich ilmenite and leucoxene. Previous work undertaken by Iluka Resources Ltd has determined the ilmenite has a TiO_2 content of ~64.7%, based on analysis of 6 composite samples. The high TiO_2 content of the ilmenite indicates potential suitability as feed for chloride process pigment production or synthetic rutile production. Sheffield will conduct further mineral separation studies to gain information on the ilmenite quality.

Ellengail

Ellengail is located 3km along strike of the West Mine North deposit. A total of 271 holes have been drilled to define a zone of mineralisation 2.5km long x 200 – 350m wide and between 10 – 15m thick. A JORC Resource of **46.45Mt @ 2.2% HM** for 1.04Mt of contained HM was announced in August 2011, which includes a high grade core of 11.25Mt @ 5% HM for 560kt of HM.

High grade zircon

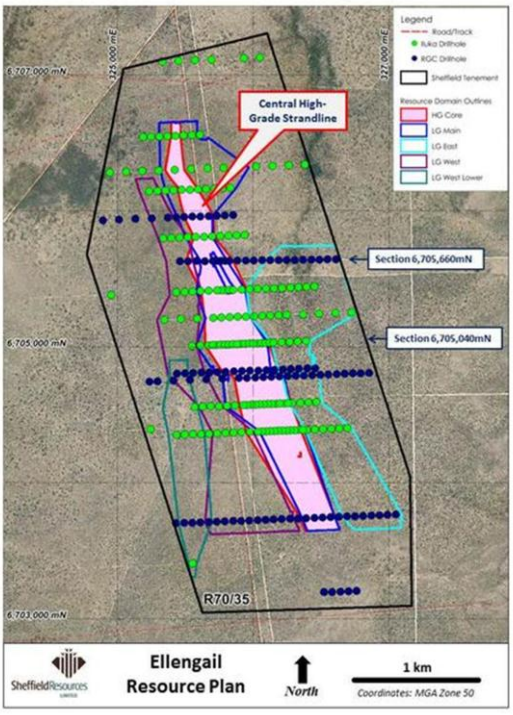
Ellengail Project – Mineral Resources @ 0.9% HM cutoff

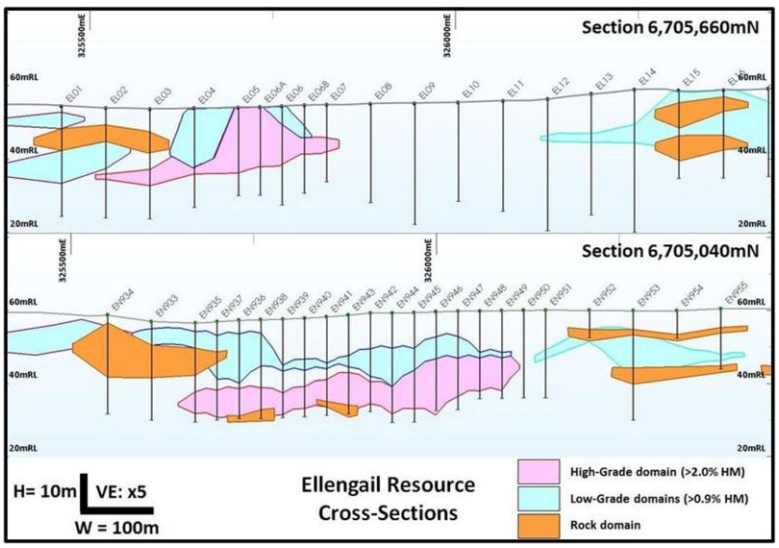
Resource Category	Size (Mt)	HM %	In-situ HM (kt)	Zircon %	Rutile %	Leuc. %	Ilmenite %
Indicated	-	-	-	-	-	-	-
Inferred	46.45	2.2	1,040	8.9	8.7	1.9	63.5
Total	46.45	2.2	1,040	8.9	8.7	1.9	63.5

Source: Sheffield Resources

The deposit has a relatively high value mineral assemblage with 17.6% combined zircon and rutile. Mineralisation is near surface with approximately 10m of cover. The high grade domain is predominantly located approximately 20 - 30m below surface

Ellengail – Prospect Plan and Section





Source: Sheffield Resources

Eneabba Scoping Study

Scoping study based on initial 121Mt resource

In March 2012, Sheffield Resources completed a scoping study to assess the viability of developing the Eneabba project. The scoping study was undertaken by TZMI, a leading mineral sands consultancy group, and was based on a 112Mt resource (actual total resource is 161Mt) from West Mine North, Yandanooka and Ellengail

In assessing the economic viability, the study makes a number of key assumptions:

- Production would commence at the largest of the three deposits, Yandanooka, with West Mine North and Ellengail to follow.
- The proposed operation envisages mining 7.8Mtpa, using conventional heavy earth moving equipment, to produce ~220,000tpa of HMC (Heavy Mineral Concentrate).
- The HMC would be made up of ~110,000t ilmenite and 70,000t of non-magnetic concentrate containing rutile, leucoxene and zircon.
- The HMC will be transported from the primary on site concentrator to an off-site mineral separation plant located near the port of Geraldton where the ilmenite and a non-magnetic concentrate (containing rutile, leucoxene and zircon) would be separated.
- Non-magnetic concentrate would be sold at a 25% discount to prevailing zircon and rutile price due to the requirement of further processing by third parties.
- Total capital expenditure for the project of $75m.

Based on these main assumptions, TZMI provide a sensitivity analysis for 5 scenario's assuming different commodity prices.

Scoping Study Outcomes

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
	Approx current price range - low	Approx current price range - high	circa 42% < current mid price	circa 39% < current mid price	circa 23% < current mid price
Prices US$ FOB					
Zircon	2,400	2,700	1,715	1,800	2,100
Rutile	2,200	2,500	1,000	1,200	1,700
Leucoxene	1,100	1,300	747	750	925
Chloride Ilmenite	300	350	190	200	250
Project financials					
Weighted average R/C ratio	2.42	2.76	1.53	1.64	2.03
Average pre-tax Operating cashflow p.a.	US$60m	US$74m	US$21m	US$26m	US$43m
Payback period	2.2 yrs	1.9 yrs	4.4 yrs	3.8 yrs	2.7 yrs
After-tax NPV (10%)	US$257m	US$336	US$54	US$78m	US$167m
After-tax IRR	51%	62%	21%	25%	39%

Source: TZMI, Sheffield Resources

Sensitivity analysis indicates project can withstand significant downside moves in underlying commodity prices

Breakaway's view

Project appears justified even on 'worst case' scenario

Based on all 5 scenario's, the Eneabba project demonstrates robust returns. When considering scenario 3, which assumes prices 42% below current prices, the after tax NPV is still almost double the current Enterprise Value (EV) of Sheffield Resources.

Further upside also remains with the possibility of building a separation plant for the zircon, rutile and leucoxene concentrate thus realising 100% of prevailing prices.

Dampier HMS Project

Stage 2 in SFX development plan – high grade, tier one, 'company maker' asset

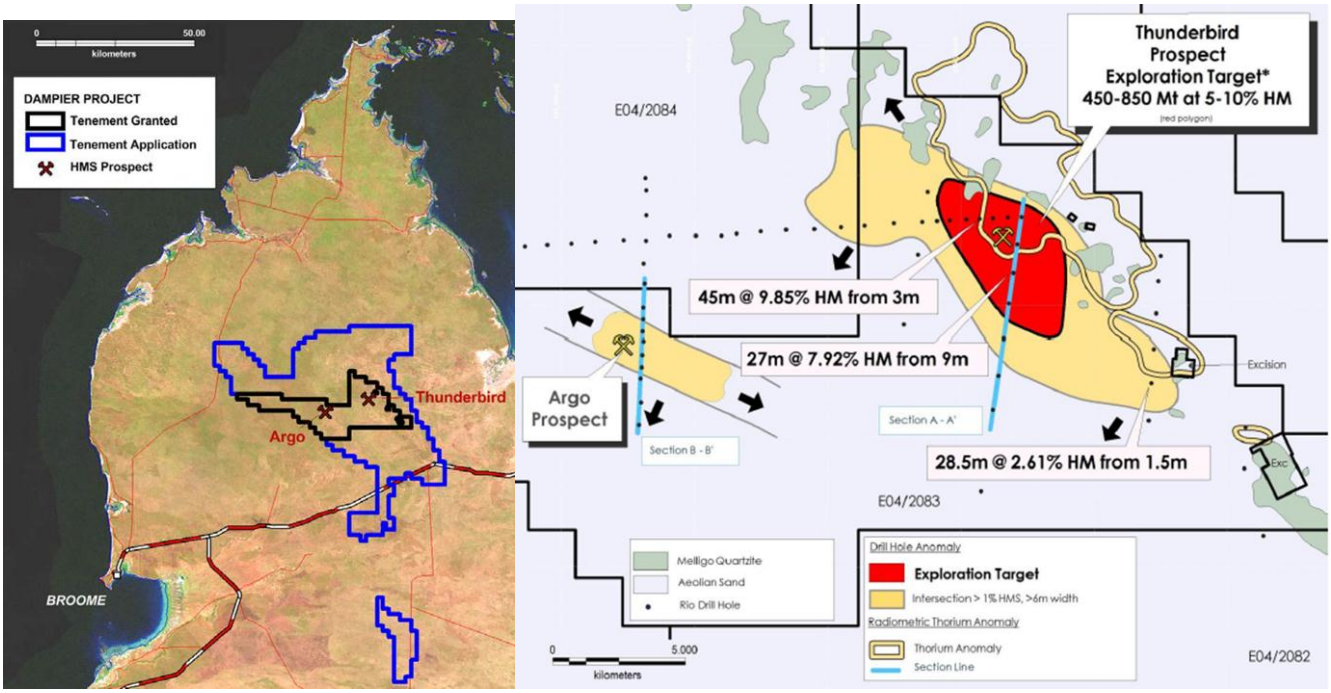
The Dampier Project (EL04/2083) is located approximately 60km west of the port of Derby in the Kimberly region, northern WA.

Lightly explored prospect

Dampier was originally explored by Rio Tinto (Rio) between 2004 and 2009. During the GFC, Rio relinquished the Exploration License (as a non-core asset) and it was picked up by Sheffield Resources in September 2011.

Initial exploration completed by Rio included four broadly spaced air core traverses identifying two zones of significant heavy mineral concentration; a large shallow eastern zone named "Thunderbird" and a smaller deeper western zone named "Argo".

Dampier Mineralised Zones



Source: Sheffield Resources

Highlights from Rio's campaign are:

Thunderbird		Argo	
Width	**Grade**	**Width**	**Grade**
45m	9.85% HM from 3m	12m	3.49% HM from 42m
27m	7.00% HM from 1.5m	7.5m	3.44% HM from 27m
27m	7.92% HM from 9m		

Source: Sheffield Resources

Potential to become a 'company making' asset

Sheffield Resources has an exploration target of 450 – 850Mt @ 5 – 10% HM for the Thunderbird prospect. Mineral assemblage work undertaken by Rio indicates an average grade of 7.9% Heavy Minerals of which ~8% is the more valuable zircon. An Aboriginal Heritage survey planned for late April ahead of a 12,500m drilling campaign designed to enable estimation of an inferred resource (in Q4 2012).

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.

McCalls HMS Deposit

Stage 3 in SFX development plan – large, longer term project

The McCalls deposit is located 110km north of Perth near the town of Gingin and comprises three granted exploration licences. The project was originally explored by BHP in the 1990's where a large low grade (1-1.5% HM) deposit was outlined over an area of approximately 30km^2.

4.4Bt @ 1.2% HM

Sheffield Resources subsequently undertook a 30 hole drill campaign at McCalls designed to infill the earlier broadly spaced holes drilled by BHP. Encouragingly, all holes returned significant mineralisation (>1% HM) with all but 2 holes ending in mineralisation. In February 2012, Sheffield Resources announced a **4.4Bt @ 1.2% HM** for 53Mt of contained HM including 43Mt of chloride ilmenite and 3.5Mt of zircon.

High concentrations of ilmenite in mineral assemblage

McCalls – Mineral Resources @ 0.9% HM cutoff

Resource Category	Size (Mt)	HM %	In-situ HM (Mt)	Zircon %	Rutile %	Leuc. %	Ilmenite %
Indicated	-	-	-	-	-	-	-
Inferred	4,431	1.2	53	6.6	2	4.9	80.8
Total	4,431	1.2	53	6.6	2	4.9	80.8

Source: Sheffield Resources

One of the largest accumulations of chloride grade ilmentite in the world

The McCalls resource far exceeded management expectations in terms of size and mineral assemblage. The key feature of the deposit is the particularly high proportion of the ilmenite (80.8% of the heavy minerals) for ~42Mt of contained ilmenite. This makes McCalls one of the largest accumulations of chloride grade ilmenite in the world.

The McCalls project is situated next to existing infrastructure such as main roads, rail and power. The railway line is located 10km to the east of the project and connects to both the Fremantle port 160km to the south and the Geraldton port, 345km to the north. This railway also passes within 1km of Tiwest's Chandala synthetic rutile plant at Muchea, 75km to the south of McCalls.

Additional HMS Projects

Exploration upside – Eneabba region – projects can be phased into production

Sheffield Resources has commenced a four month drilling campaign with the aim of delineating mineral resources to further improve the economics outlined in the Eneabba scoping study. Drummond Crossing, Irwin and Durack will initially be targeted before Yandanooka drilling commences (targeting additional resource upgrades from inferred resources to indicated classification).

Additional project pipeline

The **Drummond Crossing** prospect is located ~20km north of Eneabba where the company recently announced high grade HMS drill results from surface through an initial air core drilling program. The prospect remains open along strike to the north and to the south. Initial results show a high value mineral assemblage containing 25% combined zircon and rutile. Sheffield Resources has recently applied for two more exploration licences within the broader Eneabba region.

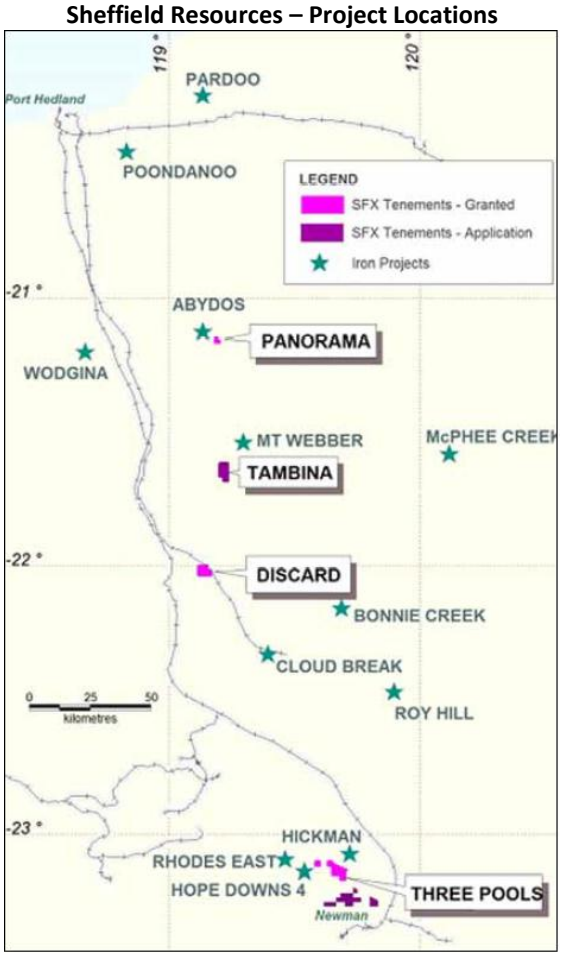
The **Irwin Project** is located 80km south of Geralton where initial drilling has confirmed a 5km long x 2-3km wide and 10m thick zone of mineralisation with >1%HM. The target remains open for another 10km along strike and will be further drill tested in due course. The exploration target for Irwin is 220 – 340Mt @ 1.2 -1.6% HM with a mineral assemblage expected to be high in zircon and rutile.

Iron Ore

Pilbara Iron Ore Project

The Pilbara Iron Ore project consists of 7 granted exploration licences and a further 10 licences under application (7 of which are subject to ballot with multiple competing parties).

Sheffield Resources – Project Locations



Source: Sheffield Resources

Located within highly prospective Pilbara region, WA

Three Pools project

The Three Pools Project comprises of two exploration licences; EL47/2280 and the neighbouring smaller licence EL47/2291, located ~13km east of Rhodes East.

Large widths of high grade mineralisation highlight prospectivity of tenure

First pass drilling from a recent 25 hole RC program intersected broad zones of iron mineralisation from two identified prospects. Highlights include:

Top Forge Prospect	Crucible Prospect
50m @ 57.5% Fe from 0m	**52m @ 56.9% Fe** from 16m
42m @ 57.6% Fe from 6m	**46m @ 56.2% Fe** from 2m
44m @ 56.0% Fe from 0m	**44m @ 55.4% Fe** from 4m

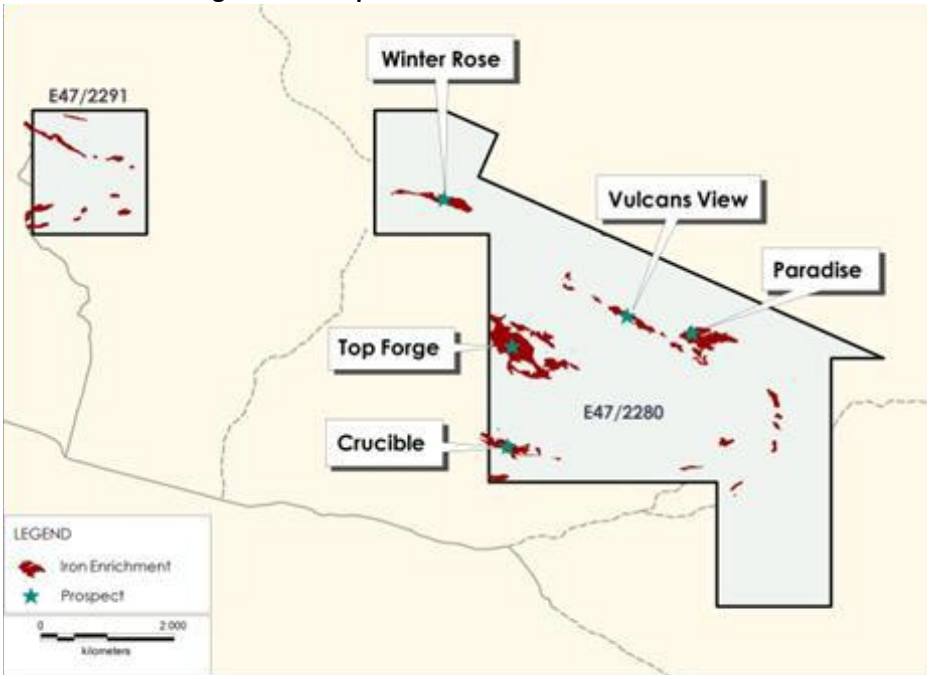
Source: Sheffield Resources

20-60Mt exploration target

Sheffield Resources has an exploration target of between 20 and 60 million tonnes of hematite iron ore grading between 56% and 60% Fe, within the large licence area. This target has been derived from the total mapped area of iron enrichment (789,470m^2) and assumes a mineralised thickness of between 10m and 30m thick.

The iron mineralisation at Three Pools is associated with both the Boolgeeda Iron Formation and a banded iron formation within the Wongarra Volcanics. The Boolgeeda Iron Formation is known to host several significant iron deposits in the Pilbara including Atlas Iron's Hickman and McCamey's North discoveries.

Three Pools and Eagle Pool Prospects



Source: Sheffield Resources

JORC resource expected shortly

Sheffield Resource recently undertook a first pass drilling campaign at Three Pools, which has now been completed. Assays are expected imminently **with a JORC resource estimate expected within Q4 2012**.

Smaller exploration targets exist at the Panorama and Discard prospects. However, exploration is still at an early stage and more focused exploration programs will commence in due course.

<u>Talc –Moora Talc Belt Project</u>

Sheffield has a dominant tenement position totalling 1,152km^2 over the Moora Talc Belt, located 200km north of Perth.

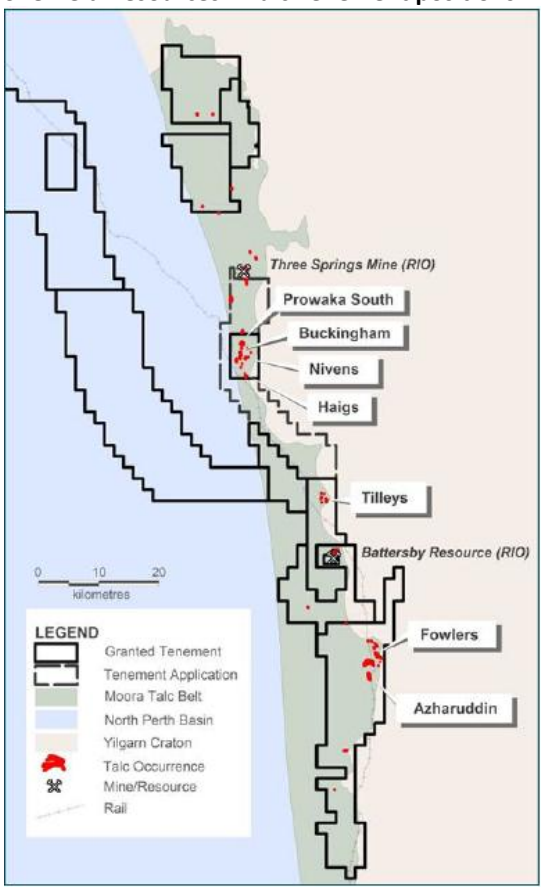
Large tenure position in premium talc region

The Moora Talc Belt is best known for the large Three Springs mine deposit which is located in the northern half of the belt. Before the recent sale of its global talc business to French group Imery, the mine was owned by Rio Tinto Limited (through subsidiary Luzenac Australia Pty Ltd) who purchased it from WMC Ltd in 2001.

Three Springs is renowned for producing high purity talc and has been operating since 1948. It is the largest talc mine in the Southern Hemisphere and the second largest in the world. The global significance of this operation is reflected in the fact that the current and prior operators are major mining houses.

Like hematite iron ore mines in the Pilbara, high grade talc is a simple "dig and deliver" product. Imery's Three Springs mine is an open cut operation which supplies raw talc to its operations in Europe and USA. The talc is extracted, crushed and screened then trucked 150km north to Geraldton as a lump product. Milling at its processing operations in Europe and the USA comprises relatively simple micronising of the lump product to various specialised fines products.

Sheffield Resources – Talc Tenement positions



Source: Sheffield Resources

Over 20 identified talc occurrences

Within Sheffield's Moora Talc Belt project there are over twenty known talc occurrences. Past exploration has outlined several advanced talc prospects including Fowlers, Azharuddin, Prowaka, Buckingham, Tilleys, Nivens and Haigs. A large number of additional drilling and soil anomalies defined by historic exploration remain untested. Sheffield will prioritise these targets for follow up drilling with the focus on high quality talc, i.e. talc of similar properties to that mined at Three Springs.

Drilling underway

A 1,238m diamond drill program carried out in 2011 intersected high grade talc at all six prospects with talc quality comparable to or better than the Three Springs mine. A resource definition drilling program has now be planned for 2012 with drilling currently underway.

Talc – What is it and what is it used for?

Paper industry is largest end user of talc

People would be most familiar with talc as the primary ingredient of Talcum Powder, used in cosmetics. Uses for Talc are however far more wide ranging. Paper represents the largest end-use industry for talc, followed by the ceramics industry. It is also used in the manufacture of plastics, particularly those used in the automotive industry. Talc also has many other industry uses including rubber, paints, roofing and pharmaceuticals.

During 2008 and 2009 talc prices ranged between US$259 and US$460 per tonne depending on grade.

Directors

Executive Chairman

Will Burbury practised as a corporate lawyer with a leading Australian law firm prior to entering the mining and exploration industry in 2003. During his career, he has been actively involved in the identification and financing of many Australian and African resources projects. He has held senior management positions and served on the boards of several private and publicly listed companies. Mr Burbury was previously Chairman of Warwick Resources Limited prior to its merger with Atlas Iron Limited in 2009. He was also formerly a director of Lonrho Mining Limited (ASX: LOM) and an executive of Nkwe Platinum Ltd (ASX: NKP).

Managing Director

Bruce McQuitty has 28 years' experience in the mining and civil construction industries and was previously Managing Director of Warwick Resources Limited prior to its merger with Atlas Iron Limited in 2009. Mr McQuitty has also held senior positions with Consolidated Minerals, Renison Goldfields and Gympie Gold Limited and has significant technical expertise in exploration, project generation, feasibility, underground mining and engineering geology. Mr McQuitty has managed exploration teams in Australia and overseas and holds a Masters of Economic Geology and a Bachelor of Science.

Technical Director

David Archer is a geologist with 22 years' experience in exploration and mining in Australia. He has held senior positions with major Australian mining companies, including Renison Goldfields and has spent the last ten years as a director of Archer Geological Consulting, specialising in project generation, geological mapping and project evaluation. Mr Archer was a consultant to Atlas Iron Limited (ASX: AGO) and Warwick Resources Limited and was responsible for significant iron ore discoveries for both companies in the Pilbara. He was also involved in the discovery of the Magellan lead mine and the Raleigh and Paradigm gold mines.

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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