

SHEFFIELD RESOURCES LTD ASX:SFX

RIGHT PLACE, RIGHT TIME



RIU EXPLORERS CONFERENCE
21-22 February 2012
The Esplanade Hotel, Fremantle

COMPETENT PERSONS & FORWARD LOOKING STATEMENTS

COMPETENT PERSONS' STATEMENT – EXPLORATION RESULTS

The information in this presentation that relates to exploration results has been compiled by Bruce McQuitty and David Archer. Each of Mr McQuitty and Mr Archer has consented to the inclusion of this information in this Section of this Web Site in the form and context in which it is included. Mr McQuitty and Mr Archer are geologists with over 20 years experience. Both Mr McQuitty and Mr Archer is a Member of the Australasian Institute of Geoscientists and has the appropriate relevant qualifications, experience, competence and independence to be considered as an “Expert” and “Competent Person” as defined in the 2004 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“JORC Code”)’.

COMPETENT PERSONS' STATEMENT – RESOURCE ESTIMATES

The information in this presentation that relates to resource estimation is based on information compiled under the guidance of John Vann. Mr Vann is a Principal of Quantitative Group and acts as a consultant to the Company. Mr Vann is a Fellow of the Australasian Institute of Mining and Metallurgy and a Fellow 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 Vann consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

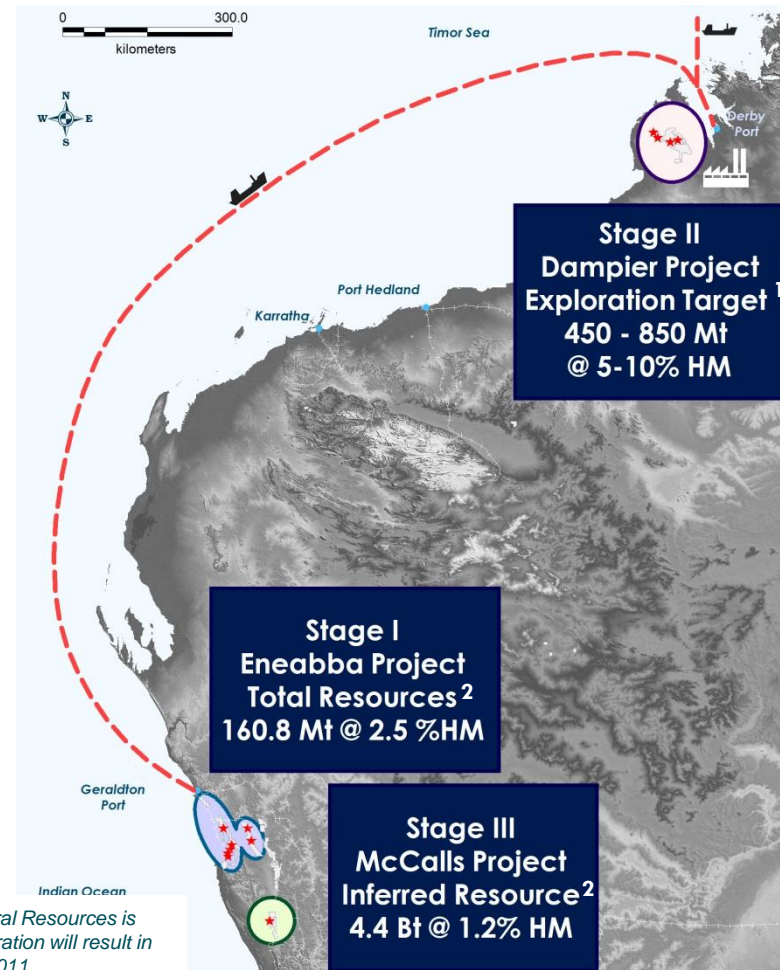
The information in this presentation that relates to reporting of resource and exploration results is based on information compiled under the guidance of Mark Teakle. Mr Teakle is a consultant to the Company. Mr Teakle is a Member of the Australasian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy 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 Teakle 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 presentation 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” and similar expressions.

INTRODUCTION

- A rapidly emerging ASX-listed company in resurgent mineral sands sector
- High quality mineral sands assets secured:
 - ▣ Dampier Zircon Project
Large, high grade project with world class potential
 - ▣ Eneabba Project
Nearer term production - moving to feasibility study
 - ▣ McCalls Project
Large, longer term strategic chloride ilmenite project
- Large targets to be drilled in 2012
- Significant upside potential
- Strong mineral sands price environment



¹Sheffield Resources has not yet reported Mineral Resources at Dampier and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. For further details refer to ASX releases of 17 Jan 2011, 27 Jul 2011 and 8 Nov 2011.

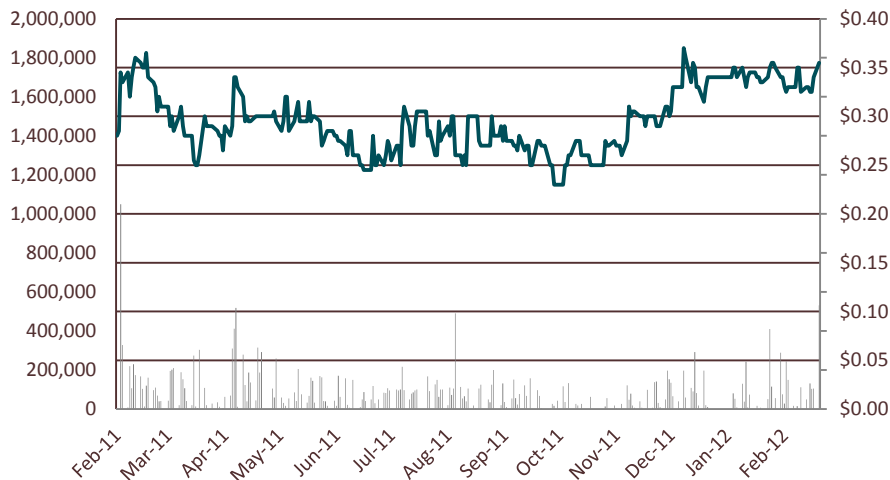
²Refer to Sheffield's Mineral Resources Tabulation in Appendix 1. Previous releases by Sheffield on 16/8/2011, 25/10/2011, 7/11/2011 and 20/2/2012 fully report the Mineral Resource Estimates for the Yandanooka, Ellengail, West Mine North and McCalls deposits.

CORPORATE SNAPSHOT

Capital Structure

Shares on Issue ²	58.88m
Options on Issue ¹	32.8m
Market Cap. (at \$0.355) ²	\$20.9m
Cash (31 December 2011) ²	\$2.3m
Debt	Nil
Enterprise Value	\$18.6m

1. The options have a volume weighted exercise price of \$0.224 and a volume weighted time to expiry of 1.6 years
2. Pre placement of 33.35 million shares at 30cps to raise \$10 million as announced 10 Feb 2012



Board & Management

Will Burbury	Exec Chairman
Bruce McQuitty	Managing Director
David Archer	Technical Director
David Boyd	Exploration Manager

Major Shareholders

Directors	26%
Top 20	45%

“Sheffield is fully funded -
2012 to be a breakthrough year”

OVERVIEW



MINERAL SANDS MARKETS

Two Distinct Product Streams

Zircon

- Main uses: ceramics, refractory linings
- Global market ~1.4Mtpa

Titanium Feedstocks

- Rutile: >95% TiO₂,
- Leucoxene: 85-95% TiO₂,
- Altered ilmenite: 55-85% TiO₂,
- Ilmenite <55% TiO₂
- Main uses: pigment for paints, plastics, titanium metal
- Global market ~6.4Mtpa

Sheffield's projects are geared to Zircon and Chloride TiO₂ markets

Both markets are experiencing acute shortage of supply

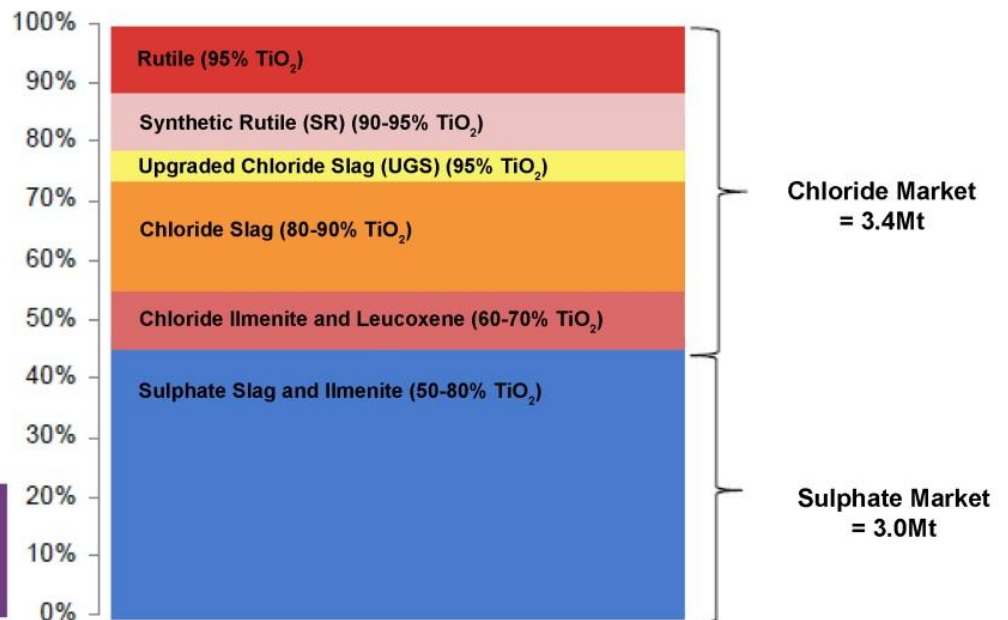
Zircon

2010 = 1.4Mt



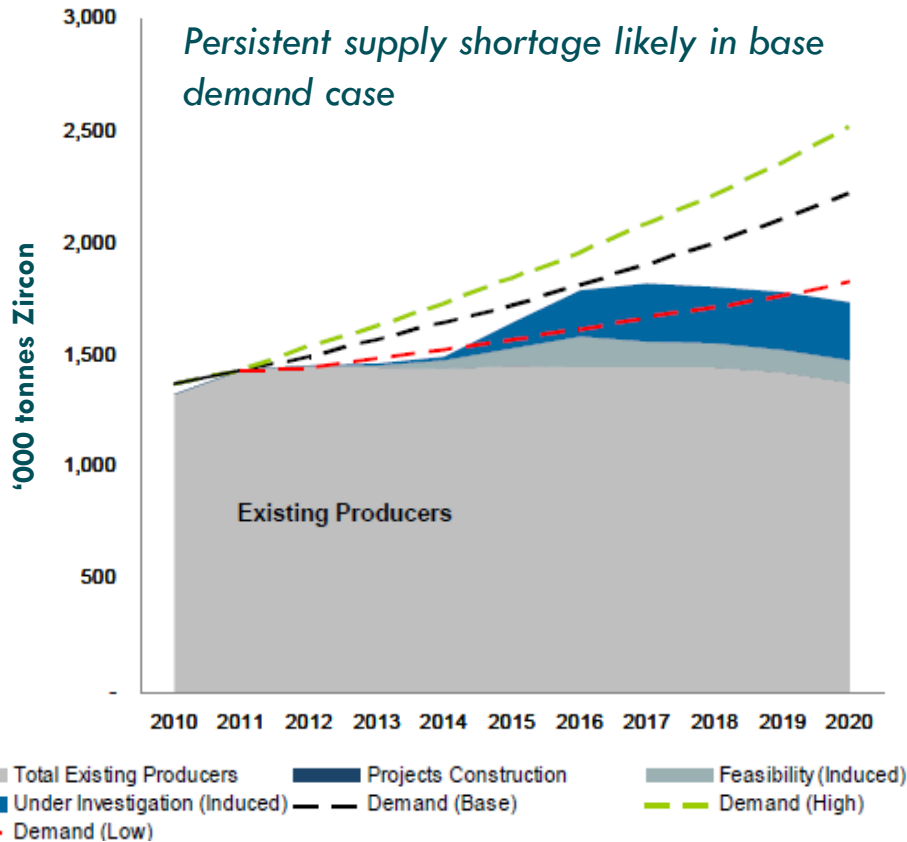
Titanium Feedstocks

2010 = 6.4Mt



MARKETS & PRICING

Zircon Supply & Demand (includes induced projects)



Iluka analysis - excludes Iluka's enhanced production initiatives
 Source: Iluka Resources Mineral Sands Briefing Session, ASX release 17 Nov 2011.

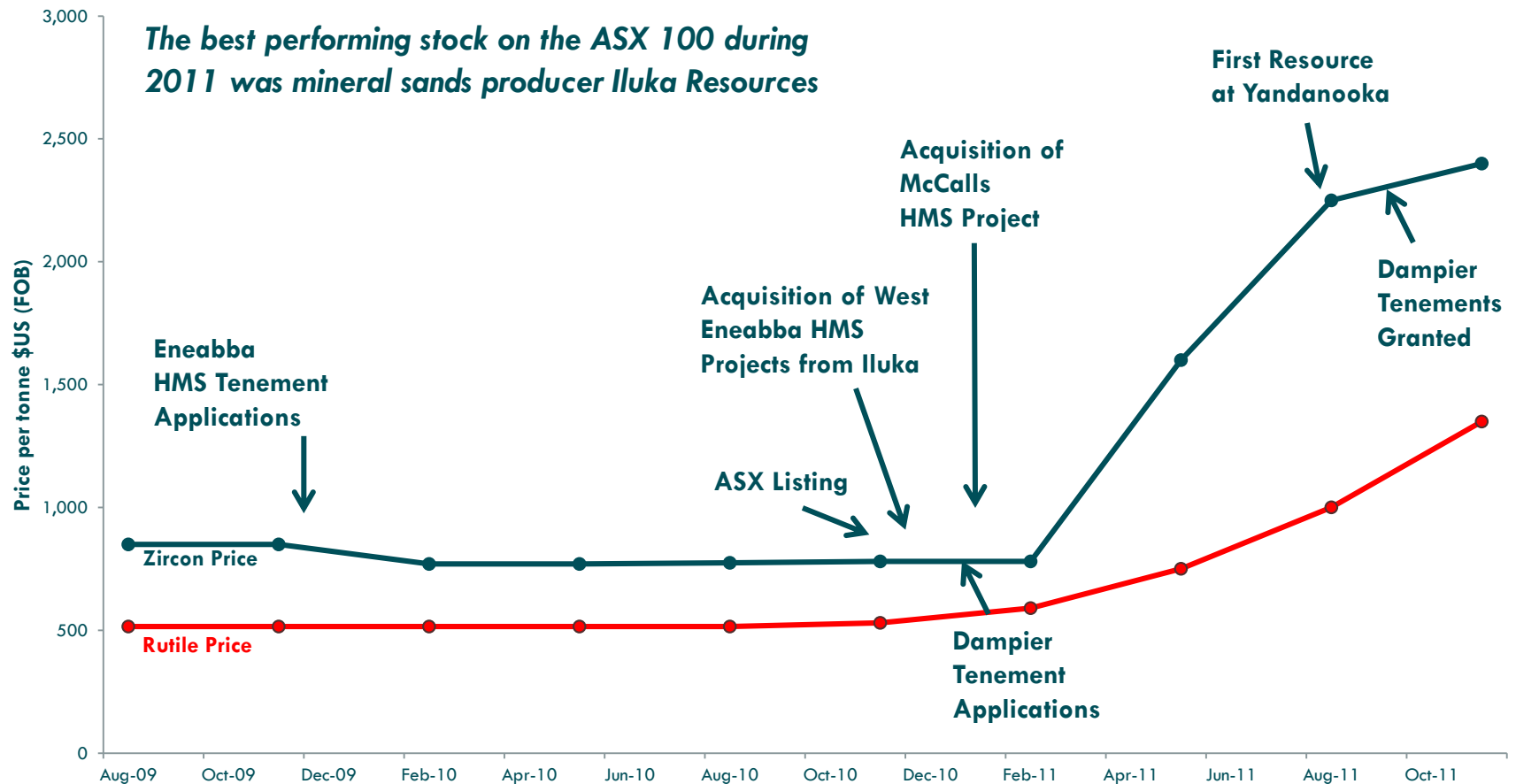
Pricing – Zircon, Rutile, Ilmenite



Source: Pricing data compiled by Sheffield from various open file sources

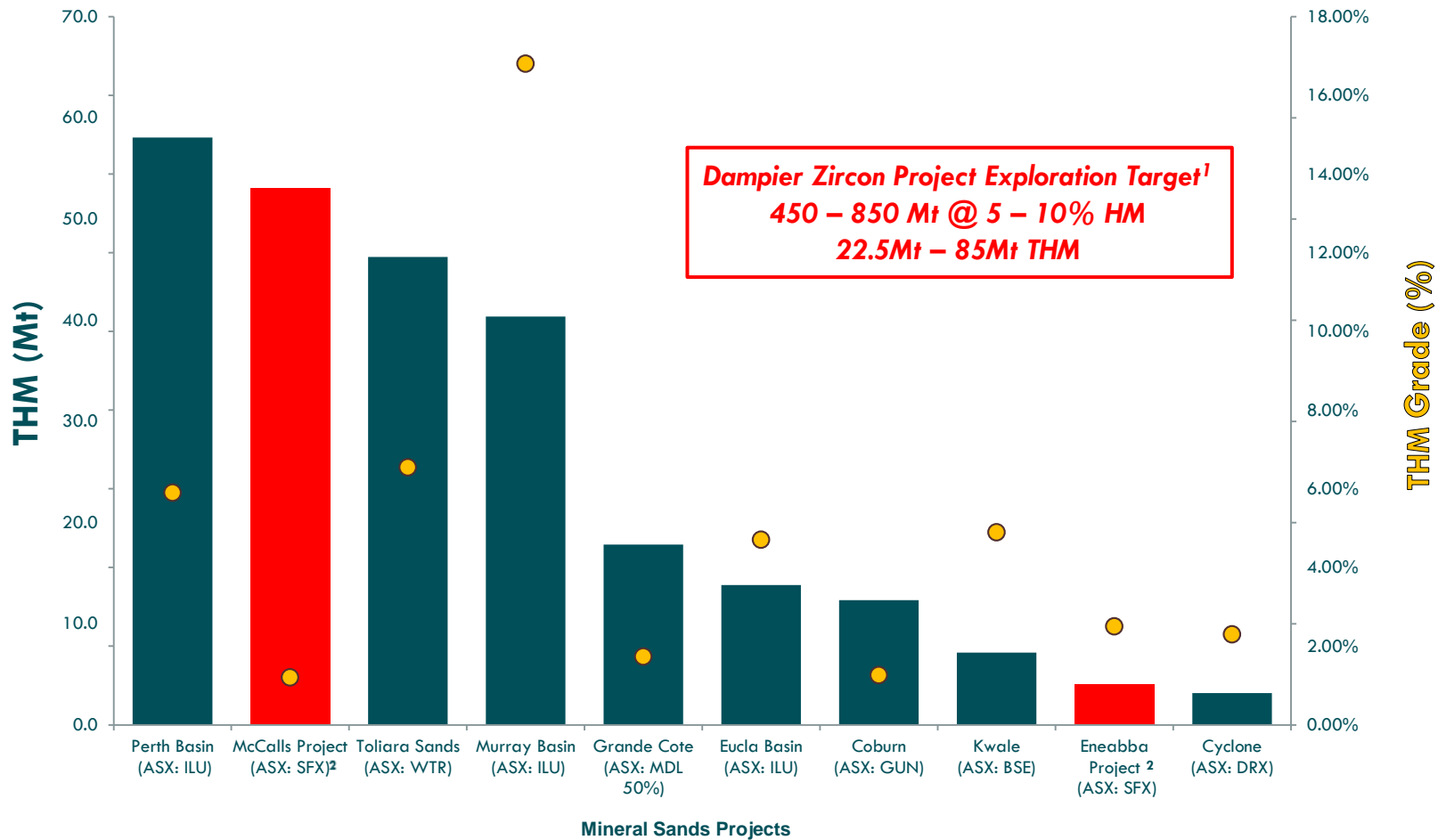
OPPORTUNE TIMING

ZIRCON & RUTILE PRICES



Source: Pricing data compiled by Sheffield from various open file sources

PEERS - EXPLORERS & MINERS



For footnote 1 see Slide 11
 For footnote 2 see Appendix 2, Slide 21

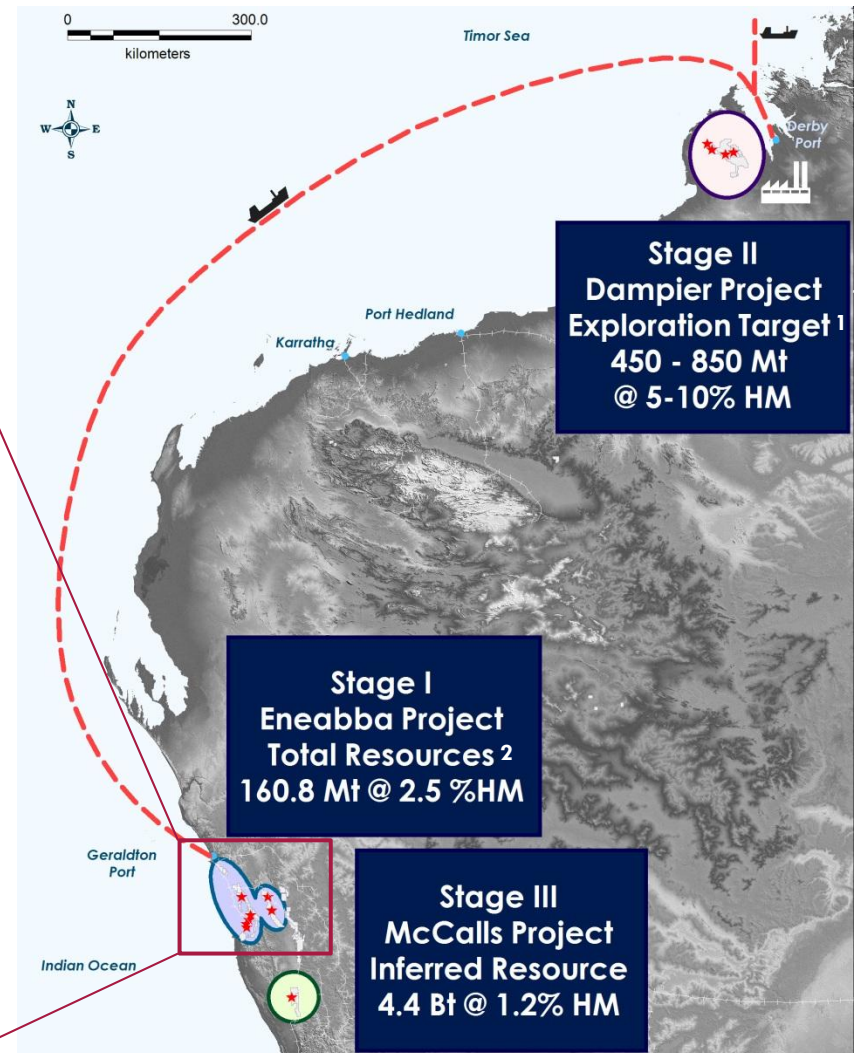
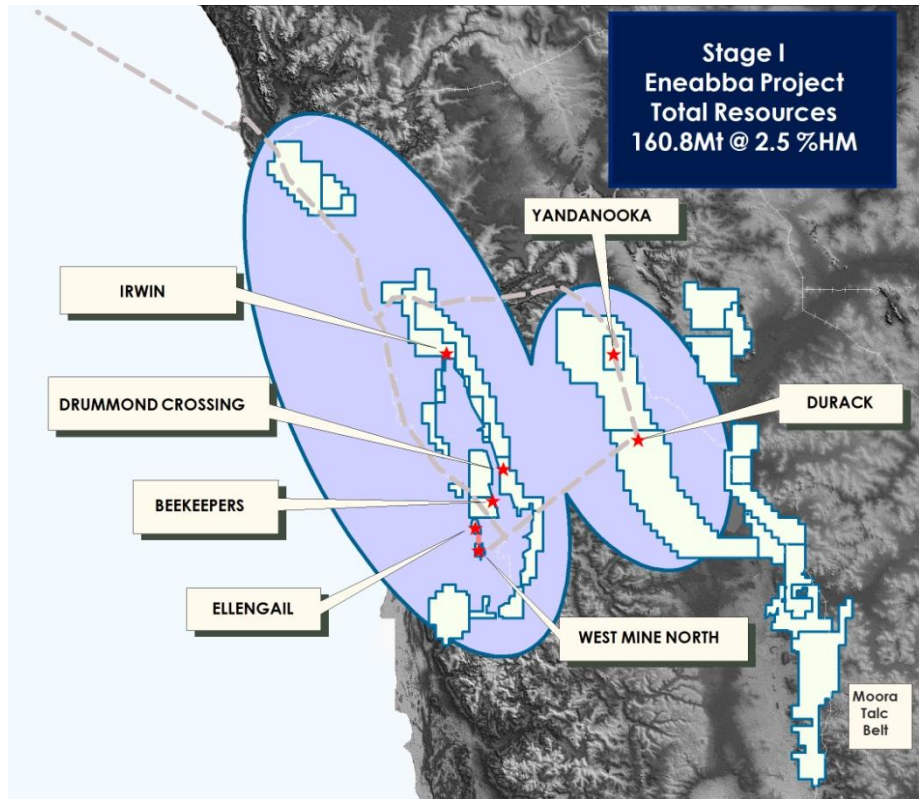
Resources data compiled by Sheffield from recent ASX releases

MINERAL SANDS PROJECTS



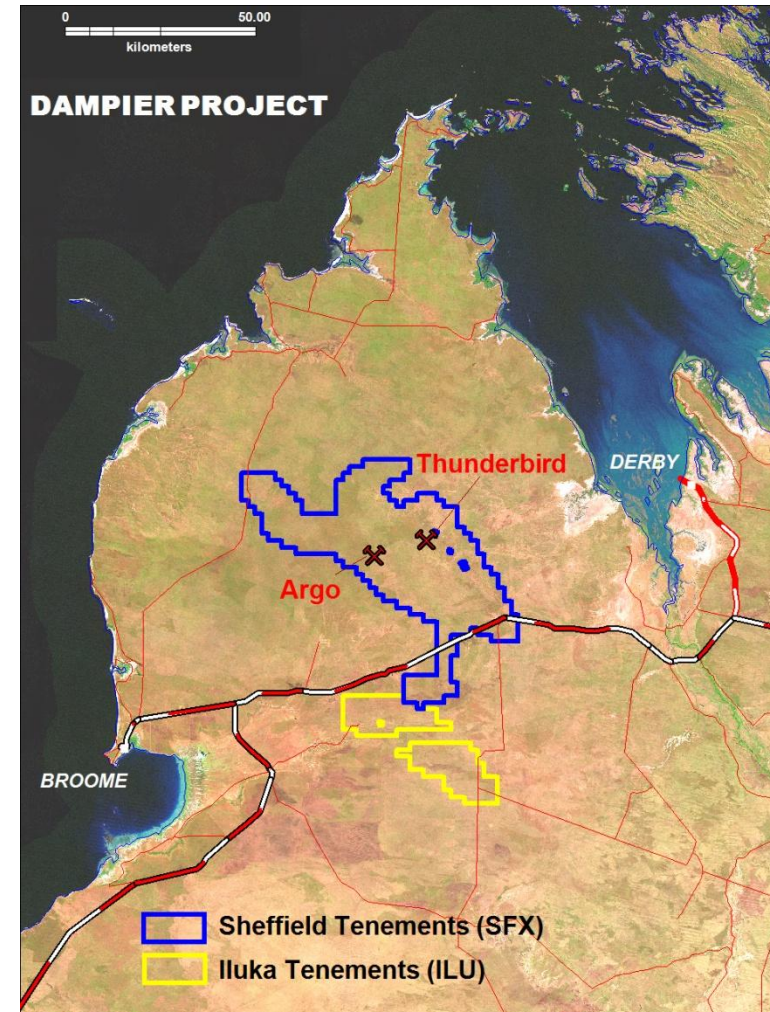
RAPID GROWTH STRATEGY

- Dampier Zircon Project – *Flagship project*
- Eneabba Project – *Near term production*
- McCalls Project – *Longer term project*



DAMPIER ZIRCON PROJECT

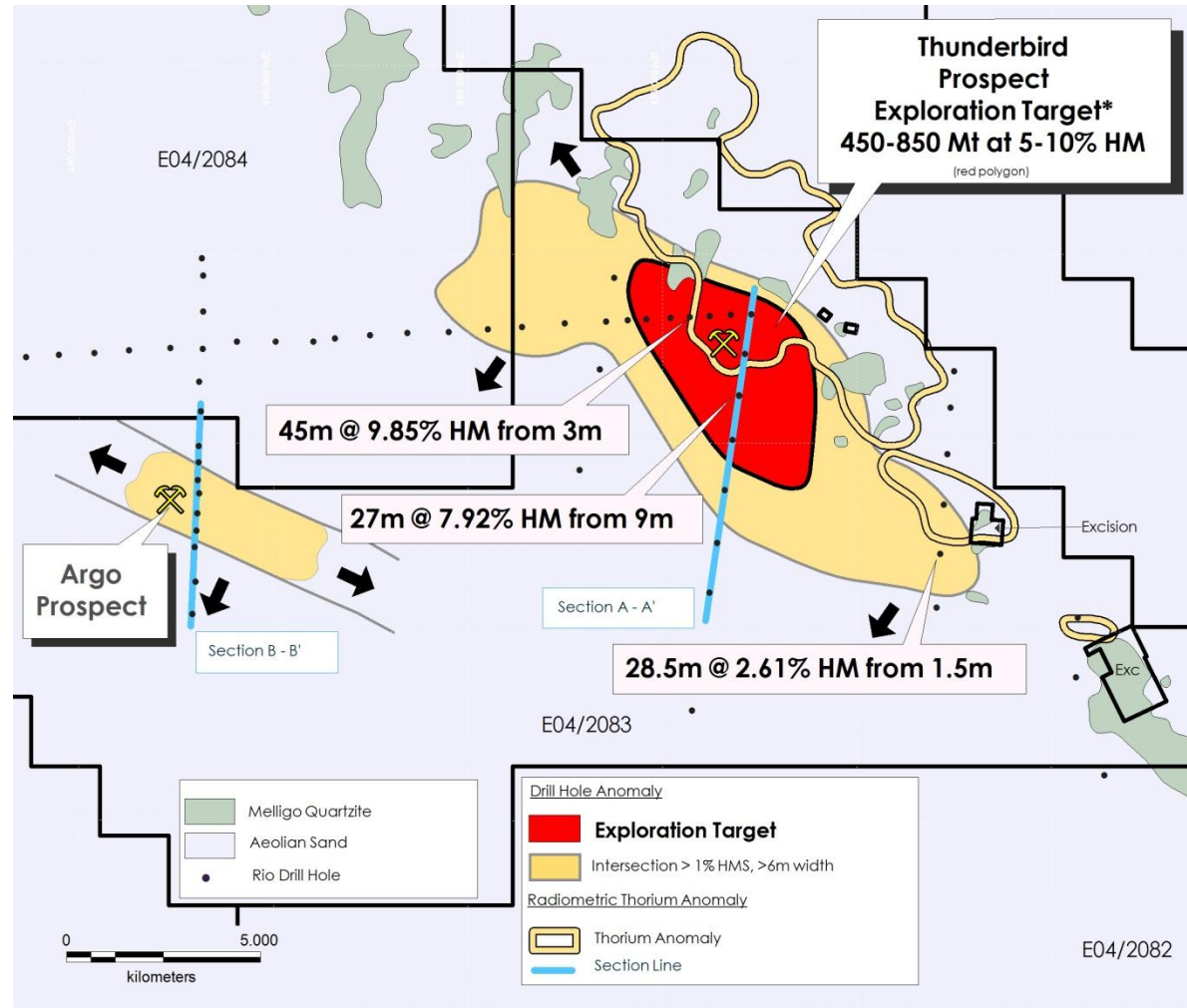
- Ranks in top tier of undeveloped Zircon projects
- Exploration Target¹ of **450-850Mt @ 5.0 - 10.0% HM** for 22.5-85Mt THM (Thunderbird Prospect)
- Mineral assemblage includes 8% Zircon, 2.3% rutile, 6.7% leucoxene and 34.3% ilmenite
- Located 60km west of Derby port
- Ex Rio Tinto project, dropped pre mineral sands price rises and during GFC
- Located on Crown Land (pastoral lease) outside Kimberley Heritage areas



¹Sheffield Resources has not yet reported Mineral Resources for the Dampier project and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. For further details refer to ASX release of 8 Nov 2011.

DAMPIER ZIRCON PROJECT

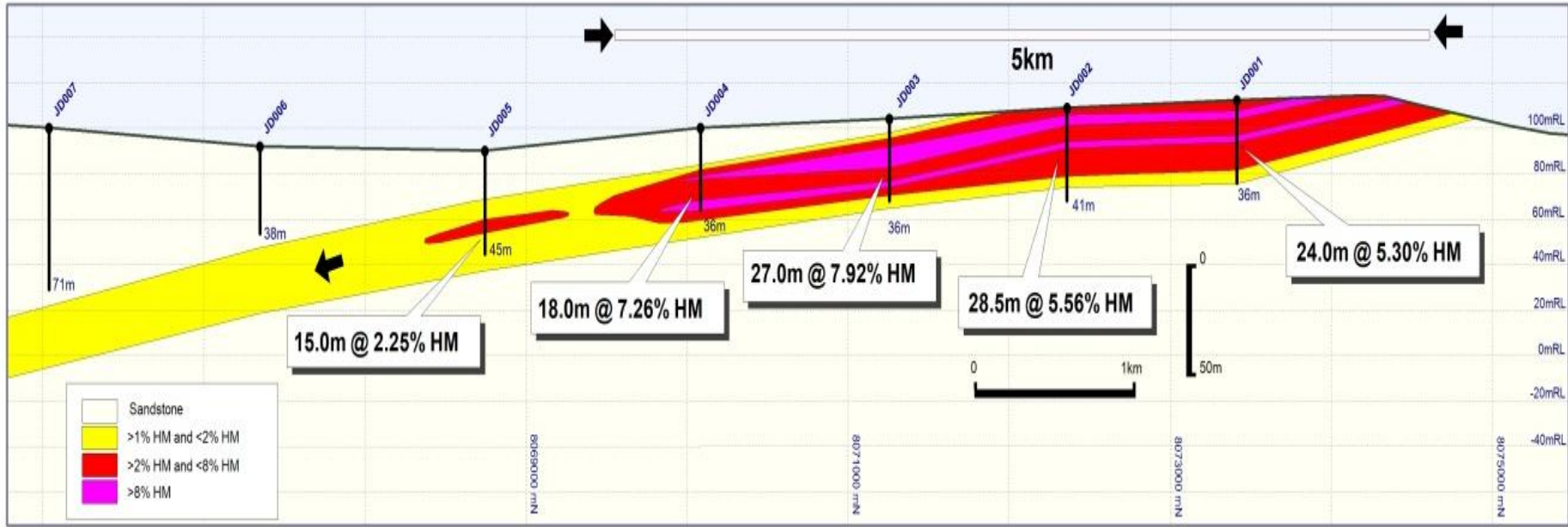
- Exploration Target¹ of 450-850Mt @ 5.0-10.0% HM applies to core only of Thunderbird prospect
- Based on 8 drill intersections completed by RIO including:
 - 45m @ 9.85% HM from 3m,
 - 27m @ 7.00% HM from 1.5m, &
 - 27m @ 7.92% HM from 9m
- Drilling and thorium anomaly indicate potential for up to 15km of strike length
- Further potential: Argo prospect
- Drilling planned to commence mid-2012:
 - 12,500m air-core drilling
 - ~500 x 800m spacing



¹Sheffield Resources has not yet reported Mineral Resources for the Dampier project and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. For further details refer to ASX release of 8 November 2011.

DAMPIER ZIRCON PROJECT

- ❑ Mineralisation at the Thunderbird Prospect is very thick with little overburden
- ❑ Dimensions 6 x 5 km, av. width 24.5m
- ❑ 4 of the 8 drill intersections finished in mineralisation
- ❑ Significant potential for extensions at depth
- ❑ High average in situ zircon content of 0.63% from RIO drilling*



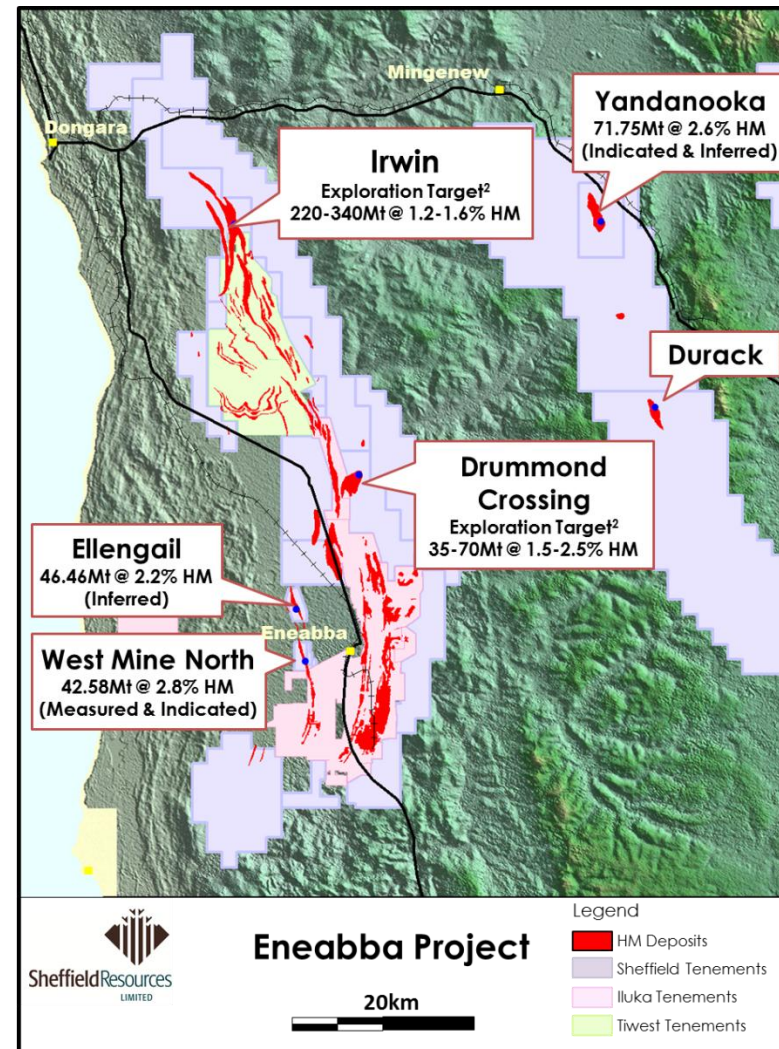
* See Appendix 5 for information in relation to calculation of zircon content

ENEABBA PROJECT

- Medium sized project
- 161Mt @ 2.5% HM¹ in resource inventory (3 deposits – see Appendix 1 & 2)
- Near term development and early cash flow potential
- Scoping studies nearing completion - to assess priorities for development
- Strategy is to identify sufficient HM in district to support annual production of 150-250Kt HM
- Substantial additional targets at Durack, Irwin and Drummond Crossing
- Drilling to continue in 2012

¹Refer to Sheffield's Mineral Resources Tabulation in Appendix 1. Previous releases by Sheffield on 16/8/2011, 25/10/2011 and 7/11/2011 fully report the Mineral Resource Estimates for the Yandanooka, Ellengail and West Mine North deposits.

²Sheffield Resources has not yet reported Mineral Resources for the Drummond Crossing and Irwin projects and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. For further details refer to ASX releases of 24/1/2012 and 2/2/2012.

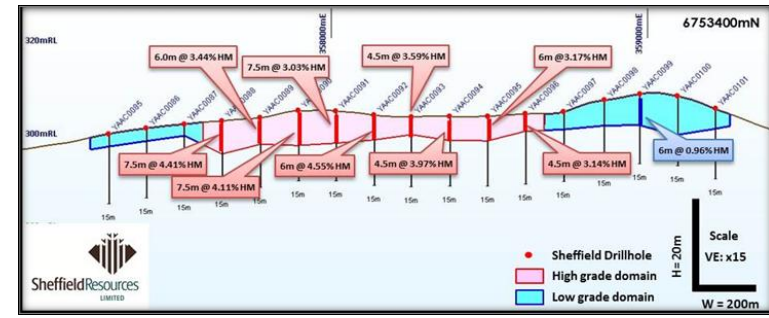




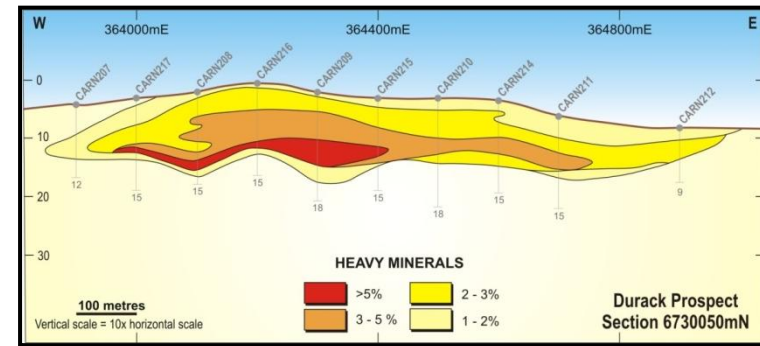
ENEABBA PROJECT

ADVANTAGES OF DUNAL-STYLE DEPOSITS

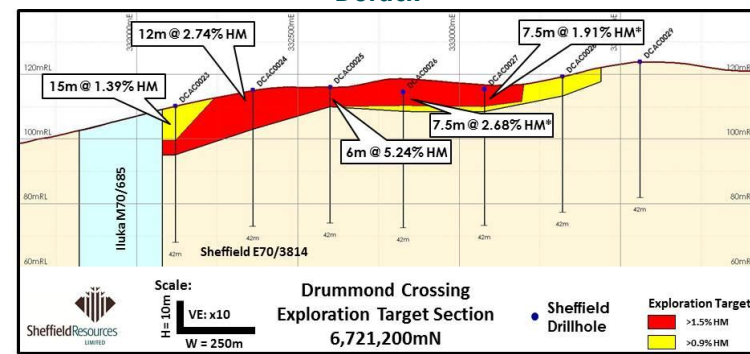
- At or near surface – minimal overburden
- Broad deposits – allows high mining rate
- Above water table
- Zircon-rich mineral assemblage:
Yandanooka 11.5%
Drummond Crossing 14.9%



Yandanooka



Durack



Drummond Crossing

*DCAC0026 and 0027 plotted off-section



ENEABBA PROJECT

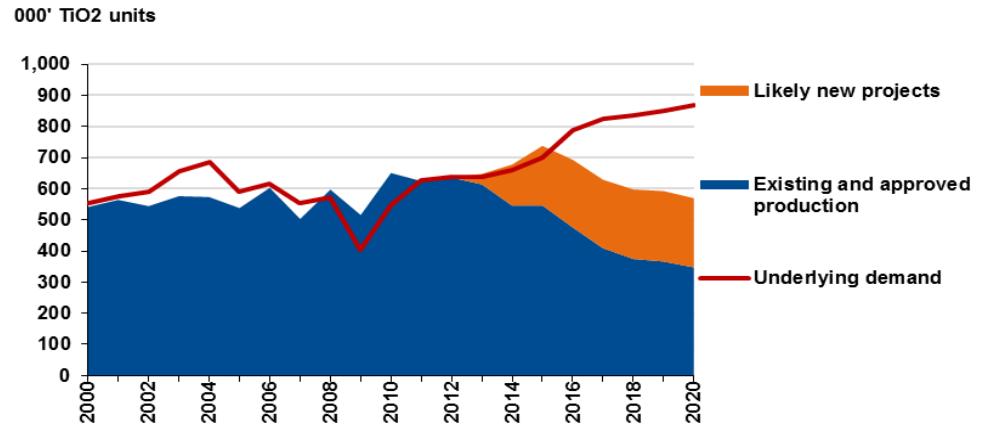
COMPETITIVE ADVANTAGES

- ❑ Established mineral sands mining district
- ❑ Good quality, high value HM products
- ❑ Mostly broadacre farmland
- ❑ Proximity to roads & rail
- ❑ “Open” ports
- ❑ Close to Asian markets
- ❑ Available energy sources
- ❑ Abundant groundwater
- ❑ Proximity to SR plants

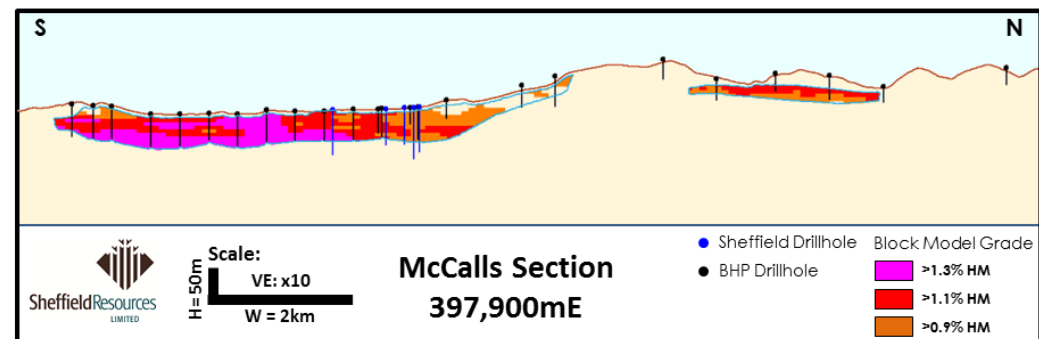


MCCALLS PROJECT

- Located 110km north of Perth
- Inferred Resource of **4.4 billion tonnes @ 1.2% HM¹** for 53Mt contained HM
- 43Mt contained high TiO₂ ilmenite
- 3.5Mt contained zircon
- Higher value ilmenite, potentially suitable for chloride route / synthetic rutile processing
- TZMI forecast a significant long term supply shortage of chloride ilmenite from 2013 which will only be partially filled by new projects currently under investigation
- Scoping work has commenced



Global supply/demand outlook for chloride ilmenite: 2006-2020
(source, © TZMI 2012, not to be reproduced without permission)



¹Refer to Sheffield's Mineral Resources Tabulation in Appendix 1. A previous release by Sheffield on 20/02/2012 fully reports the Mineral Resource Estimate for the McCalls deposit.

EXPLORATION & EVALUATION TIMETABLE

Project	2012 Q1	2012 Q2	2012 Q3	2012 Q4
HMS Projects				
Dampier		Drilling	Resource Est	Scoping
Eneabba	Drilling	Prefeasibility	Prefeasibility	Feasibility
McCalls	Resource Est & Scoping	Drilling	Prefeasibility	Prefeasibility
Other Projects				
Pilbara Iron		Drilling	Resource Est	
Moora Talc		Drilling		

This timetable is indicative only and remains subject to change. Successive stages of evaluation are also dependent on positive outcomes from previous phases of work and other factors.



SUMMARY

- A rapidly emerging player in resurgent mineral sands sector
- Large projects acquired pre significant mineral sands price spike
- Dampier Zircon Project set to become Company's flagship in 2012
- Moving to feasibility on Eneabba Projects – targeting near term production
- Large drilling campaign 1H 2012 designed to increase resource inventory
- Fully funded - 2012 to be breakthrough year for Sheffield

RIGHT PLACE, RIGHT TIME



For further information please visit the company's web site: www.sheffieldresources.com.au

APPENDIX 1

RESOURCE INVENTORY

Sheffield's contained Valuable HM (VHM)* Resource inventory (0.9% HM cutoff)

Deposit	Resource Category	Zircon ('000t)	Rutile ('000t)	Leuc. ('000t)	Ilmenite ('000t)	Total VHM ('000t)
Yandanooka	Indicated	201	117	168	1,072	1,558
Yandanooka	Inferred	12	8.5	15	73	108
Ellengail	Inferred	92	90	20	658	860
West Mine North	Measured	18	33	42	200	293
West Mine North	Indicated	71	87	46	506	709
McCalls	Inferred	3,491	1,063	2,576	42,911	50,041
Total	Measured	18	33	42	200	293
Total	Indicated	272	204	214	1,577	2,268
Total	Inferred	3,595	1,162	2,611	43,641	51,009
Total	All	3,885	1,399	2,867	45,418	53,570

The contained HM tonnages in the above table are derived from Mineral Resource Estimates for the Yandanooka, Ellengail, West Mine North and McCalls deposits, previously fully reported in ASX releases by Sheffield on 16 August 2011, 25 October 2011, 7 November 2011 and 20 February 2012. Appendix 1 summarises the estimated tonnes and grades for these deposits.

* Valuable Heavy Minerals are zircon, rutile, leucoxene and ilmenite. Non-valuable "trash" HM species include iron oxides, garnet, kyanite and staurolite.

APPENDIX 2

HMS MINERAL RESOURCE¹ INVENTORY AT 0.9% HM CUT-OFF 20 FEB 2012

ENEABBA PROJECT

Deposit	Resource Category	Material (Mt)*	Bulk Density	HM %	Slimes %	Osize %	In-situ HM (Mt)*	Zircon %	Rutile %	Leuc. %	Ilmenite %
Yandanooka	Indicated	61.00	2.0	2.8	14.7	9.4	1.72	11.7	6.8	9.8	62.3
Yandanooka	Inferred	10.75	1.9	1.1	12.9	9.0	0.12	10.1	7.0	12.5	59.8
Yandanooka	Total	71.75	2.0	2.6	14.4	9.3	1.84	11.5	6.9	10.2	61.9
Ellengail	Inferred	46.45	2.0	2.2	15.6	2.1	1.040	8.9	8.7	1.9	63.5
Ellengail	Total	46.45	2.0	2.2	15.6	2.1	1.040	8.9	8.7	1.9	63.5
West Mine North	Measured	6.47	2.0	5.6	14.8	1.2	0.36	4.9	9.1	11.6	54.9
West Mine North	Indicated	36.11	1.9	2.3	13.1	2.8	0.84	8.4	10.3	5.4	60.0
West Mine North	Total	42.58	1.9	2.8	13.4	2.5	1.21	7.9	10.1	6.4	59.2
Total	Measured	6.47	2.0	5.6	14.8	1.2	0.36	4.9	9.1	11.6	54.9
Total	Indicated	97.13	2.0	2.6	14.1	6.9	2.56	10.5	8.1	8.2	61.5
Total	Inferred	160.81	2.0	2.0	15.1	3.4	1.16	9.1	8.4	3.9	62.8
Total Eneabba Project	All	160.81	2.0	2.5	14.5	5.4	4.08	9.8	8.2	6.8	61.7

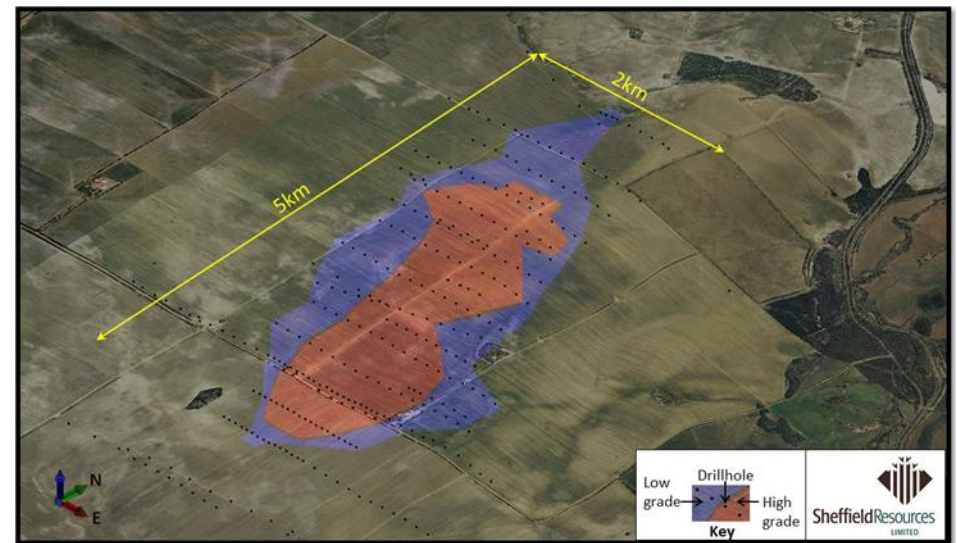
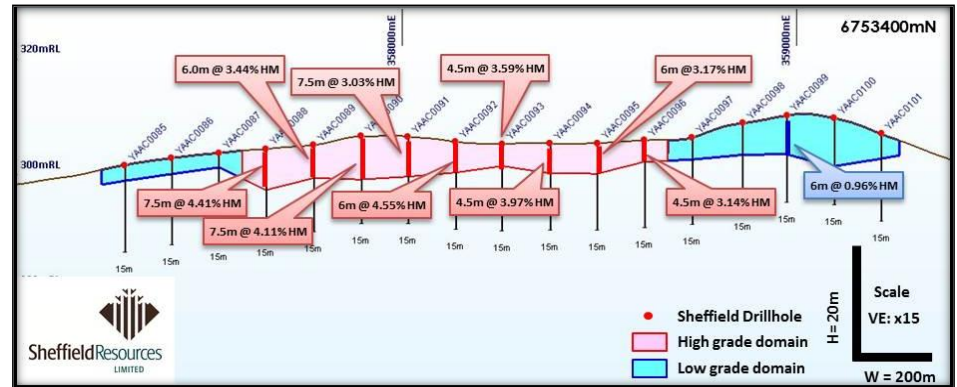
McCALLS PROJECT

Deposit	Resource Category	Material (Mt)*	Bulk Density	HM %	Slimes %	Osize %	In-situ HM (Mt)*	Zircon %	Rutile %	Leuc. %	Ilmenite %
McCalls	Inferred	4,431	2.3	1.2	26.5	1.4	53	6.6	2.0	4.9	80.8

*Tonnes have been rounded to reflect the relative uncertainty of the estimate. ¹ This estimate is classified and reported in a manner compliant with the JORC code and guidelines (JORC, 2004). ² The Mineral Assemblage is represented as the percentage of the Heavy Mineral (HM) component of the deposit, as determined by QEMSCAN. TiO₂ minerals defined according to the following ranges: Rutile >95% TiO₂; Leucoxene 85-95% TiO₂; Ilmenite <55-85% TiO₂.

APPENDIX 3 YANDANOOKA

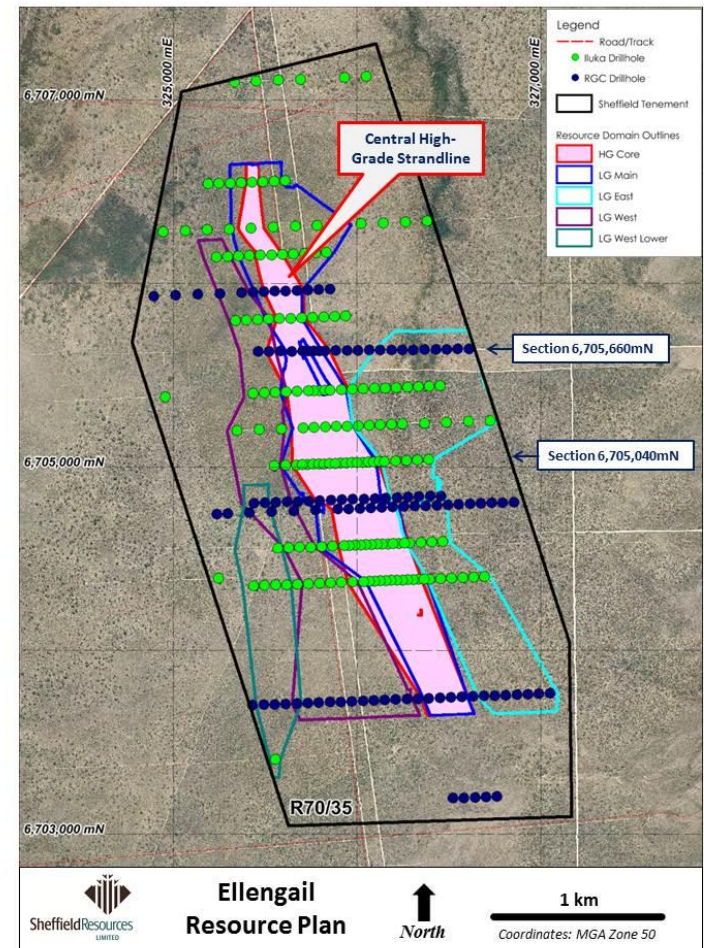
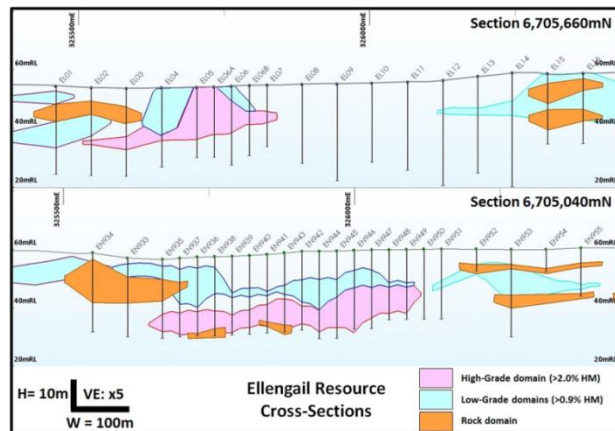
- Total resource of **71.75 million tonnes @ 2.6% HM¹** for 1.84Mt contained HM comprising:
 - 61Mt @ 2.8% HM (Indicated)
 - 10.75Mt @ 1.1% HM (Inferred)
- Includes High Grade core of **37.5Mt @ 3.8% HM** (Indicated)
- High value mineral assemblage: 11.5% zircon, 6.9% rutile, 10.2% leucoxene, 61.9% ilmenite
- At surface, above water table
- 140km by road or rail to Geraldton
- Scoping work in progress
- Further potential at Durack, 25km to south – to be drilled Q1 2012



¹ Refer to Appendix 1 for Resource Tabulation and to ASX release dated 16 August 2011

APPENDIX 3 ELLENGAIL

- Inferred Resource^{1,2} of **46.45 Mt @ 2.2% HM**, containing 1.04Mt HM
- Includes High Grade core of **11.25Mt @ 5.0% HM**, containing 560,000t HM (Inferred)
- High value assemblage: 8.9% zircon, 8.7% rutile, 63.5% ilmenite and 1.9% leucoxene
- Scoping work in progress



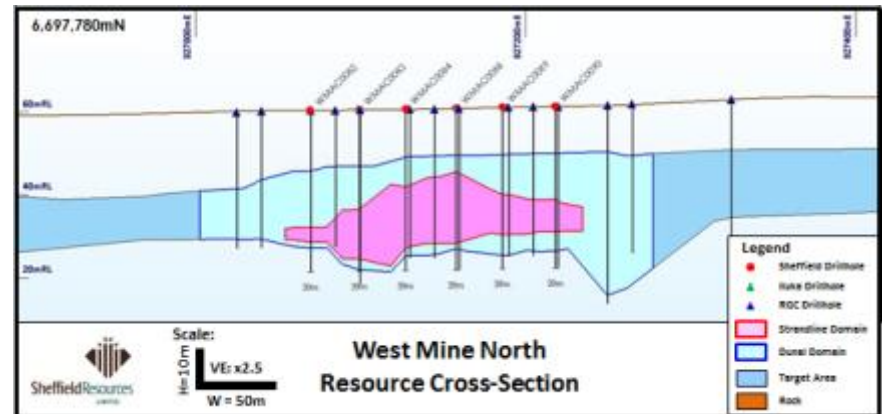
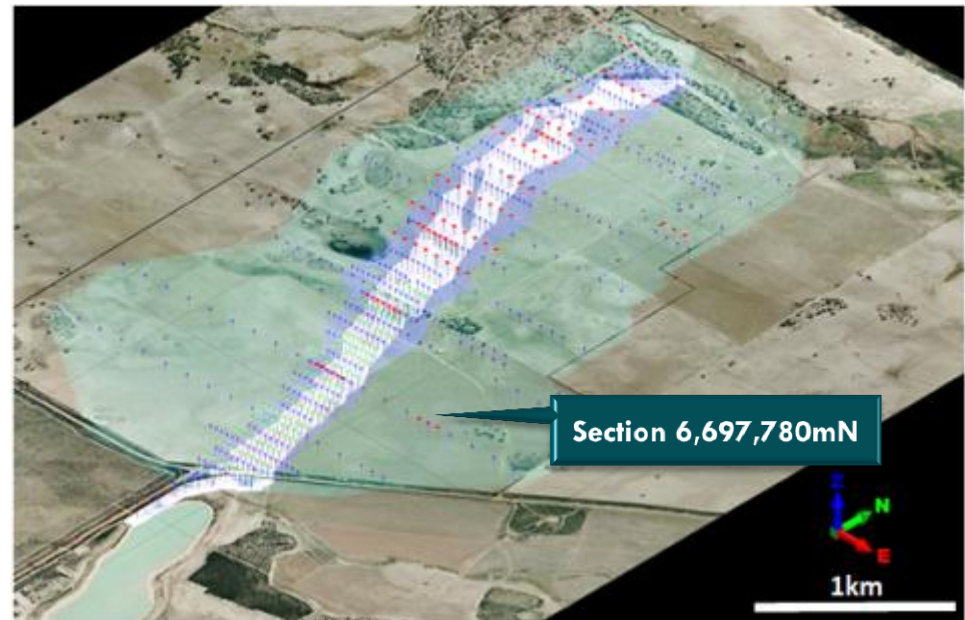
¹Refer to Appendix 1 for Resource Tabulation and ASX release dated 25 October 2011 for full details

²Iluka Resources Ltd (ASX:ILU) retain a 1.5% royalty

APPENDIX 3

WEST MINE NORTH

- Total Resource^{1,2} of **42.58Mt @ 2.8% HM** for **1.2Mt contained HM** comprising:
 - 6.47Mt @ 5.6% HM (Measured)
 - 36.11Mt @ 2.3% HM (Indicated)
- Includes high-grade core of **10.09Mt @ 7.7% HM** (Measured and Indicated)
- High value mineral assemblage: 7.9% zircon, 10.1% rutile, 59.2% ilmenite and 6.4% leucoxene
- 3.5km extension of Eneabba West deposit, dredge mined by Iluka/RGC in 1990's
- Scoping work in progress

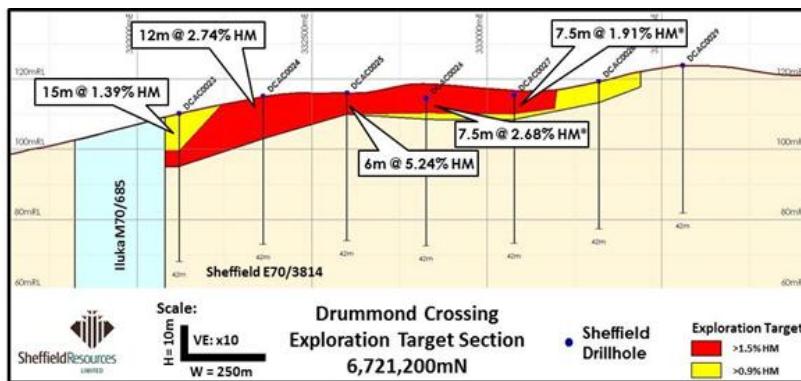


¹Refer to ASX release dated 7 November 2011 for full details

²Iluka Resources Ltd (ASX:ILU) retain a 1.5% royalty

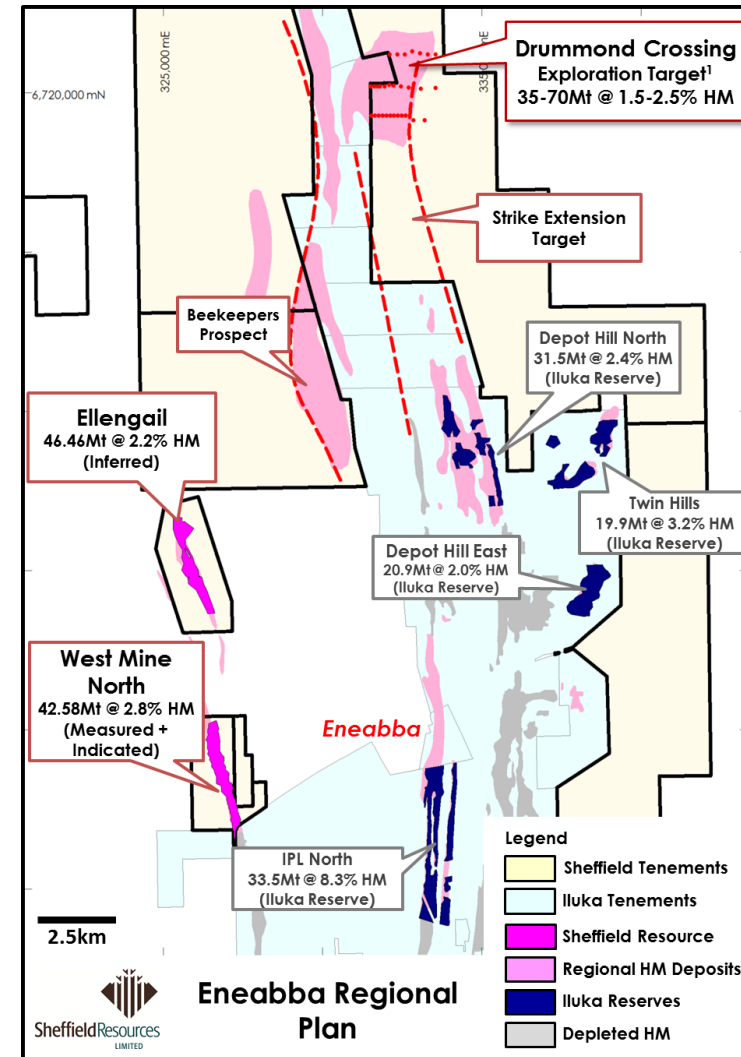
APPENDIX 3 DRUMMOND CROSSING

- New discovery in Eneabba field
- Substantial Exploration Target¹ of 35-75Mt @ 1.5-2.5% HM
- Rich in zircon & rutile (av. 14.9% zircon, 10.2% rutile)
- Open along strike to north and south
- Mineralised from surface - dunal style



*DCA0026 and 0027 plotted off-section

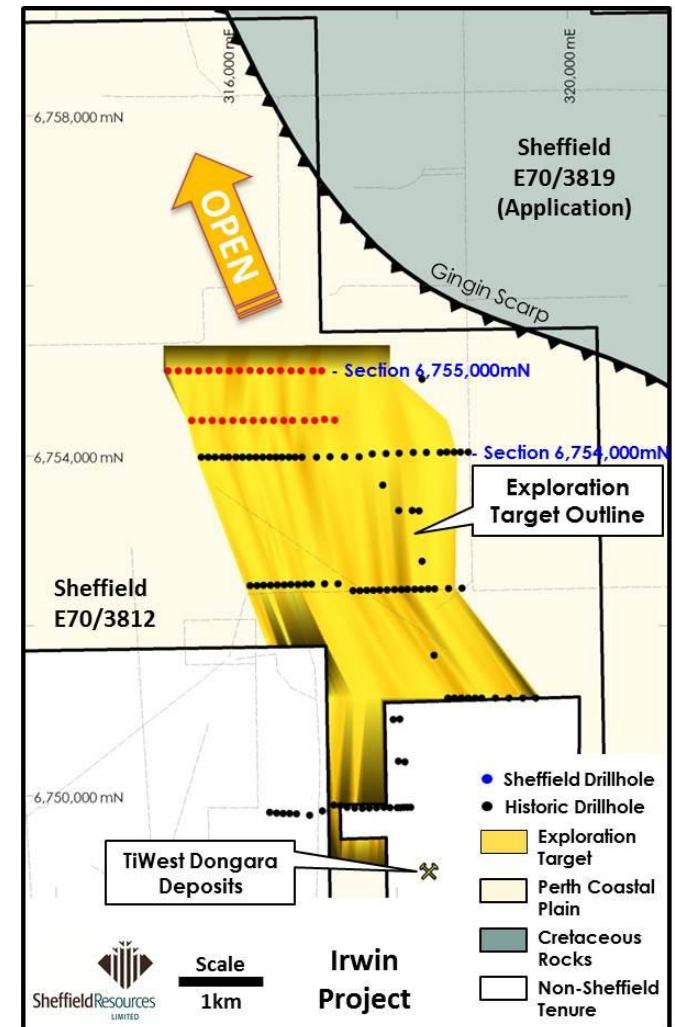
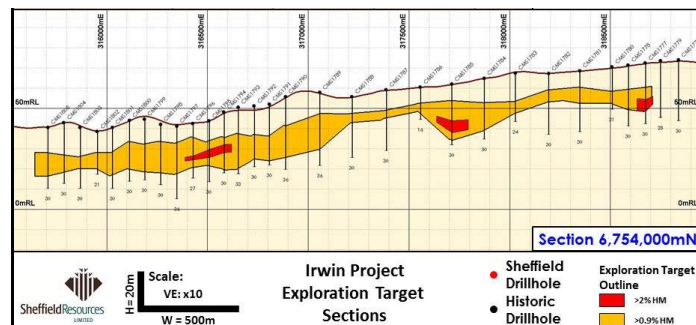
¹Sheffield Resources has not yet reported Mineral Resources for the Drummond Crossing project and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. For further details refer to ASX release of 24 January 2012.





APPENDIX 3 IRWIN

- Exploration Target 220-340Mt @ 1.2-1.6% HM
- Valuable mineral assemblage (av. 10% zircon, 7.4% rutile)
- Low slimes (av. 5.2%) dunal-style mineralisation amenable to dredge mining
- Adjacent to Tiwest's Dongara deposit
- Open along strike to north for 10km



*1*Sheffield Resources has not yet reported Mineral Resources for the Irwin project and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. For further details refer to ASX release of 2 February 2012.

APPENDIX 4: OTHER PROJECTS

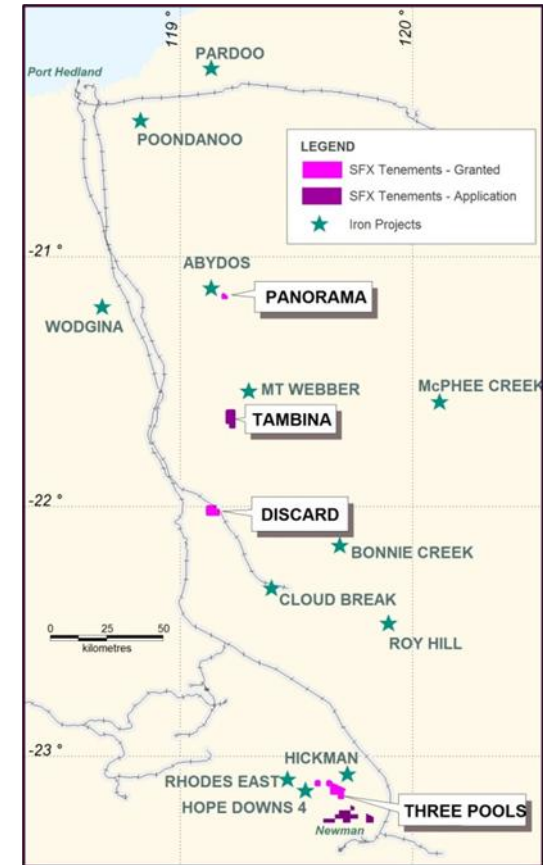
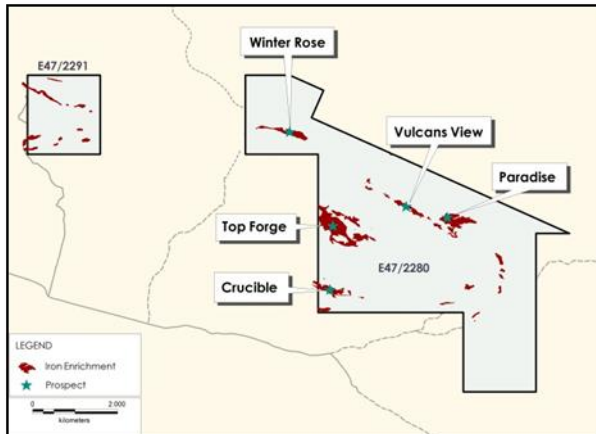
PILBARA IRON PROJECT

- East Pilbara focus
- Exploration Target² of **20-60Mt @ 56-60% Fe** outlined at Three Pools
- 1st pass drilling returned broad iron intersections from near surface, including:

50m @ 57.5% Fe from 0m (TPRC012)

42m @ 57.6% Fe from 6m (TPRC011)

52m @ 56.9% Fe from 16m (TPRC022)



¹Refer to ASX release of 1 December for further details.

²Sheffield has not yet reported Mineral Resources at the Three Pools project and any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

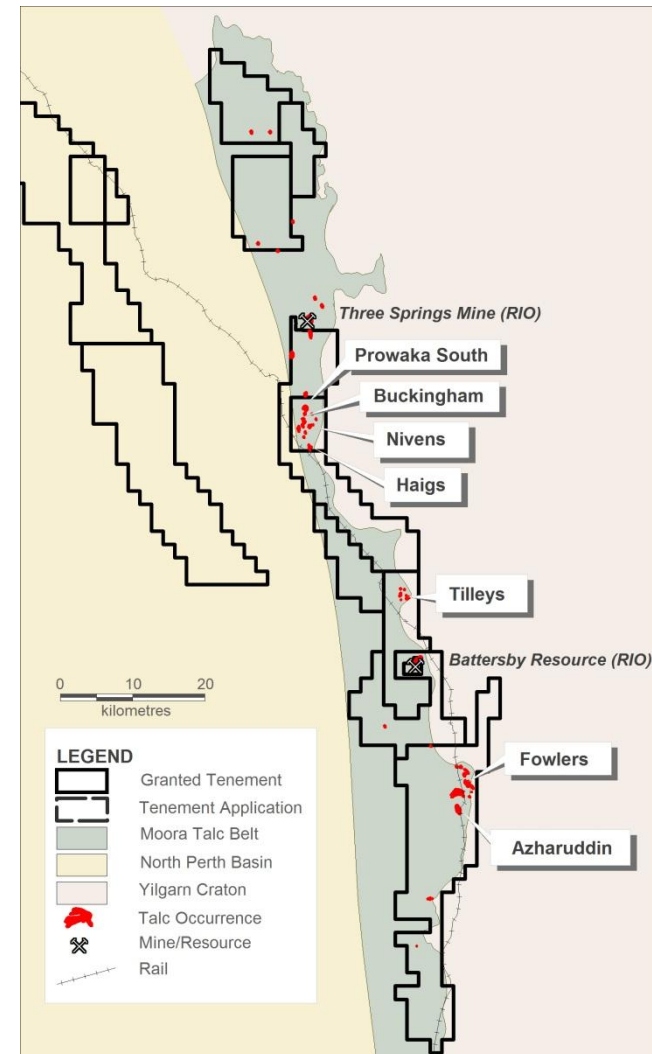
APPENDIX 4: OTHER PROJECTS

TALC PROJECT

- Simple “Dig and Deliver” commodity, e.g. Three Springs
- Targeting premium grade talc to gain market penetration
- Drilling has demonstrated high purity talc at 6 prospects
- Definition drilling planned 2012



Luznac's Three Springs mine and new talc beneficiation plant. Source – Rio Tinto Minerals media release 16 November 2010

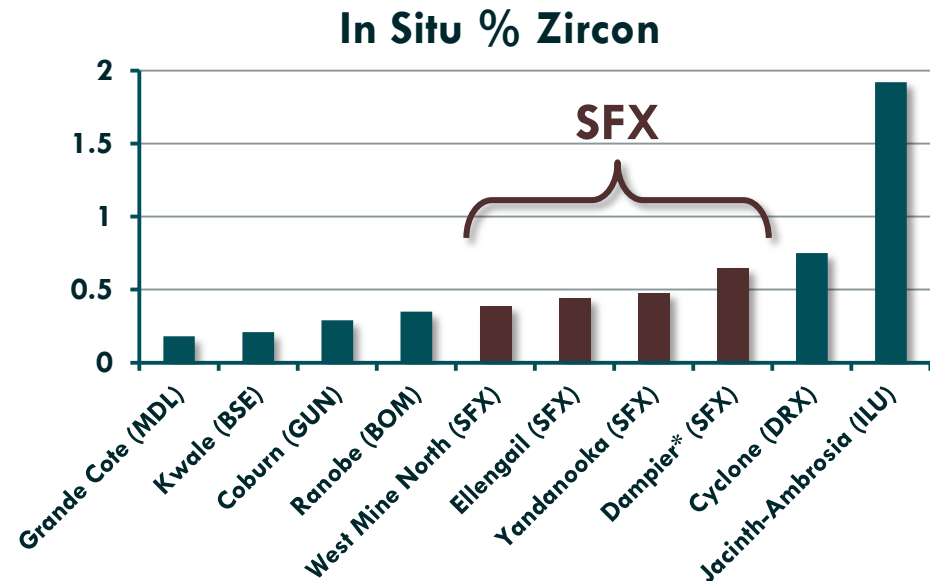


APPENDIX 5: DAMPIER ZIRCON PROJECT

- High average in situ zircon content of 0.63% from RIO drilling*
- Hosted by deeply weathered Cretaceous sediments
- Fine grain size of HM (D_{50} 62 μ m) and iron cementation may present some recovery issues, however high zircon content should offset recovery losses



Cleaner stage gravity separation of HM on bulk sample from the Argo prospect. Source: Combined Annual Report (C96/2003 Mt Jowlaenga) for the Period 21 July 2007 to 20 July 2008 Rio Tinto Exploration Pty Ltd.



*The Dampier in situ zircon content is derived by multiplying the weighted average HM content (7.9%) of 8 RIO drill hole intersections by the average zircon content (8%) of the mineral assemblage. RIO's bulk sample metallurgical testwork indicates the zircon content of the HM assemblage could be higher at 11.7%. Refer to ASX release of 7 September 2001 for further details.

The West Mine North in situ zircon content relates to the Measured & Indicated Resource for the high grade strand of 10.09Mt @ 7.7% HM for 779,000t of contained HM (ASX release 7 November 2011).

The Ellengail in situ zircon content relates to the Inferred Resource for the high grade core of 11.25Mt @ 5.0% HM for 560,000t contained HM (ASX release 25 October 2011).

The Yandanooka in situ zircon content relates to the Indicated Resource for the high grade core of 37.5Mt @ 3.8% HM for 1.41Mt of contained HM (ASX release 16 August 2011).