









# **Annual General Meeting**

28 November 2013

# Disclaimer





#### **COMPETENT PERSONS' STATEMENT - EXPLORATION RESULTS**

The information in this presentation that relates to exploration results is based on information compiled by David Archer and David Boyd. Both Mr Archer and Mr Boyd are full time employees of the Company and are Members of the Australasian Institute of Geoscientists. Mr Archer and Mr Boyd have 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 Persons as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code")'. Each of Mr Archer and Mr Boyd consents to the inclusion in the presentation of the matters based on their information in the form and context in which it appears.

#### COMPETENT PERSONS' STATEMENT - RESOURCE ESTIMATES

The information in this presentation that relates to resource estimation is based on information compiled by Mr Trent Strickland. Mr Strickland is a full time employee of Quantitative Group (QG) and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Strickland has sufficient experience in the minerals industry to satisfy the requirements to act as the competent person for these resource estimates as defined in the 2004 Edition of the Australasian Code for Reporting of Mineral Resources and Ore Reserves. Mr Strickland consents to the inclusion in this presentation 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 full time employee of 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 this presentation of the matters based on their information in the form and context in which it appears.

#### FORWARD LOOKING AND EXPLORATION TARGET 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" and similar expressions.

# Year in Review





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#### DAMPIER HMS PROJECT - FLAGSHIP

- ▼ Thunderbird maiden resource: 1.37Bt @ 6.1% HM¹
- ✓ TZMI appraisal confirms products are highly marketable
- Substantial progress on scoping and environmental studies
- ✓ Completed 2<sup>nd</sup> drilling campaign of 21,750m.
- Definition of thick, high grade zone

#### FRASER RANGE NICKEL

- ✓ Identified 3 promising nickel targets at Red Bull
- ✓ Best aircore drill result: 5m @ 0.73% Ni
- Expanded Fraser Range holding to 6 tenements

#### OTHER

- ✓ Sold South Pilbara iron project
- Discovered new iron target (Mt Vettel) in North Pilbara
- New potash discovery at Oxley
- Expanded Eneabba project resource base to 6.7Mt HM¹

#### AWARDS

- ✓ "Best Emerging Company" at Diggers & Dealers
- "Explorer of the Year" at Australian Mining Prospect Awards





<sup>1</sup> Refer to Appendices 1 & 2

# Company Snapshot

Board & Management	
Will Burbury	Executive Chairman
Bruce McQuitty	Managing Director
David Archer	Technical Director
David Boyd	Exploration Manager
Mark Teakle	Project Development Manager

#### **Share Price Chart** High \$0.80 2,000,000 \$0.78 1,800,000 \$0.70 Volume (shares traded per day) 1,600,000 \$0.60 1,400,000 \$0.00\$ Share Price 1,200,000 1,000,000 800,000 Low \$0.30 \$0.25 600,000 \$0.20 400,000 \$0.10 200,000 Sety Orig Mary Cery leriz sety Werz bary Mary ling hiry may sety orig

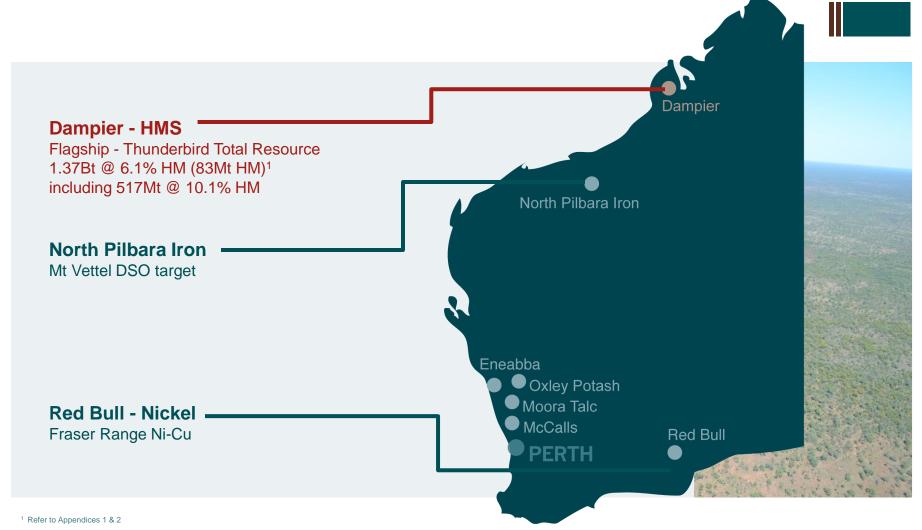
SHAREHOL SPLIT	DER	12 MONTH PERFORMANCE					
Top 20 Shareholders	36%	Share Price	+21%				
Directors	19.4%	Market Cap	+51%				

CAPITAL STRUCTURE	
Share price	\$0.60
Shares on issue	118.8m
Options (Ex Price 30c, expiry 30 Nov 2013)	2.4m
Employee Options (Ave. Ex Price 47.7c)	5.1m
Market Cap (Undiluted)	\$71.3m
Cash (at 30 Sept., no debt)	\$5.3m
Enterprise Value	\$66.0m

# Company Snapshot

Sheffield Resources

PROJECTS (ALL 100% SFX)



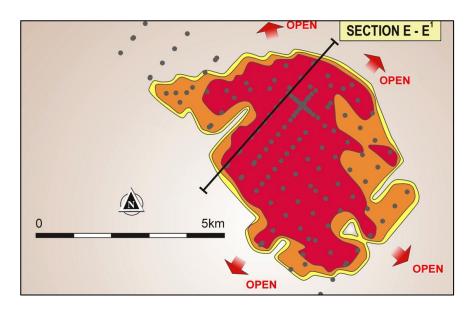
# Large Scale, High Grade

#### THUNDERBIRD MINERAL SANDS

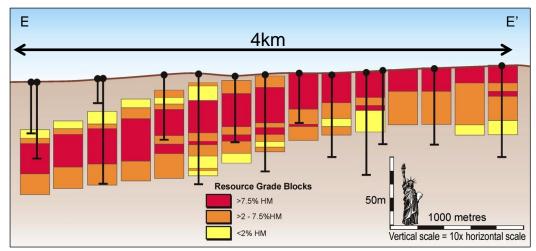
# Sheffield Resources

### STATUS AT DECEMBER 2012

- Maiden Mineral Resource
   1.37Bt @ 6.1% HM
   (Indicated & Inferred)¹
- Includes coherent high grade component of 517Mt @ 10.1% HM (Indicated & Inferred)<sup>2</sup>



- Strong grade continuity
- Low overburden
- Deposit remains open in most directions – exploration upside



<sup>1</sup> At 2% HM cut-off. Refer to Appendices 1 & 2.

At 7.5% HM cut-off. Refer to Appendices 1 & 2.

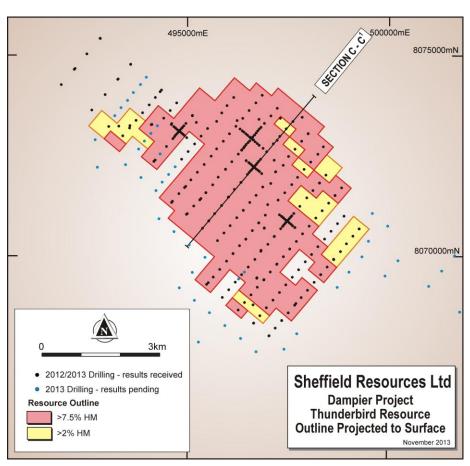
# Recent Drilling

## THUNDERBIRD MINERAL SANDS



#### STATUS AT DECEMBER 2013

- 2nd drilling campaign completed Oct 2013
- 281 aircore drill holes for 18,845m
- Infill drilling aimed at improving resource classification
- Step-out drilling to test exploration upside
- 70% of assay results returned to date
- Results from step-out holes are due in coming weeks



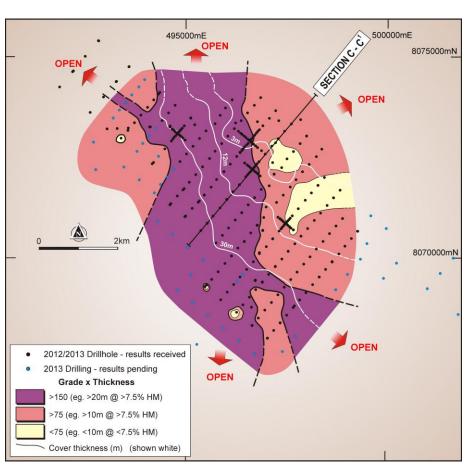
# Recent Drilling

#### THUNDERBIRD MINERAL SANDS





- Results to date define a thick, high grade zone at 7.5% HM cut-off
- Dimensions: 6km x 2.5km
- Intersections<sup>1</sup> include:
  19.5m @ 21.0% HM from 12m
  28m @ 17.9% HM from 32m
  18m @ 17.2% HM from 16.5m
  24m @ 16.1% HM from 25.5m
  32.5m @ 14.5% HM from 29m
  27m @ 14.3% HM from 12m
- Scoping Study will focus on optimising this high grade zone in early production years



 $^{\rm 1}$  At 7.5% HM cut-off. Refer to ASX Release 25 Nov 2013 for full details.

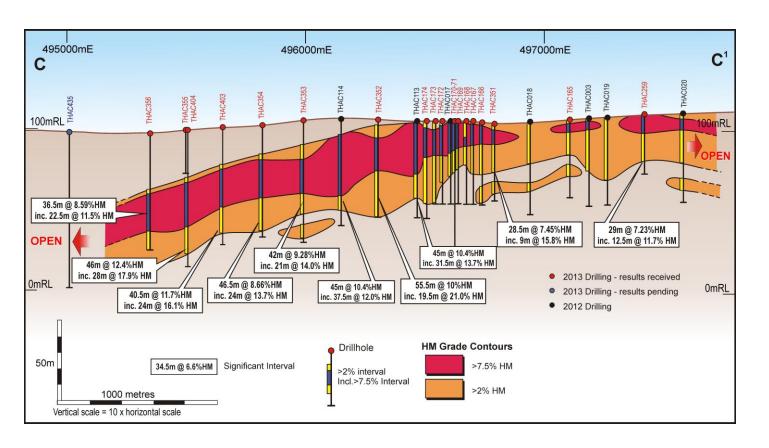
# Recent Drilling

#### THUNDERBIRD MINERAL SANDS





- Thick, high grade mineralisation displaying strong continuity
- Open up-dip & down-dip



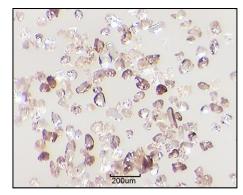
# **Premium Product**

#### THUNDERBIRD MINERAL SANDS

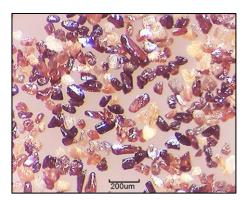




- Highly Marketable Products as assessed by TZMI
  - Premium grade zircon suitable for ceramics (largest sector of zircon market)
  - Primary ilmenite suitable for sulphate pigment process or sulphate or chloride slag (broad customer base)
  - Primary ilmenite has low Cr<sub>2</sub>O<sub>3</sub> and low alkalis ideal blending feed
  - Secondary ilmenite, HiTi & rutile products suitable for welding rod market



Thunderbird Zircon



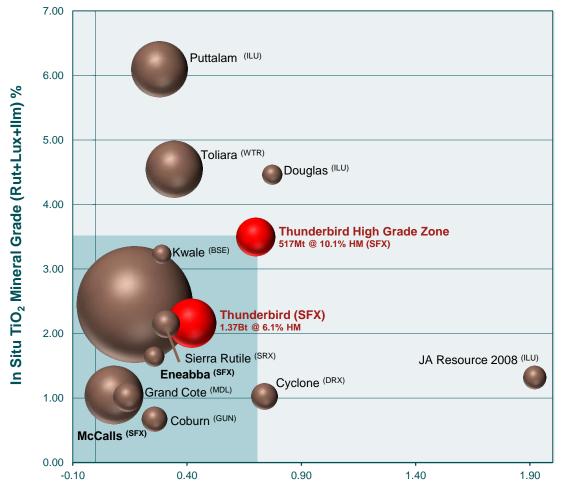
Thunderbird Rutile

# **World Class**

# Sheffield Resources

#### THUNDERBIRD MINERAL SANDS





# Amongst the world's largest and highest grade deposits

Only deposits greater than 100Mt are shown. Bubble size proportional to contained VHM tonnes.

Data compiled by SFX from open file sources. Rio Tinto's deposits excluded (unable to be sourced).

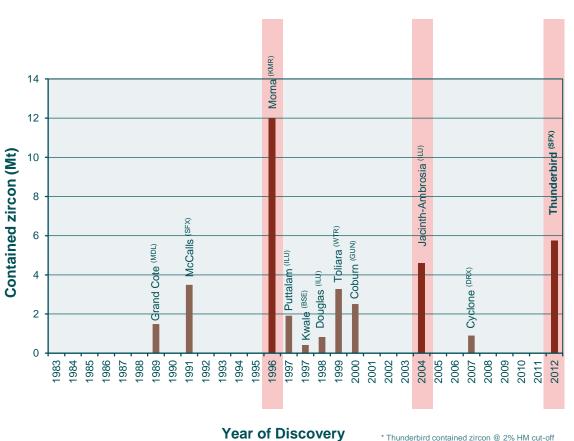
# **World Class**

#### THUNDERBIRD MINERAL SANDS





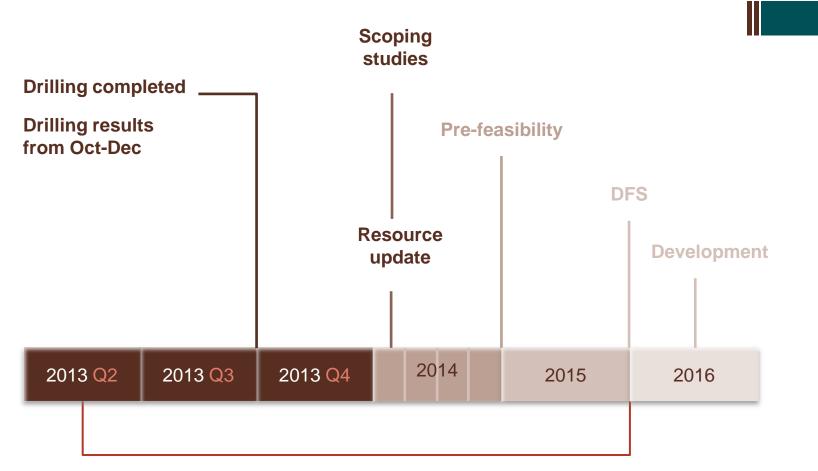
#### Large Zircon Deposits discovered in last 30 years



Projects of this scale and grade only come along once a decade





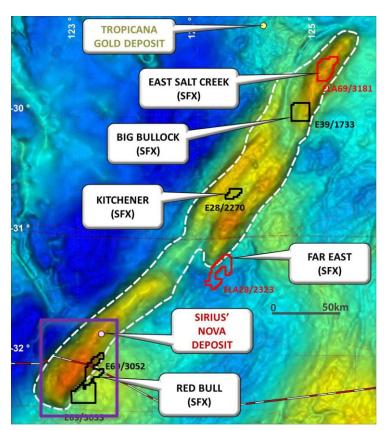


**Permitting & Approvals** 

# Red Bull Nickel

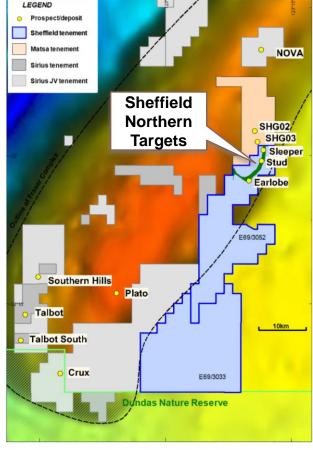
### LARGE FRASER RANGE POSITION

- 6 tenements, 1,388 sq km
- Red Bull is current focus
- Close to Nova and emerging prospects









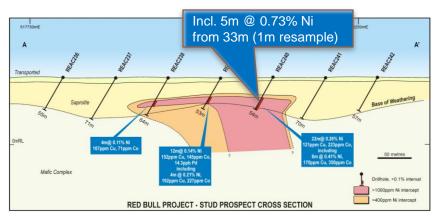
Gravity image

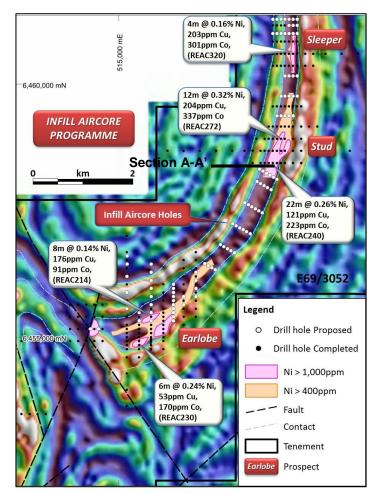
# Red Bull Nickel

#### NORTHERN TARGETS

**Sheffield**Resources

- Target zone is 8km long layered maficultramafic complex
- Anomalous Ni-Co-Cu is associated with an ultramafic unit of low magnetic intensity
- Initial aircore drilling outlined 3 substantial prospects: Earlobe, Stud & Sleeper
- Best interval: 5m @ 0.73% Ni in 1m resampling of drill hole REAC240
- Disseminated copper & nickel sulphides observed
- Further aircore drilling in progress





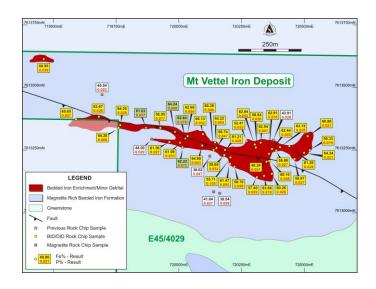
Cross Section A-A'
TMI Magnetic image 15

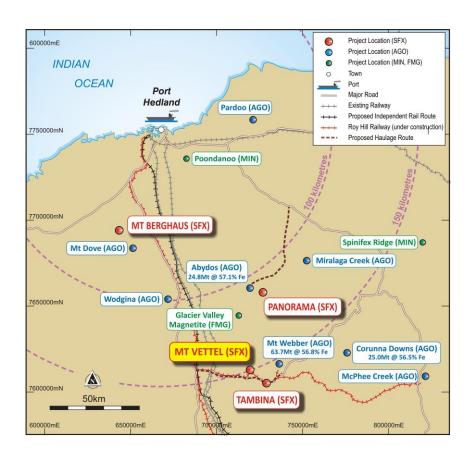
# North Pilbara Iron

#### MT VETTEL DSO TARGET

- Sheffield Resources

- Outcropping hematite mineralisation over 1km strike length
- Average 61.3% Fe from 37 samples
- Low impurities: 0.038% P, 0.98% Al<sub>2</sub>O<sub>3</sub>,
   4.77% SiO<sub>2</sub>
- 150km from Port Hedland potential trucking distance
- Scheduled for drilling Q1 2014





# Summary



## **Thunderbird**

- a World Class HMS deposit
- Once in a decade discovery
- Scoping Study Q1 2014, moving to PFS in 2014

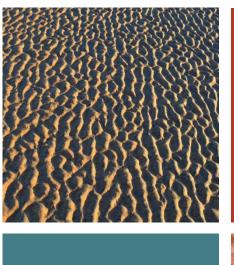
## Red Bull

- strong exposure to an emerging Nickel province
- 3 substantial nickel targets from 1<sup>st</sup> phase aircore drilling
- 2<sup>nd</sup> phase of aircore drilling in progress

# Other Projects

- seeking to extract value from 2<sup>nd</sup> tier projects
- Mt Vettel DSO target to be prioritised for drilling Q1 2014

# Thank you





#### For further information please contact:

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# Appendices

# Appendix 1: Resource Inventory



#### Sheffield's contained Valuable HM (VHM)\* Resource Inventory at 30 October 2013

Deposit	Resource Category	Zircon ('000t)	Rutile ('000t)	Leuc. ('000t)	Ilmenite ('000t)	Total VHM ('000t)	
Thunderbird	Indicated	1,483	344	924	6,256	9,007	
Thunderbird	Inferred	4,270	990	2,661	18,007	25,927	
Yandanooka	Measured	13	2	3	87	105	
Yandanooka	Indicated	240	81	83	1,439	1,843	
Yandanooka	Inferred	4	1	2	23	29	
Durack	Indicated	144	29	52	703	928	
Durack	Inferred	26	5	13	121	164	
Drummond Crossing	Indicated	143	101	37	542	823	
Drummond Crossing	Inferred	7	5	1	28	41	
Ellengail	Inferred	92	90	19	658	859	
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	31	35	45	287	398	
Total	Indicated	2,081	641	1,141	9,446	13,310	
Total	Inferred	7,889	2,154	5,272	61,746	77,062	
Total	All	10,001	2,830	6,458	71,479	90,770	

The contained VHM tonnages in the above table are derived from Mineral Resource Estimates for the Yandanooka, Ellengail, West Mine North, McCalls, Durack deposits (estimated using a 0.9% HM cut-off), the Drummond Crossing deposit (estimated using a 1.1% HM cut-off) and the Thunderbird deposit (estimated using a 2% HM cut-off). These Mineral Resources have previously been fully reported in ASX releases by Sheffield on 25 October 2011, 7 November 2011, 20 February 2012, 28 August 2012, 18 December 2012, 30 January 2013 and 30 October 2013. Appendix 2 summarises the estimated tonnes and grades for these deposits.

\* Valuable Heavy Minerals are classified as zircon, rutile, leucoxene and ilmenite.

# Appendix 2: HMS Mineral Resource<sup>1</sup> Inventory 30 Oct 2013



Project	Deposit	Resource Category	Cut-off (% HM)	Material (Mt)*	Bulk Density	HM %	Slimes % <sup>3</sup>	Osize %	In-situ HM (Mt)*	Zircon²	Rutile <sup>2</sup>	Leuc.² %	Ilmenite <sup>2</sup>
DAMPIER	Thunderbird	Indicated	2.0	299	2.1	7.2	19	14	21.5	6.9	1.6	4.3	29
	Thunderbird	Inferred	2.0	1,075	2.1	5.8	17	16	61.9	6.9	1.6	4.3	29
	Total Dampier	All	2.0	1,374	2.1	6.1	17	15	83.4	6.9	1.6	4.3	29
ENEABBA	Yandanooka	Measured	0.9	2.9	2.0	4.1	15	14	0.12	10.6	1.9	2.2	72
	Yandanooka	Indicated	0.9	90.1	2.0	2.3	16	15	2.09	11.5	3.9	3.9	69
	Yandanooka	Inferred	0.9	2.8	2.0	1.2	18	21	0.03	11.2	3.9	4.6	68
	Yandanooka	Total	0.9	95.9	2.0	2.3	16	15	2.24	11.4	3.8	3.9	69
	Durack	Indicated	0.9	50.3	2.0	2.0	15	21	1.02	14	2.8	5.1	69
	Durack	Inferred	0.9	15	1.9	1.2	14	17	0.18	14	2.5	7.2	66
	Durack	Total	0.9	65.3	2.0	1.8	15	20	1.20	14	2.8	5.6	68
	Drummond Crossing	Indicated	1.1	48.7	2.0	2.1	16	9	1.02	14	10	3.6	53
	Drummond Crossing	Inferred	1.1	3.5	2.0	1.5	16	8	0.05	13	10	2.8	55
	Drummond Crossing	Total	1.1	52.2	2.0	2.1	16	9	1.07	14	10	3.5	53
	Ellengail	Inferred	0.9	46.45	2.0	2.2	15.6	2.1	1.04	8.9	8.7	1.9	63.5
	Ellengail	Total	0.9	46.45	2.0	2.2	15.6	2.1	1.04	8.9	8.7	1.9	63.5
	West Mine North	Measured	0.9	6.47	2.0	5.6	14.8	1.2	0.36	4.9	9.1	11.6	54.9
	West Mine North	Indicated	0.9	36.11	1.9	2.3	13.1	2.8	0.84	8.4	10.3	5.4	60.0
	West Mine North	Total	0.9	42.58	1.9	2.8	13.4	2.5	1.21	7.9	10.1	6.4	59.2
	Total	Measured	0.9	9.4	2.0	5.2	15	5	0.48	6.7	6.8	8.7	60
	Total	Indicated	var.	225.3	2.0	2.2	15	13	4.98	12.1	6.0	4.4	64
	Total	Inferred	var.	67.7	2.0	1.9	15	6	1.30	10.3	7.2	3.2	64
	Total Eneabba	All	var.	302	2.0	2.2	15	11	6.76	11.6	6.3	4.2	64
MCCALLS	McCalls	Inferred	0.9	4,431	2.3	1.2	26.5	1.4	53	6.6	2.0	4.9	80.8
	Total McCalls	All	0.9	4,431	2.3	1.2	26.5	1.4	53	6.6	2.0	4.9	80.8

<sup>\*</sup>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. TiO 2 minerals defined according to the following ranges: Dampier: Rutile >95% TiO2; Leucoxene 70-95% TiO2; Ilmenite 40-70% TiO2, Eneabba & McCalls: Rutile >95% TiO2; Leucoxene 85-95% TiO2; Ilmenite <55-85% TiO2. 3 West Mine North, Drummond Crossing and McCalls deposits are reported below 35% slimes cut-off.