

### Annual General Meeting 27 November 2014



### Disclaimer

#### PREVIOUSLY REPORTED INFORMATION

This report includes information that relates to Exploration Results which were prepared and first disclosed under the JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows:

"SHEFFIELD DOUBLES TOTAL MINERAL RESOURCES AT WORLD CLASS THUNDERBIRD HMS DEPOSIT", 19 March 2014

"SCOPING STUDY HIGHLIGHTS THUNDERBIRD'S EXCEPTIONAL FINANCIAL RETURNS", 14 April 2014 "THUNDERBIRD MINERAL SANDS PROJECT UPDATE", 17 September 2014

"STANDOUT DRILLING RESULTS EXTEND HIGH GRADE MINERALISATION AT THUNDERBIRD MINERAL SANDS PROJECT", 10 November 2014

This report also includes information that relates to Mineral Resources which were prepared and first disclosed under the JORC Code 2004. The information has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The information was extracted from the Company's previous ASX announcements as follows:

- "1MT CONTAINED HM INFERRED RESOURCE AT ELLENGAIL", 25 October 2011
- "WEST MINE NORTH MINERAL RESOURCE ESTIMATE EXCEEDS EXPECTATIONS", 7 November 2011
- "4.4 BILLION TONNE MAIDEN RESOURCE AT MCCALLS HMS PROJECT", 20 February 2012.
- "ENEABBA PROJECT RESOURCE INVENTORY EXCEEDS 5MT HEAVY MINERAL", 28 August 2012
- "LARGE HIGH GRADE MAIDEN RESOURCE FOR THUNDERBIRD HMS DEPOSIT", 18 December 2012
- "YANDANOOKA RESOURCE UPGRADE AND METALLURGICAL RESULTS", 30 January 2013.
- "1Mt HEAVY MINERAL RESOURCE ADDED TO ENEABBA PROJECT", 30 October 2013

These announcements are available to view on Sheffield Resources Ltd's website www.sheffieldresources.com.au

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement

#### FORWARD LOOKING STATEMENTS

Some statements in this report regarding estimates or future events are forward-looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward-looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected" "estimated" "may", "scheduled", "intends", "potential", "could" "nominal" "conceptual" and similar expressions. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results to differ from estimated results.

#### SCOPING STUDY

The Scoping Study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised

The Company believes it has a reasonable basis for making the forward looking statements in this report, including with respect to any production targets, based on the information contained in the announcement "SCOPING STUDY HIGHLIGHTS THUNDERBIRD'S EXCEPTIONAL FINANCIAL RETURNS", dated 14 April 2014, and with respect to the Mineral Resource for Thunderbird as at 19 March 2014, independently compiled by QG Pty Ltd, together with independent metallurgical, processing design, engineering, mining and marketing studies, product quality assessment, external commodity price and exchange rate forecasts and global operating cost data.

In this report the term "mining inventory" is used to report that part of the Mineral Resource that has been considered in the Scoping Study. The mining inventory does not meet the requirements of an Ore Reserve as defined under the 2012 edition of the JORC Code and should not be considered an Ore Reserve. There is no certainty that all or any part of the mining inventory will be converted into Ore Reserves.

### Company Snapshot ASX Code : SFX

Key milestones contributing to shareholder value during 2014 were:

- 1. Doubling of Thunderbird Mineral Resource
- 2. Thunderbird Scoping Study results



Shareholder Split	12 MONTH PERFORMANCE							
Top 20 Shareholders <b>40%</b>	Share Price +25%							
Directors 17.5%	Market Cap +41%							
Capital Structure								

Capital Structure	
Share price	\$0.75
Shares on issue	134.4m
Employee Options (Ave. Exercise Price 71c)	7.4m
Market Cap (Undiluted)	\$100.8
Cash (30 Sept 2014)	\$8.7m
Enterprise Value	\$92.1m

## **Board & Management**



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

#### **PROVEN TRACK RECORD**

- History of successful Exploration and Corporate Transactions
- Built global scale HMS resource base in 3 years
- Completed Thunderbird Scoping Study demonstrating outstanding project economics
- 37 years of collective mineral sands experience

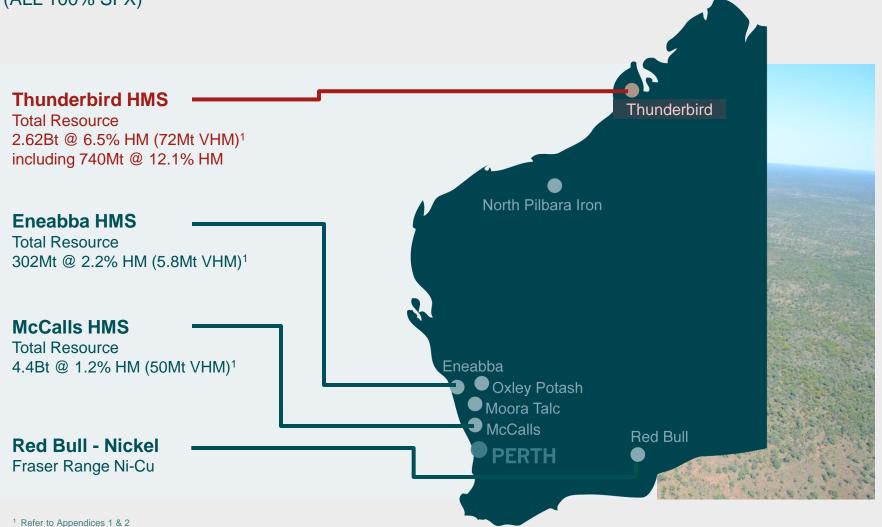




## **Project Locations**

(ALL 100% SFX)





# **Thunderbird - Strategic Location**



#### LOCATION

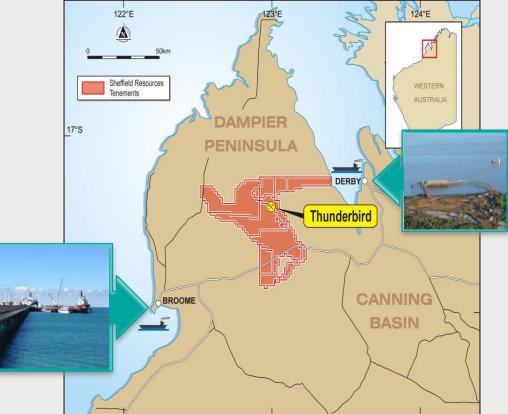
- 30km north of sealed Broome Derby highway
- 140km by road to either Broome or Derby ports
- Gas discoveries nearby providing potential power source for project
- Close to Asian markets

#### **CANNING BASIN**

- Thunderbird is first major mineral sands discovery in a new province
- Sheffield holds over 2,500km<sup>2</sup>

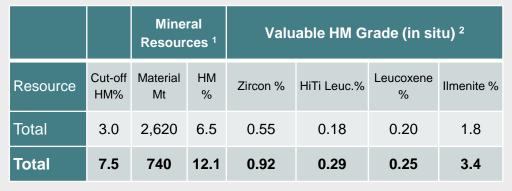
#### WESTERN AUSTRALIA

- Stable jurisdiction
- Pool of skilled workers & expertise
- Established mineral sands industry

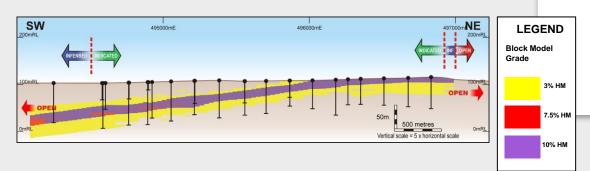


# Large Scale, High Grade

#### THUNDERBIRD MINERAL RESOURCE 19 MARCH 2014



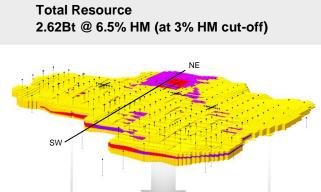
Refer to Appendices 1 & 2 for full Resources Tabulation



- Key to Thunderbird is continuous High Grade Zone
- This zone occurs at or near surface in the northern part of the deposit

1. Tonnes have been rounded to reflect the relative uncertainty of the estimate.





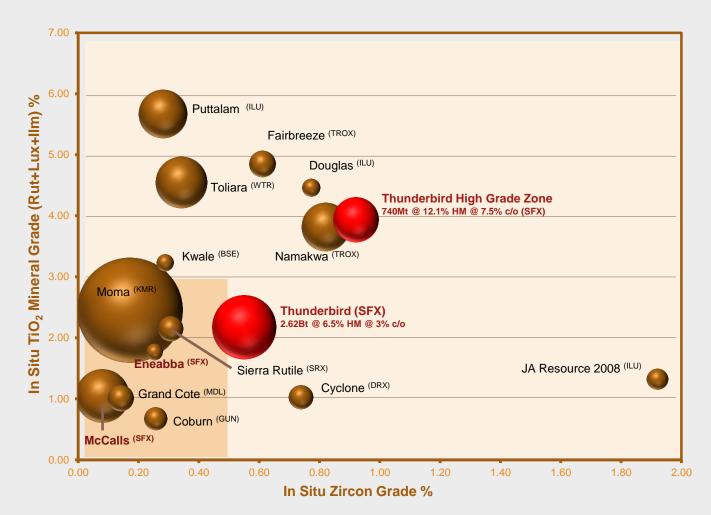


<sup>2.</sup> The in situ grade is determined by multiplying the percentage of HM by the percentage of each valuable heavy mineral within the heavy mineral assemblage.



### **Tier 1 Project**

### THUNDERBIRD MINERAL SANDS



### Amongst the world's largest and highest grade deposits

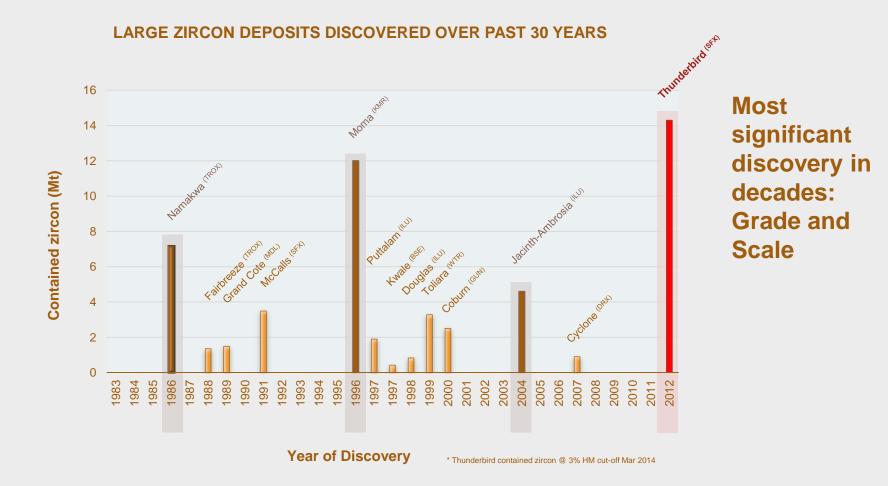
Only deposits greater than 100Mt are shown. Bubble size proportional to contained VHM tonnes

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



### **Tier 1 Project**

THUNDERBIRD MINERAL SANDS

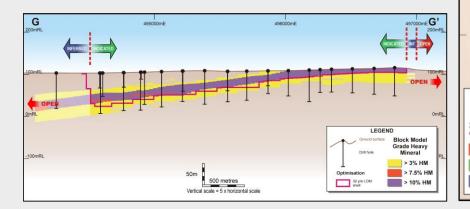


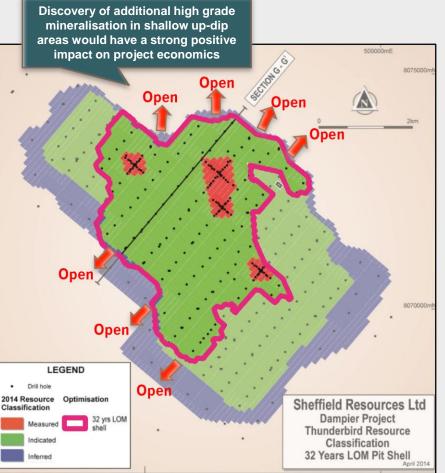


# Thunderbird Scoping Study April 2014

### MINING INVENTORY

- 32 Year optimised pit shell
- Mining inventory of 669Mt @ 10.2% HM (Measured & Indicated Resources only)
- In situ grades: 0.83% zircon, 0.27% HiTi leucoxene, 0.26% leucoxene & 2.9% ilmenite
- High grade Inferred Resources excluded
- Potential upside up-dip extensions

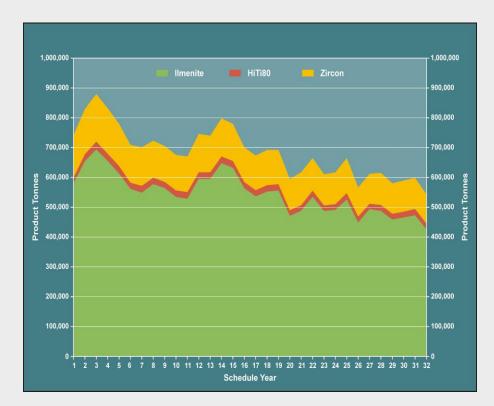






# THUNDERBIRD SCOPING STUDY (CONT'D) PHYSICALS

- 20.8Mtpa average mining rate (dry mining)
- 32 year mine life
- Average annual production is estimated to be:
- > 118,200tpa zircon (135,100tpa in first 10 years)
- > 545,000tpa ilmenite
- > 21,700tpa HiTi80
- Approximately 8% and 4% respectively, of global zircon and ilmenite supply
- High grades and very low strip ratio in initial years
- Strip ratio 0.2:1 (first 10 years)
- LOM strip ratio 0.6:1



Thunderbird Projected Saleable Product Physicals



# THUNDERBIRD SCOPING STUDY (CONT'D) FINANCIALS

LOM revenue	A\$m	10,010
Average Operating Cash Flow <sup>1</sup> (first 10 yrs)	A\$mpa	204
Average Operating Cash Flow <sup>1</sup> (LOM)	A\$mpa	156
EBITDA (first 10 years)	A\$mpa	187
EBITDA	A\$mpa	140
EBIT (first 10 years)	A\$mpa	179
EBIT	A\$mpa	126.4
Revenue /Cost Ratio (first 10 years)		2.4:1
Revenue/Cost Ratio (LOM)		2:1
Pre-production Capex <sup>2</sup> (incl. 15% contingency)	A\$	294
Pre-production Capex Payback	Years	2.0

- Long life, strong margin project
- \$140mpa EBITDA for 32 years
- Production scheduling delivers higher margins in first 10 years
- Modest Capex requirement, with short payback period of 2 years
- Revenue split: zircon 57%, ilmenite 36%, HiTi80 7%

#### **KEY ASSUMPTIONS**

A\$:US\$ Exchange rate		0.90
Zircon Price	US\$/tonne	1,475
Ilmenite Price	US\$/tonne	185
HiTi 80 leucoxene Price	US\$/tonne	870

1 Excluding taxes, royalties, closure costs, sale of capital equipment

2 Excludes estimated cost of PFS (\$5m) and DFS (\$10m).

# **Product Quality**

### THUNDERBIRD MINERAL SANDS

#### **CONVENTIONAL PROCESSING**

- Metallurgical testwork on 2 bulk samples totalling 11 tonnes confirms mineralisation responds well to conventional processing techniques
- Slimes have low clay content requiring low flocculant dosages
- Testwork on 15 tonne bulk sample for further process refinement -nearing completion

#### **HIGHLY MARKETABLE PRODUCTS**

- Potential products assessed by TZMI & Ruidow
- 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
- HiTi80 product suitable for welding rod market



Wet table work on Thunderbird bulk sample



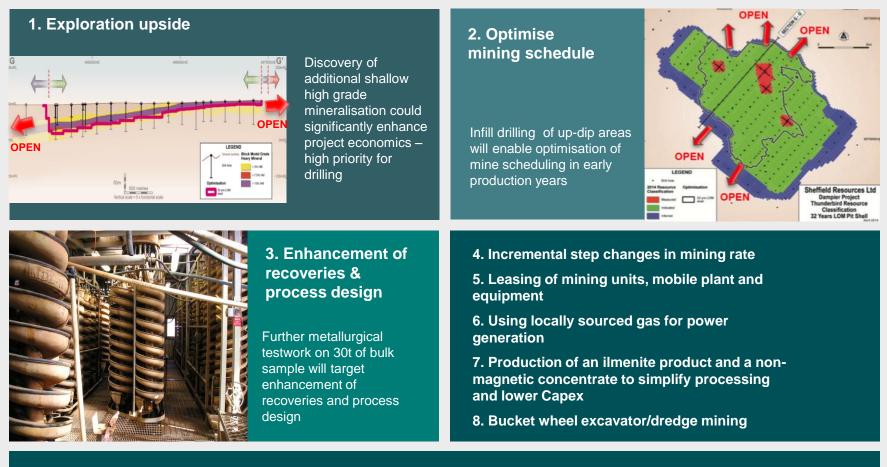
6 tonne sample processed at RJ Robbins laboratory, Brisbane



# **Key Focus Areas**



#### VALUE ENHANCEMENT OPPORTUNITIES DURING PFS

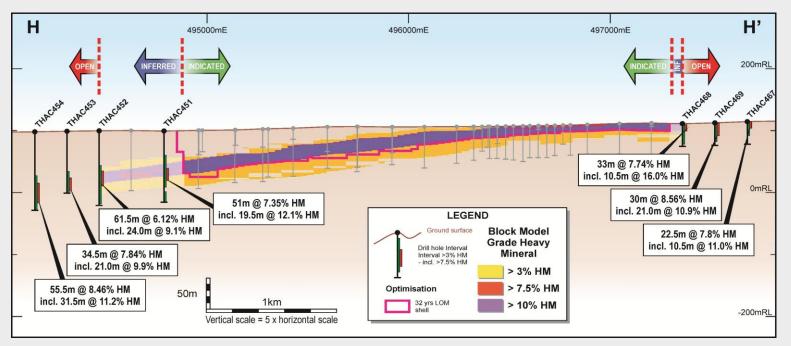


9. Regional Exploration – Finding the next Thunderbird!

# **Delivering on Opportunities**



### DISCOVERY OF HIGH GRADE EXTENSIONS Q3-Q4 2014



#### **NEXT MILESTONES:**

Dec 2014: Mineral Resource update

Q1 2015: Bulk sample metallurgical testwork results

Regional exploration drilling results

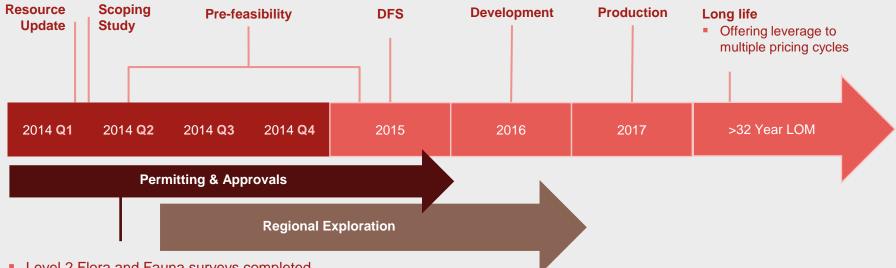
Pre-feasibility study results

### **Timeline to Production**



#### **Upcoming Milestones Will Drive Shareholder Value**

- Resource Update Q4 2014
- PFS Completion Q1 2015
- Regional Exploration targeting another Thunderbird
- Permitting & Approvals



- Level 2 Flora and Fauna surveys completed
- Site groundwater studies in progress
- Mining Lease application lodged July 2014



### **Other Projects**

#### FRASER RANGE NICKEL

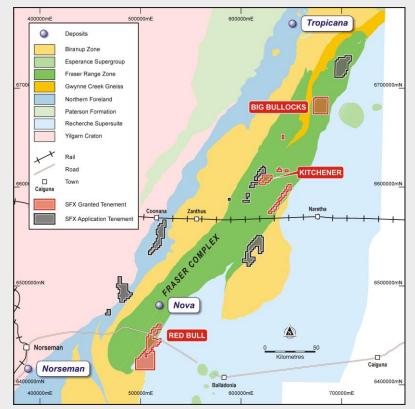
- Fraser Range tenement position grown to >2,000km<sup>2</sup>
- Red Bull and Big Bullocks projects are main focus
- Moving Loop EM and aircore drilling programs planned for Q1 2015
- RC drilling of prospective new targets

#### **ENEABBA HMS**

- Strategic resource base of 6.7Mt HM (5 deposits)
- Scout aircore drilling of dunal exploration targets planned for H1 2015

#### McCALLS HMS

- Global scale chloride ilmenite deposit
- Evaluating higher grade, lower slimes central portion of deposit for dredge mining
- Resource update planned for H1 2015



Sheffield's tenement position in Fraser Range region

# Conclusion



### SHEFFIELD IS FOCUSED ON DEVELOPING THUNDERBIRD

- World class, large scale, long life project
- High estimated cash margins with leverage to multiple pricing cycles
- Modest estimated development capital with 2 year payback
- Globally significant projected production levels of zircon and ilmenite
- Highly marketable product suite
- Value enhancing opportunities under evaluation
- Well funded to deliver PFS and beyond
- Near-term milestones:
  - Resource update December 2014
  - PFS completion Q1 2015





# **Appendix 1: Resource Inventory**

SHEFFIELD'S CONTAINED VALUABLE HM (VHM)\* RESOURCE INVENTORY AT 19 MARCH 2014

Deposit	Resource Category	Zircon ('000t)	Rutile ('000t)	HiTi Leuc. ('000t)	Leuc. ('000t)	Ilmenite ('000t)	Total VHM ('000t)	
Thunderbird	Measured	510	-	150	140	1,660	2,450	
Thunderbird	Indicated	10,170	-	3,350	3,550	34,110	51,170	
Thunderbird	Inferred	3,600	-	1,230	1,470	12,110	18,420	
Yandanooka	Measured	13	2	-	3	87	105	
Yandanooka	Indicated	240	81	-	83	1,440	1,840	
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	3,490	1,060	-	2,580	42,910	50,040	
Total	Measured	540	35	150	180	1950	2,850	
Total	Indicated	10,770	300	3,350	3,760	37,300	55,470	
Total	Inferred	7,220	1,160	1,230	4,080	55,850	69,550	
Total	All	18,530	1,500	4,730	8,020	95,100	127,870	

All tonnages have been rounded to reflect the relative uncertainty of the estimate, thus sum of columns may not equal. 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 3% HM cut-off) detailed in Appendix 2... \* Valuable Heavy Minerals are classified as zircon, rutile, HiTi leucoxene, leucoxene and ilmenite. See the compliance statements at the beginning of this presentation for important information relating to the reporting of these Mineral Resources.



# Appendix 2: HMS Mineral Resources<sup>1</sup>

### **INVENTORY 19 MARCH 2014**

Project	Deposit	Resource Category	Cut-off (% HM) <sup>3</sup>	Material (Mt)*	Bulk Density	HM %	Slimes %³	Osize %	In-situ HM (Mt)*	Zircon <sup>2</sup> %	Rutile <sup>2</sup> %	HiTi Leuc. % <sup>2</sup>	Leuc.² %	Ilmenite <sup>2</sup> %
	Thunderbird	Measured	3.0	75	2.1	7.5	19	11	6	9.1	-	2.7	2.4	30
THUNDER	Thunderbird	Indicated	3.0	1805	2.1	6.8	17	9	122	8.3	-	2.7	2.9	28
BIRD	Thunderbird	Inferred	3.0	740	2.0	5.7	15	9	42	8.5	-	2.9	3.5	29
	Total Thunderbird	Total	3.0	2,620	2.1	6.5	17	9	170	8.4	-	2.8	3.0	28
	Yandanooka	Measured	0.9	3	2.0	4.1	15	14	0.1	11	1.9	-	2.2	72
	Yandanooka	Indicated	0.9	90	2.0	2.3	16	15	2.1	11	3.9	-	3.9	69
	Yandanooka	Inferred	0.9	3	2.0	1.2	18	21	0.03	11	3.9	-	4.6	68
	Yandanooka	Total	0.9	96	2.0	2.3	16	15	2.2	11	3.8	-	3.9	69
	Durack	Indicated	0.9	50	2.0	2.0	15	21	1.0	14	2.8	-	5.1	69
	Durack	Inferred	0.9	15	1.9	1.2	14	17	0.2	14	2.5	-	7.2	66
	Durack	Total	0.9	65	2.0	1.8	15	20	1.2	14	2.8	-	5.6	68
	Drummond Crossing	Indicated	1.1	49	2.0	2.1	16	9	1.0	14	10	-	3.6	53
	Drummond Crossing	Inferred	1.1	3	2.0	1.5	16	8	0.05	13	10	-	2.8	55
ENEABBA	Drummond Crossing	Total	1.1	52	2.0	2.1	16	9	1.1	14	10	-	3.5	53
	Ellengail	Inferred	0.9	46	2.0	2.2	16	2	1.0	8.9	8.7	-	1.9	64
	Ellengail	Total	0.9	46	2.0	2.2	16	2	1.0	8.9	8.7	-	1.9	64
	West Mine North	Measured	0.9	6	2.0	5.6	15	1	0.4	4.9	9.1	-	12	55
	West Mine North	Indicated	0.9	36	1.9	2.3	13	3	0.8	8.4	10	-	5.4	60
	West Mine North	Total	0.9	43	1.9	2.8	13	3	1.2	7.9	10	-	6.4	59
	Total	Measured	Var.	9	2.0	5.2	15	5	0.5	6.7	6.8	-	8.7	60
	Total	Indicated	Var.	225	2.0	2.2	15	13	5.0	12	6.0	-	4.4	64
	Total	Inferred	Var.	68	2.0	1.9	15	6	1.3	10	7.2	-	3.2	64
	Total Eneabba	All	Var.	302	2.0	2.2	15	11	6.8	12	6.3	-	4.2	64
	McCalls	Inferred	0.9	4,431	2.3	1.2	27	1.4	53	6.6	2.0	-	4.9	81
MCCALLS	Total McCalls	All	0.9	4,431	2.3	1.2	27	1.4	53	6.6	2.0	-	4.9	81

\* All tonnages and grades have been rounded to reflect the relative uncertainty of the estimate and maintain consistency throughout the table, thus sum of columns may not equal. 1 See the compliance statements at the beginning of this presentation for important information relating to the reporting of these Mineral Resources. 2 The Mineral Assemblage is represented as the percentage of the Heavy Mineral (HM) component of the deposit, determined by QEMSCAN for Eneabba & McCalls, with TiO2 minerals defined according to the following ranges: Rutile >95% TiO2; Leucoxene 85-95% TiO2; Imenite <55-85% TiO2; for Dampier the mineral assemblage was determined by screening and magnetic separation. Magnetic fractions were analysed by QEMSCAN for mineral determination as follows: Ilmenite: 40-70% TiO2 >90% Liberation; Leucoxene: 70-94% TiO2 >90% Liberation; High Titanium Leucoxene (HiTi Leucoxene): >94% TiO2 >90% Liberation; and Zircon: 66.7% ZrO2+HfO2 >90% Liberation, were submitted for XRF analysis and minerals determined as follows: Zircon: ZrO2+HfO2/0.667 and High Titanium Leucoxene (HiTi Leucoxene): TiO2/0.94. 3 West Mine North, Drummond Crossing, Durack and McCalls deposits are reported below 35% slimes cut-off.