

# Australia's newest mineral sands miner

# **Boonanarring Mineral Sands Project**

100%-owned; high-grade; zircon-rich

80km north of Perth in Western Australia

On-track for positive cashflow end 1st QTR 2019



Investor Presentation February 2019

Patrick Mutz Managing Director Image Resources NL ASX: IMA

#### **Forward Looking Statements**



This presentation has been prepared by the management of Image Resources NL ("Image", "IMA" or the 'Company') in connection with meetings with investors and potential investors and not as specific advice to any particular party or person. The information is based on publicly available information, internally developed data and other sources. Where any opinion is expressed in this presentation, it is based on the assumptions and limitations mentioned herein and is an expression of present opinion only. This presentation does not constitute or form part of any offer or invitation to sell, or any solicitation of any offer to purchase any shares in the Company, nor shall it or any part of it or the fact of its distribution form the basis of, or be relied on in connection with, any contract or commitment or investment decisions relating thereto, nor does it constitute a recommendation regarding the shares of the Company. Past performance cannot be relied upon as a guide to future performance. Please refer to the back of this presentation for information concerning the calculation of reserves and resources referred to herein, and the consents provided by the respective Competent Persons. For further details on the content of this presentation, please refer to the ASX releases on the Company's website.

Certain statements in this investor presentation, and in subsequent oral statements made by and on behalf of Image, constitute "forward-looking statements" or "forward-looking information" within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and other factors, which may cause actual results, performance or achievements of the Company, the Boonanarring Project, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as "may", "would", "could", "will", "intend", "expect", "believe", "plan", "anticipate", "estimate", "scheduled", "forecast", "predict" and other similar terminology, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. These statements reflect the Company's current expectations regarding future events, performance and results, and speak only as of the date of this investor presentation.

Statements in this investor presentation that constitute forward-looking statements or information include, but are not limited to statements regarding the Boonanarring/Atlas Project: Production, Cashflows, NPV, IRR, construction timelines, life of the mine; funding; and use of proceeds of the Placement.

The forward-looking information and statements also include metal price assumptions, projected capital and operating costs, metal recoveries, mine life and production rates and other assumptions used in the 2017 Bankable Feasibility Study (as hereinafter defined). Readers are cautioned that actual results may vary from those presented. Certain of the factors and assumptions used to develop the forward-looking information, and the risks that could cause the actual results to differ materially, are contained in the Bankable Feasibility Study lodged with the ASX and disclosed on the Company's website at <a href="http://www.imageres.com.au">www.imageres.com.au</a>.

### **Investor Snapshot**

Company transitioning to profitable miner and realisation of full valuation

- Company fully funded to positive cashflow
- Project construction and commissioning complete 30 Nov 2018
  - 'on-budget' and 'on-schedule'
- Production commenced 1 Dec 2018
- First bulk shipment HMC product exported 13 Jan 2019
- First revenue received 22 Jan 2019
- Cashflow positive forecast end 1<sup>st</sup> QTR 2019





### **Investor Snapshot**



Company transitioning to profitable miner at a time of supply shortage of zircon

- Binding off-take agreements in place for 100% of HMC production for life of mine
- Project NPV A\$235 million<sup>1</sup>; IRR 125%<sup>1</sup>; 13 month payback<sup>1</sup>
  - metrics have strengthened with 12% zircon price rise on 1 October 2018
- Company market cap. A\$143M<sup>2</sup>
- > Share price \$0.15<sup>2</sup>



Notes: 1 – Per updated bankable feasibility study results announced 28 June 2018. Image confirms that all material assumptions from that announcement underpinning the production targets and forecast financial information derived from the production targets continue to apply and have not materially changed.

2 – as at 29 January 2019

### **Products and Applications**



whitener

opacifier

heat resistant

abrasion resistant

Key products are zircon and titanium dioxide

 $\succ$  Zircon sand is processed into zirconium compounds, intermediate products and zirconium metal for a variety of applications; Qualities



- Ceramics (tiles); 55% demand
- Foundry Sands (castings); 14%
- Refractories (furnace linings); 10%



- Chemicals (gem stones, nuclear reactors); 14%
- Others: 7%



metal bio-compatible

Speciality uses include fibre optics, glass, paints, catalysts, underarm deodorants, adhesives, cosmetics, paper, dental ceramics plus many research applications.

Source: Zirconium Industry Association www.zircon-association.org

# **Products and Applications**



Key products are zircon and titanium dioxide

Titanium dioxide (TiO2) from rutile and ilmenite is processed into titanium based products and titanium metal for a variety of applications;



- Ultra-white pigments (paint, paper, plastic); ~90% demand
- Welding rods (flux coating);



 Titanium metal (light, strong, corrosion-resistant, biocompatible);



Used in aircraft, spacecraft, motor vehicles and medical implants;



Speciality uses include sunscreen, adhesives, inks, fabrics, ceramics, cosmetics, toothpaste, catalysts, and pharmaceuticals.

# **Project Location**

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- North Perth Basin in Western Australia
- ➢ 80 km north of Perth CBD
- Proven mineral sands address
  - Including majors Iluka and Tronox
- Infrastructure rich
  - paved roads, power, gas pipeline water, telecommunications etc.
- Local communities and landowners experienced with, and accepting of, mineral sands mining.





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## **Project Types and Locations**

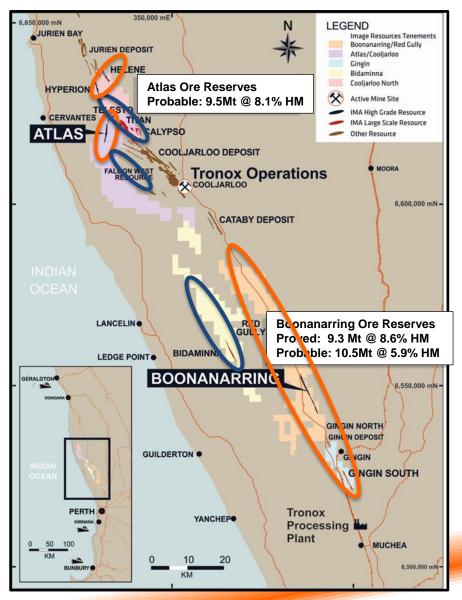


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- 1,000 km<sup>2</sup> tenements portfolio
- 100% focus on mineral sands
- Strandline projects (dry mining)
- Dredge mining prospects

Multiple opportunities for a second stand-alone mining project within the current 100%-owned tenement package.

Bidaminna is high on priority list.



#### **Ore Reserves**



# QUALITY ORE RESERVES

- JORC Code (2012) Compliant
- High HM, VHM and very high zircon at Boonanarring

High Grade Ore Reserves - Strand Deposits; in accordance with the JORC Code (2012)											
Project/Deposit	Category	Volume	Tonnes	% нм	% Slimes	HM Tonnes	VHM	Ilmenite	Leucoxene	Rutile	Zircon
							(%)	(%)	(%)	(%)	(%)
Boonanarring <sup>1</sup>	Proved	5,008,000	9,344,000	8.6	14.3	803,771	76.081	48.9	1.8	2.2	23.2
Boonanarring <sup>1</sup>	Probable	5,565,000	10,514,000	5.9	17.6	622,429	78.653	52.3	1.8	2.7	21.9
Total Boonanarring	5	10,573,000	19,858,000	7.2	16.1	1,426,200	77.203	50.4	1.8	2.4	22.7
Atlas <sup>1</sup>	Probable	5,000,000	9,477,000	8.1	15.5	767,637	73.3	50.7	4.5	7.5	10.6
Total Atlas		5,000,000	9,477,000	8.1	15.5	767,637	73.3	50.7	4.5	7.5	10.6
<b>Total Ore Reserves</b>		15,573,000	29,335,000	7.5	15.9	2,193,837	75.8	50.5	2.7	4.2	18.4

1. COMPLIANCE STATEMENT - Boonanarring/Atlas Ore Reserves

The Ore Reserves statement has been compiled in accordance with the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code – 2012 Edition). The Ore Reserves have been compiled by Jarrod Pye, Mining Engineer and full-time employee of Image Resources, under the direction of Andrew Law of Optiro, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Law has sufficient experience in Ore Reserves estimation relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr Law consents to the inclusion in the report of the matters compiled by him in the form and context in which it appears.

#### **Ore Reserves Comparison**



TiO<sub>2</sub> Mineral Grade (%) 10.0% **©TZMI - NOT FOR REPRODUCTION** 9.0% Tutunup South 8.0% IMAGE 7.0% Operations Projects 6.0% Atlas Image 5.0% KZN Boonanarring Namakwa 4.0% Kwale QMM Cataby Donald 3.0% Thunderbird Moma RBM Dongara 2.0% Cooljarloo Keysbrook **WIM 150** Cyclone 1.0% Coburn Grande Cote 0.0% 0.0% 0.5% 1.0% 1.5% 2.0% 2.5% Zircon grade (%)

Note:

- TiO<sub>2</sub> mineral grade represents the in-ground grade of titanium minerals (ilmenite, leucoxene and rutile)
- Zircon grade represents the in-ground grade of zircon
- Size of bubble represents the VHM grade (ilmenite, leucoxene, rutile and zircon).
- Data includes Proved and Probable Ore Reserves.
- Hard rock deposits are excluded from the analysis

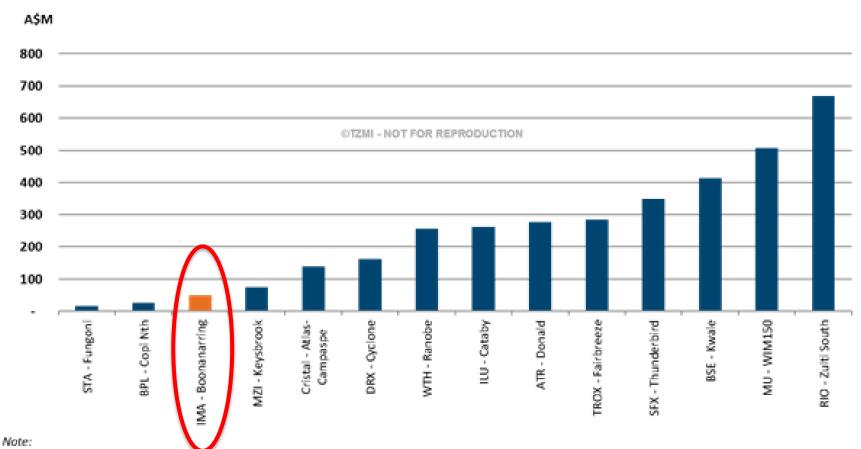
#### Source: TZMI; May 2017

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### **Project Capital Comparison**



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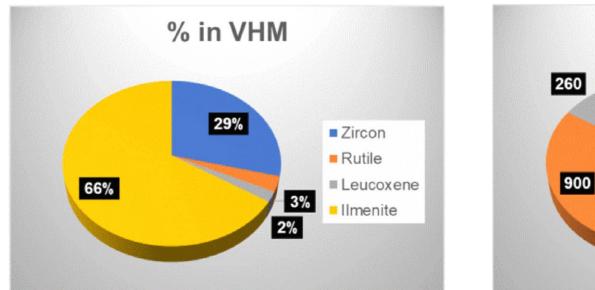


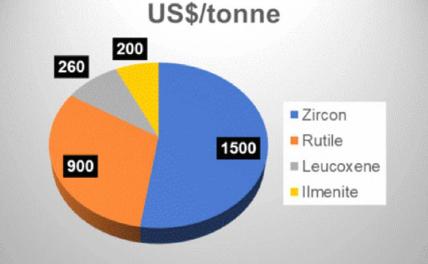
- Data sourced from company reports in the public domain.
- United States dollar capital costs are converted to Australian Dollars using an exchange rate of 0.75 (AUD:USD).
- Cataby has a range of A\$250M to A\$275M, midpoint used in this analysis.
- Ranobe capital cost is based on the 2012 DES estimate.

Source: TZMI; May 2017

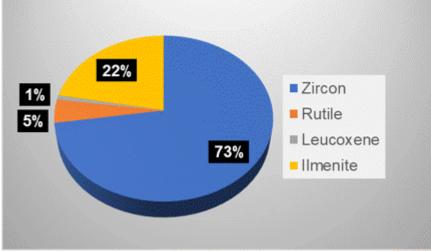
#### **Products and Prices**







% of Revenue



Notes: VHM assemblages and commodity prices are estimates based on Boonanarring project heavy mineral concentrate product.

# **Bankable Feasibility Study**

# **Base Assumptions**

- Start mining at Boonanarring
- Dry, open-cut mining
- Production rate 500 dry tonnes per hour
  - 3.7M dry tonnes per year
- Conventional gravity separation using spirals
- Product: Heavy Mineral Concentrate (HMC)
  - Production rate: avg. approx. 240K tonnes/annum
  - Truck to Bunbury for bulk shipments to China

Punches 4 times above its weight\*!Punches 4 times above its weight\*!\* -Equivalent in revenue to\* -Equivalent in revenue to2,000 tonnes per hour atOre grades of3% HM in ore and10% zircon in VHM



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# Average annual production at Boonanarring (5 yrs)

- > 240k tonnes HMC; containing;
  - 60kt zircon (70kt/year in 2019-20)
  - 130kt ilmenite
  - 6kt rutile
  - 4kt leucoxene
- 5.5 years mine life with ability to add 3-4 years additional ore reserves

# **Boonanarring – BFS Production Statistics**



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Boonanarring Project Production Forecast - updated July 2018									
	2018	2019	2020	2021	2022	2023	Total		
Ore processed (Kt)	<del>70</del> 0350	3,600	3,800	3,700	3,800	3,500	19,100		
Ore grade (%HM)	<u>6%</u> 7%	8%	11%	6%	8%	11%	8%		
Assemblage (% of HM)									
Zircon	19% 219	25%	22%	25%	25%	16%	22%		
Rutile	3%	3%	2%	3%	3%	6%	3%		
Ilmenite	55%	49%	51%	49%	49%	53%	51%		
Leucoxene	2%	2%	2%	2%	2%	3%	2%		
HMC produced (Kt) HMC sold (Kt)	12 19 11 0	222 219	345 320	168 190	227 230	343 230	1,317 1,200		
HMC content									
Zircon (Kt)	<i>≈</i> 3	64	87	40	71	42	306		
Rutile (Kt)	0.3	5	6	5	5	13	34		
Ilmenite (Kt)	13	117	176	115	118	125	658		
Leucoxene (Kt)	0.2	3	5	3	2	5	19		
Trash HM/silica (Kt)	2	30	46	28	33	45	184		
Total (Kt)	12 19	219	320	191	229	230	1,202		
%VHM in HMC	83%	86%	86%	85%	86%	80%	85%		

Note: 2023 information includes start of production at Atlas.

## **Boonanarring – BFS Project EBITDA**



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Boonanarring Project EBITDA Summary - updated July 2018							
(AU\$million)	2018	2019	2020	2021	2022	2023	Total
Revenue	<b>~5</b> 0	127	181	100	139	101	653
Revenue/tonne HMC	<b>45</b> 5 0	580	566	526	604	439	544
Operating Costs							
Mining	18	46	43	42	42	35	226
Processing	1.2	7	7	7	7	8	37
Site Administration	4	4	4	4	5	6	27
Logistics	1	15	21	13	15	17	82
Royalties/Other	0.3 0	6	9	5	7	6	33
Capitalised Op. Costs	(15) <sup>(16)</sup>	0	0	0	0	0	(15)
Change in Inventory	(3) 0	1	(4)	5	(2)	(13)	(16)
Total Operating Costs	<b>7</b> 8	79	80	76	74	59	375
Operating Costs/t HMC	<b>591</b> 411	361	250	400	322	257	312
Operating Margin	- <b>23%</b> 0%	61%	126%	32%	88%	71%	74%
Project EBITDA	(1) 0	48	101	24	65	42	278

Note: 2023 information includes start of production at Atlas.

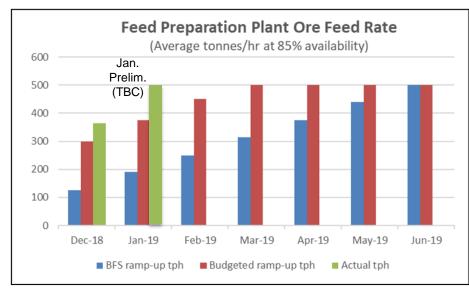
#### **Boonanarring – Ramp-up Production**

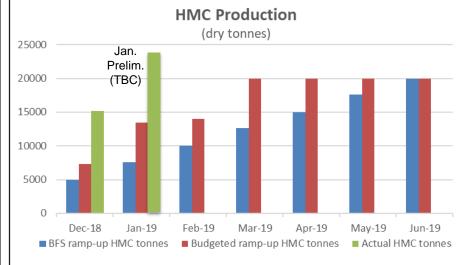


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#### December 2018 Operating Statistics

ltem	Unit	Actual	Budget	Variance
FPP/WCP runtime	hrs.	639	558	15%
FPP Ore Feed	t	232,664	167,400	39%
FPP Ore Feed	tph	364	300	21%
Ore HM grade	%	7.3	6.1	19%
Availability	%	85.8	75	14%
HMC produced	t	15,935	7,210	121%
HMC HM grade	%	90.6	85	7%
HM Recovery	%	84.9	71.6	19%

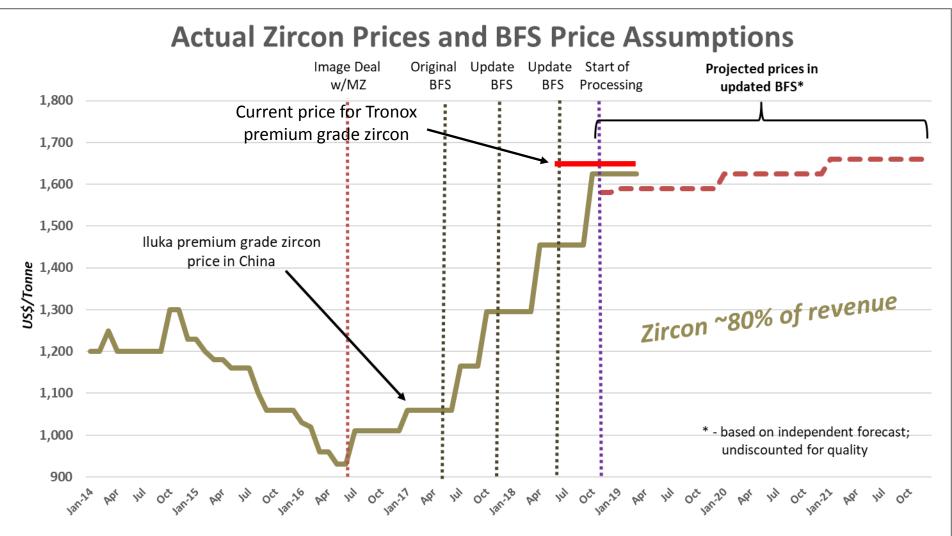




#### **Zircon Prices – Actual and Forecast**



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Sources: CNFEOL commodity pricing website by subscription (www.cnfeol.com) and Image Updated BFS announced to ASX 28 June 2018.

#### **BFS Financial Metrics**



#### **Key Financial Metrics**

	Original BFS <sup>1</sup>	Updated BFS <sup>2</sup>	Updated BFS <sup>3</sup>
Pre-Tax NPV (@ 8%)	A\$135M	A\$197M	A\$235M
Pre-Tax IRR	64%	104%	125%
Payback period (months)	22	16	13

- Mine life 8+ years
- Project capital cost A\$52M
  - includes ~\$8M for land
    - 1 ASX Announcement 30 May 2017
    - 2 ASX Announcement 27 November 2017
    - 3 ASX Announcement 28 June 2018



#### Constructed to schedule/budget with first production in 4<sup>th</sup> QTR 2018

Simplified Boonanarring Project Construction Schedule - (high level)																
		<u> </u>		<u> </u>		20	18							2019	19	
	Jan	Feb	Mar	Apr	Мау	nnl	Jul	Aug	Sep	Oct	Νον	Dec	Jan	Feb	Mar	
WCP & Equipment Relocation																
Project Construction																
Pre-Stripping																
Ore Mining																
Plant Commissioning																
Production	······															



#### Upside potential at and near Boonanarring

- Confirmed potential to extend mine life with high grade mineralisation (ASX announcement 13 March & 26 June 2017);
  - Assuming mineralisation in extension area is identical to known Ore Reserves in all aspects and economics; two years of additional mine life could add AU\$60M to project NPV.
- Potential to process lower grade overlying layer of mineralisation;
- Potential to process ores from several other deposits with high grade mineral resources in the vicinity;
  - Red Gully, Regans Ford, and Gingin (South and North).

### **Boonanarring High-Grade Extension**

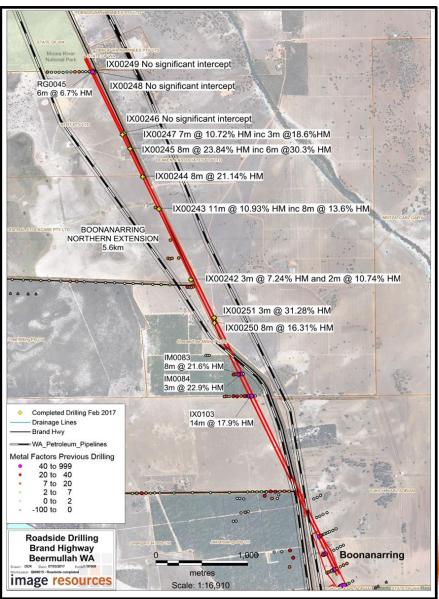


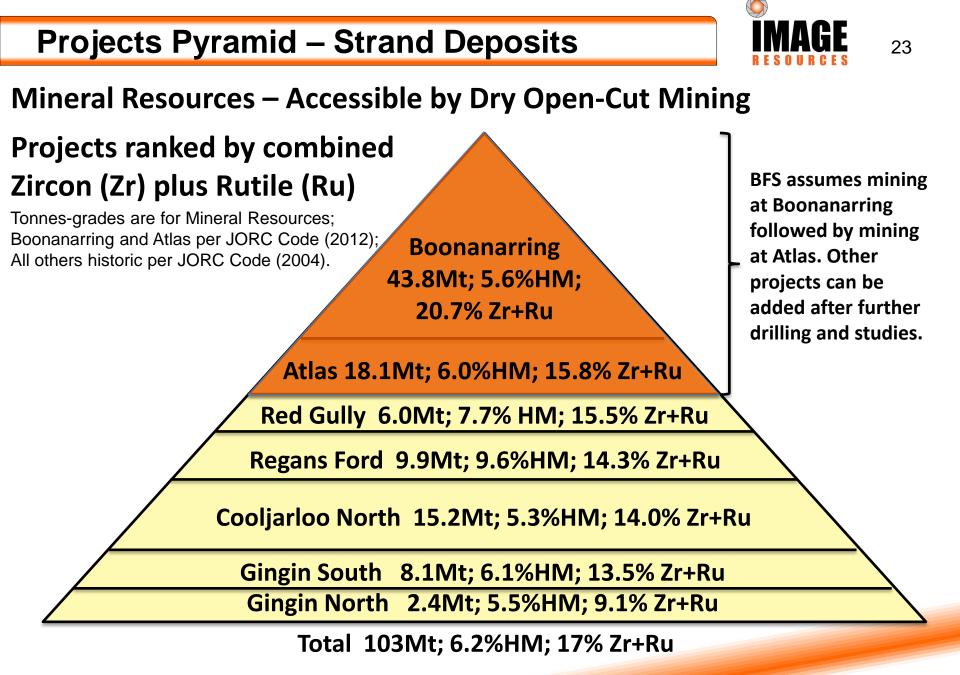
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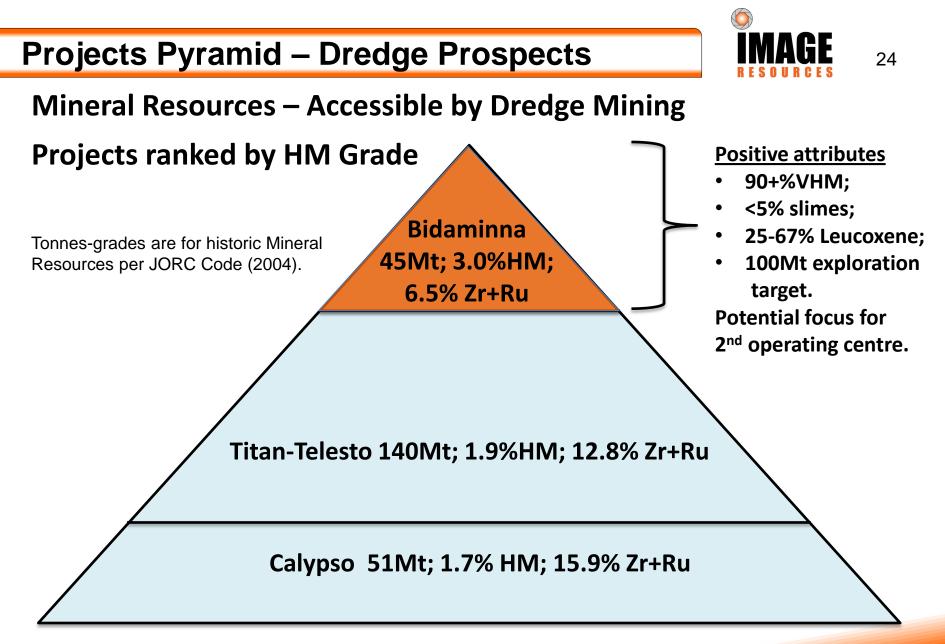
#### ASX - 13 March & 26 June 2017

New Drilling Results (Feb 2017)

- Confirm 5.6km northern extension of Boonanarring mineralisation
- > Outstanding high grade intersections:
  - 8m @ 23.8% HM in IX00245
  - 8m @ 21.1% HM in IX00244 and
  - 8m @ 16.3% HM in IX00250
     Importantly with high grade zircon:
  - 21.5% Zr in HM in IX00245 & 247
  - 22.1% Zr in HM in IX00243 & 244
  - 16.4% Zr in HM in IX00242, 250, 251







Total 236Mt; 2.1%HM; 11.5% Zr+Ru

# **Potential Royalty from Tronox**



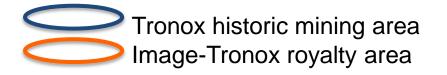
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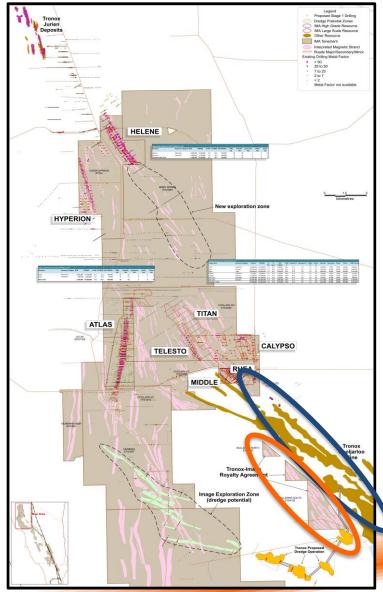
#### Royalty agreement in place as of 2014

- Small cash payment (already received)
- Sliding-scale royalty on production

<u>Royalty</u>
1.25%
2.50%
3.75%
5.00%

- Indefinite production schedule
- Potential for future arrangements with Tronox or others based on large area of potential dredge mining mineralisation within Image's tenements in the vicinity of Tronox's historic dredge operations.



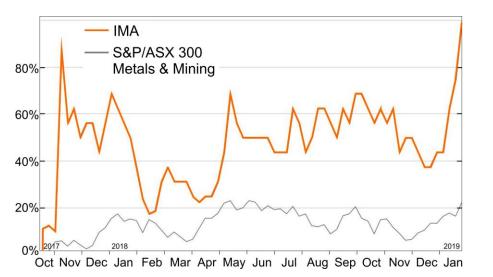


## **Image Corporate Snapshot**



#### **Diverse and experienced Board and Management**

ASX Code:	IMA
Share Price:	A\$0.15*
12-Month Price Range:	A\$0.07- 0.17
Shares on Issue:	957m
Market Cap:	A\$143m*
Cash on hand:	A\$11.9m**
Debt:	A\$64.0m**
Enterprise Value:	A\$195m
Top 20 Shareholders:	73%



#### **Board of Directors**

Bob Besley – Independent Chairman Patrick Mutz – Managing Director Chaodian Chen - Non-Executive Director Aaron Chong Veoy Soo – Non-Executive Dir George Sakalidis – Executive Director Peter Thomas – Non-Executive Director Fei (Eddy) Wu – Non-Executive Director Huang Cheng Li – Non-Executive Director

#### Key Management

Patrick Mutz – CEO George Sakalidis – Exploration Director John McEvoy – Chief Financial Officer Todd Colton – General Manager – Dev.

\* - as at 29 January 2019
\* \* - as at 31 December 2018 (includes term deposits)

## Use of Solar Energy

**IMAGE** R E S O U R C E S

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Heads of Agreement with **Sunrise Energy Group Pty Ltd** to provide 3-4 MW<sub>AC</sub> solar farm to be:

- Constructed and operated by Sunrise Energy;
- Located on Image owned land adjacent to Boonanarring mine site; and
- Providing 25% of total electricity requirements for mine and processing operations.



Additional information regarding Heads of Agreement announced to ASX on 23 April 2018.

#### For further information



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