

### "DEVELOPING A NEAR-SURFACE LEAD-SILVER-ZINC DEPOSIT IN WESTERN AUSTRALIA."

COMPANY PRESENTATION FEBRUARY 2020





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The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves.

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr David Williams, a Competent Person, who is an employee of CSA Global Pty Ltd and a Member of the Australian Institute of Geoscientists (#4176). Mr Williams has enough experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Williams consents to the disclosure of information in this report in the form and context in which it appears.

The information in this release that relates to Exploration Results is based on information prepared by Dr Simon Dorling. Dr Dorling is a member of the Australasian Institute of Geoscientists (Member Number: 3101). Dr Dorling has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Dorling consents to the inclusion in the release of the matters based on their information in the form and context in which it appears.

All parties have consented to the inclusion of their work for the purposes of this announcement. The interpretations and conclusions reached in this presentation are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty. Any economic decisions which might be taken on the basis of interpretations or conclusions contained in this announcement will therefore carry an element of risks.



# **CORPORATE SNAPSHOT – ASX: PMY**

### CAPITAL STRUCTURE (FEB. 7)

SHARES ON ISSUE (M, UNDILUTED)	2,900
MARKET CAP (A\$M, AT A\$0.006)	17.31
CASH (A\$M)	3.7
ENTERPRISE VALUE (A\$M)	13.6
OPTIONS (M)	<b>517</b> <sup>^</sup>

### SHARE PRICE HISTORY



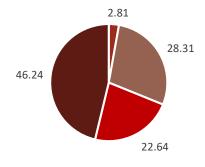
Unlisted Options: 62.5M Expiring 6/5/20, Exercisable at \$0.015. 2M Expiring 23/4/20, Exercisable at \$0.020. 26.5M Expiring 21/11/20, Exercisable at \$0.015. 10M Expiring 16/10/21, Exercisable at \$0.020, 64.5M Expiring 30/June/2022 zero priced Performance Options Listed Options: 351M Expiring 21/11/20, Exercisable at \$0.015.

### **TOP 5 SHAREHOLDERS**

HOLDER	HELD	OWNERSHIP
1. VILLIERS QUEENSLAND PL*	356,092,229	12.33%
2. ZERO NOMINEES PL	253,888,888	8.79%
3. AIGLE ROYAL SUPER FUND PL*	150,000,000	5.19%
4. CITICORP NOMINEES PL	138,951,432	4.81%
5. CRAIG CHAPMAN*	130,000,000	4.50%
TOTAL	1,028,932,549	35.62%

\* Denotes merged holders.

### SHARE OWNERSHIP STRUCTURE



Directors & Management = High Net Worth

Corporate / Institutional
 Other

# **BOARD AND MANAGEMENT TEAM**





#### RICHARD MONTI CHAIRMAN

Geologist with over 30 years' experience in technical, commercial, marketing and finance within the exploration and mining industry.



#### SIMON NOON MANAGING DIRECTOR

Simon is an experienced executive with a strong background in strategic management, business planning, building teams, finance and capital raising. Simons has substantial experience in securing and operating joint ventures with mid and top tier miners in a variety of commodities.



#### PETER HAROLD NON-EXECUTIVE DIRECTOR

Process Engineer with over 30 years' experience in the minerals industry with extensive experience in development and operation of base and precious metal projects.



#### ANDREW PARKER NON-EXECUTIVE DIRECTOR

Lawyer with extensive experience in the exploration and mining industry. Wealth of expertise in corporate advisory, strategic consultancy and vast experience in raising capital.



# SORBY HILLS INVESTMENT HIGHLIGHTS

Developing a large near-surface and flat lying lead-silver-zinc deposit in Western Australia.

Project ideally located close to port and connected by existing roads.

JV with Henan Yuguang, China's largest lead smelting and silver producer.

Key government approvals secured.



Compelling economics including modest CAPEX and fast payback.

Recent drilling success and substantial Resource Upgrade to underpin Optimised PFS Q2 2020.

Lead batteries are a key element in the transition to a low carbon economy.

Low market cap with huge potential upside.

# THE CASE FOR LEAD



#### **SUPPLY AND DEMAND**

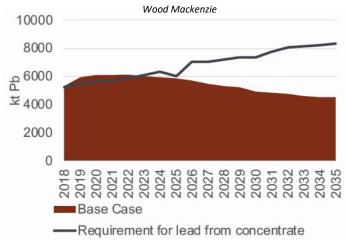
- Lead batteries provide 75% of worldwide rechargeable energy storage<sup>2</sup>.
- Stock of short-term refined lead is close to record lows.
- Predicted growth in global lead market demand CAGR of 6.74% between 2018 and 2022<sup>1</sup>.
- Base case for mined lead shows **deficit from 2023 without new mine supply**.

#### LEAD BATTERIES SUPPORT THE CLEAN ENERGY TRANSITION

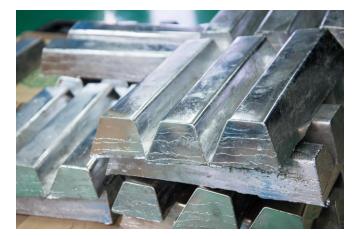
- **EVs use a separate lead battery** to power the lithium-ion propulsion batteries that run their battery management and safety systems.
- Lead batteries are a key element in the transition to a low carbon economy, with unrivalled sustainability credentials<sup>2</sup>.
- Vehicle with Start-Stop technology contain **25% more lead<sup>3</sup>.** It is forecast that approximately 50% of all new vehicles will be SSVs by the end of 2020.



#### BASE CASE MINED LEAD PRODUCTION VS. DEMAND



#### LEAD INGOTS PRODUCED BY JV PARTNER HENAN YUGUANG



<sup>1</sup>Business Wire <u>www.businesswire.com/news/home/20180803005303/en/Global-Lead-Market-Analysis-Trends-Forecasts-2018-2022</u> <sup>2</sup> ILSZG May 2019 Presentation 'Importance of Zinc to the Circular Economy.' <sup>3</sup>The Assay Group Mining Magazine (https://www.theassay.com/articles/lead-5-things-to-look-for-in-2019/)



# **LOCATION AND INFRASTRUCTURE**

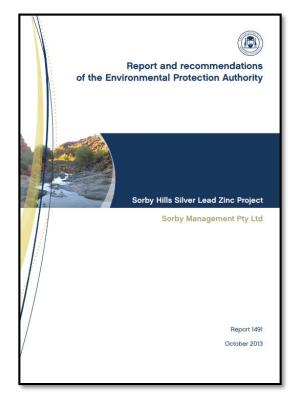


- Located ~50km north-east from the regional centre of Kununurra.
- Existing sealed road to transport concentrate from site to the facilities at Wyndham Port, 150km away.
- Wyndham Port is already shipping metal concentrates.
- Established infrastructure allows for fast tracked production.



# **KEY GOVERNMENT APPROVALS** & STRATEGIC JV PARTNER SECURED





- ✓ Granted mining tenements.
- ✓ WA Environmental Protection Authority ('EPA') approval for an open pit mine and infrastructure.
- Pre-native title tenements.
- Top tier JV partner secured to develop the project (PMY 75%/HYG 25%).
- Henan Yuguang contributing 25% of all project expenditure and highly motivated to see leadsilver concentrates produced at Sorby Hills<sup>1</sup>.





### **PRE-FEASIBILITY STUDY HIGHLIGHTS**

March 2019 Pre-Feasibility Study ('PFS') returned highly robust financials.

Optimised PFS (Q2 2020) targeting a substantial increase in mining rate following highly successful drilling and a resource inventory and classification increase in 2019.

8 Year Initial Mine Life

1 Mtpa Mining Rate

LOM Lead Metal Production 249 kt

LOM Silver Metal Production 9.35 Moz

KOMATC

200

**CAPEX A\$95.4M** 

Average Cashflow NET A\$60M P/A

Capital Payback in 16 Months

NPV<sub>8</sub> A\$243M

**IRR 62%** 

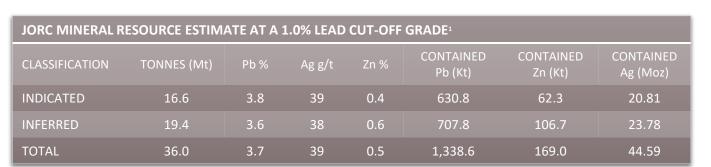
Source: PMY ASX announcements 26 March 2019. Pacifico confirms that all material assumptions underpinning the production target, or the forecast financial information referenced on 26 March 2019, continue to apply and have not materially changed. PFS assumptions include lead price US\$0.92/lb.; Silver price US\$15.40/oz and A\$1=US\$0.70.

PACIFICO MINERALS LIMITED ASX:PMY

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# **MINERAL RESOURCE ESTIMATE**



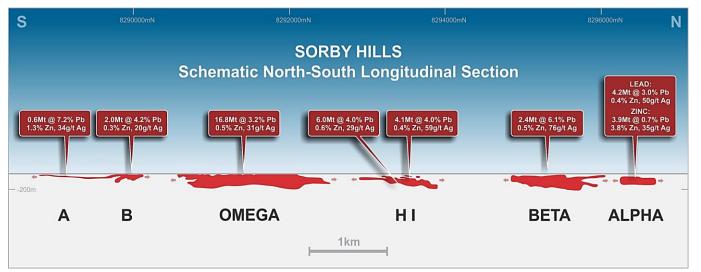


Image: Sorby Hills Looking West Showing Mineralisation. Red Blocks Represent Mineralisation from the Block Model of the MRE.

<sup>1</sup>Zn is not included. Refer to appendix for equivalent calculations. <sup>2</sup>Source: PMY ASX Announcements 31 October 2019.

Pacifico confirms that all material assumptions referenced on 31 October 2019, continue to apply and have not materially changed.

- Global Resource of **36 Mt @ 4.9% Pb equivalent**<sup>1</sup> (3.7% Pb, 39g/t Ag) and 0.5% Zn **from 20 metres below surface** and open along strike and down dip<sup>2</sup>.
- Resource size and confidence level substantially increasing with each drilling program.



Resource Growth Since Oct. 2018 Acquisition (Pb Only at 1.0% Cut Off)

■ Indicated ■ Inferred



# MINING, METALLURGY, AND PROCESSING

### "Open pit mining, high recoveries and simple processing to produce high quality concentrate."

#### MINING

- Initial production from 3 open pits over initial 8-year mine life.
- Flat topography and easy free dig in first 30m enables low cost prestrip and access to ore.
- Flat to gently dipping, shallowdepth lead-silver-zinc deposits minable 5 metre benches.
- Waste rock to be returned to exhausted pits to reduce rehabilitation.

#### METALLURGY

- Rougher flotation with sulphidisation testwork confirms up to 96% Pb and 95% Ag recovery on Fresh composites.
- Flotation testwork indicates a concentrate grade of 65% Pb can be produced.
- Simple lead sulphide mineralogy allows low cost beneficiation before grind and flotation.
- Soft ore work index of just 9.7kWh/t.
- Coarse galena with primary grind size of 75 -106mm.

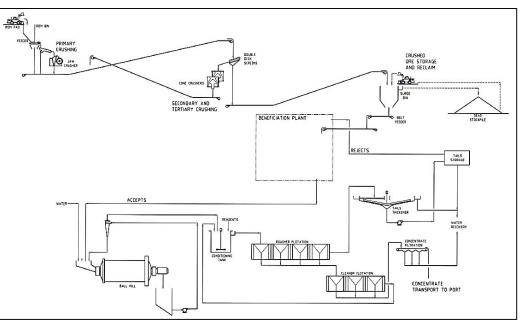


Image: Treatment Plant – Lycopodium Designed Conceptual Flow Sheet.

Source: PMY ASX Announcements 26 March 2019 and 23 July 2019.

# SORBY HILLS MVT GEOLOGY

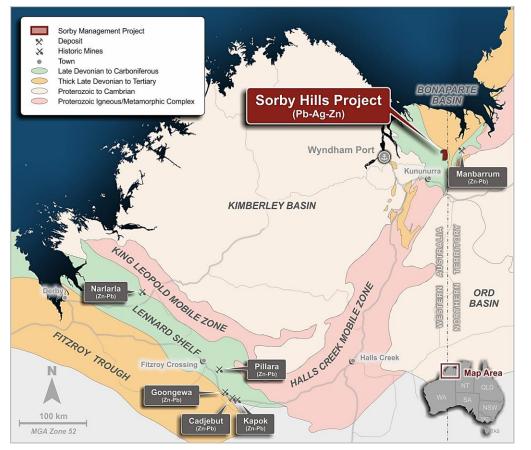


Image: Regional Geological Map.

Source: PMY ASX Announcement 26 March 2019.



- Located in a world-class Mississippi Valley Type ('MVT') district.
- Several MVT deposits have been mined previously in the Kimberly region.
- Mineralisation is typical **carbonate-replacement style** located at the transition between dolomites in the footwall and overlying siltstones.
- Mostly lead dominant system with high silver tenor within the galena.



# **EXPLORATION UPSIDE**

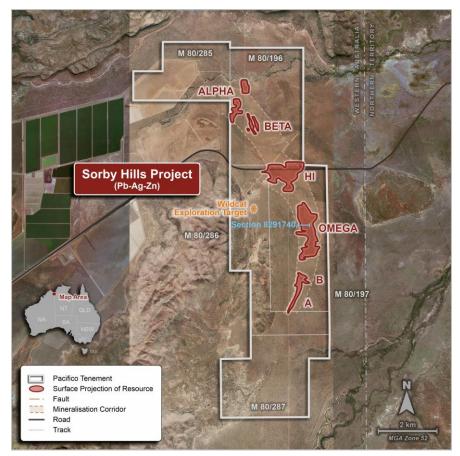


Image: Sorby Hills Mineralised Corridor Showing Lead-Silver Deposits.

- Newly obtained geological information has been valuable in defining expansions of the resource and the confidence in targeting has increased significantly as a result.
- Recent Wildcat Exploration Drilling confirmed a large, shallow depth anomaly to the west of the existing deposits to be tested with future drilling.
- Deposits HI and AB have great potential to be upgraded and expanded into the Omega deposit with further drilling.
- While advancing its mining studies Pacifico plans to drill priority targets in Q2 2020 aimed at increasing size and confidence in the Resource.



Image: Massive sulphides – Typical galena (grey-blue) with pyrite (bronze colour), diamond core from drill hole AF005 (Phase I extensional drilling). Intersection 11.7m at 10.8% Pb, 105 g/t Ag and 0.4% Zn) from 75.7m<sup>1</sup>.

Source: PMY ASX Announcements 24 July 2019 and 14 August 2019 <sup>1</sup>Expansion and See PMY ASX Announcement 14 February 2019



# **PACIFICO'S DRILLING HIGHLIGHTS**

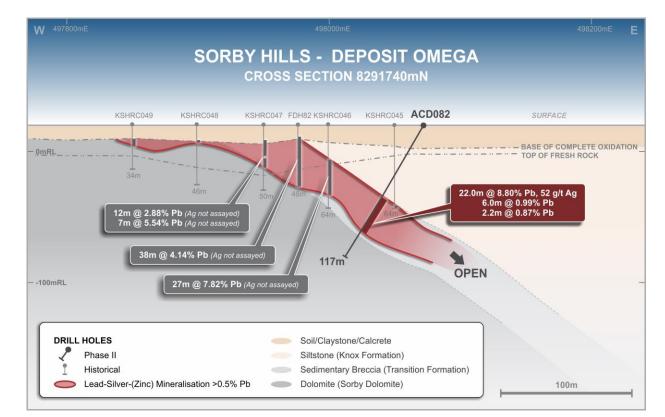
"Pacifico's drilling has confirmed continuity across several minor deposits to form the Omega deposit with a strike length of 1.7km."

Significant intercepts obtained through Pacifico's drilling include:

- 20.0m at 7.3% Pb, 56 g/t Ag 0.4% Zn from 11m Omega Deposit (ACD046<sup>1</sup>).
- **11.7m at 10.8% Pb, 105 g/t Ag 0.4% Zn from 75.7m** Omega Deposit (AF005<sup>1</sup>).
- 14.0m at 13.0% Pb 89g/t Ag 1.0% Zn from 24m Omega Deposit (ACD080<sup>2</sup>).
- 23.0m at 9.0% Pb, 88g/t Ag 1.2% Zn from 59m Omega Deposit (ACD071<sup>2</sup>).
- 21.0m at 5.0% Pb, 21g/t Ag 0.5% Zn from 23m Omega Deposit (ACD056<sup>2</sup>).
- 22.0m at 8.8% Pb 52g/t Ag 0.3% Zn from 68m (including 16m at 11.7% Pb, 68g/t Ag 0.37%
  Zn from 63m) Omega Deposit (ACD082<sup>2</sup>).
- 10.0m at 7.16% Pb, 383 g/t Ag and 0.43% Zn from 110m Omega Deposit (SHPDA31<sup>3</sup>).
- 11.0m at 6.9% Pb, 26g/t Ag 0.1% Zn from 29m B Deposit (AB050<sup>2</sup>).

### "Phase IV drilling program planned for Q2 2020."

<sup>1</sup> PMY ASX Announcement 14 February 2019. <sup>2</sup> PMY ASX Announcement 14 August 2019 and 12 September 2019. <sup>3</sup>PMY ASX Announcement 30 January 2020.





# **KEY MILESTONES AND NEWSFLOW**

### "Outstanding progress made since Project acquisition. On track for DFS early 2021."



### UPCOMING ACTIVITIES AND NEWSFLOW

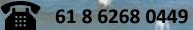
- Optimised PFS and Ore Reserve Estimate Q2 2020;
- Strategic Financing and Offtake Update Q2 2020;
- Phase IV Expansion and Infill Drilling (Q2 2020); and Definitive Feasibility Study (Q1 2021).



# **CONTACT US**



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# **CAPITAL INVESTMENT AND OPERATING COSTS**

PRE-PRODUCTION CAPITAL EXPENDITUR	RE (A\$M)
ON-SITE CAPITAL EXPENDITURE	52
EPCM	8
OWNER'S PROJECT COSTS	10
MINING (INC. DE-WATERING, PRE-STRIP)	14.9
CONTINGENCY	10.5
TOTAL PRE-PRODUCTION CAPEX	95.4

OPERATING COST ESTIMATES		
	A\$/lb	US\$/lb
MINING	0.31	0.22
PROCESSING	0.11	0.07
TCRCs AND OUTBOUND LOGISTICS	0.16	0.11
G & A	0.01	0.01
BY-PRODUCT DEDUCTION FOR NET SILVER REVENUE	-0.36	-0.25
LEAD C1 (ROUNDED UP)	0.24	0.16
ROYALTIES PAYABLE	0.09	0.06

Source: PMY ASX Announcement 26 March 2019. Pacifico confirms that all material assumptions underpinning the production target, or the forecast financial information referenced on 26 March 2019, continue to apply and have not materially changed. PFS assumptions include lead price US\$0.92/lb.; Silver price US\$15.40/oz and A\$1=US\$0.70.



# **RESOURCE ESTIMATE AT SELECTED CUT OFF GRADES**

Cut-Off Grade Pb%	JORC Classification	Tonnes (Mt)	Pb %	Zn %	Ag g/t	Contained Pb (Kt)	Contained Zn (Kt)	Contained Ag (Moz)
1.0	Indicated	16.6	3.8	0.4	39	630.8	62.3	20.81
	Inferred	19.4	3.6	0.5	38	707.8	106.7	23.78
	Total	36.0	3.7	0.5	39	1,338.5	169.1	44.59
1.5 Indicated Inferred Total	Indicated	14.9	4.1	0.4	42	610.1	58.1	20.11
	Inferred	17.0	4.0	0.6	40	675.9	97.6	21.99
	Total	31.9	4.0	0.5	41	1,286.0	155.7	42.10
2.0 Indicated Inferred Total	Indicated	12.9	4.5	0.4	46	575.2	52.3	18.98
	Inferred	13.5	4.6	0.6	45	616.7	79.6	19.65
	Total	26.4	4.5	0.5	45	1,191.8	132.0	38.63
2.5	Indicated	11.2	4.8	0.4	49	536.9	45.9	17.69
	Inferred	12.3	4.8	0.6	47	589.9	72.8	18.54
	Total	23.5	4.8	0.5	48	1,126.8	120.0	36.23

Note: Tonnes and grades are rounded. Does not include Zn Mineral Resource from the Alpha Zn deposit.

For further information on the Mineral Resource Estimate refer to PMY ASX announcement 31 October 2019.

# **CALCULATION OF PB EQUIVALENT GRADES**

The contained metal equivalence formula is made on the following assumptions based on historical metallurgical work included in a Pre-Feasibility Study Update (ASX: PMY Announcement, 26 March 2019) and modified by more recent metallurgical testwork results (ASX: PMY Announcement 17 July 2019), and on the published London Metal Exchange closing metal prices of 17 February 2019.

- Lead price US\$ 1875/t;
- Silver price US\$ 0.575/g (US\$17.75/oz);
- Lead recoverable to concentrate 91%; and
- Silver recoverable to concentrate 90%.

It is Pacifico's opinion that all elements included in the metal equivalent calculation have a reasonable potential to be recovered and sold. The formula used to calculate lead equivalent grade is:

Lead equivalent grade Pb% = ((Grade % Pb x recoverable % Pb x price US\$ per tonne Pb metal / 10,000) + (grade g/t Ag x recoverable % Ag x price US\$/g)) / (Grade % Pb x recoverable % Pb x price US\$ per tonne Pb metal / 10,000)

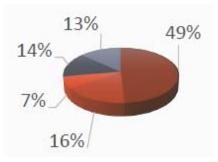
Metal equivalents are highly dependent on the metal prices used to derive the formula. Pacifico notes that the metal equivalence method used above is a simplified approach. Only preliminary metallurgical recoveries are available. The metal prices are based on average LME prices of 28 October 2019 and do not reflect the metal prices that a smelter would pay for concentrate nor are any smelter penalties or charges included in the calculation.

Owing to limited metallurgical data zinc grades are not included at this stage in the lead equivalent grade calculation.



# **LEAD MARKET OPPORTUNITY – DEMAND BY APPLICATION**

#### LEAD CONSUMPTION BY SECTOR



- Automotive replacement
- Automotive original equipment
- Industrial traction
- Industrial stationary
- Non-battery uses

- Largest sector of lead demand is automotive (AV) batteries, accounting for more than 86% of refined lead (of which 64% is used in replacement batteries)<sup>1</sup>.
- Wood Mackenzie therefore expects automotive demand to boost lead battery production across 2019<sup>2</sup>. Car ownership in China reached 240M units by the end of 2018 – up 10.5% from 2017.
- Lead-acid has a role in the electrification of bikes. There are roughly 15M e-bikes are sold in China alone each year.
- There is growing use of lead in industry for energy storage systems in 2019. Australia alone is tipped to add more than 70,000 home batteries in 2019 due to government subsidies and incentives<sup>3</sup>.
- Rollout of 5G networks will also support demand for lead in 2019 as base stations currently use lead batteries<sup>1</sup>. In China alone, base station production rose by 134% in 2018<sup>4</sup>.

<sup>1</sup>SMM Information & Technology Co Ltd 2018 (<u>https://news.metal.com/newscontent/100847146/smm-price-forecast-conference-2019:-slowing-demand-new-capacity-to-grow-lead-supply-surplus/</u>)

<sup>2</sup>Wood Mackenzie January 2019 Report 'Lead: 5 things to look for in 2019.'

<sup>3</sup> The Assay Group Mining Magazine (<u>https://www.theassay.com/articles/lead-5-things-to-look-for-in-2019/</u>)

<sup>4</sup> RenewEconomy (<u>https://reneweconomy.com.au/australia-tipped-to-add-70000-home-batteries-in-2019-lead-global-demand-64414/</u>)



### **NON-CORE ASSETS**

### "Exploring opportunities to sell or establish Joint Ventures for our non-core assets to realise shareholder value."

#### **BORROLOOLA WEST JOINT VENTURE (NORTHERN TERRITORY)**

- Joint Venture Project in the McArthur Basin with Sandfire Resources NL (PMY 51%, SFR 49%).
- Potential for Mt Isa style copper-cobalt-zinc.

### SOUTH AUSTRALIA TENEMENTS

• Prospective for battery minerals (Co, Cu, Mn).

### **COLOMBIAN PROJECTS**

• Berrio, Urrao and Natagaima Projects are highly prospective for the discovery of economic copper-gold deposits.

