



ASX:PMY

### ADVANCING A LARGE NEAR-SURFACE LEAD-SILVER-ZINC DEPOSIT IN WESTERN AUSTRALIA

INVESTOR PRESENTATION SEPTEMBER 2019

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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 contained in this announcement that relates to geology and exploration results is based, and fairly reflects, information compiled by Mr David Pascoe, who is a Member of the Australian Institute of Geoscientists. Mr Pascoe is a consultant to Pacifico Minerals Limited. Mr Pascoe has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Pascoe consents to the inclusion in this announcement of the matters based on his 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** AS AT 24 SEPTEMBER

#### **CAPITAL STRUCTURE**

SHARES ON ISSUE (BN, UNDILUTED)	2.9
MARKET CAP (A\$M, AT A\$0.01)	29
CASH (A\$M)	5.3
ENTERPRISE VALUE (A\$M)	23.7
OPTIONS (M)	<b>452</b> ^

<sup>A</sup> 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.
Listed Options: 351M Expiring 21/11/20, Exercisable at \$0.015.

#### SHARE PRICE HISTORY

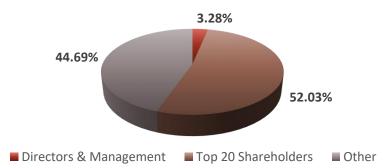


#### SIGNIFICANT SHAREHOLDERS

HOLDER	HELD	OWNERSHIP
1. VILLIERS QUEENSLAND PL*	344,085,874	11.91%
2. ZERO NOMINEES PL	258,055,555	8.94%
3. AIGLE ROYAL SUPER FUND PL*	150,000,000	5.19%
TOTAL	752,141,429	26.04%

Denotes merged holders.





# **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

Appointed Managing Director at Pacifico in 2013. Simon is a Mining Executive with substantial experience in management, marketing and finance within the exploration and mining industry. Simon has a strong background in securing and operating Joint Ventures with mid and top tier miners.



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.



AARON KING PROJECT MANAGER

Metallurgist with more than 25 years' experience in the mining and resources sector. Significant experience in study management, detailed engineering design and Project life cycle management.

# **INVESTMENT HIGHLIGHTS**



Pacifico is developing a large nearsurface and flat lying lead-silver-zinc deposit in WA.

Outstanding infrastructure – project located close to port and connected by existing roads.

JV with China's largest lead smelting and silver producer (Henan Yuguang 25% contributing interest).



Significantly de-risked with EPA approval for Open Pit operation on pre-native title mining licenses.

Simple metallurgy, low cost processing and high recoveries.

PFS delivered compelling economics including modest Capex and fast payback.

The right commodities at the right time.



# **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.
- Established infrastructure allows for fast tracked production.



Image: Port of Wyndham - Currently Shipping Mineral Concentrates.

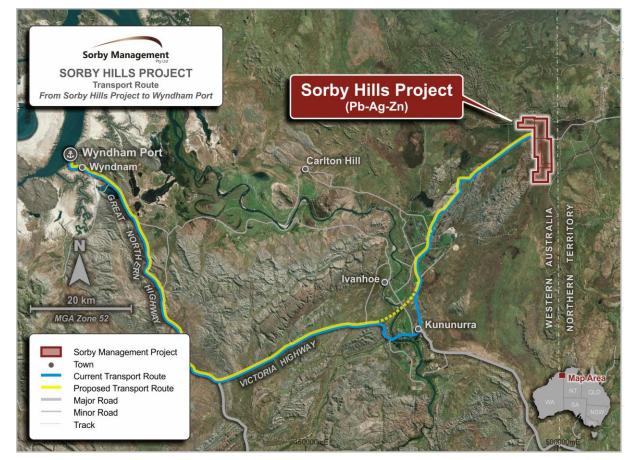


Image: Sorby Hills Regional Location.

# **KEY GOVERNMENT APPROVALS SECURED**



"The WA Environmental Protection Authority (EPA) considers that...the Project can be managed in a manner that...avoids significant or unacceptable environmental impacts and risks."



Assessment completed for the development of a lead-silver-zinc open pit mine with infrastructure and processing facilities at the Sorby Hills Joint Venture site.

Source: PMY ASX Announcements 29 May 2019



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

"Project significantly de-risked with Pre-Feasibility Study confirming highly robust financials."

MINING AND PROCESSING			
Initial Mine Life (Years)		8	
Mining Rate (Mtpa)		1	
PRODUCTION			
LOM Lead Metal Production (kt)		249	
LOM Silver Metal Production (Moz)			
FINANCIAL			
Pre-Production Capital (A\$M)		95.4	
Steady-State Average Cash Flows (A\$M)		60	
KPI ANALYSIS	US\$	A\$	
Operating Cost \$/lb Lead (Pb in concentrate basis including silver Credit)	0.16	0.24	
NPV <sub>8</sub> Pre-Tax (A\$M)		243	
IRR Pre-Tax (%)		62	
Payback from Commercial Production (months)		16	



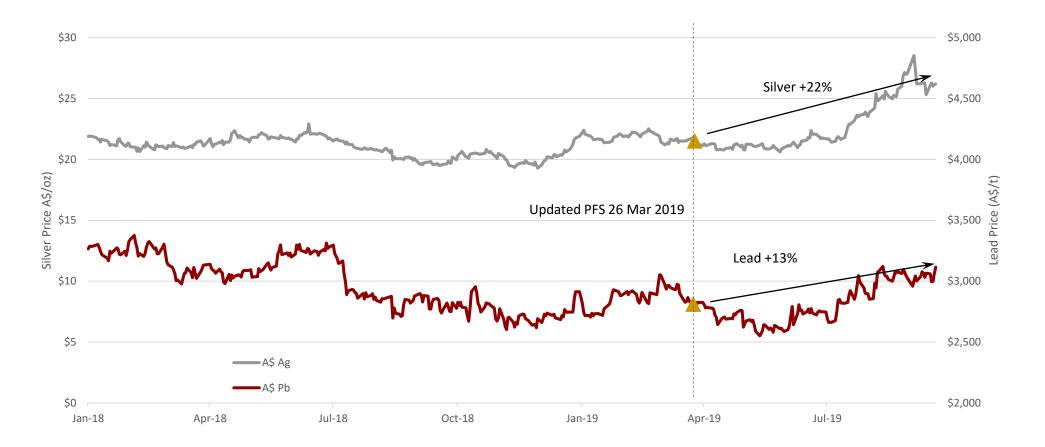
Source: PMY ASX announcements 26 March 2019

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



### **A\$ LEAD AND SILVER PRICE LOOKING GOOD**

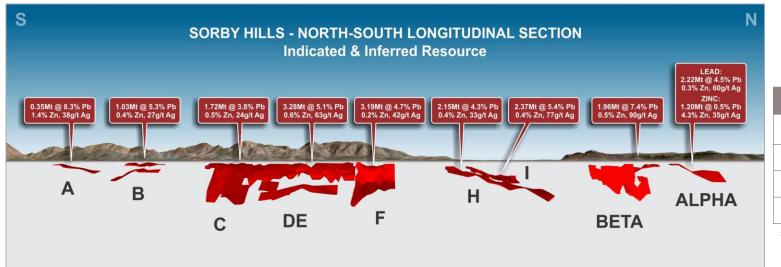


# **MINERAL RESOURCE ESTIMATE**



Global Resource to 29.98Mt of 4.7%Pb equivalent including 10.85Mt of 5.0%Pb equivalent in Indicated Resources<sup>1</sup>

"From 20 metres below surface and open in all directions."



JORC MINERAL RESOURCE ESTIMATE AT A 1.0% LEAD CUT-OFF GRADE <sup>1</sup>				
RESOURCE CLASSIFICATION	TONNES (Kt)	Pb %	Ag g/t	Zn %
INDICATED	10,850	3.9	46	0.4
INFERRED	19,130	3.6	42	0.7
TOTAL	29,980	3.7	43	0.6

<sup>1</sup> See PMY ASX Announcement 7 March 2019 for further details including lead equivalent calculation.

#### x2 Vertical Exaggeration

Image: Sorby Hills Looking West Showing Mineralisation at a Slight Oblique View. Red Blocks Represent Mineralisation from the Block Model of the MRE.

Source: PMY ASX Announcements 7 March 2019

Pacifico confirms that all material assumptions referenced on 7 March 2019, continue to apply and have not materially changed.



### **OPEN PIT MINING**

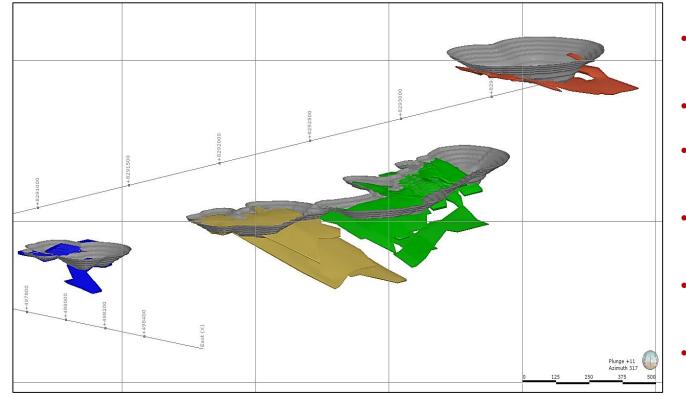


Image: B, CDE and I Deposits Mineralisation and Pit Optimisation.

- Initial production from 3 open pits over initial 8 year mine life.
- Only Indicated Resources used in current mining schedule.
- Mine life expected to increase as Inferred converted to Indicated Resources through infill drilling.
- Flat topography and easy free dig in first 30m enables low cost pre-strip and access to ore.
- Flat to gently dipping, shallow MVT-style lead-silver-zinc deposits minable 5 metre benches.
- Waste rock to be returned to exhausted pits to reduce rehabilitation.

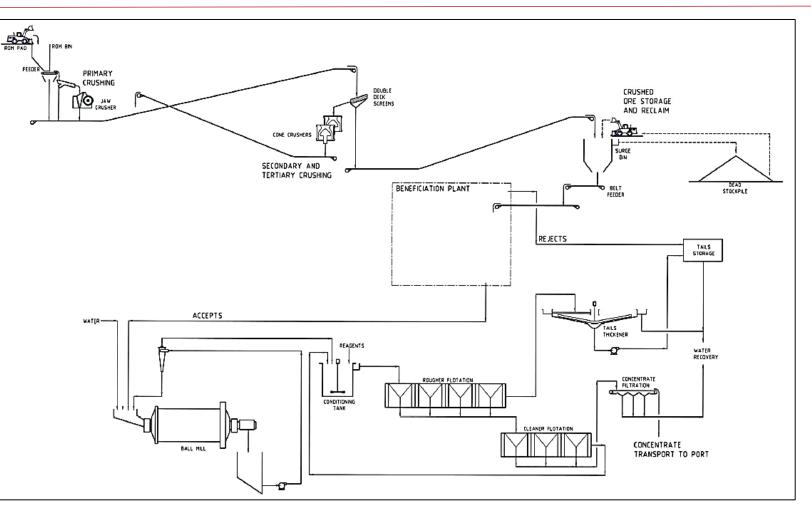
Source: PMY ASX Announcement 26 March 2019.



# **METALLURGY AND PROCESSING**

*"Excellent recoveries and high quality concentrate with simple processing."* 

- Recent metallurgical testwork confirmed rougher flotation testing with sulphidisation up to 96% Pb and 95% Ag recovery on Fresh composites.
- Cleaner flotation testwork confirms final concentrate grade of 65% Pb can be produced.
- Simple lead sulphide mineralogy allows low cost beneficiation before grind and flotation.
- Heavy liquid separation testwork ('HLS') to upgrade the ore returned outstanding results with minimal lead losses.
- Soft ore: Work index (WI) of just 9.7kWh/t.
- Coarse galena with primary grind size of 75-106mm.

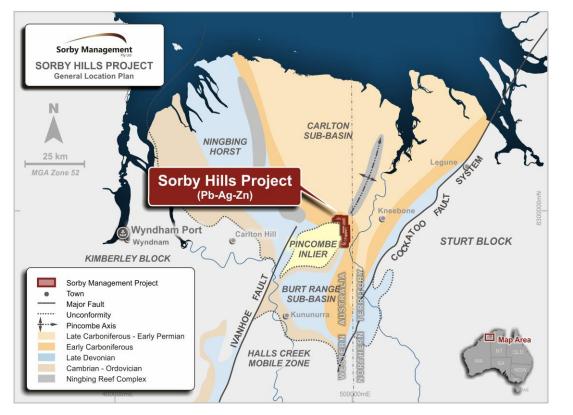


Source: PMY ASX Announcement 23 July 2019.

Image: Treatment Plant – Lycopodium Designed Conceptual Flow Sheet (ASX announcement 26 March 2019)

## GEOLOGY





#### Image: Regional Geological Map

- MVT style deposits formed in lower Carboniferous (Tournaisian) carbonates within the Burt Range Formation on the eastern flank of the Pincombe Range.
- Mineralisation occurs as a sediment replacement style deposit at the contact between an upper siltstone (Knox Sediments) and a lower dolomite (Sorby Dolomite).
- Mostly lead dominant system with high silver tenor within the galena.
- Deposit open in all directions.
- Exciting down dip potential for SEDEX zinc mineralisation.

Source: PMY ASX Announcement 26 March 2019.

# PACIFICO'S DRILLING HIGHLIGHTS



"Results have confirmed that C, DE, and F deposits are linked and can be referred to as a single deposit (CDEF) at a strike length of 1.7km and may be minable with a single open cut."

Significant drill intercepts<sup>^</sup> from **Phase I** drilling include<sup>1</sup>:

- **9.0m at 8.3% Pb equivalent** (7.6%Pb, 32 g/t Ag) and 1.1%Zn from 37m B Deposit hole AB033.
- 9.7m at 9.1% Pb equivalent (7.5% Pb, 68 g/t Ag) and 1.1% Zn from 76m CDEF Deposit hole ACD019.
- 20.0m at 8.6% Pb equivalent (7.3%Pb, 56 g/t Ag) and 0.4%Zn from 11m CDEF Deposit hole ACD046.
- **11.7m at 13.2% Pb equivalent** (10.8%Pb, 105 g/t Ag) and 0.4%Zn from 75.7m CDEF Deposit hole AF005.
- **12.3m** at **6.5%** Pb equivalent (5.5%Pb, 42g/t Ag) and 0.23%Zn from 90m I Deposit hole AI011.
- **10.0m at 7.8% Pb equivalent** (6.6%Pb, 53 g/t Ag) and 0.9%Zn from 82m I Deposit hole Al010.

Significant drill intercepts from **Phase II** drilling include<sup>2</sup>:

- **14.0m at 15.3% Pb equivalent** (13.0%Pb, 89g/t Ag) and 1.0%Zn from 24m CDEF Deposit drill hole ACD080.
- **23.0m at 11.3% Pb equivalent** (9.0%Pb, 88g/t Ag) and 1.2%Zn from 59m CDEF Deposit drill hole ACD071.
- 21.0m at 5.6% Pb equivalent (5.0%Pb, 21g/t Ag) and 0.5%Zn from 23m CDEF Deposit drill hole ACD056.
- **11.0m at 7.6% Pb equivalent** (6.9%Pb, 26g/t Ag) and 0.1%Zn from 29m B Deposit drill hole AB050.
- **22.0m at 10.2% Pb equivalent** (8.8% Pb, 52g/t Ag) and 0.3% Zn from 68m (including 16m at 13.5%Pb equivalent (11.7% Pb, 68g/t Ag) and 0.37% Zn from 63m) CDEF Deposit in drill hole ACD082;
- 8.0m at 13.7% Pb equivalent (12.4% Pb, 51g/t Ag) and 0.3% Zn from 80m CDEF Deposit in drill hole ACD058.

"Phase III drilling program to commence in October."



Image<sup>3</sup>: Crystalline Galena in ACD080 32.8m (Freshly Broken Core). Part of an Interval 25.7m to 37.9m of Well Mineralised Core Consisting of Strong Galena, Some Pyrite and Minor Sphalerite.

<sup>1</sup> PMY ASX Announcement 14 February 2019.
<sup>2</sup> PMY ASX Announcement 14 August 2019 & 12 September 2019
<sup>3</sup> PMY ASX Announcement 24 July 2019.

<sup>^</sup>Zn has not been included in Pb equivalent calculation at this time, however, work currently being completed by PMY may provide the supporting data to include in future calculations. Refer to slide 21 for CALCULATION OF Pb EQUIVALENT GRADES.

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# **EXPLORATION UPSIDE**

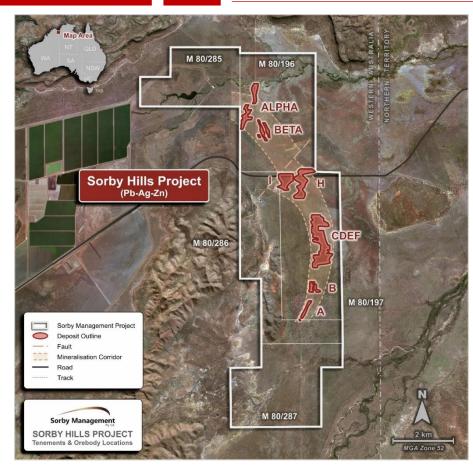


Image: Sorby Hills Mineralised Corridor Showing Lead-Silver Deposits (ASX Announcement 14 August 2019)

Source: PMY ASX Announcement 24 July 2019.

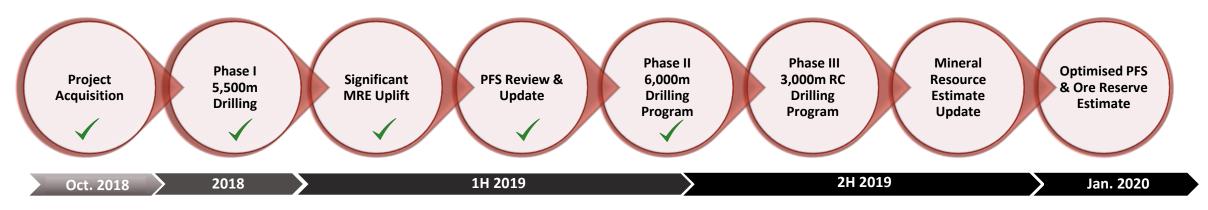
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- Compilation and further assessment of historical drill hole information has provided greater confidence in the geological and mineralisation model.
- The Sorby Hills MRE has excellent potential to grow as extensions and targets outside of the main defined deposits are drilled.
- In parallel with advancing its mining studies Pacifico plans to conduct further drilling in 2020 to increase confidence in the Resource at B and CDEF deposits.
- Deposits A, H, I, Alpha and Beta deposits have good potential to be upgraded and expanded with further drilling.
- Priority drill targets include extensions to the zinc dominant mineralisation at the Alpha Deposit, and targets outside of the defined deposits for lead, Silver and Zinc.



# **KEY MILESTONES AND NEWSFLOW**

"Outstanding progress made since Project acquisition. On track for DFS in 2020."



#### STRONG NEWSFLOW

- Mineral Resources Estimate update (October).
- Offtake and strategic investment discussions progressing.
- Optimised Pre-Feasibility Study and Ore Reserve Estimate (January 2020).



**CONTACT US** 

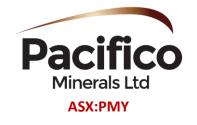
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# **APPENDICES**





# **CAPITAL INVESTMENT AND OPERATING COSTS**

PRE-PRODUCTION CAPITAL EXPENDITU	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.

## SORBY HILLS MRE AT SELECTED CUT OFF GRADES

JORC Category	Cut off Pb %	Tonnes	Grade Pb %	Grade Ag g/t	Contained Pb (Kt)	Contained Ag (Moz)
	0.75	11,396,044	3.76	45	429.0	16.39
	1.0	10,848,898	3.91	46	424.3	16.10
Indicated	1.5	9,771,410	4.20	49	410.8	15.35
	2.5	6,948,729	5.11	58	354.8	13.03
	3.0	5,463,716	5.75	66	314.2	11.53
- Inferred	0.75	19,389,025	3.54	42	687.1	25.9
	1.0	19,125,576	3.58	42	684.9	25.58
	1.5	17,463,733	3.82	44	667.1	24.45
	2.5	12,517,111	4.65	49	582.4	19.90
	3.0	10,333,822	5.11	54	528.1	17.79
	0.75	30,785,070	3.63	43	1,116.2	42.29
Total	1.0	29,974,475	3.70	43	1,109.2	41.68
	1.5	27,235,143	3.96	45	1,077.9	39.80
	2.5	19,465,840	4.81	53	937.2	32.93
	3.0	15,797,538	5.33	58	842.2	29.32

For further information on the Mineral Resource Estimate refer to PMY ASX announcement 7 March 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 (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 9 August 2019.

- Lead price US\$ 2,086/t;
- Silver price US\$ 0.546/g (US\$16.975/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:

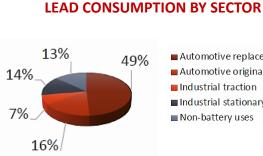
Lead equivalent grade Pb% = ((Grade % Pb x recoverable % Pb x price US\$ per tonne Pb metal / 10,000) + (grade g/t Ag x recoverable % Ag x price US\$/g)) / (Grade % Pb x recoverable % Pb x price US\$ per tonne Pb metal / 10,000)

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 9 August 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.

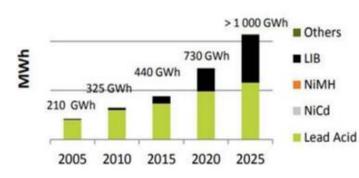
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# **LEAD MARKET OPPORTUNITY – DEMAND BY APPLICATION**



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

#### RECHARGEABLE BATTERY GLOBAL MARKET 2000-2025



- 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.
- EVs require a separate energy storage system to power the lithium-ion propulsion batteries that run their battery management computers and safety systems (i.e. electric braking). Lead is significantly cheaper per unit of storage so it remains the core technology for this application.
- Start-stop automotive technology is becoming more common and places greater power demands on lead batteries these vehicles will therefore contain 25% more lead per battery<sup>3</sup>. It is forecast that globally approximately 50% of all new vehicles will be SSVs by 2020.
- 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>.
- 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>.

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

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

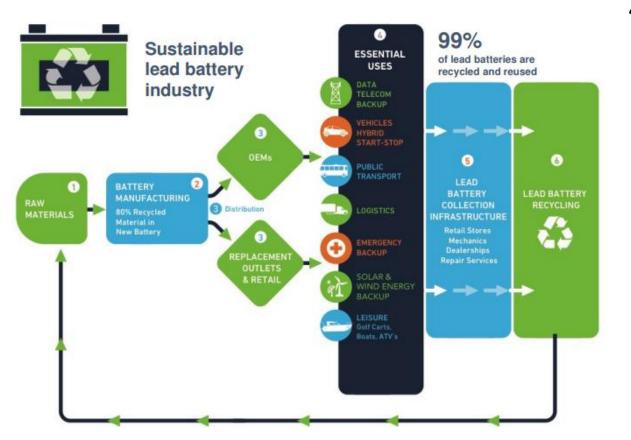
<sup>3</sup> The Assay Group Mining Magazine (https://www.theassay.com/articles/lead-5-things-to-look-for-in-2019/)

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

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# **LEAD AND CLEAN ENERGY**





Source: ILSZG May 2019 Presentation 'Importance of Zinc to the Circular Economy.'

#### "Advanced lead batteries support the clean energy transition."

- Lead batteries currently provide 75% of worldwide rechargeable energy storage and start-stop functionality for all passenger cars, including EV's.
- Lead batteries are a key element in the transition to a low carbon economy, with unrivalled sustainability credentials:
  - 99% of lead batteries are recycled and reused; and
  - New batteries contain up to 85% recycled content.
- Lead's carrier properties make it an efficient and effective enabler for recycling a broad range of non-ferrous metals (i.e. Gallium which is used in solar panels).

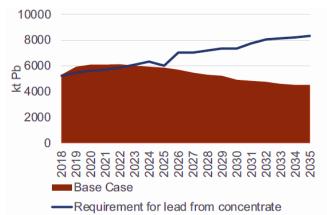
# LEAD SUPPLY AND DEMAND BALANCE

- Short-term refined lead stocks are close to record lows.
- Global lead demand is forecast to rise by 1.2% to 11.87 million tonnes in 2019<sup>1</sup> due to increased usage in India, Japan, and the Republic of Korea.
- Analysts predict the global lead market demand will grow at a CAGR of 6.74% between 2018 and 2022<sup>2</sup>.
- Base case shows 'deficit' for mined lead from 2023 without new mine supply.
- China remains the dominate player in 2019 for both lead production (>54% of 5.2Mt global production in 2018) and consumption (45% of 12.8Mt global consumption in 2018).

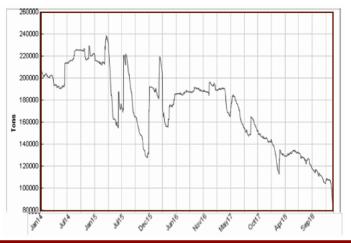
<sup>1</sup> International Lead and Zinc Study Group Press Release 9 May 2019.

<sup>2</sup> Business Wire <u>https://www.businesswire.com/news/home/20180803005303/en/Global-Lead-Market-Analysis-Trends-Forecasts-2018-2022</u>
<sup>3</sup> Wood Mackenzie
<sup>4</sup> www.kitco.com

#### BASE CASE MINED LEAD PRODUCTION VS. DEMAND<sup>3</sup>



#### LME LEAD INVENTORY (LAST 5 YEARS)<sup>4</sup>







### **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.

