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# Sorby Hills Lead-Silver Project

*Delivering Metals for a Sustainable Future*

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**AMEC Investor Briefing**

26 October 2021



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## Compliance Statement

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 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.

Information included in this presentation relating to Mineral Resources has been extracted from the Mineral Resource Estimate dated 6 April 2021, available to view at [www.boabmetals.com.au](http://www.boabmetals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the Mineral Resource Estimate and that all material assumptions and technical parameters underpinning the estimates, 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 Mineral Resource Estimate.

Information included in this presentation relating to Ore Reserves, Production Targets and Financial Forecasts has been extracted from the Pre-Feasibility Report and Ore Reserve Statement dated 25 August 2020, available to view at [www.boabmetals.com.au](http://www.boabmetals.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the Ore Reserve Statement and that all material assumptions and technical parameters underpinning the estimates, production targets and financial forecasts 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 Ore Reserves Statement.

# Investment rationale

**Pb**  
Lead

## The Proven Battery Metal

The primary component of the 12V batteries found in traditional and electric vehicles

**Ag**  
Silver

## The Most Conductive Metal on Earth

Ideal metal for use in solar cells and the electronic components of electric vehicles.

### Australia's largest undeveloped, near-surface Lead-Silver deposit

Granted mining leases, EPA approved<sup>1</sup>, 150km from Wyndham Port in Western Australia

### Low Risk Operation located in a Tier 1 Mining Jurisdiction

Initial 10-year Open cut mine plan underpinned by 92% Reserves and low cash operating cost

1. Section 45C change proposal to be submitted to the EPA to reflect advancements

2. See Slide 8 for full Mineral Resource Estimate

### Impressive Project Economics

A Pre Feasibility Study ("PFS") completed in Q3 2020 confirmed a robust project with a CAPEX payback in just 1.6 years

### Fully Funded DFS Underway

A\$10.1m cash on hand (as at 30 September 2021) to fund the Definitive Feasibility Study ("DFS") through to a decision to mine at Sorby Hills.

### Rare ASX exposure to Silver markets

Sorby Hills **54 Million Ounce Silver Resource**<sup>2</sup> is among the largest undeveloped Silver Resources located in Australia

### Project Financing and Execution Workstreams underway

Preliminary Offtake Soundings complete. Actively engaged with Government backed financing agencies and commercial lenders

# Board and management



Experienced Board and Management with a proven track record in exploration and development.



**Gary Comb**  
Chairman

Engineer with over 30 years' experience in the Australian mining industry, with a strong track record in successfully commissioning and operating base metal mines.



**Simon Noon**  
Managing Director and CEO

Experienced executive with a strong background in management, finance, capital raising and operating joint ventures with mid to top tier miners in a variety of commodities.



**Richard Monti**  
Non-Exec. Director

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



**Andrew Parker**  
Non-Exec. Director

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

## Technical team

### **David English - Chief Operating Officer**

Wealth of experience gained in operations and project development across some of Australia's most prominent resource projects and processing operations.

### **Kevin Reynolds - Project Metallurgist**

Experienced metallurgist and project development manager of 30 years, covering mining and metallurgical operations, process development, feasibility studies & project execution.

### **Simon Dorling - Exploration Manager**

Geologist with more than 26 years' experience in exploration, development and the mining of base metals, precious metals, energy minerals and industrial minerals.

# Corporate summary



## Capital structure (22 October 2021)

Share Price	A\$0.375 / share
Shares on Issue	153 million shares
Market Cap	A\$57 million
Debt	Nil
Cash	A\$10.1 million (as at 30 September 2021)
Options & Perf. Rights	2 million <sup>1</sup>

## Top Shareholders

#	Holder Name	22 September 2021
1	Villiers Queensland pl	10.55%
2	Zero Nominees Pty Ltd	8.36%
4	Citicorp Nominees Pty Limited	3.59%
5	Brent Connolly	2.92%
6	Aigle Royal	2.22%
6	Craig Chapman	2.22%

## Share Price History



- ASX-listed base and Precious metal explorer and developer.
- Fully funded through to final investment decision expected mid-2022.
- Resource inventory<sup>2</sup> comprising **1.4Mt of Lead** and **54Moz of Silver**.
- **Top 10 shareholders hold 37% of issued capital.**

1. 2.02 million Performance Rights  
 2. See Slide 8 for full Mineral Resource Estimate

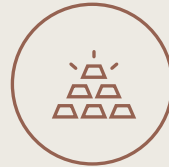
# PFS highlights

## The Sorby Hills PFS released in August 2020 highlights a technically robust project with impressive economics

The PFS highlights the **low-risk** nature of the Sorby Hills Project with a **well-defined** large-scale Mineral Resource, conventional crush-mill-float processing circuit, **high metal recoveries** and **key approvals** received.



**Initial 10-Year Mine life processing 15Mt ore**



**50kt Lead and 1.5Moz Silver production per annum<sup>1</sup>**



**US\$0.40/lb Lead C1 cash cost**



**A\$183m Upfront Capex incl A\$20m contingency**



**Pre-Tax NPV<sub>8</sub> of A\$303m<sup>2</sup> and Pre-Tax 46% IRR<sup>2</sup>**



**1.6-year payback from first production**



**Average Life of Mine EBITDA A\$75m per annum (A\$127m per annum over the first 2 years of production)**

1: Life of mine average

2: NPV based on 10-year average commodity prices. Lead US\$0.95/lb, Silver US\$21.10/oz. AUD:USD FX rate of 0.70

# Sorby Hills Project highlights

**Australia's largest undeveloped, near-surface Lead-Silver-Zinc deposit.**

- ✓ **75%/25% Joint Venture Partnership** with China's largest Lead smelter and Silver producer.
- ✓ **Granted pre-native title mining tenements.**
- ✓ **EPA Approved** for Open Pit Mine and Infrastructure.
- ✓ **Open Pit Reserves** of 494kt Lead and 17.6Moz Silver<sup>1</sup> and growing.
- ✓ **Located close to existing infrastructure.**
- ✓ **Opportunity to access hydro grid power.**
- ✓ **Definitive Feasibility Study well advanced** with completion expected March/April 2022

1. See Slide 9 for full Reserve Estimate

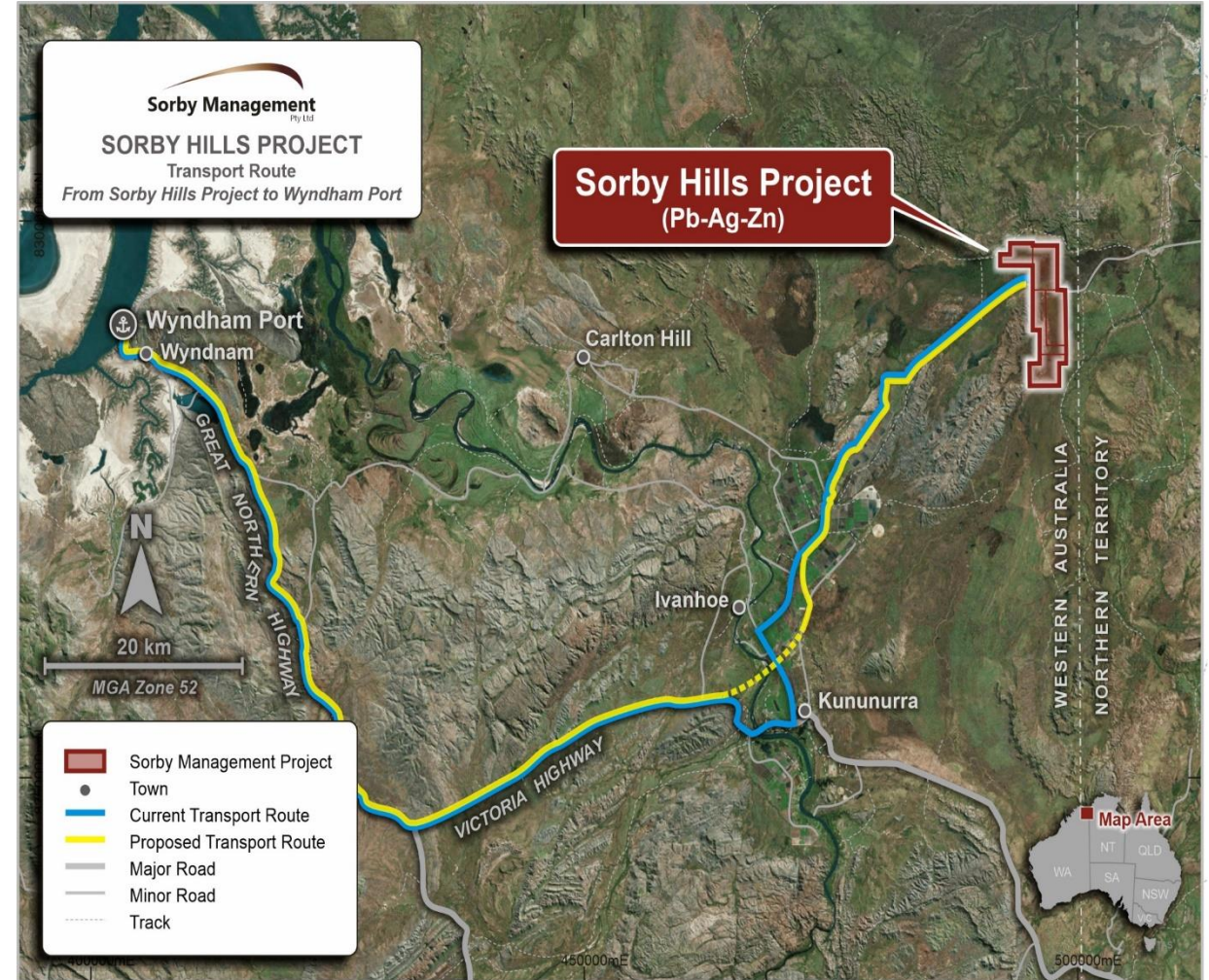


Image: Location of the Sorby Hills Project relative to Kununurra and Wyndham Port

# High quality Mineral Resource estimate

Large shallow gently dipping Resource with well defined geology

Silver Equivalent Resource amounts to 44.9Mt equates to 44.9Mt at 153 g/t Ag Eq.

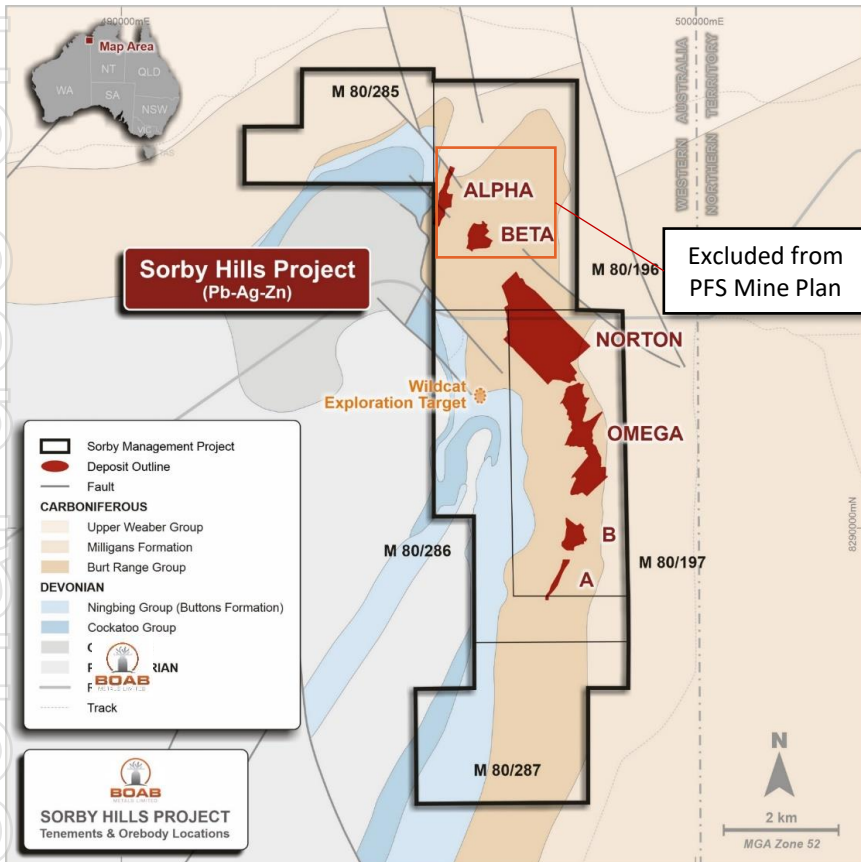


Image: Location of the Sorby Hills deposits and mining tenements relative to local geology

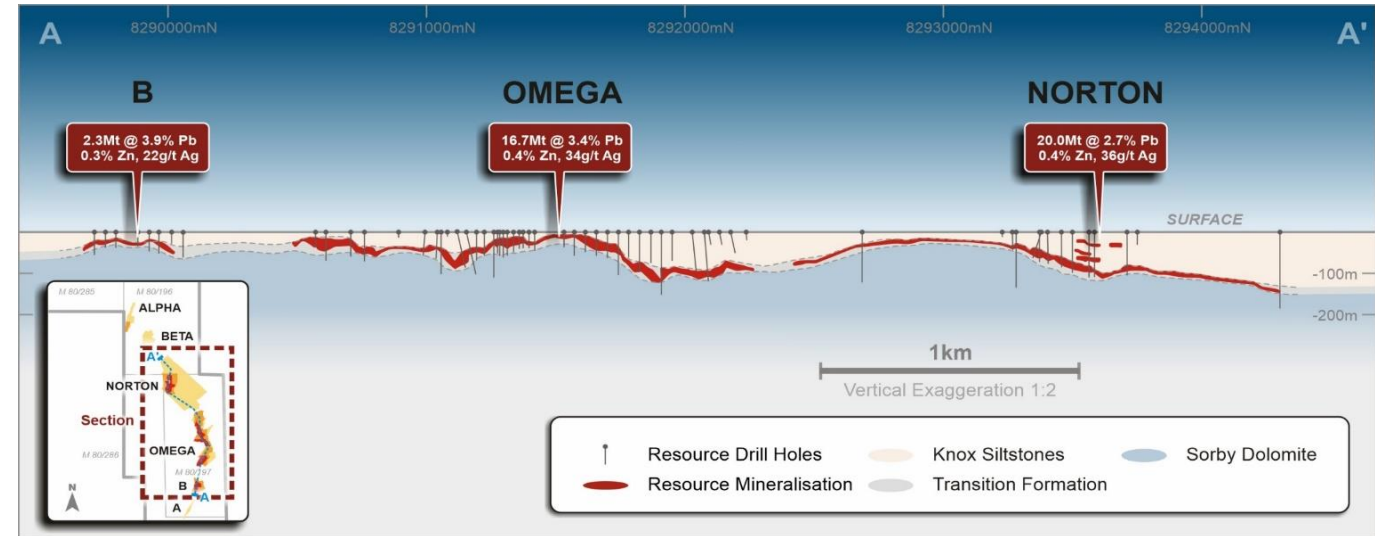


Image: Long section looking west through the Sorby Hills Resource

Deposit	Mt	Grade				Contained Metal			
		Pb	Ag	Pb Eq.	Zn	Pb	Ag	Pb Eq.	Zn
		%	g/t	%	%	kt	koz	kt	kt
<b>Total</b>	<b>44.9</b>	<b>3.2</b>	<b>37</b>	<b>4.3</b>	<b>0.5</b>	<b>1,438</b>	<b>54,046</b>	<b>1,907</b>	<b>203</b>
<b>Measured</b>	<b>11.1</b>	<b>3.6</b>	<b>45</b>	<b>5.7</b>	<b>0.3</b>	<b>404</b>	<b>15,934</b>	<b>542</b>	<b>38</b>
<b>Indicated</b>	<b>11.0</b>	<b>3.4</b>	<b>34</b>	<b>4.1</b>	<b>0.4</b>	<b>375</b>	<b>11,929</b>	<b>478</b>	<b>49</b>
<b>Inferred</b>	<b>22.8</b>	<b>2.9</b>	<b>36</b>	<b>3.9</b>	<b>0.5</b>	<b>660</b>	<b>26,184</b>	<b>887</b>	<b>117</b>

Reported at a 1.0% Pb Cut-Off (Pb Domains only).  
 Tonnes and Grade are rounded. Discrepancy in calculated Contained Metal is due to rounding.  
 Lead Equivalent calculation excludes Zinc. See Appendix 2 for Equivalent calculation method.  
 The information presented above is extracted from the report entitled "Interim Mineral Resource Estimate" released on 6 April 2021 and is available to view on [www.boabmetals.com](http://www.boabmetals.com)



# Low-risk Project with significant scope for growth

## A low-risk Mine Plan underpinned by 92% Ore Reserves

Classification	Ore	Pb (%)	Pb (kt)	Ag (g/t)	Ag (Moz)
	Mt	%	kt	g/t	Moz
Proved	6.8	4.1	275	53.0	11.5
Probable	6.9	3.2	219	27.6	6.1
<b>Total</b>	<b>13.6</b>	<b>3.6</b>	<b>494</b>	<b>40.2</b>	<b>17.6</b>

Reported at cut-off of 1.5% Pb, based on 2 June 2020 Mineral Resource Estimate

The PFS Base Case incorporated the mining of 14.8Mt of ore over an initial 10-year mine life from four deposits, namely Omega, A, B and southern portion of Norton.

- Mineralisation from 20m.
- Flat topography and easy free dig in first 18m.
- Life of Mine Strip Ratio of 8.0x (volumetric basis).
- **Proved Reserve expected to increase on the back of 56% increase in Measured Resources in the 6 April 2021 Mineral Resource Estimate**

## Conventional processing route producing a high-quality concentrate

- Single stage crush and semi-autogenous grinding (SAG) followed by Sulphide and Oxide Flotation and concentrate thickening and filtration.
- Average Lead Recovery 93.3% (Ox: 84.0%, Fr: 94.9%)
- Average Silver Recovery 80.3% (Ox: 94.4%, Fr: 78.2%)
- Average Concentrate Grade 62% Lead, 580 g/t Silver

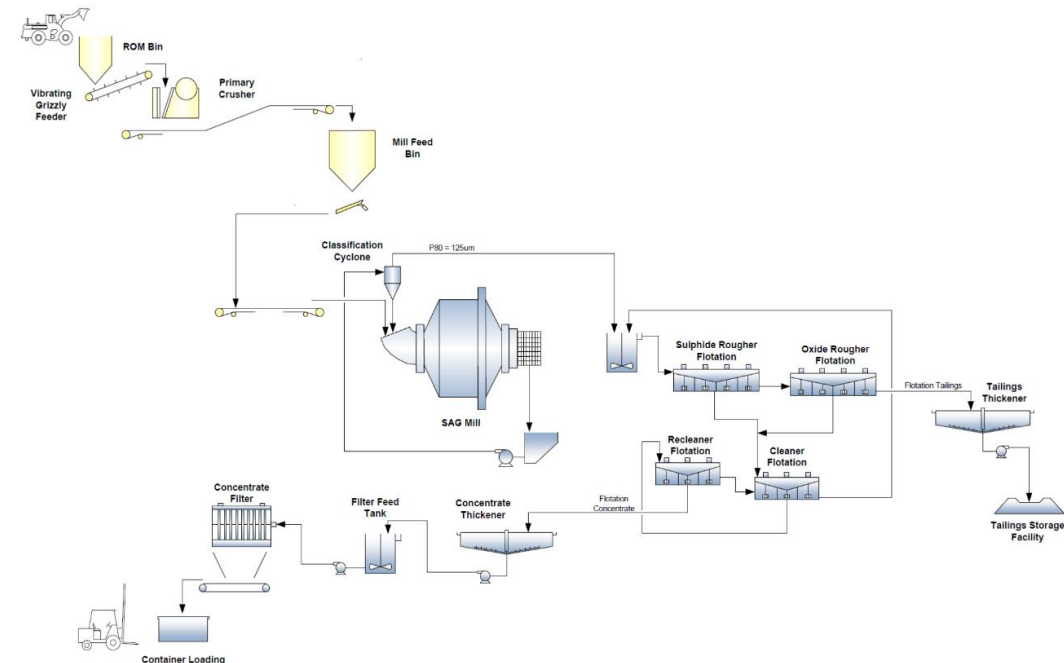


Image: Sorby Hills PFS Base Case Processing Circuit

# Effective and efficient Resource definition



## High impact drilling has maximised the value extracted from the Sorby Hills deposit

Drilling by Boab Metals at Sorby Hills has delivered continued growth in Resource size and confidence.

### Phase I - ASX release 14 Feb 2019

**10.0m at 6.6% Pb, 53g/t Ag**

AI010 from 82m

**12.3m at 5.5% Pb and 42g/t Ag**

AI011 from 90m

**20.0m at 7.3% Pb and 56g/t Ag**

ACD046 from 11m

**11.7m at 10.8% Pb and 105g/t Ag**

AF005 from 75.7m

**7.3m at 6.7% Pb and 99g/t Ag**

AF048 from 110.7m

### Phase II - ASX releases 14 Aug / 12 Sep 2019

**14.0m at 13.0% Pb and 89 /t Ag**

ACD080 from 24m

**23.0m at 9.0% Pb and 88g/t Ag**

ACD071 from 59m

**11.0m at 6.9% Pb and 26g/t Ag**

ACD050 from 29m

**22.0m at 8.8% Pb and 52g/t Ag**

ACD082 from 68m

**20.0m at 7.9% Pb and 56g/t Ag**

ACD079 from 16m

### Phase III - ASX release 30 Jan 2020

**18.0m at 5.08% Pb and 36g/t Ag**

SHPDA18 from 10m

**10.0m at 7.16% Pb and 383g/t Ag**

SHPDA31 from 110m

**6.0m at 9.53% Pb and 55g/t Ag**

SHPDA15 from 47m

### Phase IV ASX releases 19 / 21 Jan 2021

**17.0m at 7.5% Pb, 157g/t Ag**

SHDD024 from 72m

**11.0m at 7.4% Pb, 22g/t Ag**

SHDD043 from 35m

**15.0m at 3.82% Pb, 22g/t Ag**

SHDD032 from 24m

**9.0m at 4.80% Pb, 33g/t Ag**

SHDD035 from 36m

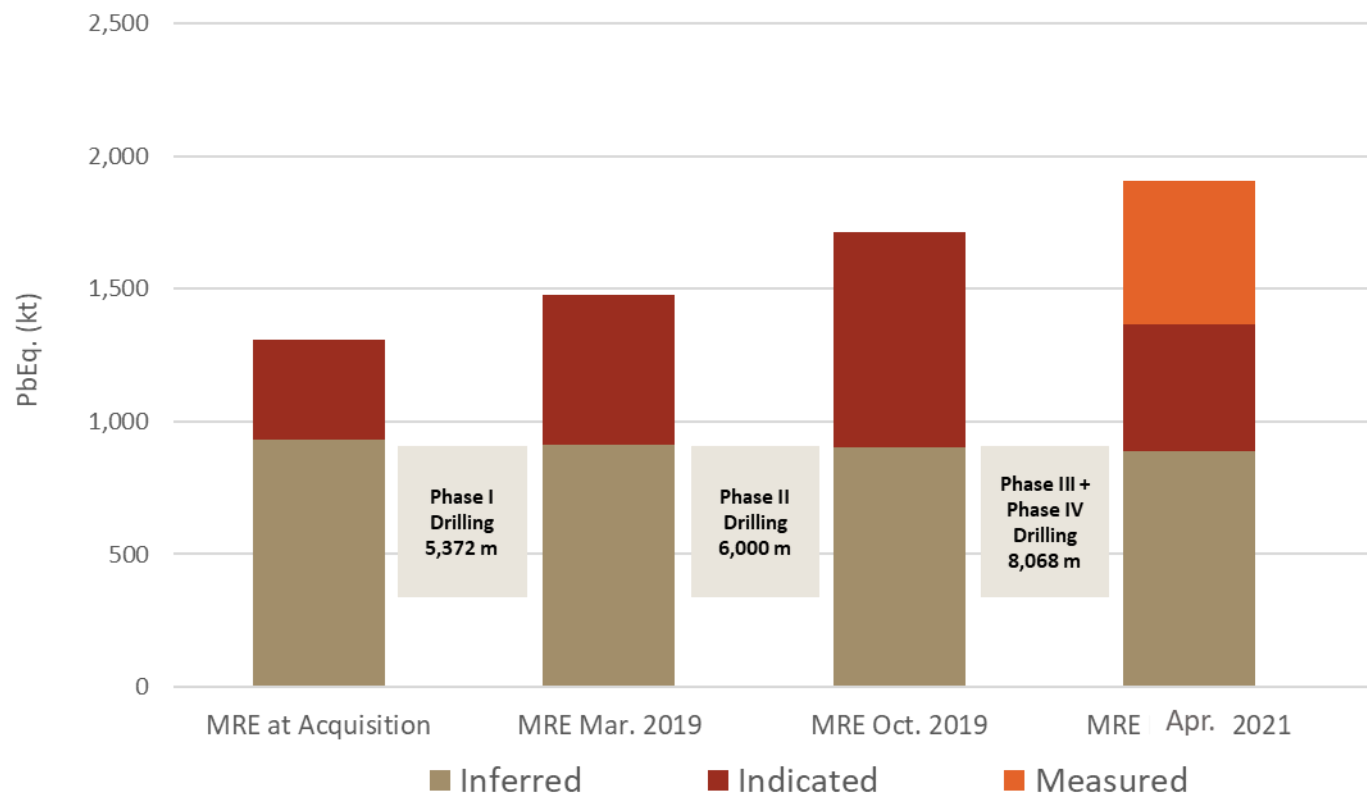
### Phase IV - ASX release 8 Feb 2021

**11.0m at 4.69% Pb, 15g/t Ag**

SHDD041 from 72m

**7.0m at 3.05% Pb, 8g/t Ag**

SHDD046 from 10m



Mineral Resource Estimates reported at 1.0% Pb cut-off (Pb Domains only), Zn is not included. Refer to appendix for Pb Equivalent calculations

# Phase V drilling program

## The Phase V Drilling Program has delivered mineralisation extensions across Sorby Hills

59 diamond drill holes targeting mineralisation not currently included in the Mineral Resource or Mining Inventory

### Significant results include

#### Alpha Deposit

- SHDD\_059: 4.5 m @ 2.39% Pb & 101g/t Ag from 31m

#### Omega Deposit

- SHMD\_066: 4.5m @ 2.39% Pb & 102g/t Ag from 31m
- SHMD\_066: 5m @ 6.77% Pb & 26g/t Ag from 100m
- SHMD\_074: 5m @ 7.08% Pb & 91g/t Ag from 108m
- SHMD\_099: 5m @ 5.37% Pb & 16g/t Ag from 90m

#### B Deposit

- SHMD\_088: 6m @ 5.37% Pb & 21g/t Ag from 50m
- SHMD\_091: 12m @ 5.82% Pb & 24g/t Ag from 35m

#### Beta Deposit

- SHMD\_111: 26m @ 2.58% Pb & 25g/t Ag from 53m
  - Incl. 2m @ 7.50%Pb & 58g/t Ag from 71m



Image: Drill rig in action during the recently completed Phase V drilling program

A further 10 Reverse Circulation infill holes drilled at the Beta and wildcat zones – results due in the current quarter

# Potential increase in mine size

**Results of the Phase V drill program together with the ongoing DFS Metallurgical program will act as inputs to an investigation into the potential to expand the proposed processing capacity at Sorby Hills**

The Sorby Hills PFS Mine Plan comprised a total of 14.8Mt ore at 4.7% PbEq. being processed through a 1.5Mtpa process plant over 10 years.

**The completed Phase V drilling will aim support an expanded processing capacity at Sorby Hills by targeting:**

- Resources located outside but adjacent to the PFS Open Pit designs.
- high-grade Resources located at Alpha (2.0Mt at 5.0% PbEq.)<sup>1</sup> and Beta (3.3Mt at 6.3% PbEq.)<sup>1</sup> which to date have been excluded from Mine Plan optimisations.

**Key benefits of an expanded processing plant may include:**

- a shorter payback period;
- higher operating margins;
- stronger operating cash flows; and
- **increased value for Boab shareholders.**



1. See Slide 8 for full Mineral Resource Estimate. Refer to appendix for Pb Equivalent calculations

# Regional exploration potential

## Eight Mile Creek - Exploration Licence E80/5317

Exploration Tenements 100% owned by Boab Metals covering 217 km<sup>2</sup> of relatively underexplored tenure immediately south of Sorby Hills.

- 30 km of along-strike geology highly prospective for deposits similar to Sorby Hills.
- Native title/mineral exploration agreement has been executed.
- Soil sampling recently carried out - results pending
- prospective stratigraphic horizon and gravity target recently drilled with results expected in the current quarter.

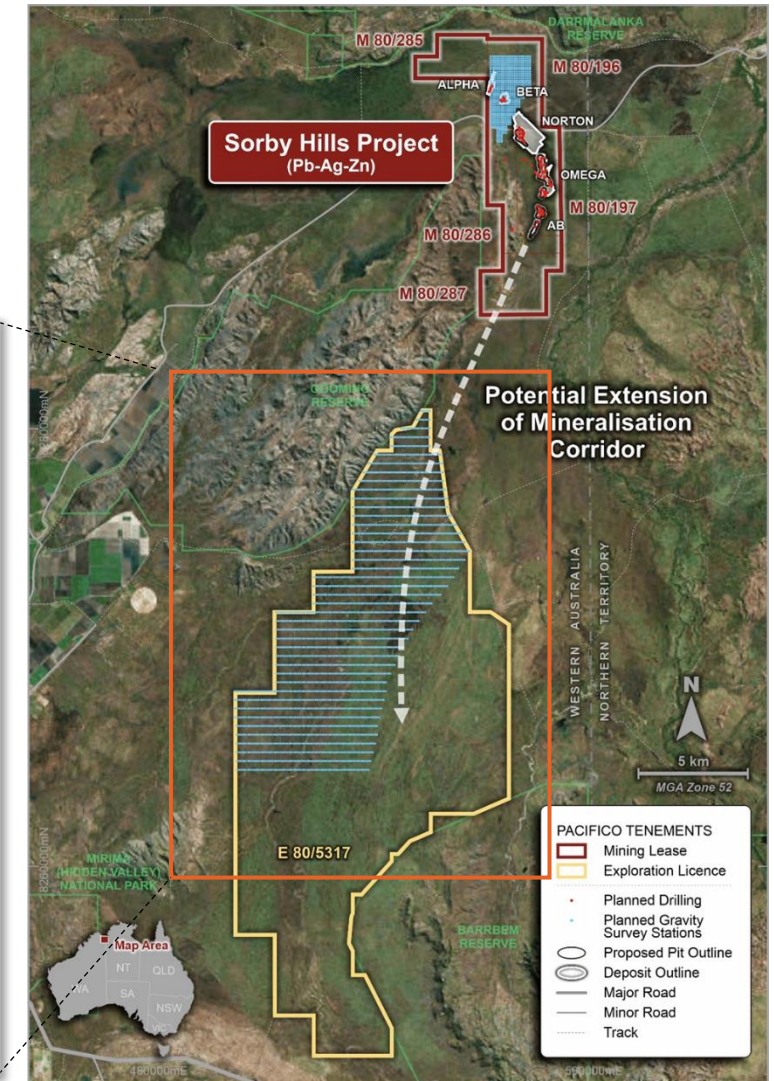
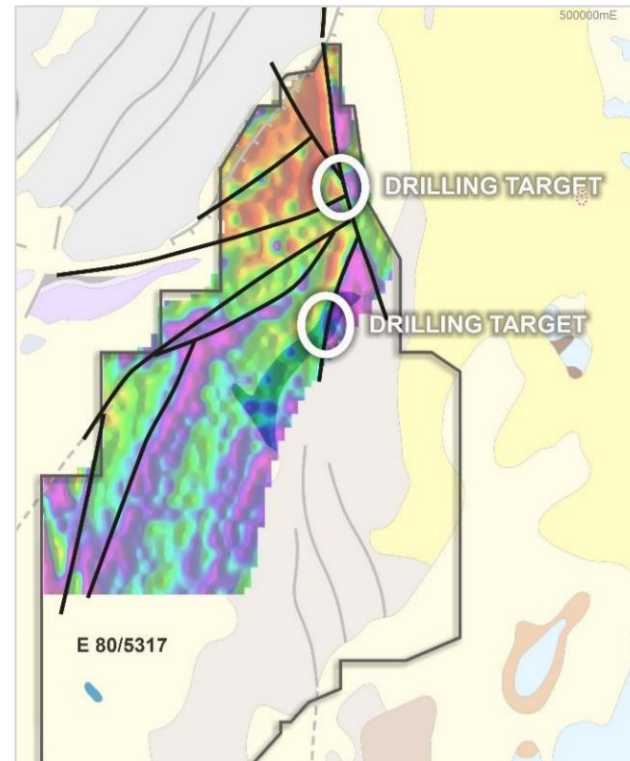


Image: BML 100% owned E80/5317 to the south of the Sorby Hills JV Project showing gravity survey location and results.

# Strategic Acquisition of Manbarrum Zinc-Lead-Silver Project

## Boab has recently acquired a 100% interest in the Manbarrum Zinc-Lead-Silver Project

### Key highlights include:

- Manbarrum is strategically located 25km east of the Sorby Hills Lead-Silver Zinc Project.
- Mineral Resources declared at two prospects within the Manbarrum project area<sup>1</sup>;
- Conceptual open pit mining studies completed by CSA Global in 2018 identified the opportunity to improve project economics via toll treating at a future plant located at Sorby Hills; and
- 175km<sup>2</sup> of prospective tenements (including two granted mining leases) covering **geology genetically related to that found at Sorby Hills** allowing for an effective transfer of technical knowledge.

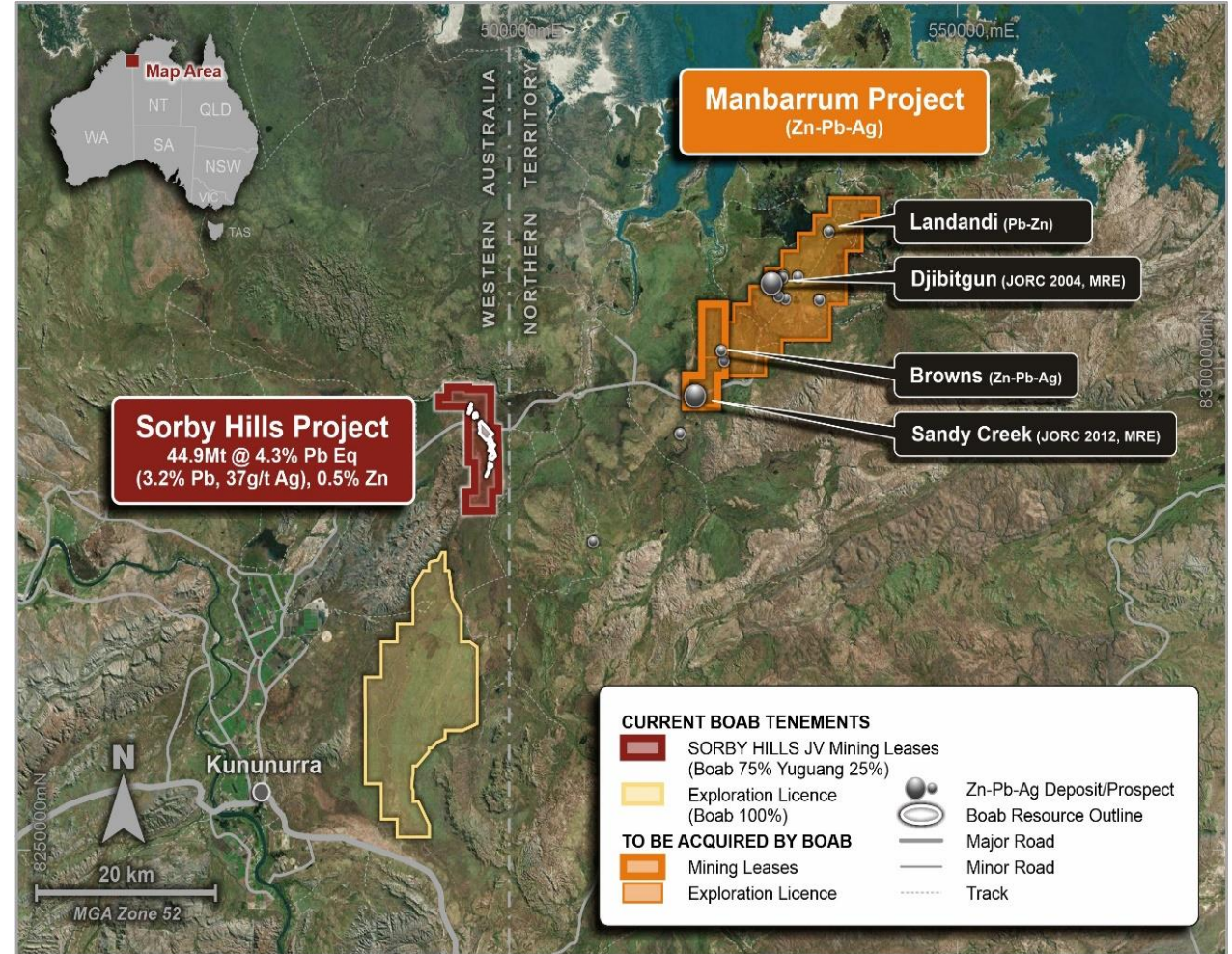


Image: Location of the Manbarrum Project relative to the Sorby Hills and Eight Mile Creek Projects.

<sup>1</sup> Refer to the Todd River Resources prospectus dated 4 April 2017

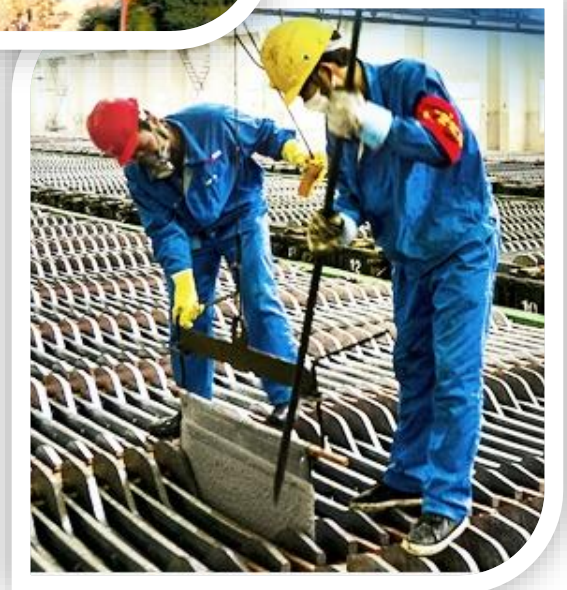
<sup>2</sup> Refer BML Announcement 21 July 2021

# Sorby Hills JV partnership

**Boab (75% interest)**

**Henan Yuguang Gold and Lead Co., Ltd (25% contributing interest)**

- **Very positive meetings** have been held with Joint Venture partner Henan Yuguang Gold and Lead Co., Ltd (“Yuguang”), the largest Lead smelting company and Silver producer in China
- **Yuguang has fully endorsed** the Company’s DFS program and budget and confirmed their intention to fund its 25% contribution to the DFS costs
- Yuguang has **reaffirmed their strong appetite** for the Sorby Hills Lead-Silver concentrate and potentially increasing their offtake participation above that which they are currently entitled by virtue of their 25% joint venture interest in the Project
- Yuguang has **confirmed their commitment to the development of the Project** and working constructively with Boab to ensuring the Project is bankable and fully-financed.
- **Joint Venture partners have agreed to accelerate the finalisation of the Sorby Hills Development and Operations Agreement to facilitate engagement with project financiers.**



# Project financing

## Boab is well progressed on preparing the Sorby Hills Project for project financing

- Boab has engaged BurnVoir Corporate Finance to advise on, analyse and arrange a project finance solution for the Sorby Hills Project.
- **The Company has engaged with Australia Government financing agencies**
  - Northern Australian Infrastructure Facility (“NAIF”); or
  - Export Finance Australia (“EFA”), Australia’s export credit agency (“ECA”).
- **Sorby Hills has passed through Stage 1 (Initial Review) of the NAIF’s updated three-Stage debt finance assessment and approval process** and will look to advance to Stage 2 (Detailed Review) as the Company moves toward a Decision to Mine\*.
- **Boab has received a Letter of Support from EFA** with regards to potentially providing direct or in-direct financing support to the Project.
- **Boab has conducted preliminary soundings with commercial banks** to garner interest and feedback ahead of more a formal engagement as the Company moves toward a Decision to Mine.



Representatives from NAIF and Commercial Banks together with Boab Senior management looking out over the Sorby Hills deposit on Discovery Hill (Oct 2021)

\*At this stage, NAIF and EFA has not made any decision to offer finance and there is no certainty that an agreement will be reached between the parties



# Sorby Hills concentrate offtake

## Preliminary Soundings with Tier-1 offtakers have confirmed a strong appetite for the Sorby Hills concentrate

- The primary purpose of the preliminary offtake soundings was:
  - to build relationships between Boab and a range of Tier-1 offtake partners;
  - to receive indicative offtake terms for the concentrate to be produced from Sorby Hills; and
  - to canvas customer feedback to inform the ongoing Sorby Hills DFS.
- A competitive offtake tender process for the Sorby Hills concentrate has commenced with Boab targeting binding agreements by December 2021



Image: Wyndham Port (Source: Cambridge Gulf Limited)

# Establishing deep roots within the local community

**Boab is extremely proud to be the Naming Rights Sponsor the Ord Valley Muster for 2022 and beyond.**

- Sense of community plays a key role in economic and social well-being of stakeholders across the east Kimberley Region.
- The Ord Valley Muster has been a highlight of the Kimberley community calendar for 20 years
- The event attracts thousands of visitors to the region to experience the stunning landscape, cultural diversity and famous Kimberley hospitality.



Image: Boab Managing Director and CEO Simon Noon (left) participating in the naming rights handover together with Ord Valley Muster chair Beau Robinson (centre).

BOAB METALS  
**ORD VALLEY** *Muster*  
..... 13-22 MAY 2022 .....

ersonal use only

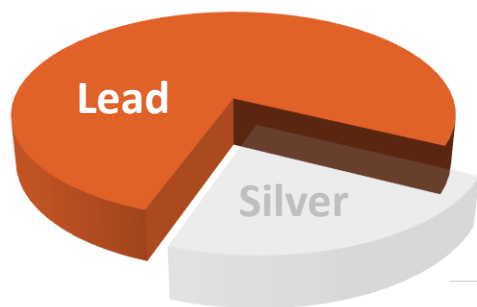
# The Silver & Lead Markets



# Lead: An underrated battery metal

70% of all rechargeable battery energy storage capacity worldwide is provided by lead batteries

## Sorby Hills PFS Revenue Split



**475,223 t**  
Payable Lead  
**A\$1.4 Billion Revenue**

**14,300,481 oz**  
Payable Silver  
**A\$431 Million Revenue**

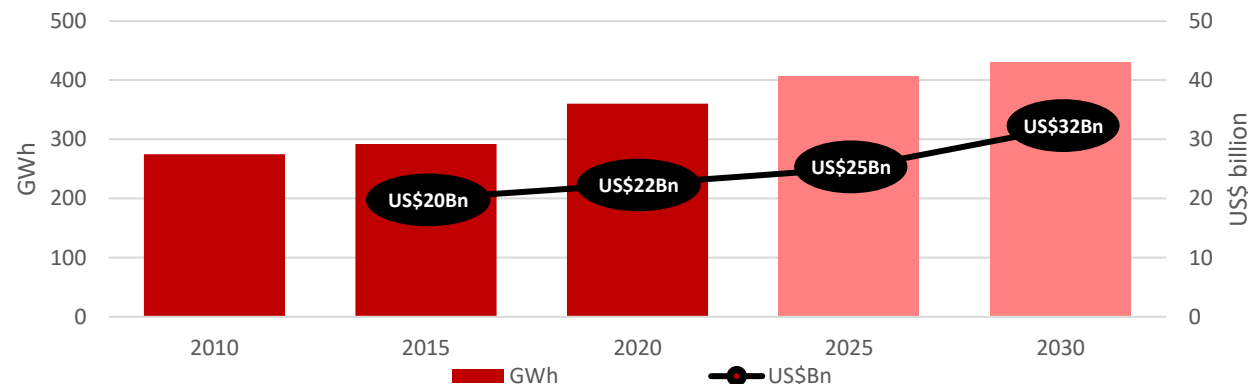
Sorby Hills Pre-Feasibility Study ASX Release 25 August 2020 - price assumptions include US\$2,095/t and Silver price US\$21.1/oz

**Lead Acid Batteries are a mature and commoditised technology** making them a cheap and reliable source of 12V power for SLI, Stop-Start, safety and auxiliary functions in **all types of vehicles**.

• New high performance Lead battery technologies continue to be developed (e.g. **Lead-crystal batteries**).

Item	2020	2030	CAGR
Total Vehicles in Use <sup>3</sup>	1.5 Billion	2.1 Billion	3.7%
Total Electric Vehicles <sup>4</sup>	10 Million	245 Million	27%
% of Total Vehicles	<1%	12%	

## Growth in Lead-Acid Battery Market<sup>2</sup>



**The lead acid battery market is forecast to grow by 70 Gigawatt hours (20%, US\$10 billion) over the next 10 years<sup>2</sup>.**

### Primary drivers of growth include:

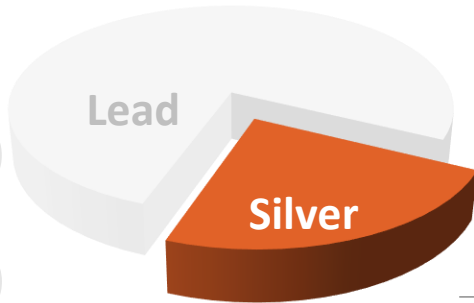
- 37 GWh - continued use of 12V lead-acid batteries in the automotive industry including ICEs, hybrid and battery electric vehicles.
- 18.5 GWh – Utility and Renewable energy storage.
- 14.4 GWh – Telco back-up, UPS and motive applications.

1. International Lead and Zinc Study Group: [www.ilzsg.org](http://www.ilzsg.org)  
 2. Consortium for Battery Innovation: <https://batteryinnovation.org/>  
 3. Projected growth based on long term trend: <https://www.oica.net/category/vehicles-in-use/>  
 4. <https://www.iea.org/reports/global-ev-outlook-2021/trends-and-developments-in-electric-vehicle-markets>

# Silver: A precious metal with strong green credentials

Silver's traditional role as a storer of wealth is complemented by increasing industrial demand

## Sorby Hills PFS Revenue Split



**475,223 t**  
Payable Lead  
**A\$1.4 Billion Revenue**

**14,300,481 oz**  
Payable Silver  
**A\$431 Million Revenue**

Sorby Hills Pre-Feasibility Study ASX Release 25 August 2020 - price assumptions include US\$2,095/t and Silver price US\$21.1/oz

## BML Share Price vs A\$ Silver Price



**Silver is the Most Conductive Metal on earth** and its resistance to corrosion makes it ideal for use in solar panels, electrical contacts and printed circuit boards.

- Over 55 million ounces per year of Silver are used in the electrical connections found in all types of vehicles<sup>1</sup>.
- With a resource containing 54 million ounces of Silver, Sorby Hills sits among the largest undeveloped Silver resources in Australia\*

\*See Appendix for detailed breakdown of Silver Resources and source date



1. <https://www.visualcapitalist.com/silver-series-new-energy-in-solar-and-ev/>

# Next Steps



# Development timeline providing significant newsflow



On track to become a significant West Australian Lead-Silver producer in late 2023

## Recent News

- ✓ Preliminary Offtake Soundings demonstrate strong demand for Sorby Hills Concentrate
- ✓ Mineral Resource Estimate Increases Measured Resources by 56%
- ✓ Strategic Acquisition of Manbarrum Zinc-Lead-Silver Project
- ✓ Further mineralisation confirmed by Phase V Drilling Program
- ✓ Financiers undertake Sorby Hills Site Visit as part of ongoing due diligence

Decision to Mine Mid 2022

2020

YTD 2021

Q4 2021

H1 2022

- ✓ Sorby Hills Pre-Feasibility Study Complete
- ✓ Maiden Ore Reserve Statement delivered
- ✓ Progressed to Stage 2 of NAIF Approval Process
- ✓ Funds Secured to Reach a Decision to Mine

- DFS Metallurgical Test work results
- Exploration update with remaining Phase V results
- Execution of Binding Sorby Hills Offtake Agreements

- Delivery of Sorby Hills Definitive Feasibility Study
- Final Regulatory Approvals
- Awarding of Construction Contracts
- Execution of Debt Financing Term Sheets

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# Thank you

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**Simon Noon – Managing Director & CEO**



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**[www.BoabMetals.com](http://www.BoabMetals.com)**



**[www.linkedin.com/company/boab-metals](http://www.linkedin.com/company/boab-metals)**





# Appendix



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# PFS capital and operating costs



## Capital Cost Estimate

Capital Item	A\$M
Pre Production Mining	24.3
Process Plant incl. EPC fee	105.4
Infrastructure	20.5
Owners Costs	13.1
Contingency	19.6
<b>Total Pre-Production CAPEX</b>	<b>182.8</b>
Sustaining Capital	32.2
<b>Total CAPEX</b>	<b>215.0</b>
Throughput Capacity - Mtpa	1.50
Concentrate Produced - '000 dmt	806.8
<b>Upfront Capex A\$ per tonne throughput capacity</b>	<b>122</b>
<b>Upfront Capex A\$ per tonne concentrate</b>	<b>227</b>

## Operating Cost Estimate<sup>1</sup>

Cost Centre	A\$M	A\$/t ore	A\$/lb <sup>2</sup>	US\$/lb <sup>2</sup>
Mining	<b>347</b>	<b>23.48</b>	<b>0.33</b>	<b>0.23</b>
Processing	292	19.80	0.28	0.20
G & A	107	7.28	0.10	0.07
Transport	108	7.35	0.10	0.07
Lead Treatment Charges	161	10.93	0.15	0.11
<b>C1 Costs excl. Credits</b>	<b>1,016</b>	<b>68.85</b>	<b>0.97</b>	<b>0.68</b>
Silver Revenue	(431)	(29.21)	(0.41)	(0.29)
Silver Refining Charge	20	1.38	0.02	0.01
<b>C1 Costs incl. Credits</b>	<b>606</b>	<b>41.03</b>	<b>0.58</b>	<b>0.40</b>
Lead Royalty	59	4.01	0.06	0.04
Silver Royalty	10	0.70	0.01	0.01
Sustaining Capex	32	2.18	0.03	0.02
<b>AISC<sup>3</sup></b>	<b>707</b>	<b>47.91</b>	<b>0.67</b>	<b>0.47</b>

1. PFS assumptions include lead price US\$2,095/t, and silver price US\$21.1/oz and A\$1=US\$0.70.

2. Unit costs quoted as pounds (lb) Lead Payable, 3. No Interest Charge has been assumed

# PFS life of mine metrics

Item	Unit	Base Case
<b>Economic Assumptions</b>		
Lead Price	US\$/t	2,095
Silver Price	US\$/oz	21.10
Exchange Rate	A\$:US\$	0.70
<b>Physicals</b>		
Life of Mine (LOM)	Years	9.9
Mined Ore	kBCM	5,161
Strip Ratio	BCM: BCM	8.0x
Processed Tonnes	kt	14,760
Processed Lead Grade	%	3.63
Processed Silver Grade	g/t	39.5
Lead Recovery	%	93.3
Silver Recovery	%	80.3
Recovered Lead	kt	500.2
Recovered Silver	Moz	15.1
Concentrate Produced	kdmt	806.8
<b>Payable Lead</b>	<b>kt</b>	<b>475.2</b>
<b>Payable Silver</b>	<b>Moz</b>	<b>14.3</b>

<sup>1</sup>. Payback calculated from first production.

Item	Unit	Base Case
<b>Cash Flow</b>		
Lead Revenue	A\$M	1,422.3
Silver Revenue	A\$M	431.1
<b>Gross Revenue</b>	<b>A\$M</b>	<b>1,853.3</b>
Royalties	A\$M	(69.5)
TC/RC & Transport	A\$M	(290.3)
<b>Net Revenue</b>	<b>A\$M</b>	<b>1,493.6</b>
On Site Operating Costs	A\$M	(746.3)
<b>Net Operating Cash Flow</b>	<b>A\$M</b>	<b>747.3</b>
Upfront Capital Cost	A\$M	(182.8)
Sustaining Capital Costs	A\$M	(32.2)
<b>Net Project Cash Flow (Pre-Tax)</b>	<b>A\$M</b>	<b>532.3</b>
<b>Value Metrics</b>		
<b>Pre-Tax NPV<sub>8</sub></b>	<b>A\$M</b>	<b>303.4</b>
<b>Pre-Tax IRR</b>	<b>%</b>	<b>46</b>
<b>Pre-Tax Payback Period<sup>1</sup></b>	<b>Years</b>	<b>1.6</b>

# Mineral Resource Estimate - 6 April 2021

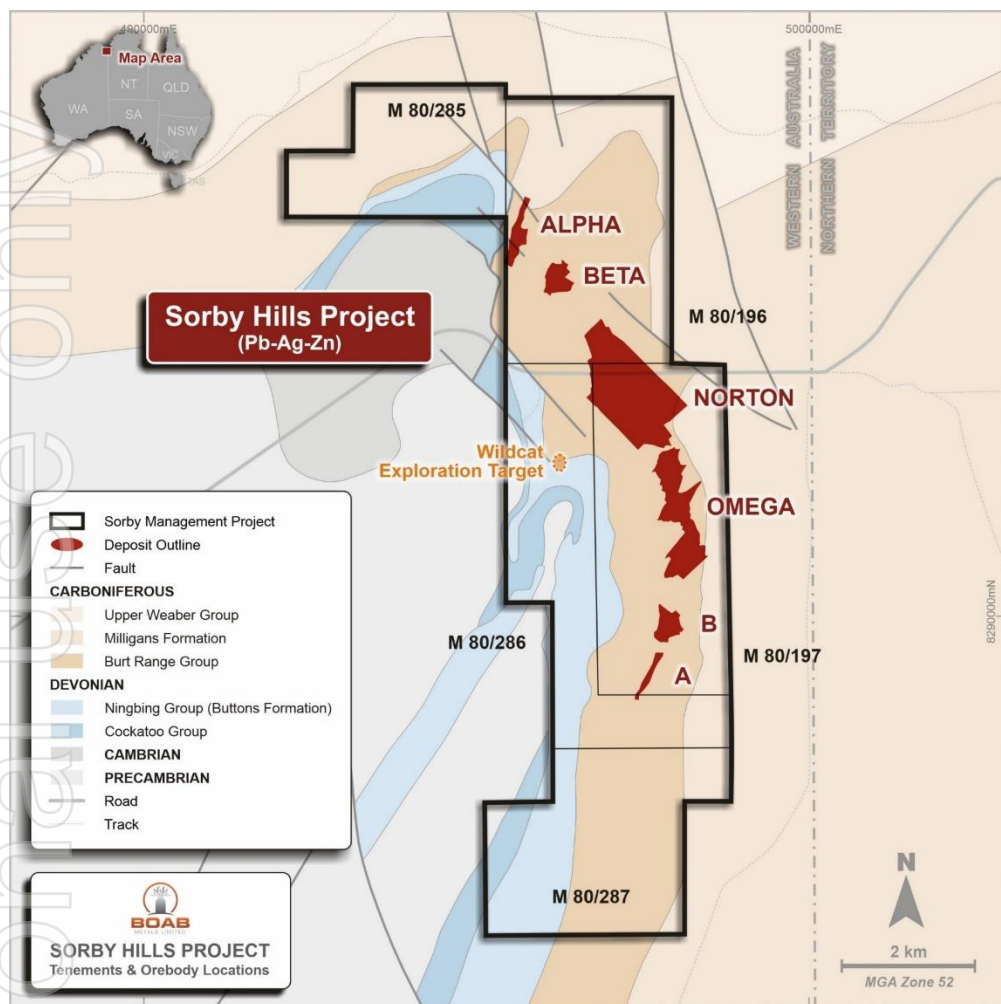


Image: Location of the Sorby Hills deposits and mining tenements relative to local geology

Deposit	Mt	Grade				Contained Metal			
		Pb	Ag	Pb Eq.	Zn	Pb	Ag	Pb Eq.	Zn
		%	g/t	%	%	kt	koz	kt	kt
<b>A</b>	0.6	5.1	22	5.7	0.9	30	411	34	5
<b>B</b>	2.3	3.9	22	4.5	0.3	91	1,608	105	7
<b>Omega</b>	16.6	3.4	34	4.3	0.4	560	18,233	718	69
<b>Norton</b>	20.0	2.7	36	3.7	0.4	545	23,067	745	89
<b>Alpha</b>	2.0	3.1	67	5.0	1.0	61	4,251	98	19
<b>Beta</b>	3.3	4.6	61	6.3	0.4	152	6,476	208	14
<b>Total</b>	<b>44.9</b>	<b>3.2</b>	<b>37</b>	<b>4.3</b>	<b>0.5</b>	<b>1,438</b>	<b>54,046</b>	<b>1,907</b>	<b>203</b>
<b>Measured</b>	<b>11.1</b>	<b>3.6</b>	<b>45</b>	<b>5.7</b>	<b>0.3</b>	<b>404</b>	<b>15,934</b>	<b>542</b>	<b>38</b>
<b>Indicated</b>	<b>11.0</b>	<b>3.4</b>	<b>34</b>	<b>4.1</b>	<b>0.4</b>	<b>375</b>	<b>11,929</b>	<b>478</b>	<b>49</b>
<b>Inferred</b>	<b>22.8</b>	<b>2.9</b>	<b>36</b>	<b>3.9</b>	<b>0.5</b>	<b>660</b>	<b>26,184</b>	<b>887</b>	<b>117</b>

Reported at a 1.0% Pb Cut-Off (Pb Domains only).

Tonnes and Grade are rounded. Discrepancy in calculated Contained Metal is due to rounding.

Lead Equivalent calculation excludes Zinc. See Appendix 2 for Lead Equivalent calculation method.

The information presented above is extracted from the report entitled "Interim Mineral Resource Estimate" released on 6 April 2021 and is available to view on [www.boabmetals.com](http://www.boabmetals.com)

# Current ore Reserve and PFS mine plan



## A low-risk Mine Plan underpinned by 92% Ore Reserves

Classification	Ore	Pb (%)	Pb (kt)	Ag (g/t)	Ag (Moz)
	Mt	%	kt	g/t	Moz
<b>Proved</b>	6.8	4.1	275	53.0	11.5
<b>Probable</b>	6.9	3.2	219	27.6	6.1
<b>Total</b>	<b>13.6</b>	<b>3.6</b>	<b>494</b>	<b>40.2</b>	<b>17.6</b>

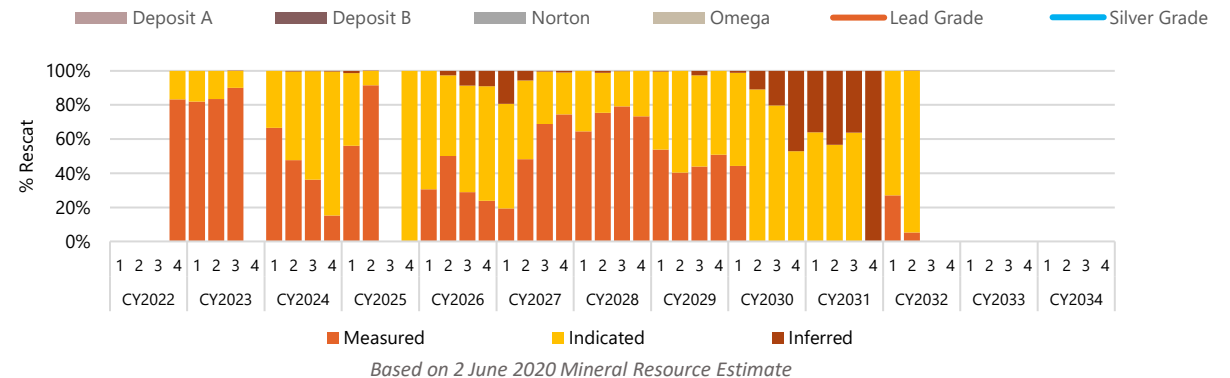
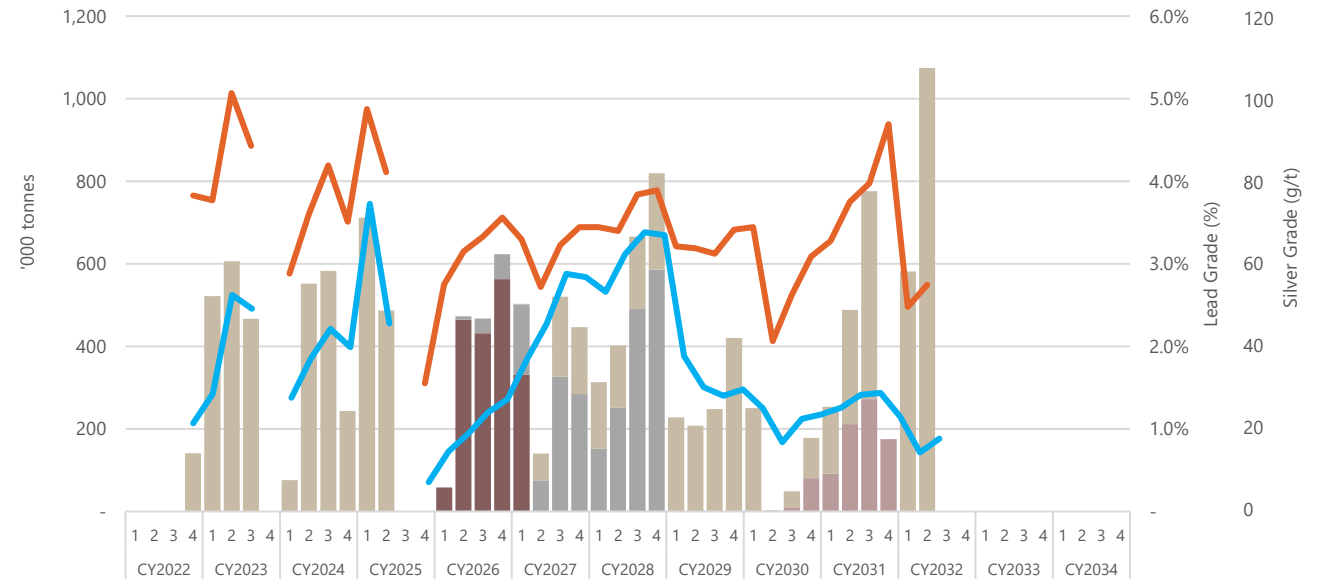
Reported at cut-off of 1.5% Pb, based on 2 June 2020 Mineral Resource Estimate

The **PFS Base Case** incorporates the mining of 14.8Mt of ore over an **initial 10-year mine life** from four deposits, namely Omega, A, B and southern portion of Norton.

- Mineralisation from 20m.
- Flat topography and easy free dig in first 18m.
- Life of Mine Strip Ratio of 8.0x (volumetric basis).
- **Proved Reserve expected to increase on the back of 56% increase in Measured Resources in the 6 April 2021 Mineral Resource Estimate**

1. Section 45C change proposal to be submitted to the EPA to reflect advancements. Refer ASX announcement 25 August 2020 for further information

## PFS Mining Schedule



# Metallurgy and processing

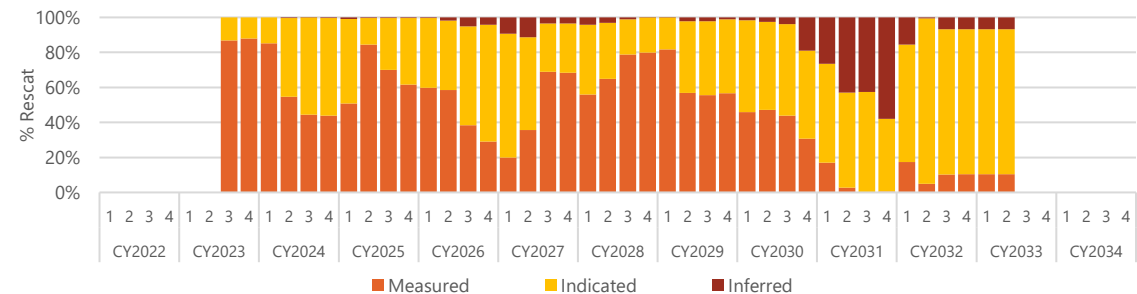
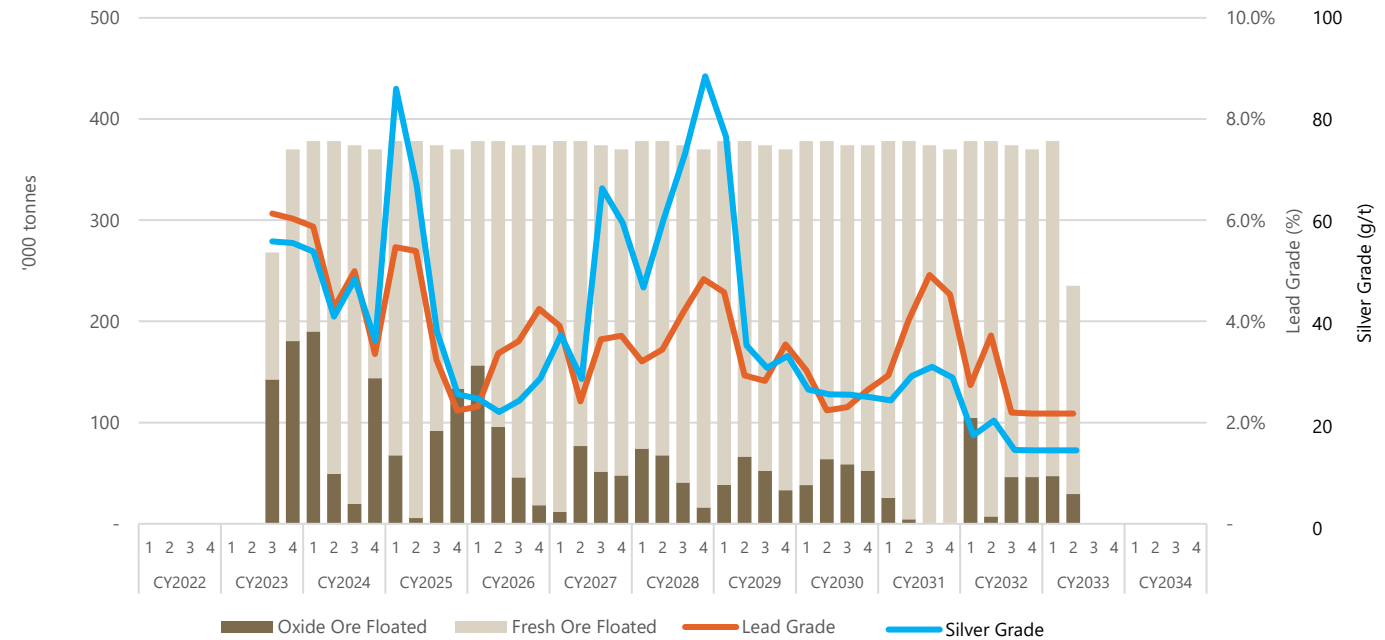


## Production Summary

<b>Plant Process</b>	Crush, Grind and Float
<b>Plant Throughput</b>	1.5Mt p.a.
<b>Average Feed Grade</b>	3.6% Lead, 39.5 g/t Silver
<b>Average Lead Recovery</b>	93.3% (Ox: 84.0%, Fr: 94.9%)
<b>Average Silver Recovery</b>	80.3% (Ox: 94.4%, Fr: 78.2%)
<b>Total Production</b>	807,000 dmt concentrate
<b>Average Production</b>	81,000 dmt concentrate p.a.
<b>Average Concentrate Grade</b>	62% Lead, 580 g/t Silver
<b>Average Lead</b>	50kt p.a.
<b>Average Silver</b>	1.5Moz p.a.

dmt = dry metric tonnes, Ox = Oxidised ore type, Fr = Fresh ore type

## PFS Processing Schedule

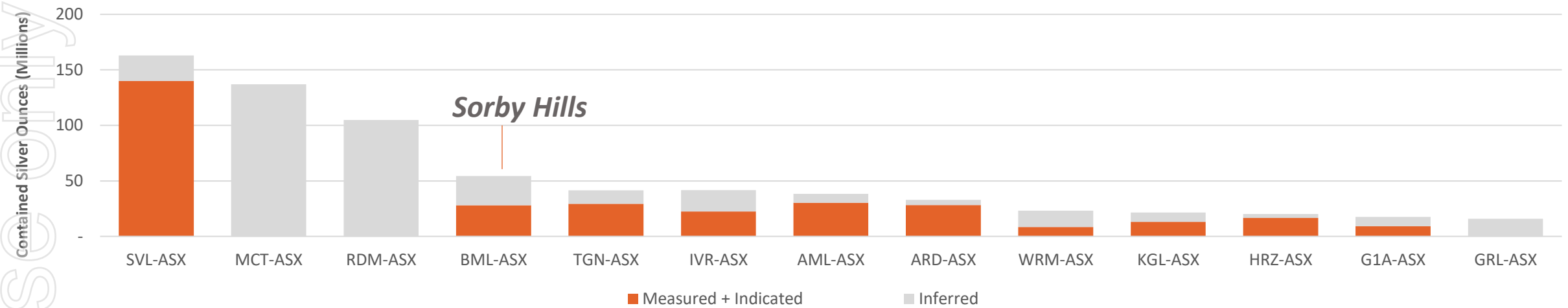


Based on 2 June 2020 Mineral Resource Estimate

# Undeveloped ASX Listed Silver Resources located in Australia



## Sorby Hills is among the largest undeveloped Silver Resources located in Australia



Ticker	SVL-ASX	MCT-ASX	RDM-ASX	BML-ASX	TGN-ASX	IVR-ASX	AML-ASX	ARD-ASX	WRM-ASX	KGL-ASX	HRZ-ASX	G1A-ASX	GRL-ASX
<b>Project</b>	Bowdens	Admiral Bay	Maronan	<b>Sorby Hills</b>	Mt Mulgine	Paris	Walford Creek	Kempfield	Mt Carrington	Jervois	Nimbus	Abra	Lewis Ponds
<b>Stage</b>	Feasibility Complete	Prefeasibility /Scoping	Prefeasibility /Scoping	<b>Feasibility Started</b>	Prefeasibility /Scoping	Prefeasibility /Scoping	Prefeasibility /Scoping	Feasibility Started	Feasibility Started	Feasibility Started	Feasibility Started	Construction Started	Prefeasibility /Scoping
<b>Primary Metal</b>	Silver	Zinc	Silver	<b>Lead</b>	Tungsten	Silver	Copper	Silver	Gold	Copper	Silver	Lead	Zinc
<b>Meas. + Ind. Silver Ounces</b>	<b>140</b>	-	-	<b>26</b>	<b>29</b>	<b>23</b>	<b>30</b>	<b>28</b>	<b>8</b>	<b>13</b>	<b>17</b>	<b>9</b>	-
<b>Inferred Silver Ounces</b>	<b>23</b>	<b>137</b>	<b>105</b>	<b>28</b>	<b>12</b>	<b>19</b>	<b>8</b>	<b>5</b>	<b>15</b>	<b>8</b>	<b>3</b>	<b>8</b>	<b>16</b>
<b>Total Silver Ounces</b>	<b>163</b>	<b>137</b>	<b>105</b>	<b>54</b>	<b>44</b>	<b>42</b>	<b>38</b>	<b>33</b>	<b>23</b>	<b>21</b>	<b>20</b>	<b>18</b>	<b>16</b>

See Appendix for detailed breakdown of Silver Resources and source data.

# Peer Comparison Supporting Information



Ticker	Project	Stage	Primary Metal	Measured			Indicated			Inferred			Total			Source
				Mt	g/t	Moz	Mt	g/t	Moz	Mt	g/t	Moz	Mt	g/t	Moz	
SVL-ASX	Bowdens	Feasibility Complete	Silver	76.0	45	111	29.0	31	29	23.0	31	23	128.0	40	163	2020 AGM Presentation 27 Nov 2020, pg 35
MCT-ASX	Admiral Bay	Prefeas/Scoping	Zinc	-	-	-	-	-	-	170.0	25	137	170.0	25	137	Investor Presentation, 21 Feb 2018, pg 8
RDM-ASX	Maronan	Prefeas/Scoping	Silver	-	-	-	-	-	-	30.8	106	105	30.8	106	105	2020 Annual Report 28 Sep 2020, pg 18
BML-ASX	Sorby Hills	Feasibility Started	Lead	11.1	45	16	11.0	34	12	22.8	36	26	44.1	38	54	Mineral Resource Estimate 6 Apr 2021, pg 4
TGN-ASX	Mt Mulgine	Prefeas/Scoping	Tungsten	-	-	-	183.0	5	29	76.0	5	12	259.0	5	44	Pre-Feasibility Study 29 Jan 2021, pg 8
IVR-ASX	Paris	Prefeas/Scoping	Silver	-	-	-	4.3	163	23	5.0	119	19	9.3	139	42	Investor Presentation 4 Feb 2021, pg 6
AML-ASX	Walford Creek	Prefeas/Scoping	Copper	12.8	24	10	23.9	27	21	7.0	35	8	43.7	27	38	Mineral Resource Update 19 Apr 2021, pg 2-3
ARD-ASX	Kempfield	Feasibility Started	Silver	7.4	56	13	12.7	37	15	5.5	27	5	25.6	40	33	2020 Annual Report, pg 68
WRM-ASX	Mt Carrington	Feasibility Started	Gold	-	-	-	7.6		8	11.2	41	15	18.8	39	23	2020 Annual Report 1 Oct 2020, pg 20
KGL-ASX	Jervois	Feasibility Started	Copper	-	-	-	11.7	35	13	9.3	28	8	21.0	32	21	Mineral Resource Update 15 Sep 2020, pg 3
HRZ-ASX	Nimbus	Feasibility Started	Silver	3.6	102	12	3.2	48	5	5.3	20	3	12.1	52	20	Investor Presentation 1 Feb 2021, pg 24
G1A-ASX	Abra	Construction Started	Lead	-	-	-	16.9	17	9	17.5	15	8	34.4	16	18	Mineral Resource Update 28 Apr 2021, pg 1
GRL-ASX	Lewis Ponds	Prefeas/Scoping	Zinc	-	-	-	-	-	-	6.2	80	16	6.2	80	16	Mineral Resource Update 2 Feb 2021, pg 5

Error of summation may occur due to rounding.



# Equivalent calculation

## The contained metal equivalence formula is based on the Sorby Hills PFS including:

- Lead Price US\$2,095/t;
- Silver Price US\$21.1/oz;

### Lead Equivalent Calculations

- Silver recovery of 80.3% (weighted average of oxide and fresh Ag recoveries); and
- Silver Payability rate of 95%.

### Silver Equivalent Calculations

- Lead recovery of 93.3% (weighted average of oxide and fresh Pb recoveries); and
- Lead Payability rate of 95%.

It is Boab'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:

$$\text{Metal Eq (percent)} = G_{pri} + (G_{pri} \times [\sum_i R_i S_i V_i G_i] / (R_{pri} S_{pri} V_{pri} G_{pri}))$$

where **R** is the respective metallurgical metal recovery rate, **S** is the respective smelter return rate, **V** is metal price/tonne or ounce, and **G** is the metal commodity grade for the suite of potentially recoverable commodities (**i**) relative to the primary metal (**pri**).

Metal equivalents are highly dependent on the metal prices used to derive the formula. Boab notes that the metal equivalence method used above is a simplified approach. The metal prices are based on the PFS values adopted 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.