25 August 2020

Outstanding Economic Outcomes from Sorby Hills Pre-Feasibility Study

Pacifico Minerals Limited (ASX: PMY) ("**Pacifico**" or the "**Company**") is pleased to present the results of the Pre-Feasibility Study ("**PFS**") and Ore Reserve Statement for its 75% owned Sorby Hills Lead-Silver-Zinc Project ("**Sorby Hills**" or the "**Project**"), located in the Kimberley Region of Western Australia.

HIGHLIGHTS

- The Pre-Feasibility Study highlights the low-risk nature of the Sorby Hills project with a well-defined large scale Mineral Resource, simple crush-mill-float processing circuit, high metal recoveries and key approvals received.
- The PFS base case ("Whole Ore") Production Target mines 14.7Mt (circa 92% Measured and Indicated, 8% Inferred) at an average grade of 3.6% Pb and 39 g/t Ag.
- The Project delivers Strong Pre-Tax Economics with a **Pre-Tax NPV_8 of A$303M** generating an **IRR of 46%** with a **payback period of ~1.6years[1].** Pre-Tax Life of Mine **Net Operating Cash Flow of** A$747M or **~A$75M per annum**
- Sorby Hills can be **brought into production for an anticipated $183M of pre-production expenditure** comprising:
    - Pre-Production Mining of A$24M;
    - Process Plant (including EPC Fee) of A$105M;
    - Infrastructure of A$21M and
    - Contingency (A$20M) and Owners costs (A$13M).
- **Low C1 cash costs position of US$0.40/lb payable Pb** (including a Net Silver Credit of US$0.27lb/ payable Pb[1]) delivering an LoM operating margin of 40%.
- The Project is anticipated to produce an average annual 81 thousand dry tonnes of 62% Lead-Silver Concentrate, containing 50kt of recovered lead & 1.5Moz recovered silver per annum across an **initial 10 years mine life.**
- Sorby Hills is supported by a significant large, near surface Pb-Ag-Zn deposit. Mineral Resource of 44.1Mt at 3.3% Pb, 38g/t Ag and 0.5% Zn and **Proved and Probable Reserves of 13.6Mt** at 3.6% Pb, and 40g/t Ag.
- **Significant expansion and exploration potential** to Base Case assumptions through the potential inclusion of a Dense Media Separator ("DMS") within the process circuit and through **exploration of exciting near-mine targets.**
- The detailed PFS allows the Company to **immediately commence a Definitive Feasibility Study ("DFS").** The Company will advance financing initiatives in parallel with the technical and approvals workstream whilst progressing offtake discussions with joint venture partner Yuguang (Australia) Pty Limited, a wholly owned subsidiary of **China's largest lead smelting and silver producer**, Henan Yuguang Gold and Lead Co. Ltd, and other potential offtake partners".

Managing Director, Simon Noon said: "The outcome of the Sorby Hills Pre-Feasibility Study is a testament to the professionalism of our team and partners and reflects the significant opportunity for the Project to be a low-cost operation with an attractive NPV and IRR. With advanced permitting, we intend to move immediately to progress the Definitive Feasibility Study, offtake, financing, and approvals workstreams."

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[1] Economic assumptions are based on conservative 10 year average lead and silver prices (see Table 1)

Managing Director	Directors	Registered Office	Telephone
Simon Noon	Gary Comb (Chairman)	Level 1	+61 8 6268 0449
Company Secretary	Richard Monti	105 St Georges Terrace	ASX Code PMY
Jerry Monzu	Andrew Parker	Perth WA 6000	ABN 43 107 159 713

Cautionary Statements

The PFS discussed herein has been undertaken to explore the technical and economic feasibility of developing an open pit mine and adjacent processing facility to economically and sustainably exploit the Sorby Hills Lead-Silver-Zinc Mineral Resource located in the Kimberley Region of Western Australia.

The Sorby Hills Project is subject to a Joint Venture Agreement between Pacifico and Henan Yuguang Gold & Lead Co. Ltd, China's largest lead smelting company and silver producer. Pacifico holds a 75% interest in the Joint Venture and is the designated Joint Venture Manager. The Production Target and financial forecasts presented in the PFS are shown on a 100% Project basis.

The Production Target underpinning Whole Ore Option (Base Case) financial forecasts included in the PFS comprises 46% Measured Resources, 47% Indicated Resources and 8% Inferred Resources. The estimated Ore Reserves and Mineral Resource underpinning the Base Case Production Target have been prepared by a Competent Person in accordance with the requirements in the JORC Code.

The Production Target underpinning DMS Option financial forecasts included in the PFS comprises 44% Measured Resources, 48% Indicated Resources and 8% Inferred Resources. The Mineral Resource underpinning the DMS Option Production Target has been prepared by a Competent Person in accordance with the requirements in the JORC Code.

There is a low level of geological confidence associated with Inferred Resources and there is no certainty that further exploration work will result in the conversion of Inferred Resources to Indicated Resources or return the same grade and tonnage distribution. The stated Production Target is based on the Company's current expectations of the future results or event and should not be solely relied upon by investors when making investing decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met.

The economic outcomes associated with the PFS are based on certain assumptions made for commodity prices, concentrate treatment and recovery charges, exchange rates and other economic variables, which are not within the Company's control and subject to change from time to time. Changes in such assumptions may have a material impact on economic outcomes.

To achieve the range of outcomes indicated in the PFS, additional funding will likely be required. Investors should note that there is no certainty that Pacifico will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Pacifico's existing shares. It is also possible that Pacifico could pursue other 'value realisation' strategies such as a sale or partial sale of the Company's share of the Project.

This announcement contains forward-looking statements. Pacifico has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes it has a reasonable basis to expect it will be able to fund the development of the project. However, several factors could cause actual results, or expectations to differ materially from the results expressed or implied in the forward-looking statements.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PFS.

Table 1: Key Life of Mine Metrics

Item	Unit	Base Case
Economic Assumptions		
Lead Price	A$/t	2,095
Silver Price	A$/oz	21.10
Exchange Rate	A$:US$	0.70
Physicals		
Life of Mine (LOM)	Years	9.9
Mined Ore	kBCM	5,161
Strip Ratio	Waste : Ore (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
Payable Lead	kt	475.2
Payable Silver	Moz	14.3
Cash Flow		
Lead Revenue	A$M	1,422.3
Silver Revenue	A$M	431.1
Gross Revenue	A$M	**1,853.3**
Royalties	A$M	(69.5)
TC/RC & Transport	A$M	(290.3)
Net Revenue	**A$M**	**1,493.6**
On Site Operating Costs	A$M	(746.3)
Net Operating Cash Flow	A$M	**747.3**
Upfront Capital Cost	A$M	(182.8)
- *Mining Pre-Production*	A$M	(24.3)
- *Process Plant Incl. EPC Fee*	A$M	(105.4)
- *Infrastructure*	A$M	(20.5)
- *Owners Costs*	A$M	(13.1)
- *Contingency*	A$M	(19.6)
Sustaining Capital Costs	A$M	(32.2)
Net Project Cash Flow (Pre-Tax)	A$M	**532.3**
Value Metrics		
Pre-Tax NPV$_8$	**A$M**	**303.4**
Pre-Tax IRR	**%**	**46%**
Pre-Tax Payback Period#	**Years**	**1.6**

Payback calculated from first production

Table 2: Unit Operating Costs

Cost Centre	A$M	A$/t ore	A$/lb Pb#	US$/lb Pb#
Mining	347	23.48	0.33	0.23
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
C1 Cost excl. Silver Credits	**1,016**	**68.85**	**0.97**	**0.68**
Silver Revenue	(431)	(29.21)	(0.41)	(0.29)
Silver Refining Charge	20	1.38	0.02	0.01
C1 Cost incl. Silver Credits	**606**	**41.03**	**0.58**	**0.40**
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
All-In Sustaining Cost	**707**	**47.91**	**0.67**	**0.47**

Payable Metal basis

This PFS has been completed by consultants in the key discipline areas, as presented in Table 3 with coordination and interfacing provided by Pacifico.

Table 3: Study Consultants

Activity	Consultant
Resource assessment	CSA Global
Mining studies	Entech
Metallurgical Testwork	DRA Pacific
Process Plant and Infrastructure	DRA Pacific
Tailings storage	Coffey Services Australia
Dewatering and Water Supply	Pennington Scott
Product Logistics	Minerals to Market
Environmental	Animal Plant Mineral
Financial Analysis	BurnVoir Corporate Finance
Risk Assessment	All

PROJECT SUMMARY

The Sorby Hills Project is the largest undeveloped, near-surface Lead-Silver-Zinc deposit in Australia. The Project is located in the Kimberley Region of Western Australia, 1.2 km west of the WA/NT border, 50km northeast of Kununurra and 130km east of Wyndham Port. The Project comprises granted mining leases covering six known Lead-Silver-Zinc deposits (Figure 1).

The PFS Base Case incorporates the mining of 14.8Mt of ore from four deposits, namely: Omega, A, B and southern portion of Norton. Mined ore will be treated via a simple crush-mill-flotation circuit at a rate of 1.5Mtpa over a nominal 10-year mine life to produce a Lead-Silver concentrate with an average grade of 62% Pb and 580 g/t Ag. Concentrate produced at the Project will be transported by road to Wyndham Port from where it will be shipped to customers.

Well advanced opportunities exist to scale-up the Project including the incorporation of known near-surface Resources into the Mine Plan and the inclusion of a DMS within the processing circuit to increase throughput and allow for the economic treatment of lower grade ore.

The Sorby Hills Project a Joint Venture Agreement between Pacifico and Henan Yuguang Gold & Lead Co. Ltd ("**Yuguang**"), China's largest lead smelting company and silver producer. Pacifico holds a 75% interest in the Joint Venture and is the designated Joint Venture Manager.

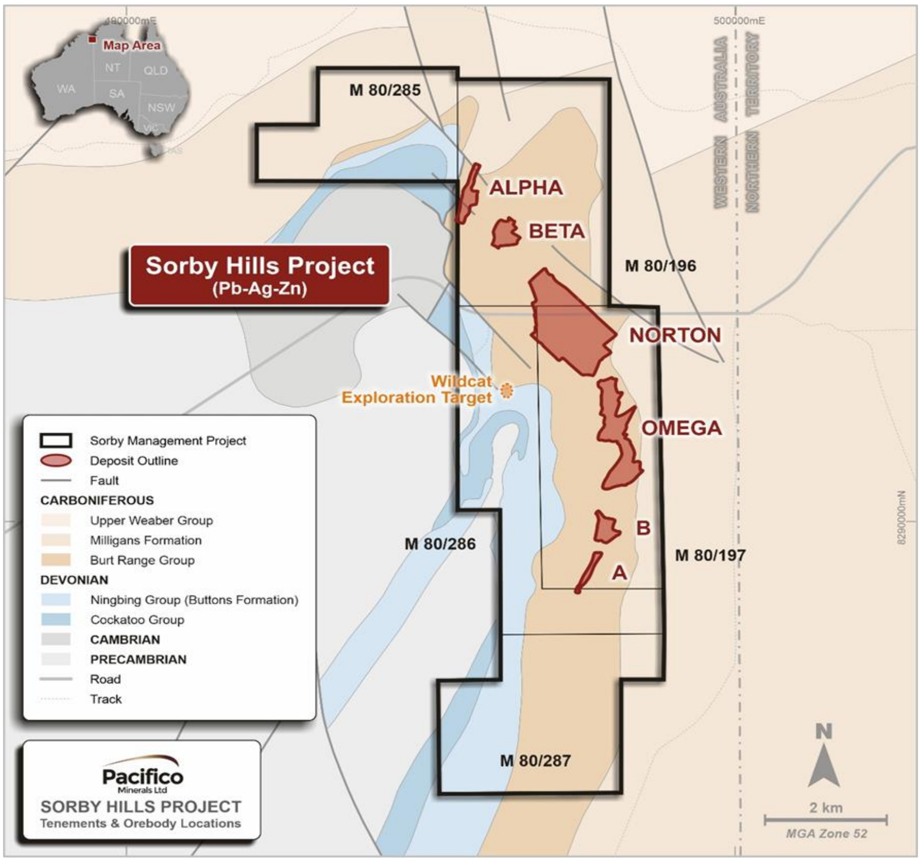

Figure 1: Location of the Sorby Hills Project and overview of the Project deposits and Mining Leases.

MINERAL RESOURCE

The PFS has been based on the Mineral Resource estimate announced on 2 June 2020 (Table 4).

Table 4: Mineral Resource estimate. Reported above a cut-off of 1% Pb (Pb domains only)

Deposit	Measured				Indicated				Inferred				Total			
	Mt	Pb (%)	Ag (g/t)	Zn (%)	Mt	Pb (%)	Ag (g/t)	Zn (%)	Mt	Pb (%)	Ag (g/t)	Zn (%)	Mt	Pb (%)	Ag (g/t)	Zn (%)
A	-	-	-	-	-	-	-	-	0.6	6.1	32	1.2	**0.6**	**6.1**	**32**	**1.2**
B	0.5	4.3	24	0.3	1.3	4.2	24	0.3	-	-	-	-	**1.8**	**4.3**	**24**	**0.3**
Omega	4.2	4.3	45	0.4	9.2	3.2	29	0.4	2.5	3.0	23	0.6	**15.8**	**3.5**	**32**	**0.4**
Norton	2.4	4.3	83	0.3	2.2	3.4	38	0.5	16.0	2.5	30	0.4	**20.6**	**2.8**	**37**	**0.4**
Alpha	-	-	-	-	1.0	2.8	50	0.6	1.0	3.4	85	1.4	**2.0**	**3.1**	**67**	**1.0**
Beta	-	-	-	-	-	-	-	-	3.3	4.6	61	0.4	**3.3**	**4.6**	**61**	**0.4**
Total	**7.1**	**4.3**	**57**	**0.4**	**13.7**	**3.3**	**31**	**0.4**	**23.4**	**3.00**	**36**	**0.5**	**44.1**	**3.3**	**38**	**0.5**

Notes. 1. The information is extracted from the report entitled "Mineral Resource Update Sorby Hills Pb-Ag-Zn Project" released on 2 June 2020 and is available to view on www.pacificominerals.com.au/.

2. Tonnes and grade are rounded.

ORE RESERVE

In conjunction with the PFS, Pacifico is pleased to announce a maiden Ore Reserve for the Sorby Hills Project, as shown in Table 5.

The Ore Reserve was prepared by independent mining consultants Entech Pty Ltd ("**Entech**"). The PFS has been used as the basis to estimate Ore Reserves for the Project reported in accordance with the JORC Code 2012. The Ore Reserve was estimated from the Mineral Resource after consideration of the level of confidence in the Mineral Resource and taking into account material and relevant modifying factors. Details of the material assumptions underpinning the Ore Reserve are set out in PFS Summary and Appendix 1 (JORC Table 1) of this announcement.

Table 5: Sorby Hills Ore Reserve Statement

Deposit	Proved			Probable			Total Ore Reserve				
	Tonnes (Mt)	Pb (%)	Ag (g/t)	Tonnes (Mt)	Pb (%)	Ag (g/t)	Tonnes (Mt)	Pb (%)	Pb (kt)	Ag (g/t)	Ag (Moz)
B	**0.6**	3.7	20	**1.3**	3.4	20	**1.8**	3.5	60	20	1
Omega	**4.1**	4.1	43	**5.5**	3.1	29	**9.6**	3.6	340	35	11
Norton	**2.1**	4.0	82	**0.2**	3.5	48	**2.2**	4.0	90	79	6
Total	**6.8**	**4.1**	**53**	**6.9**	**3.2**	**28**	**13.6**	**3.6**	**490**	**40**	**18**

Notes: 1. Ore Reserves are a subset of Mineral Resources.

2. Ore Reserves are estimated using a lead price of US$2,095/tonne and silver price of US$21.10/ounce and USD/AUD exchange rate of 0.7.

3. Ore Reserves are estimated using a cut-off grade of 1.5% Pb.

4. The above data has been rounded to the nearest 100,000 tonnes, 0.1% lead grade and 10,000 lead tonnes, 1g/t silver grade and 1,000,000 silver ounces. Errors of summation may occur due to rounding.

An Ore Reserve estimate was completed for the Sorby Hills open pit operations and is based on the operating methodology, modifying factors and unit cost estimates for the Whole Ore (WO) case reported in the PFS.

Three (3) open pits form the basis for the Ore Reserve estimate. These include:

- B pit,
- Omega pit, and
- Norton pit

Measured and Indicated Mineral Resources have been converted to Proved and Probable Ore Reserves respectively subject to mine design physicals and an economic evaluation. Any Inferred material contained within the mine plan has been treated as waste. The Ore Reserves have been defined at delivery to the processing plant ROM pad.

The Ore Reserve mining cost estimation has been prepared using the PFS financial model populated with Ore Reserve physicals.

The Ore Reserve capital cost estimate has adopted the detail developed for the WO case for the PFS. These parameters are detailed in **Capital Cost**.

The Ore Reserve processing costs/recoveries have assumed the same factors/rates developed for the WO case for the PFS. These parameters are detailed in **Table 2: Unit Operating Costs** and **Metallurgy and Processing**.

The Ore Reserve schedule mining sequence and mine productivities are consistent with those adopted for the PFS and differs only in its treatment of Inferred Mineral Resource material contained within the ore delivery to the ROM. Ore material classified as Inferred is treated as waste.

A detailed financial assessment indicated positive economic outcomes for the Ore Reserve schedule with no value from Inferred Mineral Resources.

Lead is the dominant income stream accounting for approximately 75% of Project revenue, remaining value is recognised from silver.

A discounted cashflow analysis (DCF) was conducted on the Ore Reserve cashflows to determine the Net Present Value (NPV), which was found to be positive across a range of +/- 20% for key variables that could be expected to influence pre-tax cashflows, value and returns. The Project is most sensitive to revenue related factors in isolation, followed by operating costs then capital costs. This is typical for a Project of this nature and scale. There is a slight bias to the upside in that positive sensitivities generally have a greater positive impact than an equal and opposite negative move.

Information regarding this Ore Reserve is included in **PFS SUMMARY** of this announcement.

SIGNIFICANT UPSIDE POTENTIAL

Inclusion of DMS in the Processing Circuit

Two processing options were considered during the PFS:

- **Whole Ore ("WO") Option:** Where all the Run of Mine ("**ROM**") feed reports directly from the primary crusher to the milling and flotation circuit without beneficiation; and
- **Dense Media Separaton ("DMS") Option:** Where the high-grade ore reports from primary crushing directly to the flotation circuit, and the low-grade ore is beneficiated via parallel DMS circuit to produce a product that supplements the high-grade direct flotation feed.

The PFS has demonstrated that the inclusion of a DMS circuit enhances flotation feed grade, increases ore throughput and allows for the economic treatment of lower grade ore (Table 6).

Whilst the Whole Ore Option was selected as the Base Case for the PFS based on superior economics at this point, the Company believes the results of the DMS Option warrant further investigation during the DFS.

Table 6: Comparison of the LOM Production Metrics for the Whole Ore and DMS Options

Parameter	Whole Ore Option	DMS Option
Total Material Mined (Mbcm)	46.46	46.52
Total Ore Processed (Mt)	**14.76**	**16.74**
% Pb	3.63	3.36
g/t Ag	39.5	36.5
DMS Feed Processed (Mt)	**-**	**6.20**
% Pb	-	1.78
g/t Ag	-	19.9
DMS Product (Mt)	**-**	**1.86**
% Pb	-	4.81
g/t Ag	-	48.4
Direct Flotation Feed (Mt)	**14.76**	**10.54**
% Pb	3.63	4.29
g/t Ag	39.5	46.3
Total Flotation Feed (Mt)	**14.76**	**12.40**
% Pb	3.63	4.37
g/t Ag	39.5	46.6
Concentrate Produced (62% Pb) (kt)	**806.8**	**814.0**
Contained Pb (kt)	**500.2**	**504.7**
Contained Ag (Moz)	**15.1**	**14.9**

Ore Grade Improvement

The PFS mining study uses a 5.0m X by 5.0m Y by 2.5m Z selective mining unit, which in some instances has lead to higher than anticipated dilution. Going forward in the DFS, the methodology will be changed to grade controlled boundary definition. This is expected to result in a significant improvement in ore grade.

Incorporation Near Mine Resources into the Project Mine Plan

The PFS has been based on a Production Target mining ore from Omega (9.6Mt), A (0.8Mt), B (1.8Mt) and southern portion of Norton (2.4Mt) to ensure the Project footprint remained within the existing Environmental Protection Agency ("**EPA"**) approved development zone and therefore allows an expedited development timeline.

Additional Lead-Silver Mineral Resources outside of the Production Target exist at Norton, Alpha and Beta that, subject to further technical and economic investigation during the DFS, could potentially be incorporated into the Mine Plan to extend the life of the Project.

Resource Upgrade and Exploration Drilling

Over the past two years, Pacifico has demonstrated the ability to substantially increase the Sorby Hills Mineral Resource size and confidence level with each drilling program (Figure 2). This is largely a result of the shallow nature and good understanding of the geological attributes of the deposit.

Gravity data has proved to be the best vector for mineralisation which has correlated well with the transition from linear gravity lows to gravity highs. Four recent 'wildcat' drillholes have confirmed continuity of shallow mineralisation in the vicinity of the existing Resources. These targets will be a priority for follow up diamond drilling during the DFS.

In addition to the Mineral Leases comprising the Sorby Hills Project, Pacifico holds all unrestricted exploration property surrounding the Pincombe Inlier, laying the foundation for a long-term future with an additional 30 km strike length of near-surface prospective horizon.

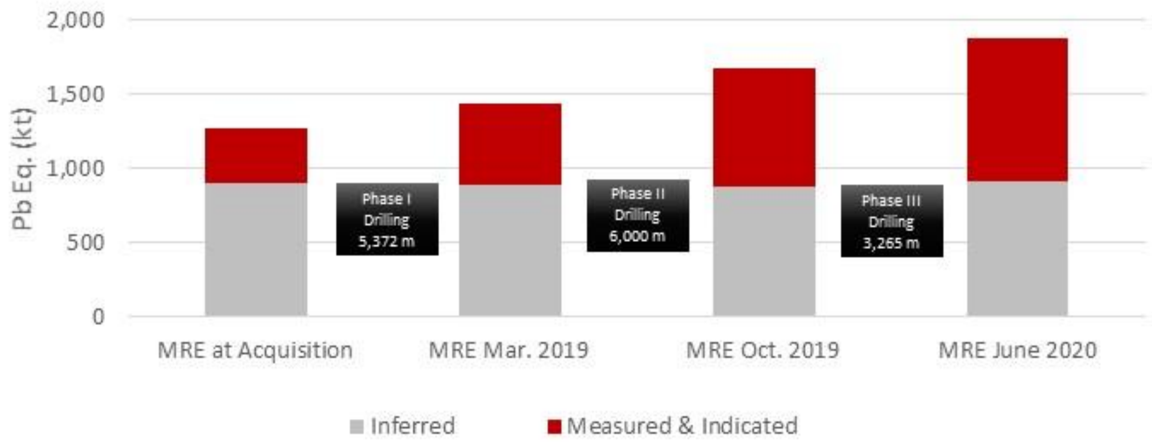

Figure 2: Mineral Resource growth at Sorby Hills since 2018, reported using a Pb cut-off of 1.0%

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DEVELOPMENT TIMELINE

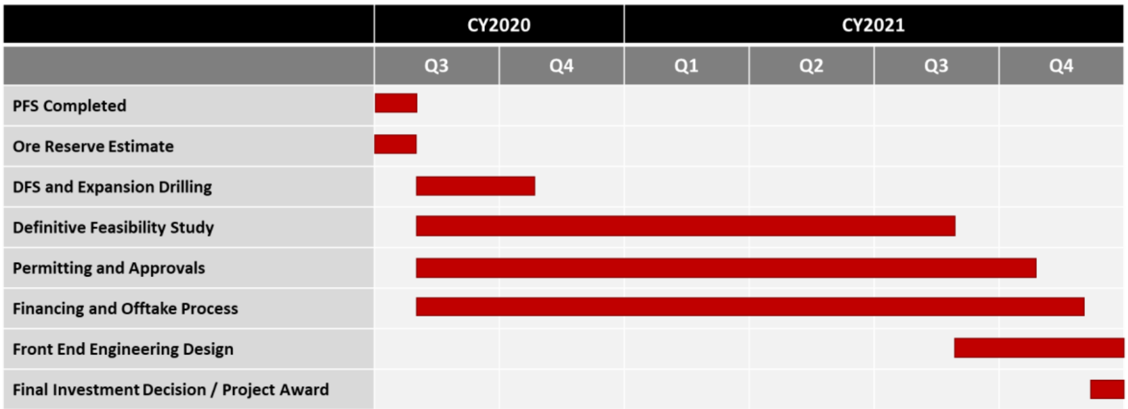

Figure 3: Development Timeline

NEXT STEPS

Having finalised the PFS, Pacifico will move immediately to progress DFS, offtake, financing and approvals workstreams, with work expected to include:

- **Drilling**. Pacifico is poised to commence a 5,000m exploration, infill and metallurgical drilling program in September 2020. This program will endeavour to expand the Resource at the Alpha and Beta deposits, demonstrate continuity between the Norton deposit and the Omega deposit and target a range of exciting prospects located within the existing mining leases.

- **DFS**. The positive results of the PFS support progressing the Sorby Hills Project to a DFS level. Off the back of the upcoming drilling program, Pacifico will begin a range of studies to further refine and elevate the Project in preparation for securing financing during 2021.

- **Financing**. Pacifico will execute its Project Financing Plan in parallel to the planned technical and approvals workstream. This Plan will involve examining a range of debt and equity solutions for construction and working capital under a capital structure suitable to debt financiers, investors, partners and shareholders. Pacifico is targeting a Final Investment Decision ("**FID**") in Q4 CY2021.

- **Offtake**. Sorby Hills' operations have demonstrated the ability to produce a lead-silver concentrate that is likely to attract high payability and no penalties. Discussions with potential offtake partners, including Joint Venture partner Yuguang, has commenced to both inform the optimisation of the concentrate specification, and establish a pathway to reaching a binding offtake agreement prior to FID.

- **Approvals**. Sorby Hills Project has already received Approvals from the Western Australian Minister for Environment and EPA for an open pit mine and associated infrastructure. Moving forward with the DFS scope of work, Pacifico will follow due process to amend these approvals and conditions in line with advancements in the Project.

The Board of Directors have authorised this announcement for release to the market.

FOR FURTHER INFORMATION PLEASE CONTACT:
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References

1. The information is extracted from the report entitled "Mineral Resource Update Sorby Hills Pb-Ag-Zn Project" released on 2 June 2020 and is available to view on www.pacificominerals.com.au/.

2. Lead equivalent grade calculations do not include Zinc and are as per Appendix 3 – Metal Equivalent Calculation

Compliance Statements

Pacifico confirms that it is not aware of any new information or data that materially affects the information related to Mineral Resources included in the market announcement released on 2 June 2020 titled "Mineral Resource Update Sorby Hills Pb-Ag-Zn Project" and furthermore, that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. Pacifico confirms that the form and context in which the Competent Person's (Mr David Williams) findings are presented have not been materially modified from the original market announcement.

The information in this report that relates to Ore Reserves is based on information compiled by Mr Daniel Donald, who is a full-time employee of Entech and has sufficient experience 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 "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Donald consents to the inclusion in this report of the matters based on his information in the form and context in which it appears and is a Member of the AusIMM.

About Pacifico Minerals Ltd

Pacifico Minerals Ltd ("**Pacifico**", ASX: PMY) is a Western Australian based exploration company with interests in Australia and Colombia. In Australia, the company is currently focused on advancing the Sorby Hills Lead-Silver-Zinc Joint Venture Project in WA. Pacifico owns a 75% interest in the Joint Venture with the remaining 25% (contributing) interest held by Henan Yuguang Gold & Lead Co. Ltd.

About Henan Yuguang Gold and Lead Co Ltd

Henan Yuguang Gold and Lead Co., Ltd ("**Yuguang** ") was established in 1957 by the government of Jiyuan City which is in Henan Province in North China. In July 2002, HYG (exchange code: 600531) was listed on the Shanghai Stock Exchange ("**SSX**"). Current ownership is approximately 29.61% by Jiyuan City. Yuguang is the largest lead smelting company and silver producer in China and has been among the Top 500 Chinese enterprises and Top 500 China manufacturing enterprises for the last five consecutive years. The main products produced by Yuguang are electrolytic lead, gold, silver and copper which are all registered at LME and LBMA respectively. In 2017, Yuguang produced 415,100 tonnes of electrolytic lead, 110,000 tonnes of copper, 958 tonnes of silver, 7,383 kg of gold and achieved sales of about US$2,684 million. Yuguang's plants are largely modern, focussed on development of industrial technology and are environmentally friendly. Its recently refurbished lead smelting plant has achieved full automation. More information can be found on the Yuguang website: http://www.yggf.com.cn/en/

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PFS SUMMARY

Study Overview

The Pre-Feasibility Study ('**PFS**') was commissioned by Sorby Hills Management Pty Ltd ("**SMPL**"), following on from its acquisition by Pacifico Minerals Ltd ("**Pacifico**" or the "**Company"**) in 2018. Pacifico released an updated PFS in March 2019. The current PFS builds upon this earlier work and is supported by additional drilling, an upgraded Mineral Resource estimate and further metallurgical testwork.

The Sorby Hills project (the "**Project**") consists of five shallow open pits, between 60 and 130 m in depth. Ore is treated through a 1.5Mtpa process plant consisting of crushing, semi-autogenous grinding, flotation, and dewatering sections to produce a filtered lead-silver concentrate. The concentrate is transported by road in sealed containers to the port of Wyndham, from where it is shipped to customers in bulk. Delivery of the concentrate material is expected to occur along the already existing sealed Victoria and Great Northern Highways to the Port of Wyndham, where material can be exported.

Two processing options were considered by the study:

- **WO Option:** Where all the ROM feed reports directly from the primary crusher to the milling and flotation circuit without beneficiation; and

- **DMS Option:** Where the high-grade ore reports from primary crushing directly to the flotation circuit, and the low-grade ore is beneficiated via parallel DMS circuit to produce a product that supplements the high-grade direct flotation feed.

The WO Option was selected as the Base Case for the purposes of the PFS based on superior economics at this point in time.

Location, Ownership, and Tenure

The Sorby Hills Project is the largest undeveloped, near-surface Lead-Silver-Zinc deposit in Australia. The Company aims to develop the Project which is located in the Kimberley Region of Western Australia, 1.2km west of the WA/NT border, 50km north east of Kununurra and 130km east of Wyndham Port (Figure A-1).

Sorby Hills Pty Limited **("SHPL")** is 100% owned by Pacifico Minerals Ltd, a Western Australian based exploration and development company. SHPL owns 75% of the Sorby Hills Joint Venture Project. The remaining 25% contributing interest is held by Yuguang (Australia) Pty Limited ("**Yuguang Australia**"), a wholly owned subsidiary of China's largest lead producer, Henan Yuguang Gold and Lead Co., Ltd ("**Yuguang**"). The Manager of the Joint Venture is SMPL.

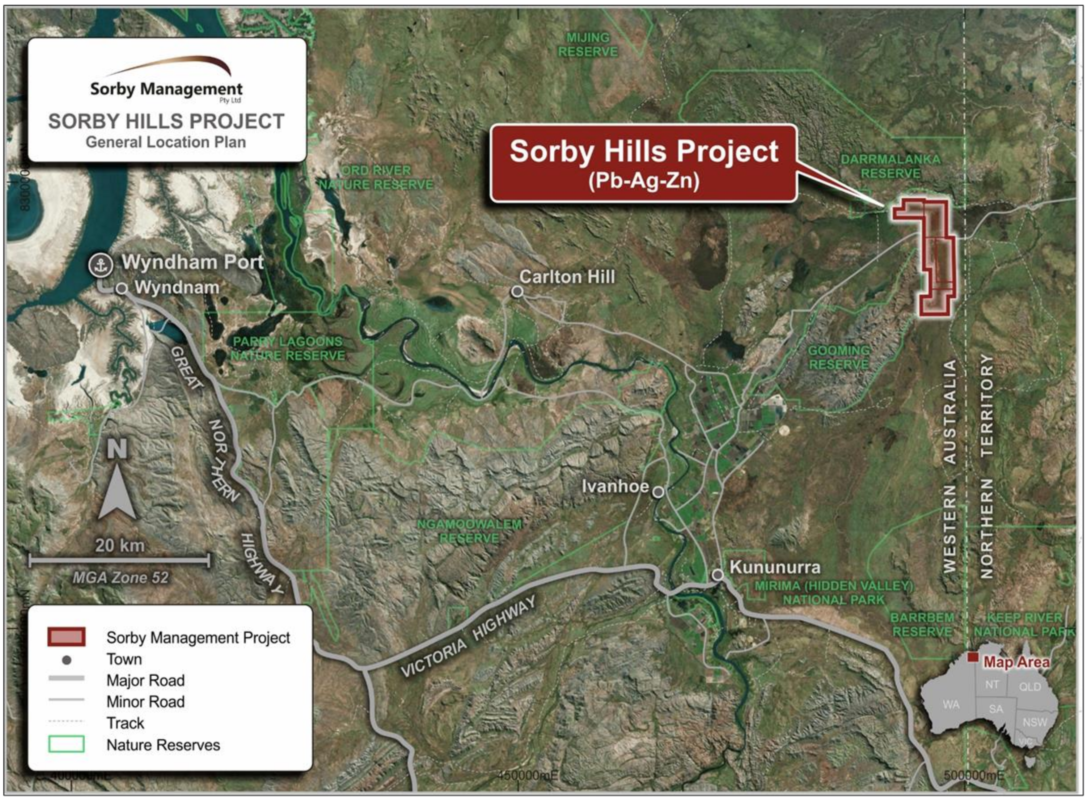

Figure A-1: Project Location

The Project tenements include five Mining Leases: M80/196, M80/197, M80/285, M80/286 and M80/287 (Table A-1).

Table A-1: Sorby Hills tenement summary

Tenement	Area (km^2)	Granted	Expiry
M80/196	9.99	22/01/1988	21/01/2030
M80/197	9.95	22/01/1988	21/01/2030
M80/285	5.57	29/03/1989	28/03/2031
M80/286	7.89	29/03/1989	28/03/2031
M80/287	8.15	29/03/1989	28/03/2031
E80/5317	217.5	5/03/20	4/03/2025

Geology

Regional Geology

The Sorby Hills lead-silver-zinc deposit is a lead-silver-zinc dominated Mississippi Valley-type deposit, a sub-type of the carbonate-hosted zinc-lead-silver deposits.

The deposit occurs in the eastern limb of the Burt Range sub-basin (Figure A-2) which in turn forms the southern portion of the greater Bonaparte Basin located in the Kimberley Region of north western Australia. The Sorby Hills mineralisation is mirrored by the location of predominantly zinc-lead mineralisation at Sandy Creek located on the opposite eastern margin of the Burt Range Sub-basin in an analogue stratigraphic position.

The stratabound lead-zinc sulphide mineralisation at Sorby Hills occurs in alternating dolomitic and clastic units of the Early Carboniferous Burt Range Formation, developed on the east flank of the Proterozoic Pincombe Inlier.

Local Geology

Mineralisation at Sorby Hills is largely hosted by a 15–20 m thick transition facies between the Knox Sediments (hanging wall) and Sorby Dolomite (footwall), consisting of reworked dolomite clasts hosted within graphitic siltstone matrix. All strata generally dip shallowly, but variably into an east, southeast and northeast direction.

The mineralisation is located predominantly in the uppermost part of the breccia interval, immediately below a regional aquiclude, which appears to have restricted upwards fluid migration. The main lead mineralisation interval is zinc-poor, with zinc commonly located lower in the stratigraphy or within fault breccias near the faulted basin margin. The mineralisation consists of several discrete carbonate breccia-hosted lead-silver-zinc deposits (previously referred to as pods): A, B, Omega, Norton, Beta and Alpha deposits located within a low-grade and laterally extensive and encompassing layer. The deposits form a curvi-linear north-trending alignment extending over 7 km, sub-parallel to the eastern margin of the Precambrian Pincombe Inlier.

The individual deposits average 7–10m in thickness, are generally less than 1 km long, and are 100m to 500m wide. Mineralisation is often thicker and/or higher grade in areas of thick breccia development and areas of increased depth to the top of the footwall Sorby Dolomite. A typical cross-section of B, Omega and Norton deposits is provided in Figure A-3.

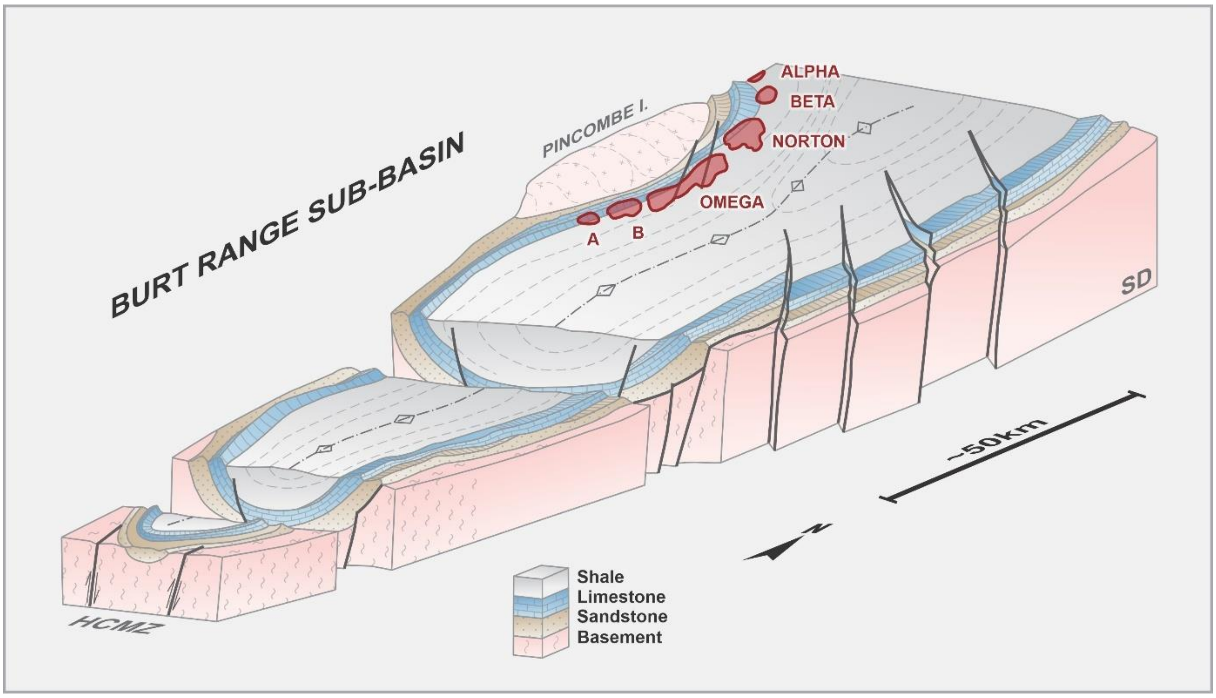

Figure A-2: Location of the Sorby Hills deposit within the Burt Range Sub-Basin

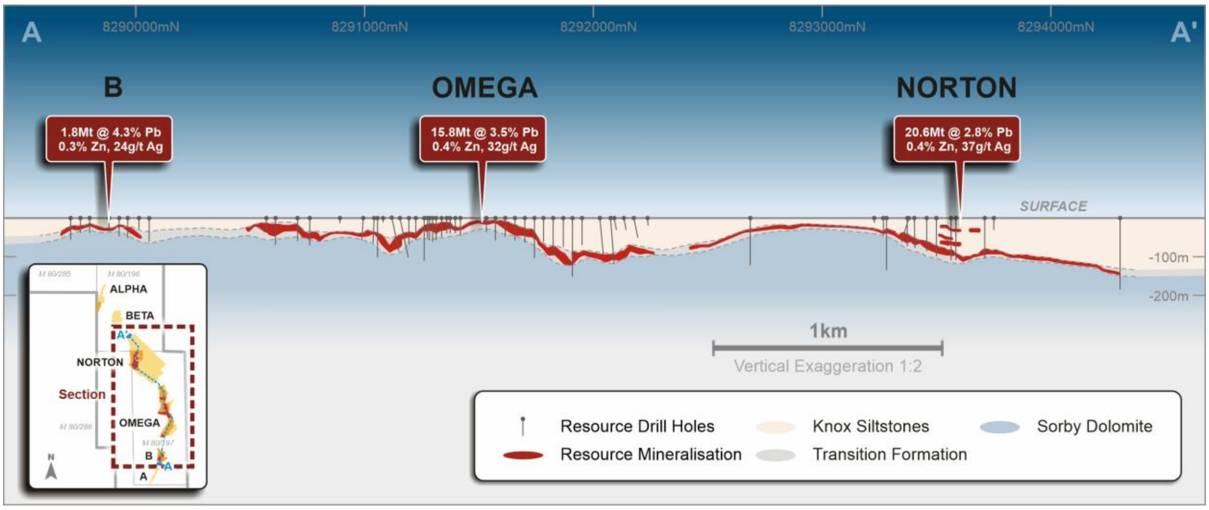

Figure A-3: Typical deposit cross-section

Mineral Resource Estimate

The Mineral Resource estimate underpinning the PFS was conducted by CSA Global and previously released to the market on 2 June 2020.

Interpretation

The geological models for all zones of mineralisation were updated as part of the PFS scope of work. The A, Alpha and Beta deposits have not been recently drilled but were subjected to a project-wide stratigraphy and mineralisation outline re-interpretation following a detailed review of historical drillhole information and drill testing during Phase III (most recent) drilling. The interpretation work was extended to include downhole gamma data for stratigraphy correlation between the historical and recent drillholes and used high resolution gravity data interpretation as a guide to local structure interpretation.

Lithostratigraphic domains were modelled representing the base of the Knox Formation (hanging wall unit) and the top of the Sorby Dolomite (footwall unit), and these assisted with the interpretation of the mineralisation domains. Weathering profiles for the base of complete oxidation and top of fresh rock were interpreted and modelled.

Drillhole traces were loaded into Datamine software to assist with the interpretation of mineralisation domains, which were based upon a lower lead limit of 0.5% Pb. Some internal dilution was accommodated, generally where two or less adjacent samples of grade Pb <0.5% were encountered in a zone of mineralisation with Pb >0.5%. Mineralisation domains were interpreted for the zinc mineralisation in the Alpha deposit based upon a lower zinc limit of 1% Zn, with equivalent accommodation of internal dilution.

The Omega deposit (previously referred to as C, D, E and F deposits) represents a corridor of mineralisation with strike extent of 1,800 m and a maximum plan width of 350m. Sectional interpretations of the mineralisation were combined into wireframe solids. Domains were extrapolated to the typical drill spacing beyond the last fence of drillholes supporting the interpretations. A single wireframe solid was constructed capturing the lead mineralisation for each of the deposits. A single zinc domain was also modelled for the Alpha deposit.

Drilling and Sampling

Drilling is a mixture of reverse circulation (RC) and diamond core with sampling predominantly at 1m intervals. Hole spacing is generally 25 m(N) x 25 m(E) in the B, Omega and Norton deposits, and up to 50m x 50m in the other deposits.

The Mineral Resource estimate is supported by samples collected from RC and diamond (HQ) drilling, with holes drilled over a time span between the early 1970s and late-2019. RC drilling was sometimes used to pre-collar holes completed with diamond tails. Many of the historical holes (pre-dating 2007) are known to have quality assurance issues and these holes were excluded from the Mineral Resource estimate.

A total of 497 drillholes intersect the mineralisation domains, with 144 drilled by Pacifico since 2018. A total of 161 holes are historical but were retained based upon acceptable quality control results. For samples collected during the 2018 and 2019 drilling programs, samples were assayed to accepted industry standards at the Intertek-Genalysis nationally certified laboratory in Darwin. Multi-acid digestion of pulverised sample was followed by inductively coupled-optical emission spectrometry (ICP-OES) or an equivalent assay technique.

For drilling campaigns completed prior to 2018, drill samples were assayed to accepted industry standards at nationally certified laboratories such as ALS, SGS and Genalysis. Multi-acid digestion of pulverised sample was followed by inductively coupled plasma-atomic emission spectroscopy (ICP-AES) or an equivalent assay technique.

Appropriate quality assurance and quality control ("**QAQC**") measures were implemented for all stages of drilling which support the Mineral Resource estimate. Certified reference materials ("**CRMs**"), blanks and field duplicates were used to monitor the accuracy and precision of sampling and sample analyses, with results within acceptable tolerance limits.

Modelling

A block model with block sizes of 10m (X) x 10m (Y) x 5m (Z) was constructed. The block sizes are approximately half the most dense drill spacing, which generally supports Measured and Indicated classifications. Blocks and drill sample data were flagged according to the geological and mineralisation envelopes. Drillholes were sampled at 1m intervals, and therefore the drill samples were accordingly composited to 1m lengths for most deposits, with the exception of the A and Beta deposits, which were composited to 2m lengths. Composited sample data were statistically reviewed to determine appropriate top cuts, which were applied for lead, zinc and silver where appropriate.

Grades for lead, zinc, silver, sulphur and iron were interpolated for all the grade variables by ordinary kriging. Blocks were estimated using a search ellipse of 125m (major) x 125m (semi-major) by 5m (minor) dimensions, with a minimum of five and maximum of 25 samples from a minimum of four drillholes. Search radii were increased, and the minimum number of samples reduced in subsequent sample searches if cells were not interpolated in the first two passes. Cell discretization of 5 x 5 x 1 (X, Y, Z) was employed.

The Mineral Resource block model is an update to the Mineral Resource reported in October 2019, with updated geological interpretations for all deposits.

The following formula, considered to be a more accurate representation of the distribution of density through the rock mass than the method used for estimating tonnages in the previous Mineral Resource estimate, was used to calculate the bulk density:

Density = 100/((100-Pb%-Zn%-Fe%)/ BD) + Pb/11.35 + Zn/7.14 + Fe/7.87)

The host rock sequences exhibit a heterogenous, natural porosity related to mineralisation, and therefore a global, cautionary tonnage adjustment factor of 2% was applied during the final grade-tonnage reporting stage.

Classification

The Mineral Resource is classified as a combination of Measured, Indicated and Inferred, with geological and sampling evidence sufficient to confirm geological and grade continuity within the Measured volumes, and to assume the continuities within the Indicated volumes. Classification of the Mineral Resource accounted for the geological understanding of the deposit, quality of the sampling and density data, and drillhole spacing.

A plan view of the Sorby Hills deposits is provided in Figure A-4.

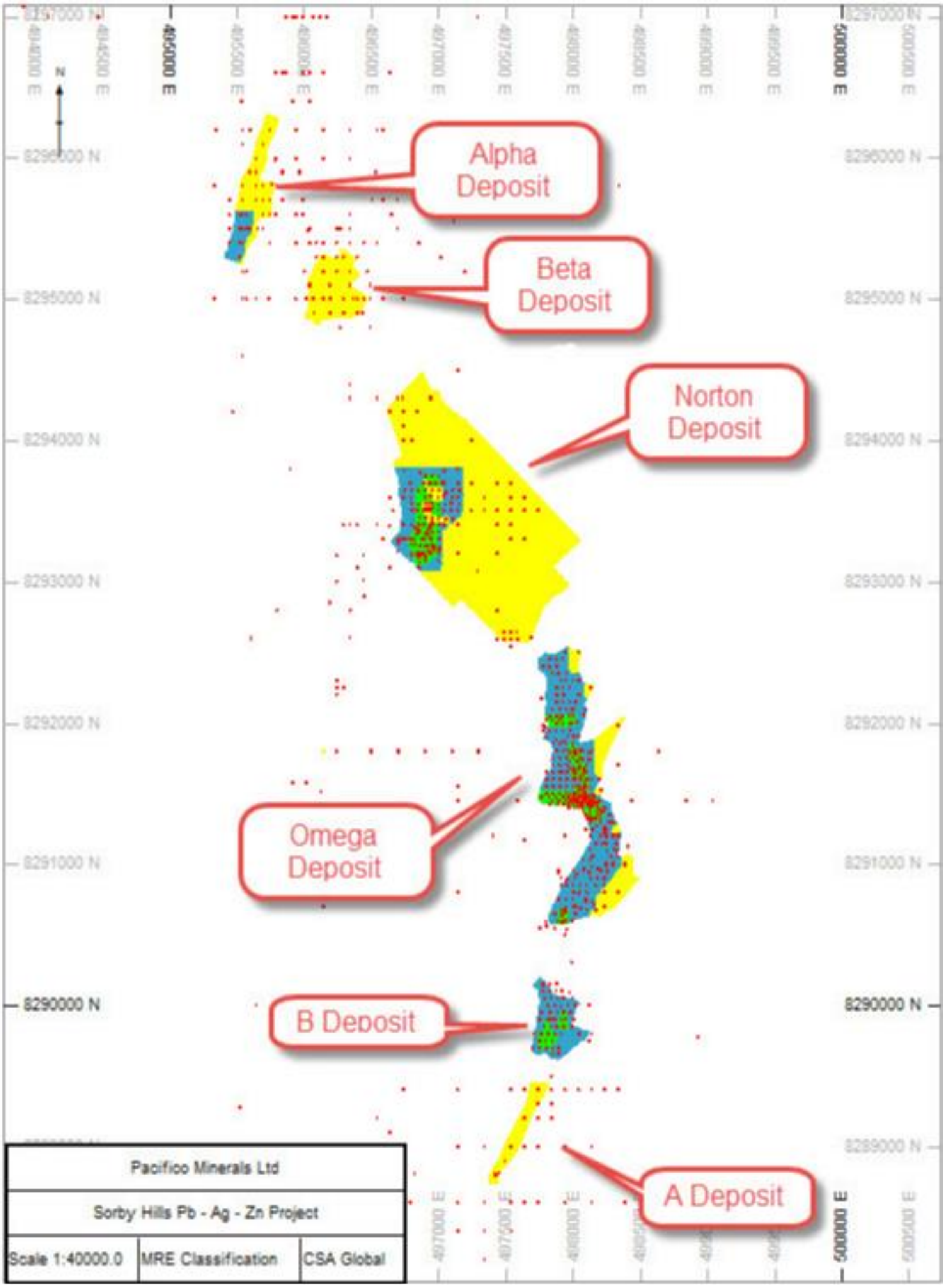

Figure A-4: Plan view of the Sorby Hills Deposits showing Resource Classification and drill holes location. Measured (Green), Indicated (Blue), Inferred (Yellow).

Hydrogeology and Hydrology

Groundwater in the region occurs mainly within two main aquifers:

- Alluvial Aquifer contained in Quaternary palaeodrainage; and
- Sorby Dolomite Aquifer developed in karstic limestone/dolomite Slump Breccia.

The two aquifers are separated by the Milligan's Aquitard and Knox Creek Aquitard. Ground water salinity varies across the Project from approximately 7,450 mg/L in the north (Alpha/Beta pods) to 1,400 at Omega (80 percentile values). Lead levels show variability from 0.0004 mg/L to 0.052 mg/L while zinc levels vary from below detection up to 0.092 mg/L.

The main area of groundwater recharge to the alluvial aquifer is located over the northern Ivanhoe Plain 30 km south-west of Sorby Hills where infiltration to basal sandy gravel occurs during periods of flooding along the Ord River. Recharge rate is estimated at approximately 2% of rainfall or 16 mm/year based on the chloride ratio method. The water table in the mining area is shallow at 8 to 13m below ground which lies at an elevation of 20mAHD.

A stormwater diversion drain has been included in the site infrastructure to the west of the plant site and tailings storage facility. This is sized to divert 110 ML over a one-hour concentration time, a peak flow of 31m^3/s from a 1 in 100-year storm.

A computer based groundwater model has been constructed and calibrated against several historic long term pump tests, together with several months of trial decline dewatering which was conducted in vicinity of I Pit in 1981. The calibrated model was used to simulate dewatering inflows during the progressive excavation of the pits in both DMS and Whole Ore mining schedules by altering the pit geometries in the model at monthly time steps.

Predicted groundwater inflows are shown in Table A-2.

The DMS option uses a B pit first mining schedule which allows B pit to be used for water storage post mining. The Whole Ore schedule uses the optimal (Omega first) schedule and does not incorporate pit water storage. This is due to the Whole Ore options economics being significantly more sensitive to B pit first schedule change compared to the DMS option.

In the Kimberley region, almost 90% of the annual rainfall occurs during the Wet Season, with the most extreme storms often being associated with cyclone events. The rainfall contributions to dewatering are assessed as part of the holistic water balance simulation using the GoldSim mine water package.

The groundwater model was used to evaluate the effectiveness of pit dewatering bores. This showed that dewatering bores would have limited effectiveness in levelling the dewatering over the life of mine because the high aquifer anisotropy creates a tight drawdown cone around each mine pit. Therefore, in-pit sump pumping has been selected. Each pit will be equipped with 60L/s capacity pumps. Multiple pumps are required as Omega develops and through the wet season. For the Whole Ore option, the LOM average pit dewatering rate is 94 L/s with a peak annual rate of 151 L/s.

The above mine dewatering rates result in a net surplus site water balance which requires water disposal. The base case water disposal design uses year-round aquifer re-injection at 70 L/s into a Northern and Southern re-injection bore fields with 14 bores in total. In addition, the balance of the surplus water is stored and seasonally discharged to the Keep River via Knox Creek, within the mining tenements to the south of the mine site. The river discharge is maintained below 5% of river flow. Mine water is stored in settling/storage ponds during the dry season. Average and peak annual water discharge volumes are presented in Table A-3.

Table A-2: Groundwater Inflows by Pit and Year

End of year	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Option 1 WOO (Optimal Mining)										
Pit A									2	53
Pit B					31	28	BF	BF	BF	BF
Omega Pit (main)	27	74	79	93	84	80	78	87	32	BF
Omega Pit (south)										3
I Pit				5	27	38	33	BF	BF	BF
All Pits L/s	27	74	79	98	142	146	111	87	34	56
GL/year	0.8	2.3	2.5	3.1	4.5	4.6	3.5	2.7	1.1	1.8
Option 2 - DMS (B deposit first)										
Pit A						1	39	BF		
Pit B	16	66	4	WS	WS	WS	WS	WS		
Omega Pit (main)		4	3	BF	BF	BF	BF	BF		
Omega Pit (south)			16	70	97	132	17	BF		
I Pit							6	42		
All Pits L/s	16	70	22	70	97	133	62	42		
GL/year	0.5	2.2	0.7	2.2	3.0	4.2	2.0	1.3		

	Pit being actively mined (average pit inflow L/s)
BF	Pit backfilled - dewatering ceased
WS	Pit being used as a water storage

Table A-3: Water Discharge Volumes

Disposal Type	Whole Ore Average Annual GL/yr	Whole Ore Peak Annual GL/yr	DMS Average Annual GL/yr	DMS Peak Annual GL/yr
Re-injection	1.4	1.9	0.6	1.6
Knox Creek	1.4	2.3	0.8	1.8
Total	2.8	4.1	1.4	3.4

The study has also costed a disposal option where all excess water is pumped continuously year round to the K4 monitoring station point on the Keep River (Legune Bridge), to the north east of the Project in the Northern Territory. This option consists of a 13.6km 400mm outside diameter buried pipe running along the Legune Road. The final water disposal option will be selected after consultation with Regulators during the DFS study phase.

Mining

Entech were engaged to conduct a PFS for mining of the surface lead and silver deposits of the Sorby Hills Project.

A geotechnical program consisting of 15 drill holes and laboratory testing was completed for this study in 2019 covering Omega and B pits. Historic geotechnical work exists for I pit. Only A pit area has not had area specific testwork. Rock mass conditions at Sorby Hills are relatively uniform, with negligible observable variation across B and Omega. Slope design analysis was undertaken, including kinematic (planar, wedge and toppling) and limit equilibrium, to determine the slope design parameters presented in Table A-4. The analysis indicated that instabilities on an inter-ramp or overall scale is unlikely within the design.

Table A-4: Pit Slope Design Parameters

From/To	Elevation	Material	Bench Height (m)	Bench Face Angle (°)	Spill Berm Width (m)	Inter Ramp Angle (°)
Surface to 10mbs	20m to 10m	Soil, Transported & Completely Oxidised	10	50	6	34.8
10mbs to 30mbs	10m to -10m	Transitional	20	60	9	44.2
30mbs to Base of Pit	-10m to Base of Pit	Fresh	20	75	9	54.3

The Mineral Resource block model was re-blocked into a regularised block size of 5.0m X by 5.0m Y by 2.5m Z (62.5 m^3). The re-blocking simulates a selective mining unit ('**SMU**') and assumes best practice grade control and mining practices in the mining of the ore. The addition of mining dilution resulted in an ore loss due to blocks being diluted to below the reporting cut-off value and resulted in an overall mining dilution of 9.3% and an overall mining recovery of 94.7%.

Initial cut-off and cut-over (transfer grade between DMS and direct feed to flotation for the DMS option) grades were calculated based on preliminary cost and revenue assumptions resulting in the following values (Table A-5). In the DMS Case, further refinement of the cut-over grade was undertaken via the development of a spatially variable cut-over grade ranging between 1.9 and 3.1% to ensure an optimal balance between DMS and direct deed material throughout the Mine Plan.

Table A-5: Cut-Off and Cut-Over Lead Grades

Description	Unit	Pb >=	Pb <
DMS			
Waste	%	-	1.1
DMS	%	1.1	2.5
Direct Feed	%	2.5	100
WO			
Waste	%	-	1.5
Direct Feed	%	1.5	100

Mining assumes conventional open pit mining methods. Rock is fractured through drilling and blasting, then using a diesel-powered excavator and truck system, is delivered to nominated locations. Mining is to be carried out by a mining contractor who submitted a cost estimate for the work and an equipment and manning schedule. The proposed fleet consists of a 350-t excavator for waste mining and a 120-t excavator for ore mining. Excavators are paired with 200-t and 90-t dump trucks.

Ore will be hauled directly to the ROM Pad at the processing plant. Waste material will preferentially be used for construction or as in-pit backfill, while surplus waste will be taken to designated waste dumps for progressive rehabilitation. Any sulphidic waste material which is classified as Potentially Acid Forming ("**PAF**") will be encapsulated within low sulphide Non-Acid Forming ("**NAF**") waste rock. Figure A-6 shows the overall surface mining operations for the Project.

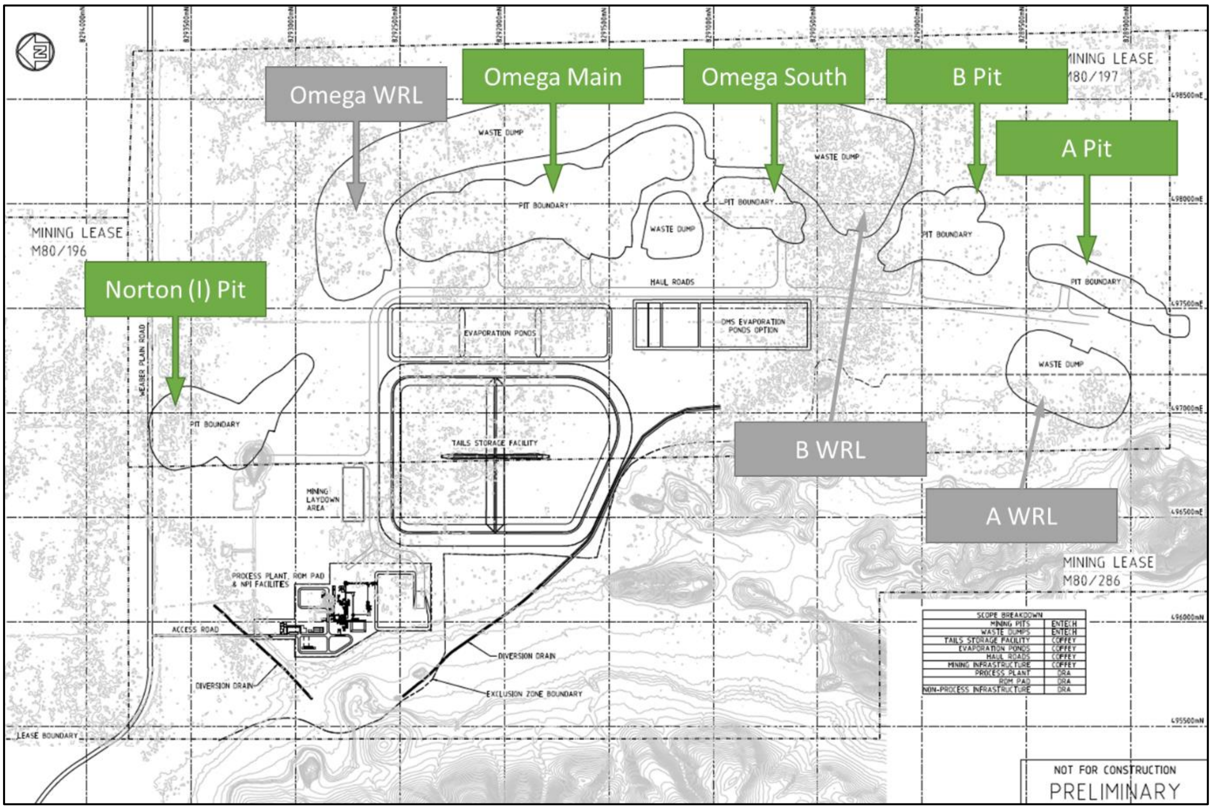

Figure A-5: Overview of Mining Operations

In total, the study considers 121.8 Mt rock at 6.3 strip ratio for 16.7 Mt ore for the DMS Case and 121.7 Mt rock at 7.2 strip ratio for 14.8 Mt ore for the WO Case.

The Whole of Ore case and DMS mining by Resource Category is provided in Figures A-6 and A-7.

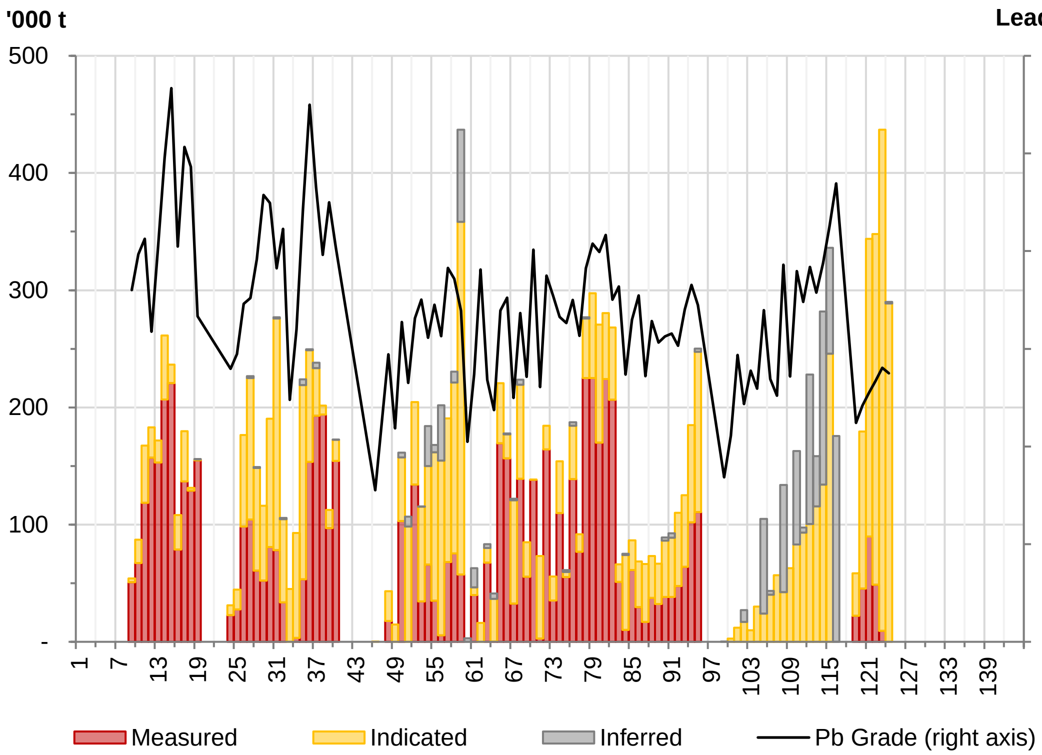

Figure A-6: WO Case - Ore Mined by Resource Category

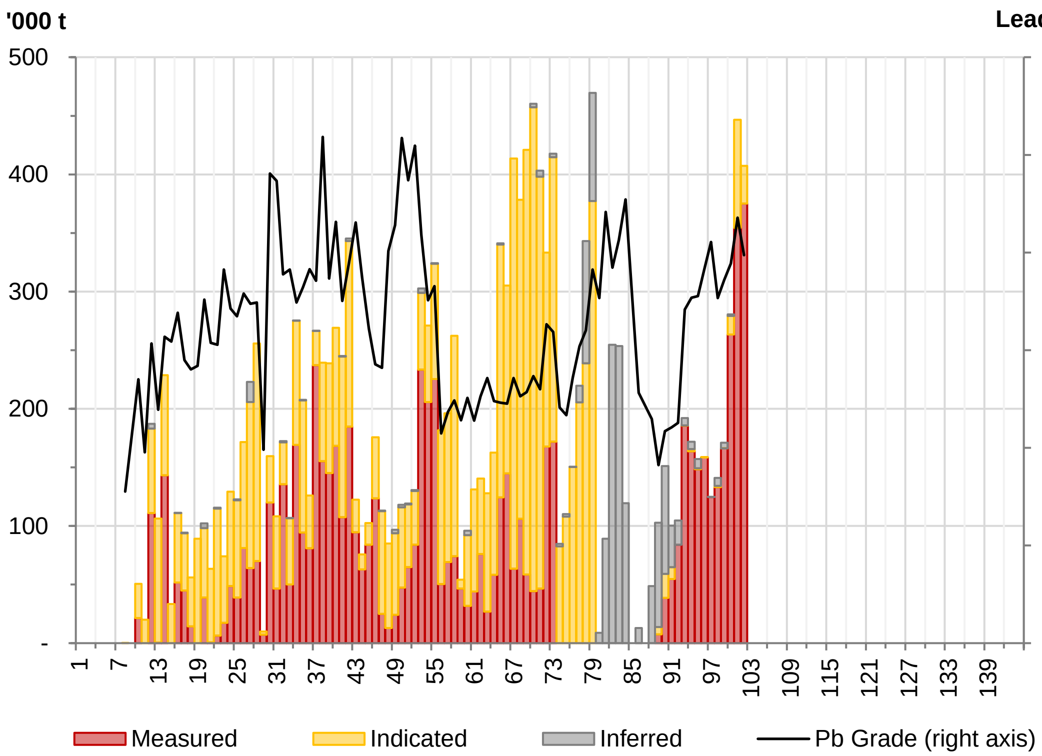

Figure A-7: DMS Case - Ore Mined by Resource Category

Metallurgy and Processing

DRA Pacific Pty Ltd a wholly owned subsidiary of DRA Global Ltd **(“DRA”)** was engaged to update the Process Plant and Infrastructure PFS for the Sorby Hills Project. This report includes the design, construction, operation and viability of a 1.5 Mtpa facility producing a lead and silver concentrate.

A number of option studies were conducted through the course of this study to select the preferred flowsheet options including:

- Metallurgical Development study;
- Comminution circuit option study;
- Beneficiation circuit option study;
- Power supply option study; and
- Crushing circuit selection.

The proposed process flowsheet is primary crushing and Single Stage Semi-autogenous Grinding (“**SSAG**”) and lead and silver flotation circuit. With the inclusion of the low-grade DMS circuit for Option 2, secondary and tertiary crushing is required to prepare the low-grade feed (Figure A-8).

The grinding and flotation circuits are designed to process 1.5 Mtpa of lead/silver sulphide and oxide ore types. For Option 1 the crushing circuit will process 1.5 Mtpa of ore, while Option 2 the primary crushing circuit will process 1.275 Mtpa of high-grade ore and 0.75 Mtpa of low-grade ore. The secondary and tertiary crushing circuit will crush the low-grade ore to P100 (100% passing) 15 mm, which will be screened at 1 mm in preparation for DMS.

Based on results from the 2020 ALS testwork program, the low-grade DMS circuit performance estimate a beneficiated product (DMS sinks and DMS feed preparation screen undersize) of 30% mass, 81% Pb (2.70 upgrade ratio) and 73% Ag (2.43 upgrade ratio) will be produced at the rate of 0.225 Mtpa, which when combined with high grade ore will maintain the feed rate to the grinding circuit at 1.5 Mtpa.

The lead and silver recovery process was based on grinding the ore to a particle size of P_{80} (80% passing) 125 µm with the SSAG circuit for maximum liberation and recovery of lead and silver. The grinding circuit product will pass through a linear screen to remove trash from the feed to the flotation circuit. Trash screen undersize will be conditioned with reagents to facilitate recovery of sulphide and oxide minerals prior to sequential rougher sulphide and oxide flotation and two stages of cleaner flotation.

Plant production for Option 1 is estimated at 806,830 dry tonnes of concentrate at a lead grade of 62% and a silver grade of 580 ppm and 93.3% overall lead recovery and 80.3% silver recovery. Plant production for Option 2 is estimated at 813,968 dry tonnes of concentrate at 62% lead and 570 ppm silver at flotation recoveries of 93.2% and 80.4% for lead and silver respectively.

The plant design life is 10 years. The overall plant availability of 91.3% or 8,000 h/y has been adopted, which is an industry standard for a simple flotation concentrator of this size.

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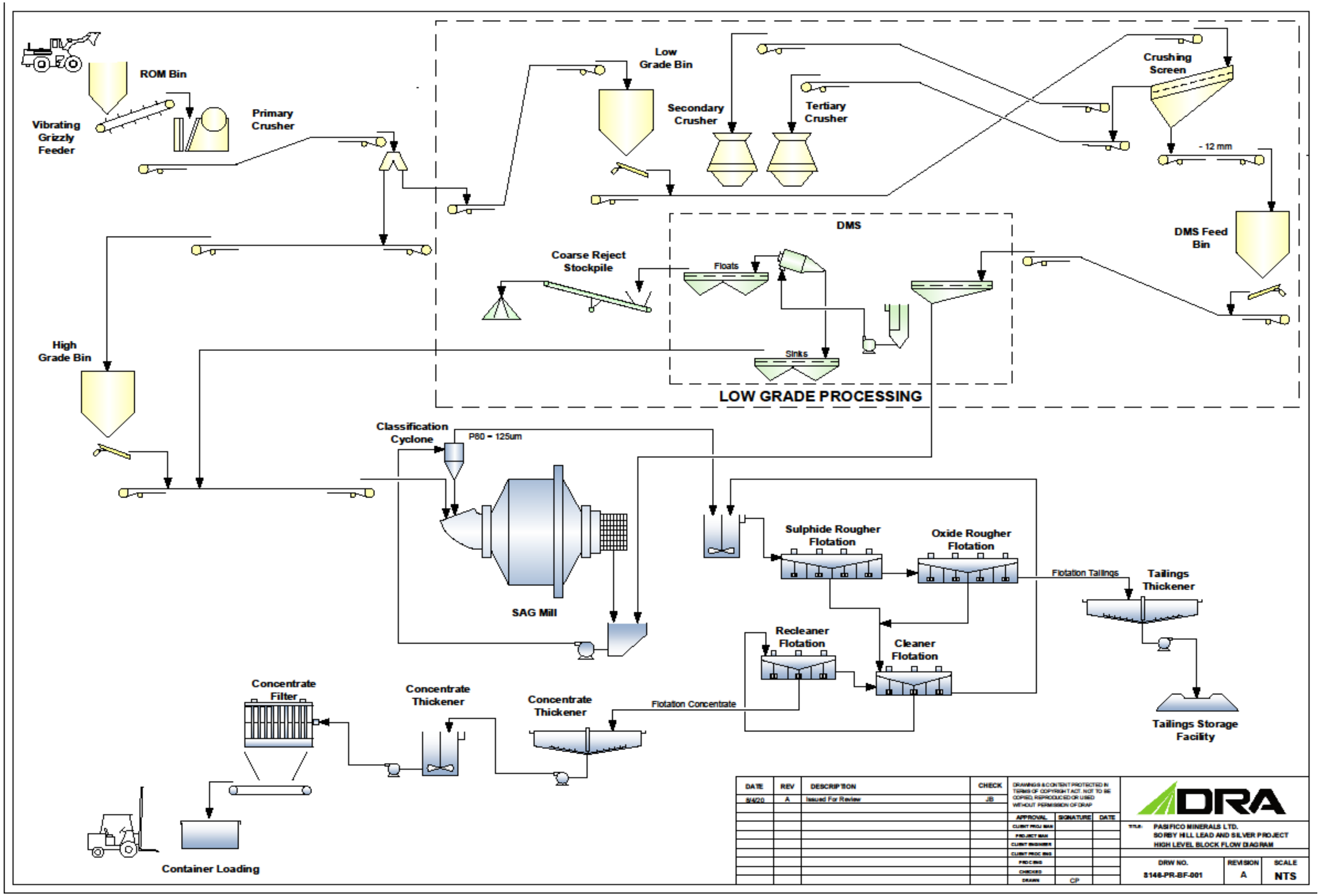

Figure A-8: Processing circuit schematic for the Sorby Hills Project (additional DMS circuit shown in dashed boxes)

The Whole Ore option and DMS option processing schedules by Resource Category are provided in Figure A-9 and Figure A-10.

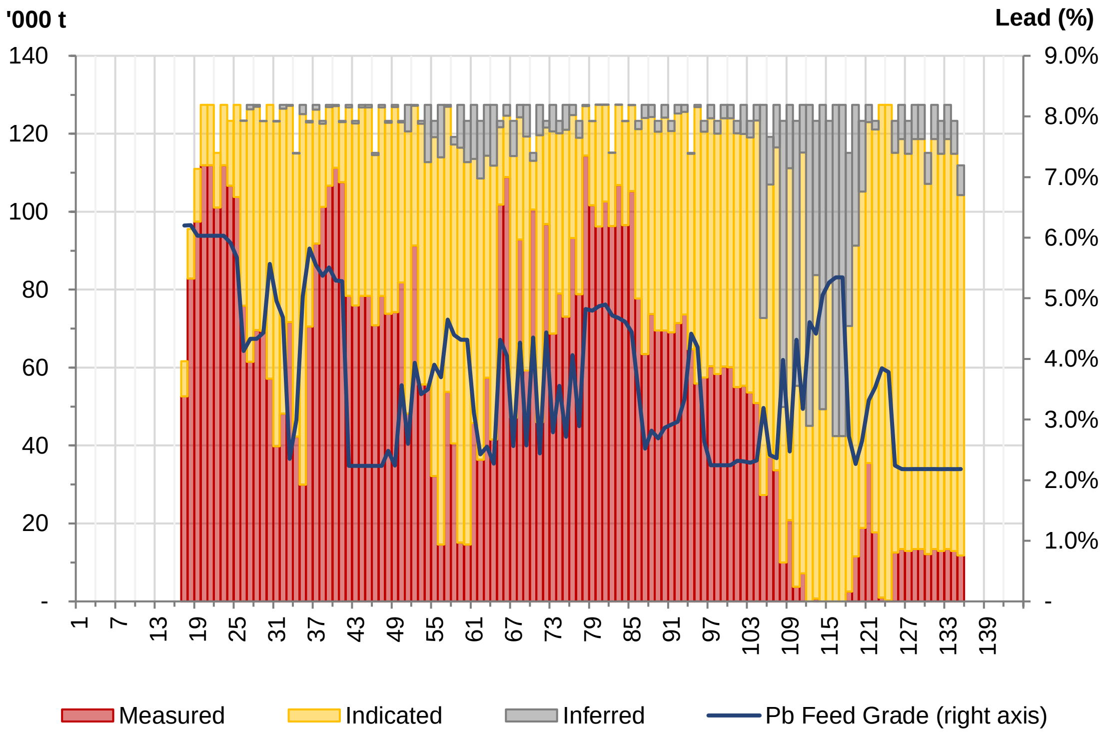

Figure A-9: WO Option - Ore Processed by Resource Category

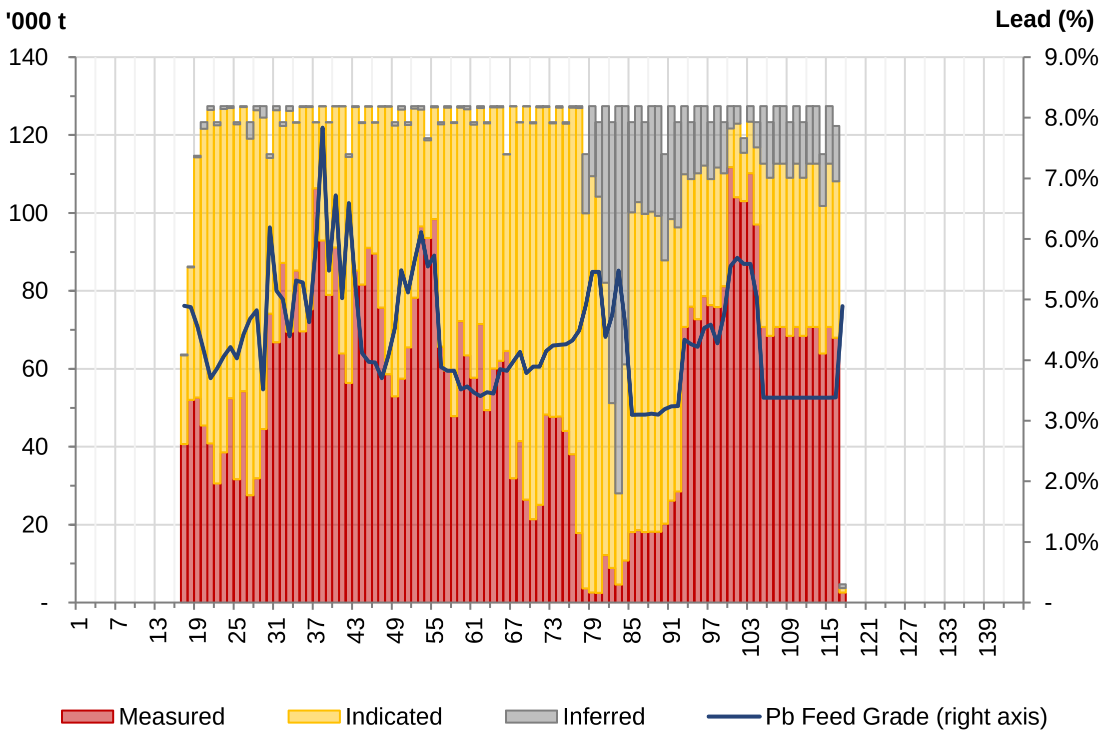

Figure A-10: :DMS Option - Ore Processed by Resource Category

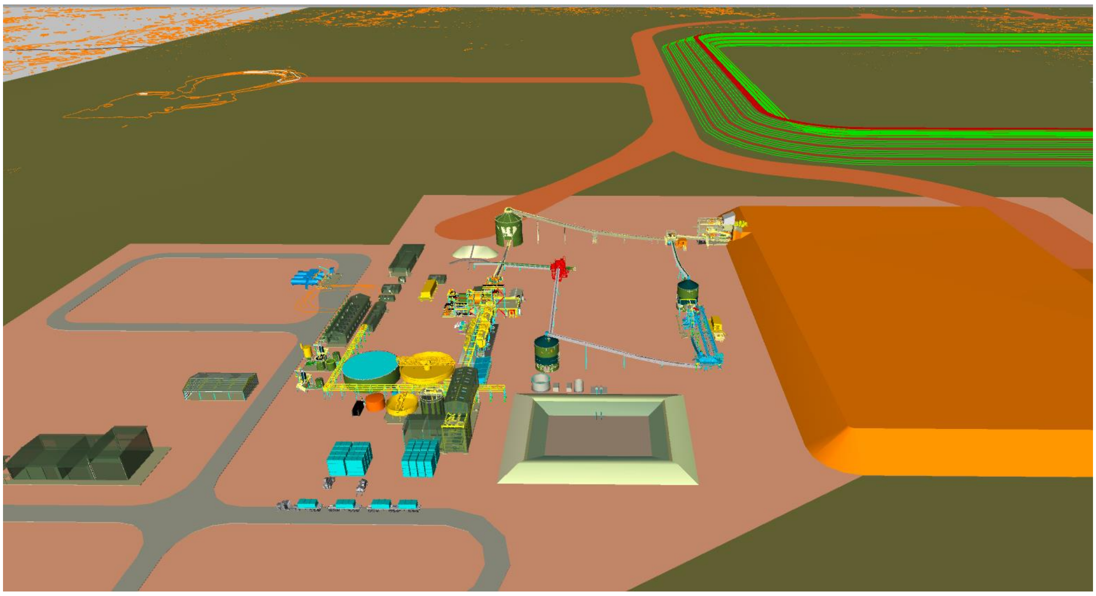

Figure A-11: 3D View of the Sorby Hills processing facilities

Infrastructure and services

A preliminary plant site layout has been developed, which includes the following site infrastructure:

- Concentrate storage shed;
- Concentrate container storage area;
- Vehicle wash-down bay;
- Tailings Storage Facility;
- Oil and fuel storage facility;
- Laydown areas;
- Administration buildings;
- Mining contractor infrastructure;
- Process plant crib, washroom and ablutions;
- Medical facility;
- Change-house and ablutions;
- Warehouses;
- Workshop;
- Laboratory,
- Reagent storage building;
- Power generation facility;
- HV Power distribution, and
- Sewage treatment plant.

Off-site infrastructure for the Project includes the following:

- Accommodation and messing facilities in Kununurra;
- Road upgrades to intersections on the proposed concentrate haulage route;
- Concentrate container storage area; and
- Container washdown station at Wyndham port.

Environment

Over the period 2011-2013 Animal Plant Mineral environmental consultants ("**APM**") worked on baseline environmental surveys for the Project and EPA referral documentation (Public Environmental Review, "**PER**"). The Project was granted EPA approval in April 2014 subject to ministerial conditions and was recently granted an extension of time to substantial commencement by 2 April 2024.

The Project site lies within the traditional lands of the Miriuwung Gajerrong people. Although the tenements pre-date Native Title, a Heritage Protection Agreement was developed between the then Sorby Hills tenement holders, Triako Resources Limited and the MG Corporation in August 2007. It was finalised in 2011 that there were no Native Title Issues over the Sorby Hills mine leases (Dominique Reeves, Lawyer at MG Corporation) and as such, Sorby Hills Pty Ltd will develop a Memorandum of Understanding ("**MOU**") type-agreement with the MG Corporation.

APM have continued their involvement and in 2019 provided an updated assessment of the Project's environmental permitting pathways. The scale of the Project has been increased in the current study compared with the earlier PER. However, most of the disturbance areas are similar.

The area of greatest change is the amount of pit dewatering water requiring disposal. This has increased from 1GL/yr to peak annual discharge requirement of 4.1 and 3.4 GL/yr for the WO and DMS options respectively, with average annual discharge rates of 2.8 and 1.4 GL/yr. This study has selected a combination of ground water re-injection and wet season controlled discharge to Knox Creek, with storage/evaporation dams managing the seasonal site holding balance. These methods are best environmental practice with numerous examples from mine sites in the Pilbara (re-injection) and the Hunter Valley (seasonal discharge). An alternative water disposal option consisting of year round discharge to the Keep River via a 13.6km buried pipeline has been costed for comparison purposes.

Going forward into DFS, SMPL will engage APM to update the site environmental and heritage surveys to suit the new disturbance areas and progress permitting through the following:

- Section 45C change proposal submission to the EPA,
- Prepare documentation for the Department of Mines, Industry Regulation and Safety ("**DMIRS**") and Department of Water and Environmental Regulation ("**DWER**") project approvals including
  - Mining Proposal;
  - Clearing Permits;
  - Project Management Plan;
  - Dangerous Goods Licences;
  - Works Approval;
  - Prescribed Premise Licence;
  - 5C Licence to Take Water;
  - 26D Licence to Construct Bore;
  - S17 Permit to Interfere with Bed and Banks, and
  - MOU agreement with the MG Corporation (Heritage Protection).

Capital Cost

Upfront Capital Costs

Entech have estimated the mining capital cost based on project specific contractor pricing. They include the mining contractor site establishment, mobilisation and the pre-production mining costs ahead of first process plant production. Estimate accuracy is quoted at +/- 15%.

Pacifico have estimated the Owners capital costs, consisting of its Project Development Team, and the pre-production build-up of the operating team and its associated costs. Estimate accuracy is quoted at +/- 15%.

DRA have estimated the process plant and infrastructure costs. The estimate covers all capital costs as required to commence and continue operations of the Project. The capital cost summary is based on Q3 CY2020 Australian Dollars (A$ basis date). The basis exchange rates for European Union Euros (EUR), Chinese Yuan Renminbi (CNY) and United States Dollars (US$) are 1.452 EUR per 1 A$, 0.25 C$ per 1 A$ and 1.43 US$ per 1 A$. Future changes due to escalation and exchange are excluded. The accuracy range for the project estimate is ±15%. The estimate makes no provision for future escalation and currency exchange rate fluctuations beyond the basis date

Sustaining Capital Costs

Sustaining Capital for lifts of the Tailings Storage Facility, Mine Rehabilitation Fund and Mine Closure have been included in the Project's LOM Capital Cost estimate.

Capital costs are summarised in Table A-6.

Table A-6: Capital Cost Summary

Cost Area	Whole Ore Option 1 A$M	DMS Option 2 A$M
Mining Pre-Production	24.26	32.35
Process Plant incl. EPC Fee	105.38	131.96
Infrastructure	20.51	23.78
Owners Pre-Production Costs	13.12	14.09
Contingency	19.56	24.12
Total Upfront Capital Costs	**182.83**	**226.30**
Sustaining Capital	32.19	25.00
Total Capital Costs	**215.02**	**251.30**

Financial Evaluation

The financial assessment is based on a Base Case commodity pricing of US$2,095/t lead price and US$21.1/oz silver price. These prices are consistent with historical 10-year averages. A flat exchange rate of A$:US$0.70 was selected.

Calculated monthly Cash flows for the Whole Ore and DMS Options are shown in Figures A-12 and A-13 respectively and a summary of Life Of Mine Physicals and Financials are presented in Table A-8.

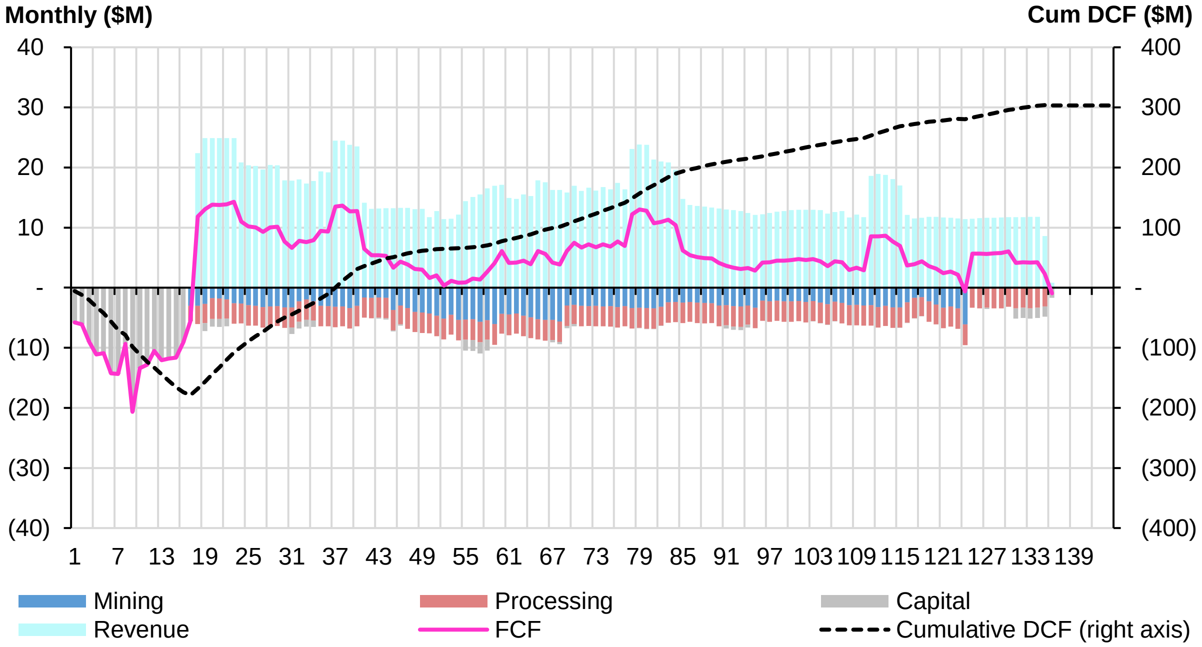

Figure A-12: Whole Ore Option Cashflow

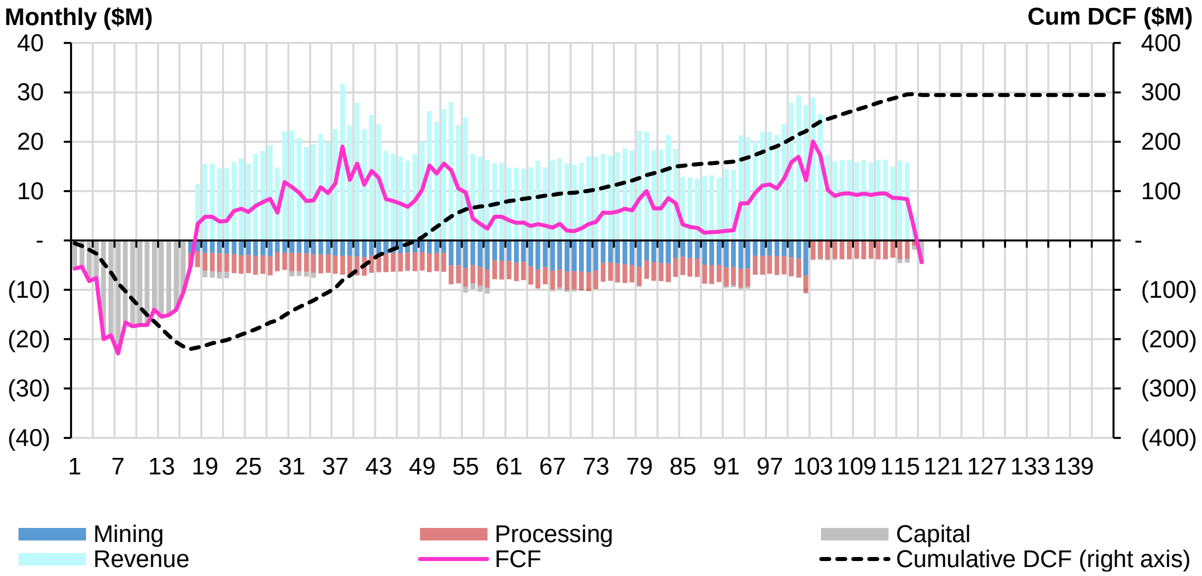

Figure A-13: DMS Option Cashflow

Table A-7: Physicals and Financial Summary of the WOO (Base Case) and DMS Options

Item	Unit	Whole Ore Option (Base Case)	DMS Option
Economic Assumptions			
Lead Price	A$/t	2,095	2,095
Silver Price	A$/oz	21.10	21.10
Exchange Rate	A$:US$	0.70	0.70
Physicals			
Life of Mine (LOM)	Years	9.9	8.4
Mined Ore	BCM	5,161	5,874
Strip Ratio	Waste : Ore	8.0x	6.9x
Ore Tonnes Beneficiated	Kt	-	6,202
Processed Tonnes	Kt	14,760	12,400
Processed Lead Grade	%	3.63%	4.37%
Processed Silver Grade	g/t	39.5	46.6
Lead Recovery	%	93.3%	93.2%
Silver Recovery	%	80.3%	80.4%
Recovered Lead	Kt	500.2	504.7
Recovered Silver	Moz	15.1	14.9
Concentrate Produced	kdmt	806.8	814.0
Payable Lead	Kt	475.2	479.4
Payable Silver	Moz	14.3	14.2
Cash Flow			
Lead Revenue	A$M	1,422.3	1,434.9
Silver Revenue	A$M	431.1	427.4
Gross Revenue	A$M	**1,853.3**	**1,862.3**
Royalties	A$M	(69.5)	(70.3)
TC/RC & Transport	A$M	(290.3)	(283.4)
Net Revenue	**A$M**	**1,493.6**	**1,508.7**
On Site Operating Costs	A$M	(746.3)	(713.3)
Net Operating Cash Flow	**A$M**	**747.3**	**795.4**
Upfront Capital Cost	A$M	(182.8)	(226.3)
- *Mining Pre-Production*	A$M	24.26	32.35
- *Process Plant incl. EPC Fee*	A$M	105.38	131.96
- *Infrastructure*	A$M	20.51	23.78
- *Owners Costs*	A$M	13.12	14.09
- *Contingency*	A$M	19.56	24.12
Sustaining Capital Costs	A$M	(32.2)	(25.0)
Net Project Cash Flow (Pre-Tax)	**A$M**	**532.3**	**544.1**
Value Metrics			
Pre-Tax NPV$_8$	**A$M**	**303.4**	**294.5**
Pre-Tax IRR	**%**	**46%**	**35%**
Pre-Tax Payback Period#	**Years**	**1.6**	**2.2**

Payback calculated from first production

A discounted cashflow analysis was undertaken to evaluate the Project on a standalone basis and compare each production case to determine the appropriate base case. Corporate and other related costs incurred by Pacifico are excluded in the financial evaluation. All costs and revenue were modelled in real terms.

The Project Physical, Financial and Valuation summary presented in Table A-8 shows that under both the Whole Ore Option 1 and DMS Option 2, the Project is financially robust, generating positive NPV, high IRRs, strong revenue and payback periods.

Whilst both options are financially robust, Table A-8 demonstrates that the Whole Ore Option 1 generates greater value, with a higher NPV and IRR and a shorter payback period. As a result, the Whole Ore Option has been selected as the Base Case for this PFS, although both options will be further assessed in the DFS.

Figure A-14 demonstrates the financial robustness of the Whole Ore Option by showing Option by showing that the NPV remains compelling under a range of sensitivities.

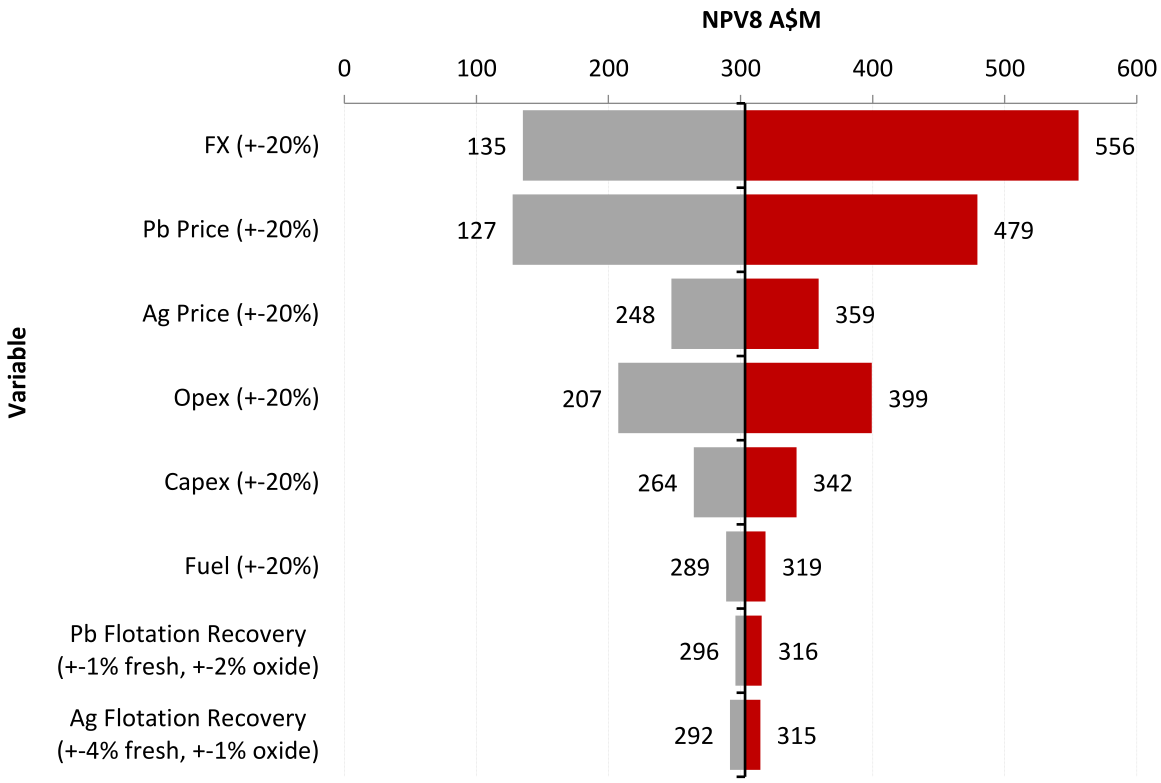

Figure A-14: NPV Sensitivities

The above analysis shows that, based on the PFS assumptions and production profile, the Project can support sufficient debt funding for up to 65% of the upfront capital requirement.

Project Development

The Company has scheduled a 12-month period for the DFS, including DFS and exploration drilling, metallurgical testwork, discipline studies and permitting activities ending in August 2021. This timeline contemplates investigation of opportunities to potentially increase the size of the Resources, and DFS level assessment of the relative merits of direct flotation and DMS processing via detailed metallurgical testwork. The drilling and DFS program run concurrently with the Project financing activities period with concurrent regulatory approvals and front end engineering design works commencing. Project award is assumed in December 2021 (Figure A-15).

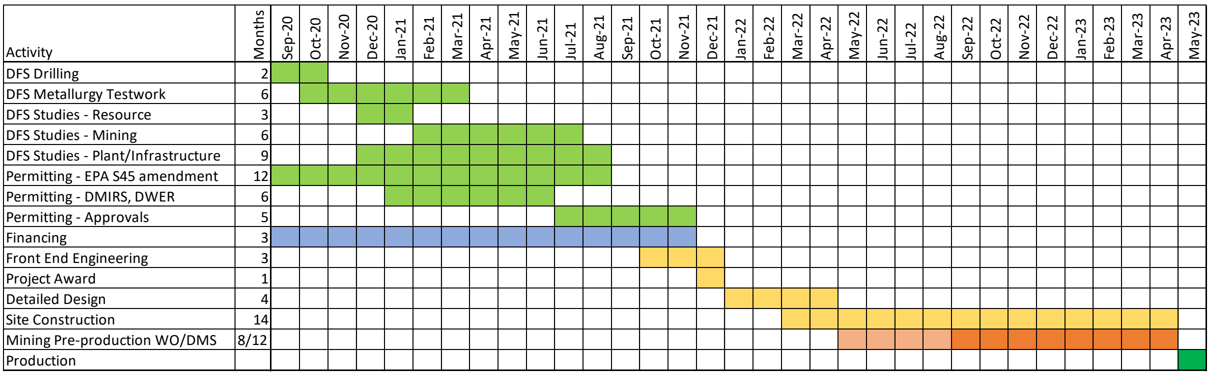

Figure A-15: Project Summary Schedule

An EPC contract model has been selected as the implementation strategy for the Plant and Infrastructure design and construct phase of the Project. An EPC contractor will be engaged by SMPL to provide detailed design, procurement, construction and commissioning activities for the process plant and associated infrastructure required for the development of the Project from commencement to satisfactory completion of a performance test.

The start of the construction phase has been linked to obtaining the remaining environmental and all other required approvals and permits. A detailed schedule has been prepared, with a duration of 16 months from the start of detailed design in January 2022 until commencement of production (hot commissioning) in May 2023. The critical path for the Project completion is through the mill delivery and construction. Key milestone dates for the Project are presented in Table A-8.

Table A-8: Key Project Milestone Dates

Item	Milestone	Date
1	Commence DFS Drilling	September 2020
2	Commence permitting discussions	September 2020
3	Commence DFS metallurgical testwork	October 2020
4	Commence DFS engineering studies	December 2020
5	Early Engineering Work Commencement (FEED)	October 2021
6	Final Investment Decision (and Finance Approval)	November 2021
7	Project Award – EPC Contractor	December 2021
8	Commence Detailed Design	January 2022
9	Site Access and Construction Commencement	March 2022
10	Mining Pre-production (WO/DMS)	Sept/May 2022
11	Ore Commissioning	May 2023

The mining will be undertaken by contractor. Contractor pre-selection will take place during the DFS with final selection during the financing period allowing sufficient time for the mining contractor to prepare for site mobilisation. SMPL will build-up its Project Management Team progressively during the DFS including key personnel who will transfer to Operations. Full Operations team build-up will follow from project award.

Risk and Opportunity

A project risk review was completed at the latter stage of the PFS. The risk review was conducted in accordance with Australian Standard ISO 31000:2018. Risk scoring was completed for the current risk, and for residual risk, taking account of planned future mitigation measures. No extreme risks were found. One current rating high risk and 19 current rating medium risk items were identified which reduce to 7 residual rating medium 13 low residual risk items after controls. This is typical for a project at PFS level where certain technical risks remain until DFS level work has been undertaken.

Actions required during the DFS phase and into project development and operations phase to mitigate the risk were identified. These actions form the basis of the scopes of work, budget and schedule for the DFS phase.

A number of opportunities for project improvement have also been identified through the PFS and these items will be followed up through the DFS.

Appendix 1 - JORC Code (2012 Edition) – Table 1

Section 1: Sampling Techniques and Data

Details on resources for the Sorby Hills Deposit has previously been announced to the market refer ASX announcement dated 2nd June 2020 "Mineral Resource Update at the Sorby Hills Lead-Silver-Zinc Project" for most recent update.

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code Explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	During the 2018 and 2019 drilling programs: • Reverse circulation (RC) sampling was conducted at 1 m intervals for the entire length of the hole. • All the samples from RC pre-collars and RC holes were scanned with a portable XRF (Olympus InnovX Delta) for an indication of lead concentration. Intervals were selected for assaying from XRF readings above 0.3% Pb. An additional metre sample was taken above and below this interval. • Mineralised HQ diamond core was sampled at different intervals to reflect lithological boundaries, but within length limits of between 0.5 m and 2.0 m. For drilling programs conducted prior to 2018, diamond core was typically sampled at regular 1 m intervals. Some core was sampled at different intervals to reflect lithological boundaries. Various core diameters were used including BQ, NQ and HQ. RC sampling was conducted typically at 1 m intervals for the entire length of the hole. A total of 596 samples (inclusive of blanks, standards and duplicates) were submitted for assay analysis for the Pacifico 2019 Phase III campaign The sampling methodology is considered representative and appropriate for the sediment replacement style of mineralisation at Sorby Hills.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	Drilling methods used in the 2018 and 2019 drill programs were rotary, RC and HQ diamond drilling. RC drilling was also used to pre-collar some holes with planned end of hole depth greater than 80 m, which were then completed with diamond tails. Rotary open-hole drilling in 2019 was only employed for diamond hole collars, and was not sampled Samples taken by historical open hole drilling are not used in the Mineral Resource estimation. A total of 1,325 drillholes are in the database, with 546 holes drilled prior to 2007. Of these, 353 holes were retained due to these holes having acceptable quality assurance to us in the Mineral Resource. An additional 374 holes were drilled in the period 2007 to 2018. The Phase III program of late 2019 comprises 49 RC holes for 3,265 m. The drillhole database for the Sorby Hills project area for A, B, Omega, H, I, J, Alpha and Beta deposits since its discovery in 1971 comprises 1,325 surface drillholes for a total of 125,378.2 m of drilling. Reference has been made in the announcement to 11 previous drilling campaigns at Sorby Hills prior to the drilling campaign reported in this announcement. A summary of the drilling campaigns is provided below:

	Drillhole series	Drilling methods	Year
1	DDH1-DDH65	Diamond coring with unspecified pre-collar (mud rotary)	1972-1973
2	R1-R29	Rotary Percussion (some open hole RC)	Unknown
3	FDH1-FDH89	Conventional RC using VPRH rig	1974
4	WBS1001-W8S1157	Mud rotary and RAB pre-collars with diamond tail	1975
	WBS2000-WBS2159	Conventional RC using VPRH rig (possibly some open hole)	1975
	WBS3000-WBS3039	Rotary (probably open hole)	1975
5	WBS4000-WBS4205	Rotary (Mostly open hole some conventional RC)	1976-1979
6	WBS5000-WBS5095	Mud rotary pre-collars diamond tails	1978-1979
7	WBS6000-WBS6057	Some RAB some mud rotary pre-collars with diamond tails	1980
	WBS7000 -WBS7035	RAB and conventional RC	1980
8	CSHDD001-CSHDD029	Diamond coring with open pre-collar (mud rotary)	2007
9	ISHDD001-ISHDD006	Diamond coring with open pre-collar (RC)	2010
	ISHRC001-ISHRC047	Conventional RC using T685WS Schramm rig	2010
	DSHRC001-DSHRC024	Conventional RC using T685WS Schramm rig	2010
	CSHRC001-CSHRC024	Conventional RC using T685WS Schramm rig	2010
	IPRC001-IPRC004	Conventional RC using T685WS Schramm rig	2010
	DSHDD001-DSHDD002	Diamond coring with open pre-collar (RC)	2010
10	KSHRC002-KSHRC100	Conventional RC	2011
11	AB, ACD, AF, AI series	RC and HQ diamond tails	2018-2019
12	Phase III 2019	RC	2019

Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	For the 2018 and 2019 drill programs, drill recovery for HQ diamond core was acceptable with recoveries better than 97% through the mineralised zones. RC bags collected at site were subject to a visual relative volume estimate. Estimated relative volumes were mostly at 100% Through use of an auxiliary compressor and booster with the RC rig most samples were collected dry. There was an occasional wet sample when there was excessive water flow pressure. Core recovery for diamond drilling completed post-2007 but prior to 2018 averaged 91.3% with most core loss occurring in the regolith at <30 m depth. Core recovery in the mineralised zone was variable due to local fracturing and weathering along discrete fault zones; however, most recoveries exceeded 95%. Diamond core through the mineralised zone is typically NQ diameter. From 2007 to 2010, to maintain sample integrity, each RC bag collected from the cyclone was weighed with the weight in kilograms and relative moisture content recorded. Bag weights were generally consistent with the average bag weighing 25 kg; however, poor sample recoveries (<20 kg) are noted in the initial 10 m of alluvial cover. For the 2019 Phase III drill program: • RC bags collected at site were subject to a visual relative volume estimate, and later weighed. Estimated relative volumes were mostly at 100% through mineralisation and bag weights were consistent at around 23 kg. • Through use of an auxiliary compressor and booster with the RC rig most samples were collected dry. There was an occasional wet sample when there was excessive water flow pressure. • Poor sample recoveries (<20 kg) are noted locally in the initial 10-15 m of alluvial/clay pan cover.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* *The total length and percentage of the relevant intersections logged.*	For the 2018 and 2019 drilling campaigns: • RC chips were logged at the drill rig. • Diamond drill core was logged at a secure facility in Kununurra, where it is also stored. • All core was logged in detail. Core was processed with orientation lines and metre marks. Recoveries and RQD's were recorded. All core trays were photographed. For the 2007 to 2011 drilling programs, logging was conducted on A3 paper log sheets with hole ID, rock code, rock formation, colour, texture, breccia type, structure, grain size, weathering and alteration recorded. Visual estimates as mineral percentage (sphalerite, galena, pyrite) and style of mineralisation were also recorded. Structural measurements of stratigraphy and fault orientations were made where the ori-marks and orientation lines were of sufficient confidence. For the 2019 Phase III drill program: • RC chips were logged at the rig at Sorby Hills including indications of bulk lithologies, sedimentary textures, colours and visual estimates of mineralisation • Photographic records of the RC chip trays were also collected • 100% of the Phase III drilled 3,625 m have been logged.

Subsampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *Quality control procedures adopted for all subsampling stages to maximise representivity of samples.* *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* *Whether sample sizes are appropriate to the grain size of the material being sampled.*	For the 2018 and 2019 drilling campaigns: • Core was cut in half at the core shed in Kununurra using a diamond saw. Half-core samples were collected and placed in pre-numbered calico bags. Samples were placed into heavy duty plastic bags and sealed for transport to the laboratory. • 2 x 2 kg samples were collected from each RC metre using a rig mounted cone-splitter. The booster compressor was used on the rig to maintain consistently dry samples. One sample was used to be sent to the laboratory for analysis if selected, and the other stored in the Kununurra facility. • Samples from RC holes into mineralisation were scanned with a portable XRF for an indication of qualitative lead concentration. 1 m intervals were selected to be sampled of above 0.3% Pb as indicated by the portable XRF. An additional metre sample was taken above and below this interval. • In the occurrence of a drillhole having separate mineralised intervals, additional assay samples may have been selected for continuity of data where the gap between mineralised intervals was small (e.g. less than ~5 m). • For drilling campaigns pre-2018: • Core was cut in half at site using a diamond saw. Half core samples were collected and placed in pre-numbered calico bags. Samples were collected by the project geologist and geo-technician and placed into poly-weave bags for transport to the laboratory. • From 2007 through 2010, RC samples were collected at 1 m intervals using a trailer-mounted cone splitter attached to the drilling rig. 2–3 kg of split material for each metre was collected in a calico bag to be submitted for assay. • In 2011 drilling samples were not split off the drill rig because of the possibility of water ingress clogging up the cyclone and cone splitter when hitting a cavity. Drilling was suspended when water/wet sample encountered, and the hole dewatered prior to recommencement of drilling. Instead, a PVC pipe spear was used to obtain approximately 2–3 kg of sample from a representative cross section of the entire 1 m sample. KBL considered this to be the best means of sample collection avoiding potential for contamination within a sample splitter. • In 2011, using an Olympus Innov-X portable XRF analyser at the rig, readings over 1% lead, 1% zinc and/or 20 ppm silver were regarded as anomalous and were sampled at 1 m intervals with at least 2 m either side (regardless of XRF reading) also collected as individual metre samples. Samples with lower, background, metal levels were amalgamated into 4 m composite intervals. For all sampling, the sample sizes are considered to be appropriate to the grain size of the material being sampled.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	For the 2018 and 2019 drilling programs: • Samples were sent to the nationally certified Intertek-Genalysis in Darwin for preparation and analysis. Duplicates, blanks and standards were inserted at regular intervals. Multi-acid digestion of pulverised sample was followed by ICP-OES or an equivalent assay technique. • Drill core and rock chip samples were assayed to accepted industry standards at the Intertek-Genalysis laboratory in Darwin. Multi-acid digestion of pulverised sample was followed by ICP-OES or an equivalent assay technique. • Certified Ore Grade Base Metal Reference Material was provided by Geostats Pty Ltd. The standards selected covered a range of lead and silver concentrations and there is good agreement between the lead and silver assays, and the mean values provided with the reference standards. For the standards the assayed values were within half of one standard deviation and more commonly below the mean suggesting that grade overestimation is not a significant problem in the dataset. • Duplicates and blanks were also included in all sample despatches and results are considered as acceptable by the Competent Person and by Pacifico and the drill samples are considered to be suitable to support the Mineral Resource estimate (MRE). • All 596 results from the Phase III laboratory assay tests have all been received and reviewed (pertinent results reported in this announcement). QAQC indicates results are within acceptable limits.

		• For drilling campaigns pre-2018: • Drill core and rock chip samples were assayed to accepted industry standards at nationally certified laboratories such as ALS, SGS and Genalysis. Multi-acid digestion of pulverised sample was followed by ICP-AES (inductively coupled plasma–atomic emission spectrometry) or an equivalent assay technique. • Samples from the 2007 and 2010 drilling program were submitted to the laboratory and analysed using the ME–ICP 61 (multi-element–inductively coupled plasma) technique. The method involves a four-acid digest of the sample followed by measurement by ICP-AES for a suite of 34 elements. Where assays were in excess of 1% lead or zinc, an additional ore grade analysis was made using the ME–OG 62 (multi-element–ore grade) method, which gives a more accurate analysis for high-grade material. • Samples from the more historical drill programs were dispatched to an external laboratory, either SGS Sydney or ALS Brisbane. The samples were crushed to 100% passing 80 mesh and then digested in a mixture of nitric, perchloric and hydrofluoric acids. The digested samples were analysed using atomic absorption spectroscopy (AAS). Several check samples were sent to other labs to assess the analytical accuracy; these show excellent correlation. Samples taken from 1975 onwards are accepted as representative of the mineralisation present at Sorby. • During post-2007 drilling, standards were inserted at least every 30 samples in the stream, consisting of Certified Ore Grade Base Metal Reference Material provided by Geostats Pty Ltd. The standards selected covered a range of lead and silver concentrations and there is good agreement between the lead and silver assays, and the mean values provided with the reference standards. For the standards the assayed values were typically within one standard deviation and more commonly below the mean suggesting that grade overestimation is not a significant problem in the dataset. • Duplicates and blanks were included in the 2010 drilling but not the 2011 drilling. • Check-samples sent to umpire laboratories in 2010 showed good agreement between ALS and Genalysis laboratories.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	QAQC and data downloaded from the assay laboratory was checked by an independent third party to confirm accurate transposing of sample number assay results with respective drillhole intervals. Geological logs were entered digitally into data entry drill log templates in Microsoft Excel. Assay certificates were received from the analytical laboratories and imported into the drill database. No adjustment was made to the data. In 2007, 14 twin holes were drilled using HQ diamond core into Beta, I, D and C pods to enable an assessment of the oxide and sulphide mineralisation within the deposit and also test the three historical drilling methods. The results from the twin holes display very poor grade and thickness correlation with the historical holes. The data suggested that a high degree of grade variability exists within the deposit and there is evidence of grade smearing in the open hole and RC assay data. Many historical holes were excluded from the MRE on the basis of these results, and other observations made at the time of drilling. Two twinned holes were drilled in the 2010 drilling campaign at I pod, to test repeatability of drill results and compare drilling methods. The assay results showed close correlation of lead, silver and zinc grades in one of the twins (drilled 1.5 m apart) but only close correlation for silver and zinc in the second. Sporadic mineralisation of this nature comprising veins, pods and vughs is observed in drill core.
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	The 2018 and 2019 drillhole collars were accurately surveyed using a differential GPS by a registered surveyor and recorded in GDA94 Zone 52. It was concluded early in the 2018 program that the drill rig affected the downhole compass to a depth of at least 60 m. A downhole Reflex gyro survey instrument was employed in the 2018 and 2019 drill programs (drillhole dips of 60° and 70°) to measure the dip and azimuth of the holes with readings taken every 30 m. Post-2007 and pre-2018 drillhole collars have been accurately surveyed by differential GPS. Drillhole collar coordinates have been recorded in GDA 94 grid in the KBL Mining drilling database.

		Pre-2007 drillhole collars have been accurately surveyed in local grid. Drillhole collar coordinates have also been converted to GDA94 Zone 52 grid as recorded in the KBL Mining drilling database. Over 95% of drillholes are vertical with 90% having no downhole surveys. An analysis of the trajectory of vertical holes accompanied drilling in 2010. Downhole surveying of dip and azimuth for diamond holes was conducted using a single shot, Eastman downhole camera. Holes drilled from surface were surveyed at 15 m to minimise interference from the rig and every 30 m after that to the end of hole. RC hole orientations were surveyed using a single-shot Pathfinder downhole electronic camera. Holes were surveyed at 6 m below surface and every 30 m after that to the end of hole. As a result of this work, it was determined that most of the diamond drillholes remained relatively vertical with very little downhole deviation with dip consistently between 88° and 90°. As expected, there was a slight deviation with holes lifting towards the west, perpendicular to the plane of bedding which dips gently towards the east. Most RC holes remained close to vertical with little downhole deviation, dipping consistently between 87° and 90°. There was a slight deviation with RC holes lifting towards the southwest. As the drilling intersecting the deposits is concentrated within 140 m of surface (mostly <70m from surface), a small deviation in hole azimuth and dip of vertical holes would not introduce significant uncertainty as to the sample location.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	Hole spacing varies but drilling is mostly completed on a 50 m (east-west) x 50 m (north-south) drill pattern. Infill drilling has achieved a closer spacing in many parts of the main D, E deposit (Omega Central) area. The data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and classifications applied. Sample compositing was not carried out.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	It is not considered that there is a significant sampling bias due to the orientation of sampling in relation to structure. Most holes in 2019 were drilled at 60° to the west (270°), to better sample both shallow and steeply dipping structures considered significant to the mineralisation.
Sample security	*The measures taken to ensure sample security.*	Samples are stored and processed at a secure facility in Kununurra. All samples obtained in 2018 and 2019 were taken by Pacifico personnel to the truck depot in Kununurra and placed on a pallet and sealed for transport direct to the Intertek-Genalysis laboratory in Darwin. Samples obtained 2007 to 2010 were sent via road to Genalysis Laboratories in Perth, Western Australia using a local transport courier from Kununurra. On delivery, a sample receipt notice was forwarded to acknowledge receipt of samples by the lab.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	Independent geologists have reviewed the sampling protocols in the field, the import of assay results from the laboratory online access system and the data management within Microsoft Excel spreadsheets and the Microsoft Access database in recent periods. The historical drilling (pre-2007) has been reviewed on several occasions by previous and current property owners, with many of the historical holes deemed to have poor quality assurance, and therefore not to be used for Mineral Resource estimation.

Section 2: Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Pacifico Minerals Ltd acquired a 75% interest in the Sorby Hills lead-silver project in Western Australia on 5 October 2018. Yuguang (Australia) Pty Ltd and wholly owned subsidiary of Henan Yuguang Gold & Lead Co. Ltd (HYG) owning the remaining 25%. The Sorby Hills Project comprises five mining leases (M80/196-197 and M80/285-287), all of which are currently held jointly between Sorby Hills Pty Ltd (75%) and Yuguang (Australia) Pty Ltd (25%). **Tenement / Area (km2) / Granted / Expiry** M80/196 / 9.99 / 22/01/1988 / 21/01/2030 M80/197 / 9.95 / 22/01/1988 / 21/01/2030 M80/285 / 5.57 / 29/03/1989 / 28/03/2031 M80/286 / 7.89 / 29/03/1989 / 28/03/2031 M80/287 / 8.15 / 29/03/1989 / 28/03/2031 The mining leases are centred at coordinates 128°57'E, 15°27'N. The project area is approximately 50 km north-northeast of the township of Kununurra and covers a total area of 12,612.40 ha. Native title has not been granted over the area. The mining leases were granted prior to the High Court acknowledging Native Title and therefore native title has been extinguished over the mining leases. The project area lies adjacent to proposed Goomig Range Conservation Park. Tenure is in good standing until 2030 (in some cases, out to 2031). M80/286 and M80/197 have a current cultural clearance access agreement in place; for the remaining mining tenements normal cultural clearance plans would be required. No mining agreement has been negotiated.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	The Sorby Hills area has been systematically explored by numerous companies since 1971. Prominent amongst these were ELF Aquitaine (1973–1981) with various joint venture partners (SEREM, St Joe Bonaparte amd BHP), BHP (1981–1988), in joint venture with Triako; and CBH/Kimberley Metals/KBL Mining. Previous work included, geologic mapping, soil geochemistry, airborne and ground geophysics and extensive drilling campaigns.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Sorby Hills mineralisation is classified as Mississippi Valley Type (MVT) implying replacement of carbonate-host rocks by lead-silver-zinc-iron sulphides. Recent geological assessment has refined this to a sediment replacement system, with mineralisation focused on the contact between the lower Knox Sediments and the upper Sorby Dolomite. The Sorby Hills mineralisation consists of a number of carbonate-hosted lead-silver (zinc) deposits (previously referred to as pods): A–J, Beta East, Beta West and Alpha historically delineated on the basis of 0.5% Pb over 3 m geological cut off. Anomalous mineralisation extends well beyond the limits of the delineated deposits. The deposits form a curvi-linear north-south belt extending over 7 km, sub-parallel to the eastern margin of the Precambrian Pincombe Inlier and within the Carboniferous Burt Range Formation of the Bonaparte Basin.

Criteria	JORC Code Explanation	Commentary
		The mineralisation is largely stratabound and hosted mainly in Transitional facies on the contact between Knox Sediments and Sorby Dolomite and in dolomitic breccia which is typically developed at the contact of a crystalline dolomite unit and overlying dolomitic bioclastic siltstone which generally dips shallowly to the east. The deposits average 7–10 m in thickness, are from 2 km long and 100–500 m wide. There is some structural control to the mineralisation, with higher grade zones associated with faulting. Mineralisation is often thicker and/or of higher grade in areas of strong brecciation. The Sorby Hills primary mineralisation is typically silver and lead-rich with moderate to high pyrite (FeS_2) content and generally low amounts of sphalerite (ZnS). Galena (PbS) occurs as massive to semi-massive crystalline replacement lenses often found in the more argillaceous units, and as coarse to fine disseminations or as open-space fill in fractures, breccias and vughs. Sphalerite precipitation typically predates galena and occurs as colloform open-space fill. It is typically more abundant at the lateral fringes of and below the lead mineralisation. Silver values tend to increase as the lead content increases and is generally assumed to be closely associated with the galena in the form of tetrahedrite and tennanite. The upper portions of the deposits are often oxidised and composed of a variable mix of cerussite ($PbCO_3$) and galena. Cerussite has also been observed deeper in the deposits where faults, fractures and or cavities have acted as conduits for meteoric waters. The extent to which secondary lead minerals exist through the deposit has not been systematically documented; however, it is possible that other lead-oxide minerals may be present.
Drillhole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* *easting and northing of the drillhole collar* *elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar* *dip and azimuth of the hole* *downhole length and interception depth* *hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	A report has been prepared by the registered surveyor as to the accuracy of the differential GPS surveying undertaken at the drill collars. The drillhole database for the Sorby Hills project area for A, B, Omega, H, I, J, Alpha and Beta deposits since its discovery in 1971 comprises 1,325 surface drillholes for a total of 125,378.2 m of drilling. The MRE is based upon the results from all drilling from 2007 onwards, and a selection of historical holes which meet the Competent Person's quality assurance standards.

Criteria	JORC Code Explanation	Commentary
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No aggregated exploration data is reported here.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* *If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	The stratabound mineralisation at Sorby Hills generally dips gently to the east and drilling intercepts are typically close to true width.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.*	All plan view, cross-sectional and long sectional diagrams accurately reflect coordinates. Where there is a vertical exaggeration in the long section then this is clearly stated.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Exploration results are not reported here, refer to previous company announcements (e.g. 30 January 2020) for further detail.

Criteria	JORC Code Explanation	Commentary
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Since the discovery of Sorby Hills base metal deposit in 1971 considerable geological information concerning the mineralisation and its host has been compiled. Similarly, numerous geochemical soil surveys and geophysical surveys have been conducted across the tenement package. This information is well documented in company annual reports and can be readily accessed via the Western Australian Department of Mines, Industry Regulation and Safety website. Extensive metallurgical testwork on drill core samples from the Sorby Hills deposit was carried out in the laboratories of the Technical Services Department of Mount Isa Mines Ltd, Mount Isa in the late 1970s and early 1980s. Subsequently, CBH Resources commissioned AMML to carry out a testwork program to confirm the results of the Mount Isa Mines work and investigate the replacement of sodium cyanide (NaCN), used as a depressant for iron pyrite and zinc sulphide, by alternative reagents. The results of this work appeared in Report 0034-1 dated 8 August 2008. Further testwork was carried out by AMML for Sorby Management, following the change in ownership of the Sorby Hills Project. The results appeared in Report 0194-1 dated 24 October 2011. A first stage of metallurgical testwork commissioned by Pacifico Minerals was reported 17 July 2019 (ASX Announcement). It confirmed the higher recoveries that can be obtained from this style of carbonate replacement mineralisation. Flotation recoveries of up to 96% Pb and 95% Ag were obtained and the testwork indicated that a final concentrate grade of 65% Pb can be produced. Outstanding results were also obtained to upgrade the ores prior to flotation by heavy liquid separation and by ore sorting. In its recent review of the geological setting Pacifico extracted and reviewed the historical geological logs which were commonly supported by downhole gamma logs for stratigraphic correlation and detailed geological descriptions In addition, previously unutilised gravity survey data (CBH 2012) was used to review the subsurface controls on mineralisation. It was concluded that mineralisation was associated with the transition from gravity lows to gravity highs. The gravity lows are interpreted to represent thicker clastic facies and paleaochannel fills which show a direct linear correlation with basement lineaments.
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Further drill campaigns are planned to target significant but wide-spaced intercepts in the Inferred Resource category as well as tightening the data density in the Indicated category for conversion of Indicated Resources to Measured status. There will be an additional need for metallurgical drilling and possibly geotechnical drilling. Regarding exploration, a number of conceptual targets based on gravity data may be drill test as well as the ground-gravity survey itself expanded. Pacifico also considers using the gamma-gamma probe to further refine the density/porosity data base.

Section 3: Estimation and Reporting of Mineral Resources

(Criteria listed in Section 1, and where relevant in Section 2, also apply to this section)

Criteria	JORC Code Explanation	Commentary
Database integrity	*Measures taken to ensure that data has not been corrupted by, e.g. transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* *Data validation procedures used.*	Sorby Hills drillhole data was imported from spreadsheets into a Microsoft Access database, which was validated for any errors such as overlapping sample intervals or collar surveys located outside the bounds of the project area. Hand drawn drillhole logs are stored in scanned digital form. Data validation checks are routinely run when data is interpreted in 3D visualisation and modelling software. A cross-check of historical Omega deposit area collar coordinates in the database against original drillhole plans in Western Australian Department of Mines and Petroleum reports was performed in 2011 and no errors found.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	CSA Global consultants conducted site visits as part of 2007 and 2010 drilling campaigns and were involved with earlier resource estimates at Sorby Hills. The Competent Person has relied upon the opinions and recorded observations of the CSA Global consultants as to the quality of the sampling, location of project and local infrastructure, and the local geology. A site visit is planned once COVID-19 travel restrictions are lifted. The Competent Person responsible for the MREs is of the opinion that this work has all been completed in line with industry best practice and to an appropriate standard for the Mineral Resource reported.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* *Nature of the data used and of any assumptions made.* *The effect, if any, of alternative interpretations on Mineral Resource estimation.* *The use of geology in guiding and controlling Mineral Resource estimation.* *The factors affecting continuity both of grade and geology.*	The geological models for the A, B, Omega, Norton, Alpha and Beta deposits were re-interpreted for this MRE update, based upon recent drill sample data and a better geological understanding of geological controls to mineralisation. Lithostratigraphic and weathering models were interpreted for the same deposits. The A deposit was re-interpreted based upon the inclusion of several historical drillholes, previously suppressed but now deemed to have sufficient quality assurance to warrant their inclusion. The geological interpretation is currently broadly similar to the models used in previous Mineral Resources. There is a high level of confidence in the geological interpretation of the mineral deposits. The geological interpretation involved interpreting the litho-stratigraphic models, followed by mineralisation and then weathering models. Historical and recent drill logs and gamma probe logs were reviewed and information interpreted from these assisted with the geological interpretations and lifted the confidence in the geology models. Geological observations from the 2018 and 2019 drilling programs has refined the geological models for the B, Omega, Norton, Alpha (Pb and Zn zones) and Beta deposits. The mineralised zones were treated having hard boundaries during grade estimation. The weathering profiles were treated as soft boundaries. There is some structural control to the mineralisation, with higher grade zones located near faults. Mineralisation is often thicker and/or of higher grade in areas of strong brecciation.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The global Mineral Resource has a strike length of 5,000 m and plan widths of between 100 m and 500 m. The southern deposits (A to F) vary in depth from 10 m below surface to 170 m below surface. The Norton deposit is flat lying to shallow dipping to the east, and typically sits at a depth of 80 m below surface. The Alpha (Pb zone) and Beta deposits are relatively flat lying. The Alpha (zinc) is a steeply dipping domain.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from*	Datamine Studio RM was used for the geological modelling, block model construction, grade interpolation and validation.

Criteria	JORC Code Explanation	Commentary
	data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* *The assumptions made regarding recovery of by-products.* *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* *Any assumptions behind modelling of selective mining units.* *Any assumptions about correlation between variables.* *Description of how the geological interpretation was used to control the resource estimates.* *Discussion of basis for using or not using grade cutting or capping.* *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	A block model with block sizes 10 m(X) x 10 m(Y) x 5 m(Z) was constructed. Sub-celling was used. The block sizes are approximately half the tightest drill spacing, which generally supports an Indicated classification. Blocks were flagged according to the geological and mineralisation envelopes. Drill sample data were flagged by the mineralisation, lithostratigraphic and weathering domain envelopes, with variables MINZON, LITH and WEATH used. Drillholes were sampled at 1 m intervals and the drill samples were accordingly composited to 1 m lengths for all deposits except for the A and Beta deposits which used a 2 m composite length. Composited sample data were statistically reviewed to determine appropriate top cuts, with top cuts applied for lead, silver and zinc where required. Log probability plots were used to determine the top cuts, and the very high-grade samples were reviewed in Datamine by the Competent Person to determine if they were clustered with other high-grade samples. Sample populations for lead, silver and zinc were split by mineralisation domains, as supported by a statistical analysis of assay data. The composited drill samples were input into variogram modelling. Normal scores variograms were selected for modelling because they presented the best structured variograms for the assays. Downhole and directional variograms were modelled for lead, silver and zinc, using data from the most populated domains. Moderate relative nugget effects were modelled, with short ranges generally 70–100 m for lead associated with sills of up to 90% of the population variance. Long ranges were modelled in excess of 200 m. Major variogram directions exhibited a shallow plunge varying between northeast and southeast. Grades were interpolated for lead, silver and zinc by ordinary kriging, and iron and sulphur by inverse distance squared. Local dip variations honoured by using Datamine's Dynamic Anisotropy functionality. Blocks were estimated using a search ellipse of 125 m (major) x 125 m (semi-major) x 5 m (minor) dimensions, with a minimum of five and maximum of 25 samples from a minimum of four drillholes per cell interpolation. Search radii were increased, and the minimum number of samples reduced in subsequent sample searches if cells were not interpolated in the first two passes. Cell discretisation of 5 x 5 x 1 (X, Y, Z) was employed. Grades were estimated into the waste domains using inverse distance squared. The Mineral Resource is an update of the October 2019 MRE (reported on 31 October 2019), with updated geological interpretations for the B, Omega, Norton, Alpha and Beta deposits based upon results from the 2018 and 2019 drilling, and a review of historical and more recent drill sample logs and gamma probe results. Zinc and silver were interpolated into the mineralisation domains and metallurgical testwork are in progress to gain further understanding of their recoveries. The interpolated grades were validated by way of review of cross sections (block model and drill samples presented with same colour legend); swath plots, and comparison of mean grades from de-clustered drillhole data.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	A reporting cut-off grade of 1% Pb is used to report all Mineral Resources except for the Alpha (zinc) deposit, which is reported above a cut-off grade of 1% Zn. Pacifico has carried out recent mining studies supporting a cut-off grade of 1% Pb.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the*	No mining factors are assumed for the Mineral Resource deposit. The majority of the deposits are amenable for open pit extraction, as shown by the prefeasibility study currently in progress.

Criteria	JORC Code Explanation	Commentary
	process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	No metallurgical factors were assumed in the MRE. Flotation recoveries of up to 95.4% Pb and 94.4% Ag were obtained and the testwork indicated that a final concentrate grade of 62% Pb can be produced. Metallurgical testwork for the current prefeasibility study is complete. For mineralisation hosted in oxide and transitional weathering domains, recoveries of 84% (Pb) and 94.4% (Ag) were achieved from flotation testwork. For mineralisation hosted in the fresh rock domain, recoveries of 95.4% (Pb) and 81.5% (Ag) were achieved.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	No environmental factors were assumed in the MRE. A hydrogeological site investigation is ongoing as part of the current prefeasibility study.

Criteria	JORC Code Explanation	Commentary
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Bulk densities were calculated for each block. A review of the Company's density was undertaken in light of the revised geological model. The revised approach to density recognises the lithological differences and assigns a base-density factor to all primary rock types as well as to the weathering zones. The base values are modified by the density contribution from the principal sulphide minerals, galena, pyrite and sphalerite. The overall impact on tonnes is not material but is thought to be a more accurate representation of the density distribution. Density test work was carried out on mineralised and un-mineralised diamond core samples obtained during 2018 and 2019 drilling programs. Core segments were measured using either the water immersion (Archimedes) technique for both wax coated and non-coated material and using the calliper method. There was a very strong correlation between the two methods. A total of 389 measurements were taken using the water immersion technique and these results were used to derive a base density value. The following formula was derived and used to calculate the bulk density for each block in the block model, where lead, zinc and iron are the estimated block grades, and BD is the base density value assigned to a combination of each of the lithostratigraphic and weathering domains. This formula is an update to the formula used in the previous MRE and is considered to be a more accurate representation of the distribution of density through the rock mass. Density = 100/((100-Pb%-Zn%-Fe%)/ BD) + Pb/11.35 + Zn/7.14 + Fe/7.87) The following base density values (t/m^3) were used: **Weathering and Stratigraphic Unit** / **Sorby Dolomite** / **Transitional Breccia** / **Knox Formation** Oxide / 2.4 / 2.4 / 2.4 Transitional / 2.7 / 2.55 / 2.54 Fresh / 2.8 / 2.73 / 2.63 A transported clay horizon sitting above the Alpha and part of the Omega deposit was assigned a density value of 2.4. Further drilling programs will continue to collect density data. The host rock sequence exhibits a natural primary dissolution porosity related to mineralisation, but this is not uniform in its distribution and not always recognisable during visual inspection of the diamond drill core. The spatial distribution of the density data throughout the deposit do not fully capture the distribution of the porosity and therefore a cautionary tonnage adjustment factor was applied during the final grade-tonnage reporting stage. The final tonnage estimates were reduced by 2% globally to account for an empirically determined unaccounted porosity percentage in the mineralisation.

Criteria	JORC Code Explanation	Commentary
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.* *Whether appropriate account has been taken of all relevant factors (relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The Mineral Resource has been classified following due consideration of all criteria contained in Section 1, Section 2 and Section 3 of JORC 2012 Table 1. The Mineral Resources were classified based upon drill hole spacing, quality of sampling and sample analyses, quantity of density measurements, and the relative confidence in the geological interpretation. This upgrade to the Mineral Resource is supported by a high level of confidence in the geological interpretations, and substantial improvement to the robustness of the density model, both of which are key in supporting the Measured classification for the first time at the project. Data quality and confidence in the geological interpretation support the classification. Perimeters for Measured, Indicated and Inferred volumes were used to assign classification values (RESCAT: 1 = Measured, 2 = Indicated, 3 = Inferred, 4 = unclassified). The Measured Mineral Resource is supported by regular drill pattern spacing of 25 m (EW) x 25 m (NS), or less. The Indicated Mineral Resource is supported by regular drill pattern spacing of 50 m (EW) x 50 m (NS), or less. The Inferred Mineral Resource is supported by regular drill pattern spacing of 50-100 m (EW) x 50-100 m (NS). Waste blocks are recorded as unclassified (RESCAT=4) The final classification strategy and results appropriately reflect the Competent Person's view of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The MRE was internally peer reviewed by CSA Global prior to release of results to Pacifico. CSA Global reviewed the data collection, QAQC, geological modelling, statistical analyses, grade interpolation, bulk density measurements and resource classification strategies.
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	Relevant tonnages and grade above nominated cut-off grades for lead and zinc are provided in this report. Tonnages were estimated by filtering all blocks above the cut-off grade and subsetting the resultant data into bins by mineralisation domain. The volumes of all the collated blocks were multiplied by the dry density value to derive the tonnages. The Mineral Resource is a local estimate, whereby the drillhole data was geologically domained above nominated cut-off grades.

Section 4: Estimation and Reporting of Ore Reserves

(Criteria listed in Section 1, and where relevant in Sections 2 and 3 apply to this Section)

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	*Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	Mineral Resources are reported inclusive of the Ore Reserves. This Ore Reserve is based entirely on the Measured and Indicated portion of the current reported Mineral Resources of the Sorby Hills deposit (refer to ASX release 02/06/20 Mineral Resource Update at the Sorby Hills Lead-Silver-Zinc Project). Specifically, the Ore Reserve considers the areas Omega, B-Pod, and Norton (where Norton is the re-titled I-Pod). The areas Alpha and Beta of the Mineral Resource have been excluded from this Ore Reserve as they are Pb-Zn-Ag (rather than Pb-Ag) and require a different processing setup to realise value. A-Pod is also excluded from this Ore Reserve as it is an Inferred Resource.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	The Competent Person has not visited the site. The Competent Person is comfortable relying on reports from other independent consultants and independent public domain spatial data to confirm physical inputs to the study.
Study status	*The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	The mining study supporting the Ore Reserve has been completed to a Preliminary Feasibility level. Modifying Factors accurate to the study level have been applied. The resulting mine plan is technically achievable and economically viable.
Cut-off parameters	*The basis of the cut-off grade(s) or quality parameters applied.*	An initial cut-off grade of 1.5 % Pb was calculated based on preliminary cost and revenue assumptions and adopted for pit optimisations. A subsequent validation of the cut-off grade was undertaken using the resulting pit optimisation physicals. A range of cut-off values were evaluated and the selected 1.5% Pb resulted in the peak cumulative cashflow.
Mining factors or assumptions	*The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.*	Conventional mining methods have been chosen. Waste mining is planned around a 350 t-class excavator and 200 t-class dump trucks. Ore mining is planned around a 120 t-class excavator and 90 t-class dump trucks. Open pit designs are matched to the planned equipment fleet. Entech geotechnical consultants prepared the geotechnical analysis which forms the basis of design criteria. Based on the recent (2019) dedicated geotechnical program of 15 diamond drill holes and laboratory testing, the confidence level of the geotechnical data for B-Pod and Omega is Feasibility Study level. Based on the recent (Aug-2020) geotechnical photo logging of two diamond drill holes at (Norton) I-Pod, it is considered to be Pre-Feasibility Study level.Modifying factors for mining dilution and mining recovery were simulated by modelling to a Selective Mining Unit (SMU) of 5.0 mX x 5.0 mY x 2.5 mZ. This re-blocking technique dilutes fully into the SMU size and the resultant model was then used for pit optimisation and reporting.

Criteria	JORC Code Explanation	Commentary
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). *The mining dilution factors used.* *The mining recovery factors used.* *Any minimum mining widths used.* *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* *The infrastructure requirements of the selected mining methods.*	The addition of mining dilution resulted in an ore loss due to blocks being diluted to below the reporting cut-off value and resulted in an overall mining dilution of 9.3% and an overall mining recovery of 94.7%. Feasibility level mine designs support the Ore Reserve estimation. Scheduled movement addresses typical ore body widths between 30 to 50 m wide. Bench operating widths consider the selected fleet and are typically >300 m wide. Inferred Mineral Resources are not recognised by the Ore Reserve and have been excluded from all economic consideration (treated as waste). The Ore Reserve is technically and economically viable without the inclusion of Inferred Mineral Resource. The following infrastructure will be required and is included in the preliminary feasibility level capital and operating cost estimate: • tailings storage facility, • waste rock landform, • administration buildings, • stores and maintenance facilities, • power generation and reticulation, • waste-water treatment facilities, • water catchment dams, • bore fields, • evaporation ponds, and • processing plant.
Metallurgical factors or assumptions	*The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* *Whether the metallurgical process is well-tested technology or novel in nature.* *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* *Any assumptions or allowances made for deleterious elements.* *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	The metallurgical process was developed to a preliminary feasibility level including the development of a flowsheet and capital and operating costs. The process stages are based on well understood conventional unit processes. The plant design flow sheet uses conventional metallurgical processes for this style of ore. The technology is standard in the base metal industry and will process the varying ore types (oxide/fresh) through a primary crushing and SAG grinding circuit (P80), pre-float, rougher flotation and two stages of cleaning to produce a saleable lead concentrate. A feasibility study level metallurgical test work program supporting the flowsheet concept was completed in 2020 by ALS Metallurgy Perth. Metallurgical recovery factors were determined for each recovered metal (lead and silver) in the concentrate product stream for the nominated oxide/fresh ore zones. The deleterious element content of each concentrate product was determined.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr>
<td>Environmental</td>
<td>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</td>
<td>
Previous project owner KBL Mining Ltd undertook significant project development and associated environmental work over the period 2008 to 2011 with environmental consultancy firm Animal Plant Mineral Pty Ltd (APM). This work culminated in the Environmental Approvals documentation for referral of the Project to the Environmental Protection Authority (EPA) in 2011.
The Project was assessed as a Public Environmental Review (PER), was released in 2013 and accepted on the 2nd of April 2014 subject to ministerial conditions. Sorby Hills Pty Ltd acquired the Project in 2018 as was formerly held by KBL.
The Study conforms to the EPA conditions with the following exceptions:

total disturbance areas are within the original conditions.
surface mineralised waste dumps require approval,
increased dewatering volume to evaporation requires approval, and
seasonal discharge of diluted mine dewatering water requires approval.

SMPL considers these items relatively low risk as they are typical of mining projects in the region
Approvals and generic timeframes for post EPA assessment documents are as follows:
<table>
<tr><th>Approval</th><th>Stage</th><th>Timeframe
(Business Days)</th><th>Total
(Business Days)</th><th>More Realistic
Timeframe
(Business Days)</th></tr>
<tr><td>Mining Proposal and Mine Closure Plan</td><td>Assessment</td><td>30-60</td><td>60</td><td>90 – 120</td></tr>
<tr><td rowspan="2">Works Approval and Prescribed Premises Licence(s)</td><td>Assessment</td><td>60</td><td rowspan="2">88</td><td rowspan="2">90 – 150</td></tr>
<tr><td>Appeals Period</td><td>28</td></tr>
<tr><td>Project Management Plan</td><td>Assessment</td><td>30</td><td>30</td><td>30 – 60</td></tr>
</table>
The Project seeks to minimise surface waste dumps by utilising in pit waste disposal whenever there is back-filling space and capacity in adjacent pits. When this does not occur, material is taken to surface stockpiles. At mine closure, these surface stockpiles are rehabilitated, as are the remaining pit voids.
Infrastructure has been located and designed to minimise the project footprint and potential environmental impacts within a topographically constrained environment.
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Criteria	JORC Code Explanation	Commentary
Infrastructure	*The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	There is currently no substantial on-site infrastructure, and the preliminary feasibility study comprehensively estimates the costs for the development of all necessary infrastructure items. Delivery of the concentrate material is expected to occur along the already existing sealed Victoria and Great Northern Highways to the Port of Wyndham, where material can be exported.
Costs	*The derivation of, or assumptions made, regarding projected capital costs in the study.* *The methodology used to estimate operating costs.* *Allowances made for the content of deleterious elements.* *The source of exchange rates used in the study.* *Derivation of transportation charges.* *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* *The allowances made for royalties payable, both Government and private.*	Capital and Operating costs were estimated to preliminary feasibility level accuracy (±25%) in 3rd quarter 2020 (calendar year) based on the mechanical equipment lists, drawings and scope definition undertaken as part of the study. Process operating cost estimates were based on a breakdown of costs by discipline including consumables, power, labour and maintenance. Mining operating costs were largely sourced from quotations provided by mining contractors along with first principles estimations and database rates by independent consultants. Processing, and general and administration operating costs were prepared by DRA and SMPL. SMPL applied a fixed exchange rate of USD/AUD of 0.70. Henan Yuguang have assessed the quality specification of the scheduled concentrate and have indicated it is acceptable and free from penalty payments. The product value has been assigned based on its lead and silver elemental makeup. All infrastructure components and consumables are assumed delivered to site at estimated road haulage rates. Product is considered sold upon delivery to the destination port. TC/RC forecasts are based on analysis of independent forecasts from a range of third-party providers and third-party smelters. Allowances have been made for royalties, land access payments and mine rehabilitation fund.
Revenue factors	*The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	The revenue is a function of diluted block grade, modelled comprehensively through the mining, mineral processing, and transportation chain where it is expected to be delivered to offtake at a forecast price. Metal price and foreign exchange assumptions are based on analysis of consensus forecasts from a range of third-party providers as follows: • Exchange Rate: 0.70 (USD/AUD), • Lead Price: US$2,095/t, and • Silver Price: US$21.10/oz. The mine planning underpinning the Ore Reserves was conducted using preliminary, fixed point product pricing that was suitable for blockmodel coding and mine design. The Ore Reserves are feasible and economic under the adopted pricing schedules.
Market assessment	*The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* *A customer and competitor analysis along with the identification of likely market windows for the product.* *Price and volume forecasts and the basis for these forecasts.*	Approximately 740,000 (dry) metric tonnes of 62% lead concentrate and 590 g/t silver co-product are forecast over nine years. Pacifico Minerals Limited joint venture partner Henan Yuguang has rights to 25% of the product and option for more. Henan Yuguang have assessed the quality spec of the concentrate and have indicated it is acceptable and free from penalty payments. An offtake agreement is to be established for the remaining product however, given the volume and high quality of lead concentrate produced would attract a ready market domestically and internationally.

Criteria	JORC Code Explanation	Commentary
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	
Economic	*The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	To estimate an Ore Reserve, an NPV was estimated at a discount rate of 8%. The confidence in the inputs is consistent with a Proved and Probable classification Ore Reserve. The project has a positive NPV.
Social	*The status of agreements with key stakeholders and matters leading to social licence to operate.*	Ethnographic and archaeological surveys have been completed and approved for the proposed disturbance areas of Omega and Norton (retitled I-Pod). Surveys should be undertaken for B pit (south of M80/197) which are outside the previously approved clearance area.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* *Any identified material naturally occurring risks.* *The status of material legal agreements and marketing arrangements.* *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	Major construction, supply, operational, consumables supply and site service contracts remain to be committed and finalised. Lead concentrate off-take is uncommitted. All tenements required for the construction and operation of the Project are granted and in good standing. The project disturbance area is on M80/196, M80/197 and M80/286 which are all granted. There are no grounds to believe that remaining required approvals will not be successfully granted.
Classification	*The basis for the classification of the Ore Reserves into varying confidence categories.* *Whether the result appropriately reflects the Competent Person's view of the deposit.* *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	The Proved and Probable Ore Reserve is based on that portion of the Measured and Indicated Mineral Resource within the mine designs that may be economically extracted and includes an allowance for dilution and ore loss. The result appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	*The results of any audits or reviews of Ore Reserve estimates.*	No external Audits or reviews have been completed.

Criteria	JORC Code Explanation	Commentary
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The design, schedule, and financial model on which the Ore Reserve is based has been completed to a Pre-Feasibility study standard, with a corresponding level of confidence. The Ore Reserve is based on a sub-set of the Resource estimate considering the areas • Omega, • Norton (I-Pod), and • B-Pod There is a degree of uncertainty associated with geological estimates. The Reserve classifications reflect the levels of geological confidence in the estimates. There is a degree of uncertainty regarding estimates of impacts of natural phenomena including geotechnical assumptions, hydrological assumptions, and the modifying mining factors, commensurate with the level of study. The Competent Person is satisfied that the analysis used to generate the modifying factors is appropriate, and that a suitable margin exists to allow for the Ore Reserve estimate to remain economically viable despite reasonably foreseeable negative modifying factor results. There is a degree of uncertainty regarding estimates of operating costs, TC/RC costs, transport charges, concentrate payability factors, metal prices and exchange rates, however the Competent Person is satisfied that the assumptions used to determine the economic viability of the Ore Reserves are reasonable based on current and historical data. Further, i.e. quantitative, analysis of risk is not warranted or appropriate at the current level of technical and financial study.

Appendix 2 – Metal Equivalent Calculation Method

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

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:

MetalEq (%) = $G_{pri} + (G_{pri} \times [\sum i \ R_i \ S_i \ V_i \ G_i]/(R_{pri} \ S_{pri} V_{pri} G_{pri}))$

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. Pacifico 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.