

17 July 2019

METALLURGICAL TESTWORK PROGRAM YIELDS HIGHLY POSITIVE RESULTS

Pacifco Minerals Limited (ASX: PMY) ('**Pacifco**' or the '**Company**') is pleased to announce results from the Company's Phase I metallurgical testwork program for its 75% owned Sorby Hills Lead Silver Zinc Project ('**Sorby Hills**') located 50km northeast of Kununurra in Western Australia.

HIGHLIGHTS

- Highly positive results confirm the potential for the Project to produce high quality lead concentrate containing appreciable silver credits.
- Flotation recoveries higher than recent Pre-Feasibility Study ('PFS') assumptions:
 - Rougher flotation testing with sulphidisation indicates:
 - up to 96% Pb and 95% Ag recovery on Fresh composite (T70); and
 - up to 91% Pb and 95% Ag recovery on Oxide composite (T76).
 - Cleaner flotation testing confirms final concentrate grade of 65% Pb can be produced.
- Further heavy liquid separation testwork ('HLS') to upgrade the ores has returned outstanding results with lead losses lower than the 10% assumed in the recent PFS:
 - Lead grade upgrade for fresh ore of:
 - 1.85x with lead losses of 3.3% at Specific Gravity ('SG') 2.75; and
 - 3.36x with lead losses of 6.6% at SG 2.93.
 - Lead upgrade for oxide ore of:
 - 1.22x with lead losses of 4.1% at SG 2.75; and
 - 2.15x with lead losses of 9.1% at SG 2.93.
- Preliminary ore sorting testwork returned 1.3x and 1.4x upgrades respectively for both Pb and Ag using XRT with lead losses of 2 - 3%.
- Additional testwork will be carried out to support the Optimised PFS to be completed by the end of Q4 2019.

CORPORATE DIRECTORY

Managing Director

Simon Noon

Directors

Richard Monti (Chairman)

Peter Harold (Non-Exec.)

Andrew Parker (Non-Exec.)

Company Secretary

Jerry Monzu

Registered Office

Level 10

105 St Georges Terrace

Perth WA 6000

Telephone

+61 8 6268 0449

Email

info@pacificominerals.com.au

ASX Code PMY

ABN 43 107 159 713

SORBY HILLS
PROJECT

Western
Australia

Perth

HISTORICAL METALLURGICAL TESTWORK

In the late 1970s and early 1980s, extensive metallurgical testwork was carried out in the laboratories of the Technical Services Department of Mount Isa Mines Limited ('MIM') using drill core samples from the Sorby Hills deposit. At this point, flotation was the only concentration process that was tested. Australian

Minmet Metallurgical Laboratories Pty Ltd ('AMML') were commissioned in 2008 to carry out a testwork program to confirm the MIM results. AMML also investigated the replacement of sodium cyanide ('NaCN'), used as a depressant for iron pyrite and zinc sulphide, with alternative reagents.

The following general conclusions were made:

- The AMML testwork provided a good correlation with the MIM testwork.
- Trials to create a NaCN free circuit were successful with alternative reagents and conditions providing similar results.
- Testwork confirmed attractive high lead recoveries to the rougher stage. Limited large sample batch tests achieved attractive results, similar to the MIM closed circuit tests, despite some lead loss to tails.
- The results of heavy media testwork showed that the grade of feed to the concentrator could be increased. This is particularly pertinent to improving the economics of processing the lower grade areas of the resource. There is excellent separation of lead and silver mineralization from waste and high lead and silver recoveries. There appeared to be strong correlations across many parameters with the SG of the heavy media a key influence.
- While much of the testwork had the twin objective of increasing concentrate grades and recoveries, the best commercial outcome may be lower concentrate grades and higher recoveries. Higher levels of pyrite in the concentrate may be attractive to smelters because of the heat value of the sulphur. The testwork that has been carried out provides the means to adjust the concentrator parameters to achieve the desired product.

CURRENT METALLURGICAL TESTWORK

Pacifico engaged ALS Metallurgical Services Burnie under the management of Simulus to conduct a metallurgical testwork program to assess beneficiation options for Sorby Hills and to confirm the previous flotation performance. The program included:

- Sample receipt and preparation;
- Optical mineralogy by McArthur Ore Deposit Assessment ('MODA');
- Flotation;
- Ore sorting by TOMRA Sorting Pty Ltd ('TOMRA'); and
- HLS.

SAMPLE SELECTION AND HEAD ASSAYS

Two master composites, representing the fresh and oxidised parts of the deposit, were used for development testwork. A further three fresh and three oxide variability composites will be used to test the optimised flotation scheme on different parts of the deposit. Head assays of the composites are shown in Table 1.

OPTICAL MINERALOGY

Optical mineralogy was performed by MODA on samples ground to P80 212µm and screened to +212, +106, +53, +20µm fractions. Analysis of non-gangue particles observed is summarised in Table 2.

As expected, lead was shown to be mostly contained in Galena ('PbS') with the remaining lead as Cerussite ('PbCO₃'). The lead in the fresh variability composites was shown to be almost entirely contained in Galena, as summarised in Table 3.

The lead minerals were shown to be highly liberated, with free or binary Galena-Cerussite particles accounting for over 80% of the galena observed for all samples except for the Oxide Variability AF sample. Liberation results are summarised in Table 4.

FLOTATION

MASTER FRESH COMPOSITE

A series of flotation tests were conducted to assess the effect of different reagents and conditions on flotation performance. A summary of rougher flotation results to date on the Master Fresh Composite is presented in Table 5. These results indicate:

- Sulphide rougher recovery (T43, 44, 45) was consistently in the region of 80 - 86% in line with the mineralogy report that showed 83% of the lead in the feed was present as Galena;
- Whilst not illustrated in the data set, ~60 - 69% lead recovery can be achieved at final concentrate grade (>60% Pb) in the sulphide rougher flotation stage;
- Sulphidisation improved lead rougher recovery to 95 - 96% with cerussite accounting for 10 - 16% lead recovery;
- Slightly higher lead recovery using soda ash for pH control compared to lime; and
- Increasing primary grind to 212µm reduced lead recovery by 3%. Reducing the primary grind size may improve recovery and flotation kinetics.

CLEANER FLOTATION RESULTS – MASTER FRESH COMPOSITE

Cleaner flotation results on the Master Fresh Composite presented in Table 6 demonstrate the ability to produce high grade marketable concentrate. The flotation recovery represents an open circuit test and does not yet reflect the overall cleaner circuit recovery when a closed-circuit flotation circuit is utilised. These results indicate:

- Fine grinding of scavenger concentrate is required to generate final grade concentrate; and
- Over grinding has an adverse effect on concentrate grade and recovery.

MASTER OXIDE COMPOSITE

A summary of rougher flotation test to date on the Master Oxide Composite is presented in Table 7. Conditions developed in the Master Fresh Composite program were applied to the Oxide Composite. These results indicate:

- 82% - 91.4% Pb and 87% - 94.6% Ag recovery from rougher flotation using sulphidisation;
- Whilst not illustrated in the data set:
 - ~60% lead recovery can be achieved at final concentrate grade (>60% Pb) in the sulphide rougher flotation stage; and
 - ~30% lead recovery is attributed to the sulphidisation rougher flotation.
- 2.5% higher lead recovery was achieved using soda ash (T71) compared to lime (T75) despite increasing sulphidisation flotation time by 4 minutes; and

- 90.3% - 91.4% Pb and 92.2% - 94.6% Ag recovery was achieved using identical rougher conditions (T76 and T77) demonstrate reasonable repeatability in terms of recovery and grade.

CLEANER FLOTATION RESULTS – MASTER OXIDE COMPOSITE

Cleaner flotation results on the Master Fresh Composite presented in Table 7 once again demonstrate the ability to produce high grade marketable concentrate. The lead and silver recovery reflect an open circuit test and does not yet reflect the overall cleaner circuit recovery when a closed-circuit flotation circuit is utilised. These results indicate fine grinding of rougher concentrate increases lead and silver grade recovery.

ORE SORTING

Samples of the Master Fresh and Master Oxide composites were prepared by crushing to -53 + 9.5mm and sent to TOMRA for preliminary ore sorting assessment. Results indicate the ore is highly amenable to ore sorting, with approximately one third of the ore sorter feed mass being rejected with lead losses of 2 - 3%. The results are shown in Table 9 and 10.

HEAVY LIQUID SEPARATION

Heavy liquid separation was performed as an alternative beneficiation method to ore sorting. Separations were performed at SG 3.25, 3.00, 2.93, 2.85, and 2.75 on >600µm material. Significant upgrading of lead was seen for all samples as summarised in Table 11. The best performing SG in terms of lowest lead losses was 2.75.

ONGOING METALLURGICAL TESTWORK ACTIVITIES

- Phase I metallurgical testwork program is expected to be completed by the end of July 2019;
- Phase II metallurgical testwork to support the Optimised PFS will be undertaken in Q3/Q4 2019 using ore samples from the Phase II drilling program. The testwork program is expected to include the following:
 - Comminution testing including Bond Crushing Work Index, Bond Rod Mill Work Index, Bond Ball Mill Work Index, Bond Abrasion Index, Unconfined Compressive Strength on both whole ore and beneficiated samples;
 - Confirmatory flotation testwork on new composites to ensure the suitability of the reagent scheme developed; and
 - Ore sorting and/or heavy liquid separation on bulk samples. Comminution and flotation characteristics of beneficiated and unbeneficiated samples.
- Phase III metallurgical testwork to support the Definitive Feasibility study is expected to include:
 - Full Comminution suite testing, including SMC, Bond Crushing Work Index, Bond Rod Mill Work Index, Bond Ball Mill Work Index, Bond Abrasion Index, Unconfined Compressive Strength;
 - Variability flotation testing on a range of samples to understand the likely range of metallurgical behaviours that would be expected;
 - Locked cycle tests to determine the expected final flotation recoveries once recycle streams are included and final concentrate specifications;
 - Materials handling testwork, particularly on the more oxidised samples; and

- Vendor testing, specifically thickening and filtration testing on the bulk concentrate and tailings samples, as well as concentrate properties (transportable moisture limits, dust take-off etc.).

FURTHER INFORMATION PLEASE CONTACT:

Simon Noon

Managing Director

Phone: +61 (0)8 6268 0449

Email: info@pacificominerals.com.au

ABOUT PACIFICO MINERALS LIMITED

Pacifico Minerals Limited (“Pacifico”) (ASX: PMY) is a Western Australian based exploration company. 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 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. HYG 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 HYG are electrolytic lead, gold, silver and copper which are all registered at LME and LBMA respectively. In 2017, HYG 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. HYG’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 HYG website; <http://www.yggf.com.cn/en/>.

COMPETENT PERSON STATEMENT - METALLURGY

The information in this announcement that relates to Metallurgical Testwork has been reviewed by Simon Walsh, Competent Person, who is a member of the Australasian Institute of Mining and Metallurgy and a Chartered Professional in Metallurgy. Simon Walsh is employed as Principal Metallurgist at Simulus Pty Ltd and consults to The Company as required. Simon Walsh has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Walsh consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

FORWARD LOOKING STATEMENTS

Certain statements in this document are or maybe “forward-looking statements” and represent Pacifico’s intentions, projections, expectations or beliefs concerning among other things, future exploration activities. The projections, estimates and beliefs contained in such forward-looking statements necessarily involve known and unknown risks, uncertainties and other factors, many of which are beyond the control

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APPENDIX: TABLES 1 - 11

Table 1 Head Assay

Sample	Pb (%)	Ag (g/t)	Fe (%)	S (%)
Master Fresh	6.98	70	3.98	3.48
Fresh Var AF	4.58		4.43	4.29
Fresh Var AB	6.26		3.69	3.46
Fresh Var AC	4.60		3.00	1.60
Master Oxide	6.33	34	3.15	1.21
Oxide Var CD	4.80		5.16	0.17
Oxide Var AB	4.12		2.87	0.51
Oxide Var AF	4.35		4.43	1.40

Table 2 Sample Mineralogy

Sample	Galena (%)	Cerussite (%)	Pyrite / Marcasite (%)	Sphalerite (%)	Hematite (%)	Goethite (%)	Other Sulphide (%)	Gangue (%)
Master Fresh	32.2	7.2	19.8	3.0	0	0	Trace	37.8
Fresh Var AF	25.5	Trace	24.7	6.4	0	0	0.6	42.4
Fresh Var AB	45.8	0.4	17.2	4.8	0	0	Trace	31.6
Fresh Var AC	41.5	Trace	15.2	4.8	0	0	0.2	38.3
Master Oxide	11.1	16.4	5.2	Trace	0.2	7.0	0	60.1
Oxide Var CD	0.9	9.8	0.3	0	2.9	16.3	0	69.8
Oxide Var AB	13.1	19.9	2.5	0.3	2.5	12.4	0.1	49.1
Oxide Var AF	3.9	9.5	8.7	Trace	0.2	10.2	0.9	66.6

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Table 3 Lead Department

Sample	Galena (%)	Cerussite (%)
Master Fresh	83.3	16.7
Fresh Var AF	100	Trace
Fresh Var AB	99.4	0.6
Fresh Var AC	99.7	0.3
Master Oxide	55.4	44.6
Oxide Var CD	17.4	82.6
Oxide Var AB	46.7	53.3
Oxide Var AF	33.2	66.8

Table 4 Galena Liberation

Sample	Free (%)	Binary with Cerussite (%)
Master Fresh	78	4
Fresh Var AF	83	1
Fresh Var AB	87	0
Fresh Var Ac	85	1
Master Oxide	66	28
Oxide Var CD	61	36
Oxide Var AB	67	21
Oxide Var AF	54	18

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Table 5 Rougher Flotation Results – Master Fresh Composite

Test	Flotation Type	Test Conditions	Grind Size	Mass	Pb		Ag	
			µm	Wt (%)	% Pb	% Rec.	ppm	% Rec.
T43	Rougher Sulphide Flotation	Lime, pH 9.6, 3418A, MIBC, 15 minutes	106	12.64	47.15	85.9	n/a	n/a
T44	Rougher Sulphide Flotation	Lime, pH 9.5, SEX, MIBC, 17.5 minutes	106	14.84	39.93	85.5	n/a	n/a
T45	Rougher Sulphide Flotation	Lime, pH 9.6, D068, MIBC, 16.5 minutes	106	11.16	52.62	84.0	n/a	n/a
T53	Rougher Sulphide Flotation	Lime, pH 9.3, 3418A, MIBC, 18.5 minutes	212	12.12	48.01	82.7	n/a	n/a
T54	Flash Flotation	SEX, MIBC, 2.2 minutes	106	3.06	46.00	25.9	n/a	n/a
T70	Rougher Sulphide Flotation / Sulphidisation Stage	Soda Ash, pH 9.5, D068, NaHS, SIBX. 9.5-minute sulphide float 6-minute sulphidisation float	106	17.97	38.21	96.2	408	94.7
T72	Rougher Sulphide Flotation / Sulphidisation Stage	Lime, pH 9.5, D068, NaHS, SIBX, 9.5-minute sulphide float 6-minute sulphidisation float	106	15.40	42.60	94.9	567	81.8
T73	Rougher Sulphide Flotation / Sulphidisation Stage	Lime, pH 9.5, D068, NaHS, SIBX, 9.5-minute sulphide float 6-minute sulphidisation float	106	15.60	42.40	95.1	414	92.7
T74	Rougher Sulphide Flotation / Sulphidisation Stage	Lime, pH 9.5, D068, NaHS, SIBX, 9.5-minute sulphide float 6-minute sulphidisation float	106	15.55	41.86	95.4	417	91.6

Table 6 Significant Cleaner Flotation Results – Master Fresh Composite

Test	Rougher Test Conditions	Cleaner Test Conditions	Mass	Pb		Ag	
			Wt (%)	% Pb	% Rec.	ppm	% Rec.
T72	Primary grind 106µm, Lime, pH 9.5, D068, NaHS, SIBX, 15.5 minutes	Combined rougher concentrate, <u>no regrind</u> , two stage sequential float	10.86	54.71	85.90	691	70.26
T73	Primary grind 106µm, Lime, pH 9.5, D068, NaHS, SIBX, 15.5 minutes	Combined rougher concentrate, regrind at 5kWh/t, two stage sequential float	7.54	67.35	73.08	673	72.88
T74	Primary grind 106µm, Lime, pH 9.5, D068, NaHS, SIBX, 15.5 minutes	Combined rougher concentrate, regrind at 10 kWh/t, two stage sequential float	6.83	65.85	65.88	685	66.14

Table 7 Rougher Flotation Results – Master Oxide Composite

Test	Rougher Test Conditions	Grind Size	Mass	Pb		Ag	
		µm	Wt (%)	% Pb	% Rec.	ppm	% Rec.
T71	Soda Ash, pH 9.5, D068, NaHS, 11-minute sulphide float 8.5-minute sulphidisation float	106	11.36	50.01	89.0	266	89.5
T75	Lime, pH 9.0, D068, MIBC, NaHS, SIBX 11-minute sulphide float 12.5-minute sulphidisation float	106	11.14	45.63	82.1	266	87.0
T76	Lime, pH 9.1, D068, MIBC, NaHS, SIBX, 11-minute sulphide float 12.5-minute sulphidisation float	106	11.86	46.85	91.4	262	94.6
T77	Lime, pH 9.2, D068, MIBCX, NaHS, SIBX 11-minute sulphide float 12.5-minute sulphidisation float	106	12.05	45.29	90.3	259	92.2

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Table 8 Cleaner Flotation Results – Master Oxide Composite

Test	Rougher Test Conditions	Cleaner Test Conditions	Mass	Pb		Ag	
			Wt (%)	% Pb	% Rec.	ppm	% Rec.
T75	Primary grind 106µm, Lime, pH 9.0, D068, NaHS, SIBX, 23.5-minute total float time	Combined rougher concentrate, <u>no regrind</u> , two stage sequential float: Cleaner 1 - 8.5-minute float time Cleaner 2 - 8-minute float time	6.16	64.69	64.35	381	68.70
T76	Primary grind 106µm, Lime, pH 9.1, D068, NaHS, SIBX, 23.5-minute total float time	Combined rougher concentrate, regrind at 5kWh/t, two stage sequential float: Cleaner 1 - 10-minute float time Cleaner 2 - 8-minute float time	5.78	68.74	65.42	402	70.94
T77	Primary grind 106µm, Lime, pH 9.2, D068, NaHS, SIBX, 23.5-minute total float time	Combined rougher concentrate, regrind at 10kWh/t, two stage sequential float: Cleaner 1 - 10-minute float time Cleaner 2 - 8-minute float time	5.27	69.89	60.96	428	66.81

Table 9 Ore Sorting Results – Master Fresh Composite

Stream	Mass (kg)	Pb (%)	Ag (ppm)	Recovery (%)		
				Mass	Pb	Ag
Feed	37.1	6.80	91.31			
Eject (product)	27.2	9.08	122.00	73.3	97.84	97.96
Upgrade		x 1.34	x 1.34			
Non-eject	9.9	0.55	7.00	26.7	2.16	2.05
Total	37.1	6.80	91.31	100.00	100.00	100.00

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Table 10 Ore Sorting Results – Master Oxide Composite

Stream	Mass (kg)	Pb (%)	Ag (ppm)	Recovery (%)		
				Mass	Pb	Ag
Feed	21.8	7.66	36.94			
Eject (product)	14.8	11.0	53.0	67.9	97.49	97.41
Upgrade		x 1.44	x 1.43			
Non-eject	7.00	0.60	3.00	32.1	2.51	2.61
Total	21.8	7.66	36.94	100.00	100.0	100.0

Table 11 Heavy Liquid Separation Results Summary

Sample	SG 2.75				SG 2.93				SG 3.25			
	Sinks Mass Recovery (%)	Sinks Pb Grade (%)	Upgrade	Sinks Pb Recovery (%)	Sinks Mass Recovery (%)	Sinks Pb Grade (%)	Sinks Pb Recovery (%)	Upgrade	Sinks Mass Recovery (%)	Sinks Pb Grade (%)	Upgrade	Sinks Pb Recovery (%)
Master Fresh	52.55	10.20	x 1.85	96.66	18.48	29.40	93.41	x 3.36	13.87	30.50	x 2.52	86.15
Fresh Var AF	56.25	6.98	x 1.60	97.93	9.91	43.50	94.28	x 2.27	8.17	40.70	x 1.87	85.58
Fresh Var AB	33.91	12.30	x 3.37	96.04	12.85	24.70	87.93	x 3.52	10.91	23.70	x 2.99	81.47
Fresh Var AC	31.42	12.60	x 3.34	97.47	17.56	20.80	91.15	x 4.66	12.68	22.90	x 3.36	81.60
Master Oxide	66.43	5.03	x 1.22	95.95	8.86	37.40	90.09	x 2.15	5.75	58.20	x 1.39	80.69
Oxide Var CD	24.91	19.90	x 3.73	84.83	10.66	35.50	75.29	x 2.00	9.73	41.20	x 1.83	73.26
Oxide Var AB	24.02	13.50	x 3.63	93.84	9.77	37.40	89.21	x 2.63	6.36	50.90	x 1.71	80.45
Oxide Var AF	35.61	9.97	x 2.46	90.48	12.74	24.60	83.50	x 3.14	9.69	31.50	x 2.39	74.95

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