# MYANMAR METALS LTD

#### ANNOUNCEMENT

Date 20 April 2021 ASX Code: **MYL** 

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### ISSUED CAPITAL

Shares Unlisted Options

1,901 m. 54 m.

## BAWDWIN TECHNICAL UPDATE – MINING OPTIMISATION

Myanmar Metals Limited ("MYL" or "the Company") provides a summary of a mining optimisation completed as part of the feasibility study works. This information is provided within the context of the Company undertaking a strategic review in relation to its interest in the Bawdwin project, as announced on 16 March 2021.

Bawdwin's JORC (2012) compliant Indicated Mineral Resources were used as the basis for an open-pit optimisation process to define Phase 1 of mining at Bawdwin (the "Starter Pit"). Input parameters provided by technical consultants and the Bawdwin Joint Venture ("BJV") enabled the generation of a series of open-pit shells. A methodical evaluation of the pit shells resulted in the selection of a final pit shell to be used as the basis for an open pit mine design.

This announcement provides discussion on the input parameters and results of the mining optimisation including technical conclusions relating to: geology and metallurgy (as announced on 22 March 2021), mining, geotechnical, processing plant, infrastructure, tailings management, implementation and operations.

While the optimisation was based on the JORC (2012) compliant Indicated Mineral Resources this announcement does not constitute a Feasibility Study as defined in the JORC Code and the Company does not declare an Ore Reserve. Financial estimates which rely on the Production Sharing Agreement (PSA) fiscal terms cannot be determined at this time as the PSA negotiations are incomplete.

The Company's investment in the Bawdwin project is exposed to a number of significant risk factors. These risk factors include the current very high level of political instability in Myanmar. A summary of these risk factors is included in this announcement.

Authorised for release to the ASX by

Lanli-

John Lamb

**Executive Chairman** 

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#### **About Myanmar Metals Limited**

Myanmar Metals Limited (ASX: MYL) is an explorer and mine developer listed on the Australian Securities Exchange.

The Company holds a majority 51% participating interest in the Bawdwin Project in joint venture with its two local project partners, Win Myint Mo Industries Co. Ltd. (WMM) and EAP Global Co. Ltd. (EAP).

The Bawdwin Project is currently held under an existing Production Sharing Agreement (PSA) between WMM and Mining Enterprise No. 1, a Myanmar Government business entity within the Ministry of Natural Resources and Environmental Conservation, to be replaced by BJV's PSA upon completion of government approvals processes.

#### **Forward Looking Statements**

This announcement includes forward-looking statements that are only predictions and are subject to risks, uncertainties and assumptions, which are outside the control of MYL.

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This announcement has been prepared by MYL. The document contains background information about MYL current at the date of this announcement. The announcement is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained in this announcement. The announcement is for information purposes only. Neither this announcement nor information contained in it constitutes an offer, invitation, solicitation or recommendation in relation to the purchase or sale of shares in any jurisdiction. The announcement may not be distributed in any jurisdiction except in accordance with legal requirements applicable in such jurisdiction. Recipients should inform themselves of the restrictions that apply to their own jurisdiction as a failure to do so may result in a violation of securities laws in such jurisdiction. This announcement does not constitute investment advice and has been prepared without taking into account the recipient's investment objectives, financial circumstances or particular needs and the opinions and recommendations in this announcement are not intended to represent recommendations of particular investments to particular persons. Recipients should seek professional advice when deciding if an investment is appropriate. All securities transactions involve risks, which include (among others) the risk of adverse or unanticipated market, financial or political developments.

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#### **Cautionary Statement**

88% of the scheduled ROM material is from the Indicated Mineral Resources category and 12% is from the Inferred Mineral Resource category under the JORC Code (2012 Edition). Inferred Mineral Resources have a lower level of geological confidence and there is no certainty that further exploration work will result in these Inferred Mineral Resources being upgraded to Indicated Mineral Resources or that the production target, relating to the Inferred Mineral Resources, will be realised. Inferred Mineral Resources represents 5% of the material processed during the first 5 years of processing therefore the Inferred Mineral Resources do not determine the viability of the Starter Pit.



#### **Competent Person Statements**

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The Information contained in this announcement has been presented in accordance with the JORC Code.

The information in this report that relates to Tenements, Geology and Exploration Results is based, and fairly reflects, information compiled by Mr Andrew Ford, who is a member of the Australasian Institute of Mining and Metallurgy. Mr Ford is a full-time employee of Myanmar Metals Limited. Mr Ford has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based, and fairly reflects, information compiled by Serikjan Urbisinov, who is a Member of the Australian Institute of Geoscientists. Mr Urbisinov is employed by CSA Global Pty Ltd, independent resource industry consultants. Mr Urbisinov has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Urbisinov consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The Mineral Resources underpinning the production target have been prepared by Mr Urbisinov in accordance with the JORC Code.

The information in this report that relates to Mining is based, and fairly reflects, information compiled by Mr Chris Marissen, who is a member of the Australasian Institute of Mining and Metallurgy. Mr Marissen is a fulltime employee of Myanmar Metals Limited. Mr Marissen has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Marissen consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



#### Geology

#### **Bawdwin District Geological Setting**

The Bawdwin deposit is located within the Bawdwin Volcanic Centre which is defined by the Bawdwin Volcanic Formation and associated acid porphyry intrusions. The Bawdwin Volcanic Formation comprises coarse volcaniclastic tuffs, sediments and debris flows that interfinger with sediments of the Pangyun Formation. The volcano-sedimentary sequence is intruded by co-magmatic rhyolite or rhyodacite porphyry bodies. The volcanics and porphyry define a discrete volcanic / intrusive complex that covers an area of about 10 km<sup>2</sup>.

The Bawdwin area is affected by significant faulting, notably the northwest-trending Bawdwin Fault zone that controls the deposit. This fault is located between two major east-northeast fault trends associated with sinistral flexure of the stratigraphy.

#### **Alteration and Mineralisation**

The Bawdwin deposit historically consisted of three high grade lodes, the Shan, China, and Meingtha lodes, that were exploited by underground mining. The lodes were described as steeply west-dipping to sub-vertical, with a general plunge to the north. The China Lode is the largest, averaging 15 m thick, 400 m long, and at least 350 m deep. The Meingtha and Shan lodes are up to 6 m thick and 380-550 m long.

In the pit, multiple structurally-controlled massive sulphide zones are developed sub-parallel to the main northwest-trending lodes and in oblique east southeast- and northeast- and north-trending zones, from centimetre to metre scale.

High grade mineralisation in the "lodes" encompasses massive to semi-massive sulphide replacement as well as breccia - and stockwork-hosted mineralisation, characterised by argentiferous galena, sphalerite, and pyrite together with smaller amounts of chalcopyrite, gersdorffite, tetrahedrite-tennantite, and bournonite. Pyrite is widespread usually as a relatively minor component.

Copper mineralisation occurs locally with lead and zinc, but more often postdates lead and zinc mineralisation as tetrahedrite as well as chalcopyrite, associated with nickel and cobalt as gersdorffite. Chalcopyrite also occurs in late siderite breccias and veins which is the latest stage of mineralisation seen at Bawdwin.

#### Weathering and Oxidation

Total oxidation in the China pit is very limited, with fresh sulphide occurring at surface. Partial oxidation also occurs to significant depth in drilling beneath the China pit focused in faulted and fractured zones.

Zones of clay alteration seen in faulted zones from surface to depth could be related to late-stage hypogene acid-alteration or to supergene weathering. The fact that these zones locally contain fresh or partly degraded sulphide, or occur adjacent to massive sulphide, suggests that the alteration may be hypogene.

#### Origin and Timing of Mineralisation

Bawdwin is considered to be a magmatic-hydrothermal deposit associated with acid volcanism, probably in a rift setting. The fluid system may have tapped the sedimentary basin and possibly also mafic or ultramafic rocks to generate the unusual metal association.

#### Geometallurgy

The geometallurgical study conducted as part of this Study has identified and modelled various criteria vital to the geology, mining and processing of the Bawdwin mineralisation. This work included:

Recognition of the strong influence of carbonate alteration on the composition of host rocks, with
potential major impacts on mining, processing, and reclamation. The data clusters recognised in the
multi-element geochemistry form broadly continuous zones in space, with carbonate alteration
increasing with depth, and sericite / phengite alteration enveloping the ore body.



- Identification and modelling of seven geometallurgy domains. The alteration domains form the basis
  of the 3D geometallurgical model, which was used to plan drillholes for metallurgical testwork, define
  comminution characteristics and inform geotechnical modelling. These domains were also vital when
  modelling the characteristics of the waste material.
- Reanalysis of a selection of pulps for sulphide (S) content and speciation resulted in updated 3D model of reduction and oxidisation (redox) domains. S-speciation data were used in combination with S deficit calculations to generate spatial domains of oxide, transitional, and reduced (fresh) materials.
- Estimation of Pb deportment in the main Pb minerals, galena, anglesite, and cerussite throughout the deposit, based on the relative proportions of Pb, S, and S2.
- Detailed quantitative ore mineralogy using SEM-based TIMA analysis was used to validate assumptions about Pb deportment in relation to measured non-sulphide Pb.
- A subset of elements that may affect the metallurgical performance was defined for inclusion into the resource block model. This subset included eight elements (As, Cd, Co, Hg, Ni, Sb, S (total) and S2).
- Development of regressions to correlate NsPb and NsZn assays with the multi-element geochemical dataset to allow calculation of NsPb and NsZn for all samples with multi-element and S2 assays.
- Deposit-wide estimation of non-sulphide Zn and non-sulphide Pb. These values were then assigned to the resource block model for use in estimating metallurgical recoveries. Prior to the interpolation, the assay file for the accessory elements was coded by mineralisation wireframes, weathering profiles and stopes. All sample intervals that fall into the stopes were excluded from further calculations.

#### Mineral Resource Estimate

The Mineral Resource estimate is based on 30,040 metres of RC and diamond drilling and 22,557 m of assayed intervals completed in 2017-2020 supported by 56,098 metres of historic channel sampling of underground exploration cross cuts, and a 434 sample (668 metre) channel sampling program collected in the China Pit open cut in 2016.

The diamond and RC drillholes completed in 2017 and 2020 are spaced on approximately 50 m spaced sections with infill sections approximately 20-30 m apart and were designed to provide systematic coverage along the strike / dip of the China Lode, southern part of Shan Lode and the majority of Meingtha Lode.

Diamond drilling in both 2017 and 2018-2020 was completed using triple tube diamond core drilling.

RC drilling was completed in 2018 and 2019. A face sampling hammer was used, and samples were split into a bulk sample and a subsample collected in plastic bags at 1 m intervals. Samples were split using a riffle splitter, with the bulk sample being stored on site. A small subsample was collected for each metre and placed into plastic chip tray for future reference.

The open pit sampling was done on accessible berms and ramps. These traverses range from 10 m to 30 m apart.

The historical underground channel sampling is a substantial dataset, collected as part of underground mining and exploration through much of the history of mine, but primarily from the 1930s until the mid-1980s. The underground samples are generally taken from systematic ore development crosscuts on each mine level, typically on 50 to 100 feet spacings (15 to 30 m). Sampling of strike drives along mineralised lodes demonstrates good continuity.

Underground development and exploration crosscuts (generally east-west orientated in the local grid) were systematically sampled on 5-foot (1.5 m) intervals. A 2-inch (5 cm) channel was cut at waist level using a hammer and chisel to obtain approximately 2.5 kg samples. Generally, both the northern and southern sides of the crosscuts were sampled. Sample locations were marked up using a tape from the mid-point at intersections with neighbouring access drives.



Underground ore-drives and drives along the strike of the orebody (generally north-south orientated in the local grid) were systematically sampled. Every 5 feet, a 2-inch (5 cm) channel was cut across the backs using a hammer and chisel to obtain approximately 2.5 kg samples. Most of these samples were 5 feet (1.5 m) in length. Sample locations were marked up using a tape from the mid-point at intersections with neighbouring access drives.

The 3D geology model developed in Leapfrog by CSA Global includes the Bawdwin Tuff, Pangyun Formation, porphyritic rhyolite, and major faults.

The previously modelled mineralisation wireframes, based on 2017 drilling, open pit mapping and historical surface and underground mapping, were updated using the 2018 - 2020 drilling results and guided by the geology model. The 2018-2020 drilling results correlated very well with the previous mineralised wireframes that were based largely on historical data.

Table 1 below summarises the updated Mineral Resource estimate for the Bawdwin deposit.

Oxidation	Class	Tonnage	Pb	Zn	Cu	Ag	
		('000t)	(%)	(%)	(%)	oz/t	
Domain 1: Mineral Resources above 750 m RL > 0.5% Pb							
Oxide	Indicated	1,364	1.6	0.05	0.04	2.2	
	Inferred	3,195	1.54	0.07	0.06	2.5	
	Total	4,559	1.56	0.06	0.06	2.4	
Transition	Indicated	3,541	2.88	0.69	0.13	2.6	
	Inferred	2,477	3.04	0.86	0.06	2.1	
	Total	6,018	2.94	0.76	0.1	2.4	
Deep	Indicated	1,258	3.78	1.76	0.1	3.1	
Transition	Inferred	92	2.72	0.91	0.06	1.9	
	Total	1,350	3.71	1.7	0.09	3.0	
Fresh	Indicated	34,475	4.15	2.12	0.08	3.2	
	Inferred	38,895	3.42	1.6	0.07	2.6	
	Total	73,369	3.76	1.84	0.07	2.9	
Total	Indicated	40,638	3.94	1.91	0.08	3.1	
	Inferred	44,658	3.26	1.45	0.07	2.6	
Total	Total		3.59	1.67	0.07	2.8	
Domain 2: N	lineral Resour	ces below 750 m	RL > 2% Pb		•		
Fresh	Inferred	9,668	7.7	2.8	0.1	5.1	
Total		9,668	7.7	2.8	0.1	5.1	
Domain 3: Co	opper Mineral	isation within Pl	o Halo > 0.59	% Cu			
Oxide	Indicated	1	6.05	0.11	1.57	2.4	
	Inferred	6	3.76	2.22	1.6	4.5	
	Total	7	4.01	1.99	1.6	4.3	
Transition	Indicated	89	4.03	1.09	1.6	2.5	
	Inferred	13	9.52	4.38	3.43	8.0	
	Total	102	4.72	1.51	1.83	3.2	
Deep	Indicated	47	3.66	3.77	2.56	3.7	
Transition	Inferred	0	3.11	1.03	1.03	2.0	
	Total	47	3.66	3.75	2.55	3.6	
Fresh	Indicated	1,348	5.42	3.07	3.22	5.6	
	Inferred	2,233	5.75	2.3	2.98	5.7	

#### Table 1: Mineral Resource Estimate – Indicated and Inferred Classification

	Total
Total	Indicated
	Inferred
Total	
Domain 4: C	Copper Mineralis
Oxide	Inferred
	Total
Transition	Inferred
	Total
Deep	Inferred
Transition	Total
Fresh	Inferred
	Total
Total	Inferred
Total	
Domain 5: Z Zn	inc Mineralisati
Oxide	Inferred
	Total
Transition	Indicated
	Inferred
	Total
Deep	Indicated
Transition	Total
Fresh	Indicated
	Inferred
	Total
Total	Indicated
	Inferred
Total	
Total - All D	omains
Oxide	Indicated
	Inferred
	Total
Transition	Indicated
	Inferred
	Total
Deep	Indicated
Transition	Inferred
	Total
Fresh	Indicated
	Inferred
	Total

		0.504	5.60	0.50	0.07	
	Total	3,581	5.63	2.59	3.07	5.7
Total	Indicated	1,484	5.28	2.97	3.1	5.4
	Inferred	2,252	5.77	2.31	2.98	5.8
Total		3,736	5.57	2.57	3.03	5.6
Domain 4: Co	pper Mineralis	ation outside o	f Pb Halo > (	0.5% Cu		
Oxide	Inferred	0.3	0.2	0.01	1.57	1.2
	Total	0.3	0.2	0.01	1.57	1.2
Transition	Inferred	2	0.2	0.03	1.34	1.2
	Total	2	0.2	0.03	1.34	1.2
Deep	Inferred	4	0.1	0.1	1.51	1.7
Transition	Total	4	0.1	0.1	1.51	1.7
Fresh	Inferred	649	0.1	0.5	2.35	1.3
	Total	649	0.1	0.5	2.35	1.3
Total	Inferred	655	0.1	0.5	2.34	1.3
Total		655	0.1	0.5	2.34	1.3
Domain 5: Zir	nc Mineralisatio	on outside of Pb	Halo and C	u Mineralisa	ation > 1%	
Zn						
Oxide	Inferred	0.01	0.1	7.1	0.05	0.2
	Total	0.01	0.1	7.1	0.05	0.2
Transition	Indicated	4	0.92	3.14	0.03	0.4
	Inferred	278	0.01	16.94	0.01	0.7
	Total	282	0.02	16.74	0.01	0.7
Deep	Indicated	2	1.3	2.4	0.01	0.5
Transition	Total	2	1.3	2.4	0.01	0.5
Fresh	Indicated	348	0.37	4.75	0.02	0.6
	Inferred	821	0.26	2.87	0.03	0.5
	Total	1,169	0.29	3.43	0.02	0.5
Total	Indicated	353	0.38	4.72	0.02	0.6
	Inferred	1,099	0.19	6.43	0.02	0.5
Total		1,452	0.24	6.01	0.02	0.5
Total - All Do	mains					
Oxide	Indicated	1,365	1.61	0.05	0.04	2.2
	Inferred	3,201	1.54	0.07	0.07	2.5
	Total	4,566	1.56	0.06	0.06	2.4
Transition	Indicated	3,634	2.9	0.73	0.17	2.6
	Inferred	2,770	2.76	2.52	0.07	2.0
	Total	6,405	2.84	1.51	0.13	2.3
Deep	Indicated	1,307	3.77	1.83	0.18	3.1
Transition	Inferred	96	2.62	0.88	0.12	1.9
	Total	1,402	3.69	1.77	0.18	3.0
Fresh	Indicated	36,170	4.16	2.18	0.2	3.2
	Inferred	52,266	4.23	1.85	0.22	3.2
	Total	88,436	4.2	1.99	0.21	3.2
Total	Indicated	42,475	3.96	1.98	0.19	3.2
	Inferred	58,334	4.01	1.79	0.2	3.1
Total		100,809	3.99	1.87	0.2	3.1
					-	-

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The estimate is based on separate Pb, Cu and Zn wireframes and cut-off grades because of the limited correlation between Pb, Cu and Zn. Grades within the high grade lode domain have been interpolated into a block model using the same interpolation parameters and methodology from those reported in the previous estimate in August 2019. Grades within the Halo domain have been interpolated using Categorical Indicator Kriging (CIK) for better handling of the internal dilution and mineralised parts within the domain. The cut-off grades were based on the results of a pit optimisation and Scoping Study completed in November 2017 by CSA Global that suggested that the low-grade material above a 0.5% Pb cut-off grade has potential for eventual economic extraction via open pit mining methods above the 750 m RL, and that material above a 2% Pb cut-off grade may be amenable to extraction via underground methods. The Competent Person considers that the Resource has reasonable prospects for eventual economic extraction.

The Pb mineralised envelope was based on a 0.5% Pb cut-off grade. Within this envelope, the Mineral Resource was estimated in three domains: at a 0.5% Pb and 2% Pb cut-off grade above the 750 m RL and a 2% Pb cut-off grade below the 750 m RL.

The Zn and Cu mineralisation envelopes have been modelled above a 1% Zn and 0.5% Cu cut-off grade and are included in the global resource totals. These envelopes are largely contained within the 0.5% Pb envelope but do extend outside it. Grade has been interpolated separately into the blocks within the Zn and Cu envelopes.

The new resource is reported separately for five mineralisation domains as per previous estimates (ASX Release dated 8<sup>th</sup> of August 2019).

- Resources above the 750 m RL, at a 0.5% Pb cut-off grade.
- Resources below 750 m RL using a 2% Pb cut-off grade.
- Cu mineralisation within Pb Halo using a 0.5% Cu cut-off grade.
- Cu mineralisation outside Pb Halo using a 0.5% Cu cut-off grade.
- Zn mineralisation outside Pb Halo using a 1.0% Zn cut-off grade.

The Mineral Resource estimate has been reported in Fresh, Transitional, Deep Transitional and Oxide zones. Total oxidation is mainly at the top of the Meingtha Lode.

Transitional zones represent partial oxidation and occur as a shallow blanket zone at the top of the mineralised zones and as Deep Transitional zones that that extends to significant depth. The Deep Transitional zones are interpreted to be focused in faulted and fractured zones and are of relatively limited extent. Transitional zones have been modelled using a combination of geological observations from drill-core logging, an estimation of sulphur deficit relative to lead, zinc and copper from assay data, and sulphur speciation data based on analysis of sulphide sulphur.

Metallurgical test work on Transitional material has given good recoveries of bulk lead and silver, with lower recoveries of lead and zinc where oxide phases are present. Thinner Deep Transitional zones have been identified as being moderately oxidized along steeply dipping fault structures, showing similar recoveries to Transitional material.

#### **Resource Classification**

The Mineral Resource has been assigned to Indicated and Inferred classifications. Inferred Mineral Resource classification was assigned where available drill hole and channel sampling data and geological interpretation are sufficient to imply but not verify geological and grade continuity. Areas with denser drilling (2017, 2018, 2019 and 2020 drill holes) and robust continuation of the modelled mineralised zones were classified as Indicated.



Whilst the historical underground sampling has no assay QAQC, the data quality is considered acceptable to support classification of Indicated Mineral Resource in the areas with adequate supporting drilling data. Areas informed largely or entirely by underground channel sampling data have been classified as Inferred (Figure 1).

The Inferred and Indicated classification has considered all available geological and sampling information, and the classification level is considered appropriate for the current stage of this project. The sampling and geological data and associated documentation are considered adequate to support reporting of an Indicated and Inferred Mineral Resource.

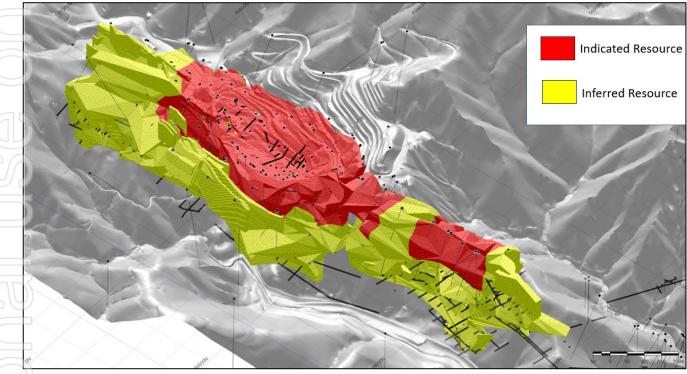


Figure 1. Oblique view of Bawdwin Resource model showing distribution of Indicated Resource classification in red (underground sampling supported by surface drilling), versus Inferred Resource classification in yellow (underground sampling or drilling extrapolated beyond the nominal drill spacing).

#### **Resource Model Section**

Figure 2 shows a cross section through the deposit highlighting lead block-model grades.



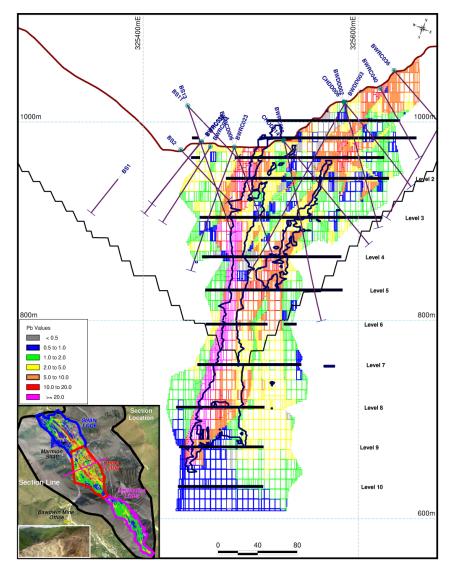


Figure 2. Cross Section through the Pb Block Model at the China Lode with mined stopes outlined in black.

#### Metallurgy

A program of metallurgical testwork was conducted from November 2018 to March 2019 for the Bawdwin Pre-Feasibility Study (PFS). The outcomes provided a robust foundation for flowsheet development, plant design, recovery equation modelling for concentrate revenue calculations, and detailed concentrate analysis for marketing and sales.

The latest testwork program continued from the preceding programs, insofar that it maintains the stance that base metal sulphide flotation techniques be used to recover the galena and sphalerite minerals via differential flotation.

Throughout the testwork programs the fresh sulphide ores have produced superior results compared with transition ores. The fresh ores samples have delivered excellent lead concentrate results, as shown in Table 2.



	Test No.	Pb Grade %	Pb Recovery, %	Ag Grade, g/t	Ag Recovery, %
Var 25 (latest sample)	CT6093	66.5	90.0	1216	88.9
	CT6191	69.7	90.5	1429	90.3
	CT6219 <sup>#</sup>	56.6	90.8	1056	90.1
	CT6239	72.2	83.2	1415	85.4
T-BWRCD008 (Post-PFS sample)	CT5908	61.1	95.4	1325	94.9
F-BWDD002 (PFS sample)	CT5826	62.5	87.4	591	86.3
	CT5801	57.9	84.4	518	82.5
)	CT5763	55.9	88.5	519	84.3
2	CT5764	57.7	88.1	534	84.3
)	CT5765	59.5	87.6	564	84.0
F-BWRCD022 (PFS sample)	CT5760	54.7	84.7	910	82.0
7	CT5761	54.6	88.1	879	84.0
2	CT5762	56.2	88.5	924	82.4
	CT5814	57.9	88.6	933	83.5

#### Table 2: Lead concentrate produced from fresher sulphide ores.

This test was repeated due to low lead grade in first kinetic concentrate.

Although the PFS lead flotation results on fresh ore are excellent, the variability in head grade and presence of oxidised mineralisation throughout the orebody meant that focus needed to shift to understanding the flotation behaviour of transition ores as well.

Although the majority of the Bawdwin mineral resource is comprised of fresh sulphide ores with minor oxide mineralisation, the transitional ores at surface will be mined and processed in the early years of the mine. Overcoming the challenges posed by transition ores was one of the primary objectives embraced throughout the testwork program. To achieve this, the most recent testwork focused heavily on transition ores, with the aim being to generate a robust set of flotation conditions and understand the key drivers to achieving the best performance.

The testwork programs proved that both lead and zinc concentrates of saleable quality can be produced from fresh and transition ores. Flotation performance equations were modelled as a means of calculating the concentrate produced from the mine schedule. Table 3 shows the weighted average grades and recoveries for the payable metals.

	Lead Concentrate			Zinc Concentrate	
Pb grade	(%)	59	Zn grade	(%)	52
Pb recovery	(%)	83	Zn recovery	(%)	73
Ag grade	(g/t)	1,410	Ag grade	(g/t)	293
Ag recovery	(%)	83	Ag recovery	(%)	9

#### Table 3: Modelled flotation performance

#### **Testwork Overview**

Sample preparation involved the generation of 25 comminution samples, 29 flotation variability samples and two mine schedule composites (Stage 1 / 2 and Stage 4).

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The comminution samples were tested for crushing and grinding design purposes. The flotation variability samples were tested to reduce uncertainty.

Mine schedule composites were created to represent the transition ores that will form part of the mill feed for the first six years, approximately. Importantly, they do not represent the entire mine life for the starter pit, nor for the deeper ores mined beyond the starter pit. These sample were used extensively in the testwork program, with both the lead and zinc concentrates produced (using the finalised flotation conditions) undergoing comprehensive assaying to show the expected quality.

Testwork was conducted at ALS Metallurgy in Perth, with mineralogy work conducted at both ALS and MODA in Tasmania.

The ALS testwork incorporated the following scope of work:

- Sample preparation and chemical analysis
- Comminution testing
- Flotation testwork, including both bulk and differential flowsheets
- Flotation testwork, including rougher and cleaner flotation tests on both mine schedule composites and variability samples
- Size-by-size analysis
- Mineralogy using QEMScan and QXRD
- Rheology testwork
- Solid specific gravity measurements
- EDTA extraction
- Comprehensive analysis of concentrates for marketing purposes
- Locked cycle testing and water analysis
- Preliminary cyanide speciation on tailings material
- Bulk testwork, to produce material for vendor thickening and filtration tests

#### Comminution

comminution testwork and modelling conducted during the concept study showed that installing a SAG mill and ball mill configuration would be the most favourable option. The comminution samples, of which there were 25, were taken from the varying geological alteration zones.

The samples' competency ranged from soft to hard and the comminution consultant has stated that pebble crushing is not required. Abrasion indices deemed Bawdwin's ore to be moderately abrasive to abrasive, which is typical for a polymetallic base metal deposit.

Head assays were also completed on the comminution samples to link rock forming or base metal assays or geological oxidation (e.g. % non-sulphide lead) to hardness and/or competency. No strong correlations were identified using this data set. However, there is still a general trend of increasing hardness and competency with alteration type. The two hardest samples Comm#5 and Comm#20 were both in the carbonate domain with molar ratio of potassium to aluminium of greater than 0.6 and were also ranked 1<sup>st</sup> and 3<sup>rd</sup> for competency. This is a considered valuable information as it will aid with ROM blending to ensure targeted throughput is met.

Metso conducted regrind testwork on lead rougher concentrate and bulk (zinc) rougher concentrate samples, with P80 targets of 15 microns ( $\mu$ m) and 20  $\mu$ m, respectively. The specific power consumptions were at the low end of Metso benchmarking at 9.85 and 8.86 kWh/t, respectively.



#### Mineralogy

The PFS testwork showed that the lead is mainly present in the lead minerals galena, anglesite and cerussite. It also showed that zinc is mainly present as sphalerite, although smithsonite is present in the orebody.

Anglesite and cerussite are classified as non-sulphide lead minerals and their presence signifies that a portion of the lead will not be recovered. The same principle follows for smithsonite in the zinc flotation.

Both mine schedule composites were submitted for analysis using QEMScan.

Major findings from QEMScan are as follows:

- The galena has a wide range of textures ranging from massive through to finely intergrown with one or more other gangue or ore minerals. These intergrowths are in most cases finer than the resolution of QEMScan
- The relatively clean galena / anglesite / cerussite grains (as opposed to the intergrowths) are relatively fine grained with P80 28 to 29 μm, which is much finer than the overall particle size of approximately 70 μm
- The galena / anglesite / cerussite is poorly liberated, with 5 to 10% considered well liberated and 35 to 40% as high grade middlings. This is lower than the two fresh samples testing during the PFS, and it would be expected that for the same grind sizes, lower concentrate grades would be achieved
- Anglesite is present in both samples and possibly more abundant in Stage 4 Composite compared with Stage 1 / 2
- Sphalerite accounts for the majority of the zinc in the samples. Zinc bearing carbonates account for less than 5% of the total zinc content
- Sphalerite has a typical P80 of 59 μm in both samples. It is well liberated, with 90 to 93% classified as well liberated or high grade middlings. This is higher than the two fresh samples tested during the PFS
- Silver is predominantly present as Ag-sulphides (acanthite and/or argentite). Other major Ag-bearing minerals include Cu-Sb-As-Ag sulphides (e.g. tetrahedrite-tennantite and freibergite).
- Arsenic is predominantly present as the Co- and Ni sulpharsenides, which account for 95% of the arsenic in Stage 1 / 2 Composite and 90% of Stage 4 Composite. The remainder of the arsenic is as arsenopyrite
- Copper is present in a range of forms, such as chalcopyrite, covellite, Cu-Sb-As-Ag sulphides and
   intergrowths with Pb minerals. Approximately 80% of the copper in Stage 1 / 2 and 69% in Stage 4 is as chalcopyrite. Covellite accounts for 11% of the copper in Stage 1 / 2 and 19% in Stage 4. The remainder is predominantly with the Cu-Sb-As-Ag sulphides
- Major gangue minerals are quartz, K-feldspar, muscovite and illite
- The combined silicates account for 66% of Stage 1 / 2 Composite and 73% of Stage 4 Composite
- The combined carbonates account for 7.9% of Stage 1 / 2 Composite and 4.2% of Stage 4 Composite
- Pyrite levels are low at 1.8% for Stage 1 / 2 and 3.0% for Stage 4

#### **Flotation Testwork**

Variability samples were selected to encompass a range of head grades (Pb, Zn and Cu), % non-sulphide lead / redox, alterations and stages of pit development. Mineralogy shows that textural variability between samples and within each sample is significant. This indicates that mine grade control will very important and that the processing plant is likely to experience fluctuating lead concentrate grades and recoveries. Flotation performance of Bawdwin ores will be variable due to the presence of both sulphide lead and zinc (galena and



sphalerite) which is recoverable via standard sulphide flotation and non-sulphide lead and zinc (cerussite, anglesite and smithsonite), which is not.

Lead concentrates from this ore will be mainly diluted by non-sulphide gangue. For samples tested post PFS within the nominated design envelope, lead concentrate grades ranged from 46.3% lead to 72.2% lead, which reflects a combination of lead mineral type and texture. Lead recoveries for these samples ranged from 32.7% to 90.5%. Silver recovery to lead concentrate was higher or equivalent to lead recovery. All these concentrates fall within the marketable range for lead content based on Lycopodium's experience and feedback from a marketing consultant.

Zinc flotation performance will be related to several key aspects, namely, the copper, lead and zinc grades entering the plant and the upstream processing conditions and performance of the lead circuit. The flotation testwork has shown that there are circumstances where a saleable zinc concentrate grades cannot be achieved. These occasions would be dealt with on a case-by-case basis once mining has commenced, using revenue calculations to determine the best course of action to take.

Arsenic and cadmium will need to be monitored in ore and concentrates as these elements will be penalised in concentrate based on the assays seen in this work. In some cases, where these head grades are very high, the concentrates could be rejected based on import limits currently applicable in destination markets such as China.

The findings generated from the latest flotation testwork have shown that practicable strategies are available to maximise flotation performance.

#### **Metallurgical Performance Equations**

The higher the non-sulphide lead content the lower the lead recovery, as anglesite and cerussite are not truly recovered by sulphide flotation (only via composites with galena and other sulphides or entrainment). Also, the higher the non-sulphide lead content, the lower the silver recovery.

For zinc recovery, copper head assay had an impact on zinc recovery to zinc concentrate. The two samples with highest copper content (Stage 1 / 2 at 0.79% Cu and Stage 4 at 0.60% Cu) achieved the lowest recoveries of zinc to zinc concentrate (57.1% and 12.3% respectively). It is postulated that with higher copper content, copper ions are pre-activating the sphalerite leading to higher proportions of zinc reporting to the lead concentrate, despite depressant additions. Recovery equations have been developed to describe the performance of low copper ores (<0.35% Cu) and high copper ores (>= 0.35% Cu).

For zinc concentrate grade, as grades did not vary appreciably between samples, there was no relationship between zinc concentrate grade and any element or mineral assay. Therefore, an arithmetic average returned 52.3% Zn, with 6.0% Pb.

For silver recovery to zinc concentrate there is a good relationship between the ratio of galena plus copper and zinc as sphalerite (% Pb as galena + Cu: % Zn as sphalerite). This is explained by the higher recovery of silver to zinc concentrate when the copper and lead (as galena) head grades are lower i.e. lower quantities of lead / copper concentrate limit the amount of silver that can be recovered to this product, and instead silver is recovered in zinc concentrate.



#### Mining

#### **Optimisation and Pit Design**

The mining study focused on an optimisation of Bawdwin's JORC (2012) compliant Indicated Mineral Resources. Prior to conducting the optimisation, the resource model was modified to make it suitable for application within the open pit optimisation software:

- Any absent or negative geological or physical values were resolved
- Superfluous geological flags or attributes were removed
- Different rock type codes were created to distinguish ore from waste within the optimisation as well as to distinguish between different processing recoveries for different material types
  - Geotechnical domains were represented by the addition of a geotechnical zone code attribute
  - Total waste mining costs inclusive of load and haul, drill and blast, fixed mining costs, and fuel were estimated by pit stage, elevation, and material type

The resource block model was then 're-blocked' to 5 m (x) by 5 m (y) by 2.5 m (z). The selective mining units (**SMU**) took on the average grades of the blocks that were combined to form the SMU whilst the classification and the weathering took on the majority of the combined blocks. Using this methodology applies a practical mining dilution, which takes the thickness or ore bodies into account, rather than applying a global dilution factor to the ore mined.

Technical consultants and the BJV technical team provided financial, mining, processing, metallurgical and cost information to the mining consultant as input parameters for the optimisation process.

The study team evaluated a range of options with regard to the plant throughput. Throughput rates from 1 Mtpa to 4 Mtpa were reasoned to be achievable without necessitating a substantial increase in civil infrastructure investment to support the project logistics. A throughput rate within this range, 3 Mtpa, was selected for the purposes of this mining study. The Company notes that the 2019 Bawdwin PFS assumed a throughput rate of 2 Mtpa and this study remains the most recent study issued in compliance with JORC-2012 guidelines. The PFS estimated total operating costs of USD 2.6 billion and pre-production capital costs of USD 0.3 billion. Input assumptions for the optimisation relating to operating costs and capital costs, were current as of April 2020 and were not materially different to the 2019 PFS estimates. Geotechnical and metallurgical performance assumptions used in the optimisation are discussed within the relevant sections of this announcement. Metals prices used in the optimisation were: lead (USD\$2,098/t), silver (USD\$18.50/troy oz) and zinc (USD\$2,391/t). The open pit optimisations produced a range of nested shells and the evaluations thereof guided the selection of a shell upon which an open pit design was produced (Figure 3).

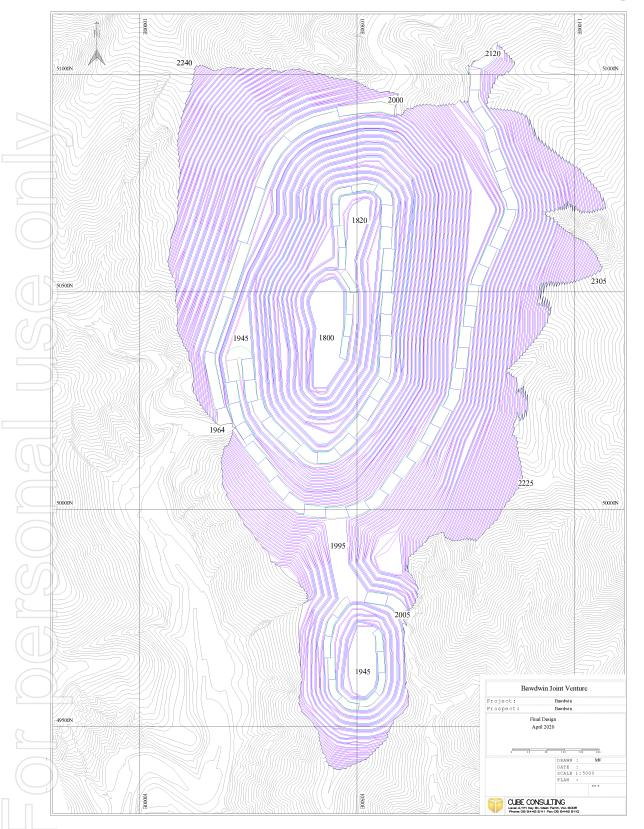


Figure 3. Bawdwin Starter Pit open-pit design.

Designs for pit stages were completed, resulting in a four staged development of the open pit with the final pit being the fourth stage. These stages are shown schematically in Figure 4 (Stage 1 - Blue, Stage 2 - Green, Stage 3 - Yellow and Stage 4 - Red).

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#### Figure 4. Bawdwin Starter Pit open-pit design.

Using these four stages, the associated individual inventories were loaded into a mine production scheduler to enable an integrated mine production and mill feed schedule optimisation, including stockpile building and reclaiming, to result in an optimised open pit production schedule. The pre-production mining period is anticipated to last around 16 months, under the mining rate selected for this mining study, due to the challenging topography. Some of the waste mined during this period will be used for the construction of haul roads to the ROM Pad and waste rock dump.

In this optimisation model, the Starter Pit case scheduled sees production feed totalling 35.8 Mt mined over 12 years at average grades of 4.7% lead, 111 g/t silver and 2.5% zinc. The average head grades are lower than those considered in the 2019 pre-feasibility study as a result of improved economies of scale. A total of 159.5 Mt of waste will also be mined within the Starter Pit. 88% of the scheduled ROM material is from the Indicated Mineral Resources category and 12% is from the Inferred Mineral Resource category.

#### Mining Strategy

The mining strategy will be to undertake a series of cutbacks in the walls of the existing open pit to create flat working benches that will allow for geological mapping, infill RC drilling, RC grade control drilling and blast hole drilling. Samples from the drilling programs will be assayed, tested and modelled so valuable ore zones and waste areas can be distinguished.

Whenever possible waste will be blasted separately from ore. The direction of waste blasting will be along strike of the ore zones and the old workings so as to minimize the dilution of ore with the throw of the blasted rock. Ore will be blasted along strike. Freeze blasting practices will be engaged to help minimize ore displacement.

#### **Equipment Selection**

The primary equipment selection has been based on submissions received from mining contractors to fit the BJV requirements for excavation of ore and waste.

The proposed excavator fleet is based on the use of 100 tonne class excavators for the selective ore mining zones and to undertake pioneering and mining works in the steeper terrain areas. Larger 200 tonne class excavators will be used in the bulk, primarily waste, mining zones. The 100 tonne and 200 tonne class excavators will generally be teamed with 55 tonne capacity articulated dump trucks and 90 tonne class rigid dump trucks



respectively, although the 100 tonne class excavator has the flexibility to load either truck type. Both truck types are successfully used for efficient haulage in a range of operating and climatic conditions, similar to those at Bawdwin, on a large number of mining projects around the world. Upscaling the mining fleet, from that of the previous feasibility studies, has been an improvement initiative undertaken as part of the mining study.

#### Geotechnical

Geotechnical investigations and analysis of the geotechnical core logging were undertaken to characterise the respective rock mass design domains that will be encountered in the proposed open pit slopes. The available laboratory strength data was reviewed and analysed for the purposes of slope design. Geotechnical design domains have been identified based on their lithology, weathering and geotechnical characteristics.

The prevailing stress field, earthquake loading potential and hydrogeological conditions were incorporated to provide the rock mass loading conditions for geotechnical analysis.

Probabilistic 2D finite element (FE) modelling was carried out to determine the batter face angle. The acceptance criteria for design were a factor-of-safety of 1.1 and a probability-of-failure of 30%.

The catch-berm capacity was based on the results of the FE analysis and considers the volume of bulked material that could report to the berm if a batter failure took place.

Based on this work, the slope design parameters are presented below:

Geotechnical Domain	Weathering	Batter Face Angle (°)	Berm Width (m)	Bench Height (m)	Inter-Ramp Angle (°)
Porphyry	Weathered	50	2.5	5	36.8
	Fresh	75	9.5	15	48.0
Sandstone	Weathered	65	4.0	5	38.3
	Fresh	75	9.5	15	48.0
Massive Tuff	Weathered	55	3.0	5	37.6
90	Fresh	70	9.0	15	46.1
Alteration Domain		50	3.0	5	34.8

Table 1. Slope Design Parameters

Three-dimensional finite-element modelling was used to analyse overall slope stability, based on pit design. The overall pit stability analysis indicated the pit design exceeds the acceptance criterion of a 1.3 factor-of-safety. Seven slope domains were used in the optimisation with slope angles ranging from 34.3° to 43.9°.



#### **Processing Plant**

#### Design

The testwork conducted by the BJV's metallurgical consultants provided the basis for the plant design. The key process design criteria for the plant were:

- Achievement of the BJV's nominated throughput rate with a primary grind size of 80% passing 75 microns ( $\mu$ m)
- Design of head grade ranges based on three scenarios of high, average, and low feed grade
- Flotation plant design based on sulphide flotation only
- Production of separate lead and zinc concentrates
  - Process plant availability of 91% supported by the selection of standby equipment in critical areas and reputable vendor equipment
  - Regrind of lead rougher / scavenger concentrate to a product size of 80% passing 15  $\mu$ m
  - Regrind of zinc rougher / scavenger concentrate to a product size of 80% passing 20  $\mu$ m

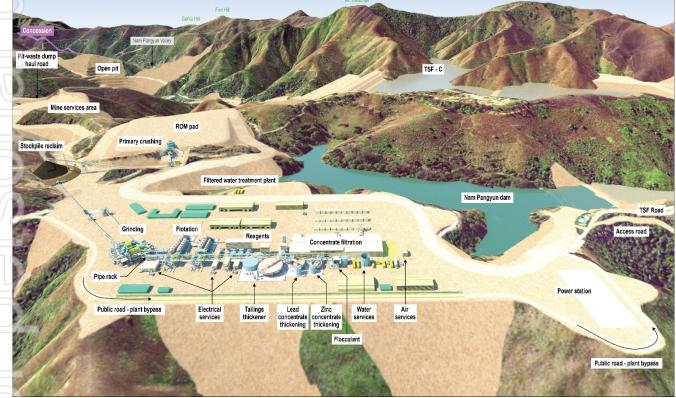
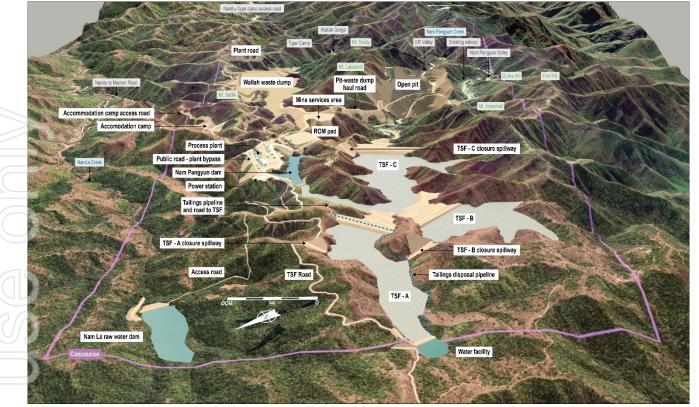


Figure 5. Bawdwin processing plant

The plant location at the old sandfill plant site result in a L-shaped process plant configuration designed around best use of limited area. Once the site is cut and filled this location provides sufficient flat area, on one level, for the processing plant and associated plant infrastructure. The plant has been configured to suit the terrain and measures 600 metres from coarse ore stockpile at the south east end to water treatment plant at the western end. The primary crusher is located at the northern face of the ROM pad on a hilltop 100 metres west of the coarse ore stockpile and connected to the plant by conveyor and crushing plant access road off the main entrance road.



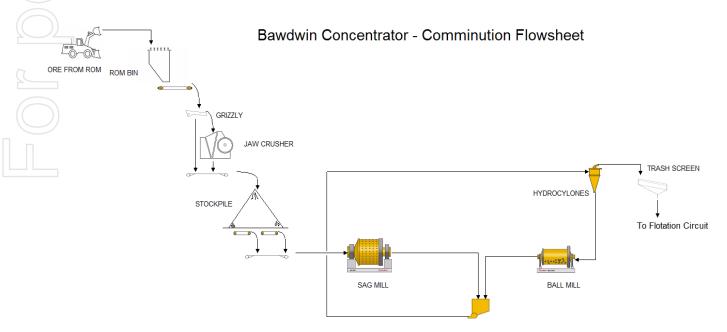


#### Figure 6. Bawdwin site layout

The Run-Of-Mine (ROM) pad is 1.9 km from the rim of the open pit mine by haul road route, the mine services area is 3 km from the plant gate and the Tailings Storage Facility (TSF) is 1.4 km by pipeline route from the nearest plant fence line. The accommodation camp is 4.2 km from the main gate entrance to the plant by camp and plant access roads.

#### **Overview of operations**

After the ore has been hauled from the open-pit to the ROM Pad a front end loader will feed the ROM bin. ROM feed will be drawn from the bin at a controlled rate by a variable speed apron feeder and discharge into a vibrating grizzly screen. Oversize rocks will be discharged into a single toggle primary jaw crusher. The crushed ore will discharge onto the stockpile feed conveyor for transport to the stockpile (Figure 7).



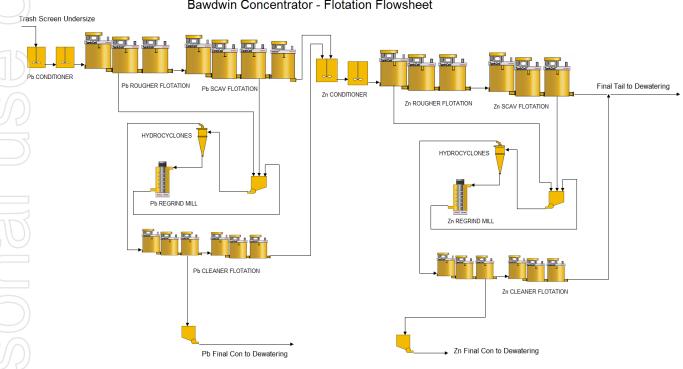
#### Figure 7. Comminution Flowsheet

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Ore will be withdrawn from the stockpile via two variable speed apron feeders, which feed directly to the SAG mill via a conveyor. The primary grinding circuit will consist of SAG mill and a closed circuit ball mill. Process water and lime slurry will be added to the SAG mill feed chute to achieve the required milling density and assist with sphalerite depression. Slurry will discharge from the SAG mill and ball mill through a trommel and gravitate to the cyclone feed hopper. The slurry will be further diluted with process water prior to being pumped to the primary cyclone cluster. The primary cyclones will separate the slurry into fine and coarse fractions. The coarse fractions will be recycled back to the ball mill for further grinding. Appropriately sized product from the cyclone will report to the trash screen via gravity (Figure 7).

The lead rougher / scavenger flotation circuit will consist of two 30 m<sup>3</sup> agitated rougher conditioner tanks followed by seven 70 m<sup>3</sup> tank type flotation cells in series.



#### **Bawdwin Concentrator - Flotation Flowsheet**

#### Figure 8. Flotation Flowsheet

The slurry will flow from the trash screen into the lead rougher conditioner tanks. Reagents will be added to the tougher conditioner tank, along with process water for dilution to the required slurry density.

Concentrate from the seven rougher / scavenger cells will report to the concentrate hopper which will transfer the slurry to the lead regrind circuit. Process water will be added to the hopper to achieve the desired cyclone feed density. Appropriately sized concentrate products from the lead regrind circuit will gravitate to the lead cleaner conditioner tanks, which will be treated with flotation reagents. Lead concentrate from the conditioner tanks will be pumped to the lead concentrate thickener which will allow for the production of a final filtered lead concentrate product and tailings.

The lead scavenger cells and the tailings from the lead cleaner cells provide the slurry feed for the zinc conditioner tanks at the start of the flotation circuit. A flotation process similar to the lead circuit will be used, with different reagents, to produce a separate filtered zinc concentrate product.

A covered concentrate storage area will accommodate around nineteen and fourteen day's production for lead and zinc respectively at nominal production rates. Concentrates will be loaded into covered containers by a front end loader as required. The containers will then be removed from the shed by a container forklift, and either stored or placed onto trucks for shipment off site.



#### **Tailings and Waste Management**

A detailed study was undertaken by the BJV's consultant to identify suitable sites for a Tailings Storage Facility (TSF) and a waste rock dump within the Bawdwin Concession. Key design objectives included:

- To produce a safe and practical design for tailings management which complies with the relevant local, national and international regulations, guidelines and standards
  - Eliminate, manage or control environmental, health and safety risks with zero harm aspiration
  - Develop designs and estimate quantities to an accuracy of ±15%

The key design objectives in specific to the TSFs are as follows:

- Permanent and secure containment of all tailings solids
- Achieve high tailings densities using sub-aerial deposition and maximising water recovery
- Allow for ease of operation
- Allow for effective rehabilitation
- Effective surface water and sediment management

15 potential sites within the Bawdwin concession were identified. After a thorough evaluation of the sites 3 adjacent tailings storage sites were selected for the life-of-mine storage of tailings for Bawdwin. These were named sites A, B and C and the general arrangement of these facilities is shown in Figure 9 below.

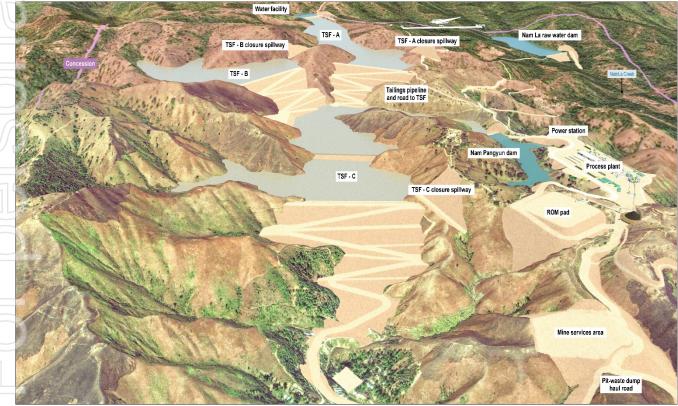


Figure 9. Bawdwin Tailing Storage Facilities

The TSF sites are located upstream of the pit and approximately 1.2 km west of the processing plant. The three interconnecting facilities comprise cross valley storages. Each TSF has been designed as a starter embankment with two downstream raises.

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The first of three tailings storage facilities, TSF A will be constructed at project commencement. TSF A will have capacity for approximately 3 years of mine tailings. Construction on TSF B will commence 18 months after plant commencement, to be ready to accept tailings in Year 3.

The waste rock will be stored in a single waste dump within Wallah Gorge. Waste rock placement will commence at the toe and work back up through the valley. Ramps will be included to access the higher elevation areas of the dump which are above the surrounding topography.

#### Key New Infrastructure

#### Haul Roads

The haul roads for the mine operations will be based on the width of the largest dump truck proposed. For this study it will be a mixture of 100 tonne off highway trucks and 40-60 tonne articulated dump trucks. Project pit ramps and mine haul roads have been designed with a maximum gradient of 10% (i.e. 1:10). Due to the mountainous nature of the area this is not possible in all areas and short sections of steeper gradients exist. Pioneer mining will be undertaken using the articulated dump trucks to reach the summit of the pit designs, these will be temporary single lane roads with passing bays and may get as steep as 16.7% (i.e. 1:6) for short sections.

All roads within the mine operation will be unsealed using the best materials available on site for construction and the pavement layer. Road design is a mixture of cut (i.e. cutting into the hillside) and fill (i.e. filling on the downhill side). Cutting into the hill will increase earthworks volumes but the degree of retaining is minimised. Fill results in minimising cut earthworks but may involve a retaining structure.

A new sealed access road will be developed to connect the Tiger Camp site in the southern end of the Bawdwin concession to the town of Namtu, approximately 16 kilometres away. This private road will follow the existing rail corridor and will be used by vehicles transporting concentrate and mine supplies.

#### **Mining Services Area**

The Mining Services Area (MSA) is located to the south of the ROM pad on an area roughly 200 x 200 metres. The area is also connected to the processing plant site and is the same level as the Plant site (Figure 9).

The area contains the following facilities: warehouse laydown area, warehouse, office complex, light vehicle parking, crib room, training room, ablution, fuel facility, workshop, plant wash bay, plant parking, emulsion facility and magazine.

#### Accommodation Camp

An area near the plant site was selected for the camp. By road, the processing plant is 4.2 km from the camp. A 500 room accommodation camp will be developed in 3 phases to accommodate up to 1,000 personnel. A construction camp will first be established during the mine construction phase and this camp will be refurbished to become the permanent mine camp. The camp will be equipped with common camp facilities.

#### **Power Supply**

The existing mine is supplied by a 33 kV overhead transmission line from Mansam Falls and Kong Nyaung hydroelectric power stations. The existing transmission line and power stations do not have the capacity required to supply the new plant, and an onsite power station will be required.

Power for the new plant will be supplied from an onsite 30 MW diesel power station located adjacent to the process plant. The power station will supply directly onto an 11 kV switchboard to supply the process plant and other mine facilities. The power station has been sized based on reliability criteria to ensure adequate generation availability to supply the plant loads during routine maintenance in the power station. The power station control system will automatically manage the amount of generators to ensure sufficient power generation during mill starts.



#### Implementation

The project execution plan defines the methodology and project management approach for the execution of the Bawdwin Project. It covers the period through to completion of execution comprising of early works, engineering design, construction, commissioning and handover of the permanent facilities.

The development of the Bawdwin Project to a successful operating mine will involve key activities:

- Environmental and Social, Impact Assessment (ESIA)
- Feasibility Studies (FS)
- Execution Phase
  - o Implementation
  - o Operational Readiness
  - Pre-Production Activities
  - **Community Investment**

#### **Environmental and Social Impact Assessment**

Consultants have been engaged to undertake the Environmental and Social Impact Assessment (ESIA). The BJV's ESIA will follow international standards and guidelines, including the Equator Principles and IFC Performance on Environmental and Sustainability. An Environmental Scoping Study, which establishes the framework for the ESIA, has been completed by BJV and its consultants and reviewed by the Environmental Conservation Department within MONREC.

#### Implementation

The project implementation program is based on a 22 month design, construction and commissioning timeframe with the objective of achieving first concentrate production 22 months after commencement of the project. The commencement of the project implementation phase assumes all project approvals are obtained and financial funding is in place. As noted in Appendix 1, under Future Capital Requirements, there are relevant risks to the assumption of obtaining project finance. The proposed execution methodology for the design, engineering, construction and commissioning of the process plant and infrastructure is an EPCM delivery model. All contracts for will be competitively tendered.

#### **Operational Readiness**

Bawdwin will be the BJV's first operation and first significant major mining project in Myanmar. To ensure stakeholder confidence in the BJV's ability to transition to a successful operator the BJV will engage the Bawdwin General Manager prior to the execution phase to manage this critical phase of the works. The General Manager will be responsible to develop and implement a whole of business framework under a detailed operational readiness plan.

#### **Pre-Production Activities**

Pre-production activities will be carried out in parallel to the execution phase and guided by the operational readiness plan. The pre-production activities required to be completed prior to commissioning of the process plant are described below.

Pre-production activities involve the mobilisation of fleet and personnel for the commencement of mining activities to ensure a sufficient quality of ore on the ROM pad prior to commissioning and ramp-up to full production rates. Mining pre-production will take 15 months to complete.



The mobilisation and training of personnel required for the operation of the process plant will also occur in the pre-production phase. The workforce is expected to consist of a limited number of skilled expatriates and large number of Myanmar Nationals, with no experience in western style mining environments. As a result extensive health, safety and environmental training will be undertaken. This training is planned to be carried out in Namtu/Bawdwin away from construction activities at the processing plant site. Job specific training programs will also be undertaken to prepare the workforce ahead of commissioning.

The project development will be managed by the BJV team, appropriately resourced to oversee the execution of the design, construction, commissioning and handover to operations. An operational readiness plan, will be developed to ensure that the BJV will have all the systems, procedures and standards in place and an operations team recruited, trained and ready to accept care, custody and control of the project assets when handed over by the development team.

The BJV team will develop and manage a number of consultancy service contracts, major work contracts and site services contracts required for the execution of the Project.

#### Operations

At completion of commissioning a 6 month period of processing plant ramp-up is expected. The ramp-up will include the optimisation of the flotation cells, reagents, project logistics and plant debugging procedures.

It is expected that the majority of the operational workforce will be recruited during late construction phase of the project. It is expected that the workforce numbers will reach approximately 80% of steady state at the start of commissioning. The objectives of pre-production activities are to:

- Recruit operational workforce
- Train the operational workforce to meet the minimum standard required to safely operate the process plant and non-process plant infrastructure
- Not to delay production ramp-up

To meet these objectives, the focus of the pre-production activities will include workforce recruitment with a particular emphasis on:

- Expat and Expat-Regional personnel
- Early identification of National personnel with good English literacy and numeracy skills
- Literacy and numeracy education training programs
- Health, safety and environmental training
  - Job specific training and verification of competency
    - A minimum skill level will be obtained prior to load commissioning

#### Workforce Mobilisation

The operational workforce will be progressively mobilised by department to ensure that senior management, superintendents, and supervisors are available to assist with training of the national workforce. National personnel with good English language skills will be identified and trained early as workplace trainers for the national workforce.

#### Mining Pre-production

Planned mobilisation of the mining workforce is scheduled to take place fifteen months prior to commissioning, to undertake mine development works. BJV's mining technical workforce will mobilise to oversee the mining contractors works. The objective of mining pre-production work is to establish the pit and deliver ore to the ROM pad to meet the production schedule by undertaking the following:



- Mobilise the mining contractors personnel and equipment fleet to site
- Establish mining infrastructure including offices, mine service area, haul roads and ROM pad
- Establish the explosive magazine and emulsion compound
  - Recruit and train the contractors mining workforce to meet the minimum standard required to safely perform mining activities
  - Recruit and train BJV's mining technical workforce to meet the minimum standard required to oversee the contractors mining operations.

#### Project Location Maps

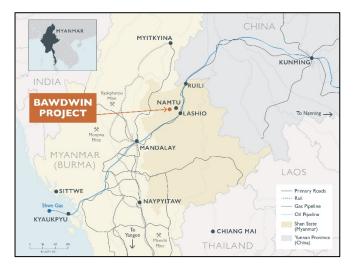


Figure 10 Bawdwin location in respect to Myanmar Infrastructure

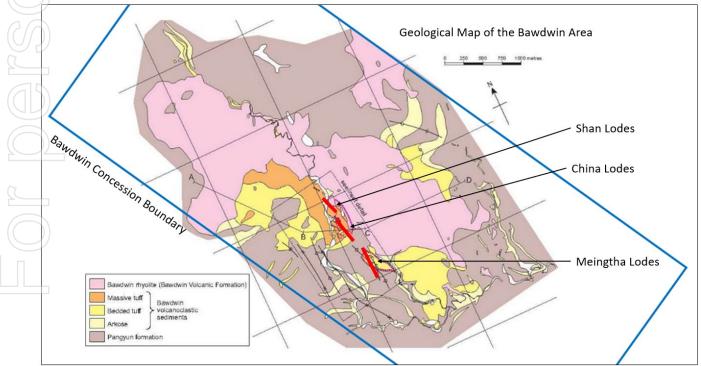


Figure 11 Bawdwin Concession and local geology with major mineralized zones shown. A Ford April 2021 Geology Sourced from Gardiner et al., after Brinkmann and Hinze 1981.



#### Appendix 1. General and Specific Risks Which May Apply to The Company

Risks	Commentary
	<ul> <li>Approval is to be sought from the Myanmar Investment Commission (MIC) pursuant to a recommendation from the Ministry of Natural Resources and Environmental Conservation (MONREC) for:</li> </ul>
	<ul> <li>a foreign investment permit allowing the Company to take a controlling equity interest in the permit holding company, replacing the present contractual interest held by the Company;</li> </ul>
	<ul> <li>the permit holding company to undertake development of a new and/or expanded mining operation as described in the feasibility studies; and</li> </ul>
	<ul> <li>the permit holding company to continue to undertake large-scale mineral production activities as a foreign-invested entity (following vesting of the Company's controlling equity interest and incorporation of the JV)</li> </ul>
	<ul> <li>The Company is working with MONREC and its local partners to obtain these approvals. While discussions are continuing there can be no guarantee that the approvals will be forthcoming.</li> </ul>
Approvals	<ul> <li>Development of the Bawdwin project by the Company and its partners i reliant on foreigners being permitted to reside and work at the Bawdwin site. As part of the development of the Bawdwin Project, formal approva for foreigners to reside and work at Bawdwin must be secured.</li> </ul>
	<ul> <li>There can be no guarantee that all of the necessary permits an approvals will be forthcoming or granted on terms that are acceptable to the Company. Delays in obtaining, or the inability to obtain, permits and required approvals on acceptable terms may significantly impact on the Company's operations.</li> </ul>
	It is possible that permits granted under the new Myanmar Government will not be recognised by future governments or that future government will require project proponents to re-apply for permits. The Company ha undertaken a series of robust project studies, nearly completed comprehensive ESIA and has been open and transparent in it interactions with Myanmar Government agencies. The Compan considers that it is well placed to respond to any future clarifications o requests, as may be required.
	<ul> <li>The Bawdwin village has been a centre for mining operations for over century. The Company expects the Bawdwin mine re-development wi create significant social and economic benefits for local communities including employment opportunities, but acknowledges that resident may be directly or indirectly affected by the mine development an associated operations. Community programs and social impact studie were conducted as part of the ESIA to understand community issues an where possible address concerns.</li> </ul>
Community	<ul> <li>The existing processing facility at Bawdwin has been established for many years but an expanded mine and/or treatment facility is expected to impact on local housing which is expected to result in the Compan being required to negotiate a resettlement program with the affected community members. The Company may therefore be required to undertake activities including a livelihood restoration and relocation program, including the building of new homes.</li> </ul>
	<ul> <li>As it is intended that local residents will be the source of a significan number of employees for the mine, and the quality of the housing constructed is expected to be higher than the existing buildings</li> </ul>



	community support is expected but cannot be guaranteed. If some members of the community are slow to relocate or resist moving altogether, it may have the potential to adversely affect future production. The Company notes that the local housing is part of the concession, as is the land upon which it is built: the mine operator holds the title and has the legal right to remove and rebuild.
Country	<ul> <li>The declaration of a State of Emergency in Myanmar on 1 February 2021 has led to the imposition of international sanctions on Specially Designated Nationals ("SDNs"). These sanctions do not target any entities or individuals with which MYL does or has done business.</li> <li>If international sanctions, broader in scope, are implemented it may effect the ability of the Company to conduct its business in Myanmar.</li> <li>Following 1 February 2021, a campaign of civil disobedience has substantially impacted the functioning of government agencies and civil society. Civil unrest is now apparent in several cities in Myanmar and an escalation into a larger scale conflict is possible. These events could have a material impact on the government approvals process and project financing for the Bawdwin project. If the unrest persists it may affect the viability and profitability of the Bawdwin Project.</li> <li>Myanmar has experienced conflict between a number of armed ethnic organisations (AEO) and military forces in Shan State. Such conflict has the potential to fundamentally impact foreign businesses' operations in Myanmar. The location of the Bawdwin project in the northern Shan State is an area that has experienced conflict between AEO's and/or military forces over many years. The possibility of continued or an increase in conflict remains a threat which may affect the viability and profitability of the Bawdwin Project. The BJV notes that the conflicts in Shan State have had no material impact on the Bawdwin project to date.</li> <li>Other related financial and regulatory risks could also apply, including hyperinflation, currency non-convertibility or instability and changes of law affecting foreign ownership, government participation, taxation, working conditions, rates of exchange, exchange control, licensing, export duties, repatriation of income or return of capital, environmental protection, labour relations and government control over natural</li> </ul>
Environment and Health	<ul> <li>resources.</li> <li>A structured and comprehensive risk management process was implemented during the feasibility studies in order to characterise the uncertainties of the project, including environmental and health issues.</li> <li>Historical mining operations may have had an impact on the health conditions of the local population and polluted parts of the local mine environs. The Company does not consider that it has any responsibility for these historic mining operations. Baseline health and environmental data has been collected as part of the ESIA process.</li> <li>Without good work practices, the minerals handled and metal products produced from future mining operations have potential to create adverse health, safety and environmental impacts. Addressing health, safety and environmental risks identified in the risk management process is a priority matter in the ESIA.</li> </ul>
Future Capital Requirements	<ul> <li>In order to successfully develop the Bawdwin Project and for production to commence, the Company will require additional financing in the future. No assurances can be made that appropriate capital or funding, if and when needed, will be available on terms favourable to the Company or at all. If the Company is unable to obtain additional financing</li> </ul>



<ul> <li>as needed, it may be required to reduce the scope of its activities and this could have a material adverse effect on the Company's activities.</li> <li>Civil unrest and the imposition of sanctions, may restrict the ability and willingness of financiers to participate in the project financing of the Bawdwin Project.</li> </ul>
<ul> <li>The Company's projects may be adversely affected by risks outside the control of the Company including labour unrest, civil disorder, war, subversive activities or sabotage, fires, floods, explosions or other catastrophes, epidemics or quarantine restrictions.</li> <li>Myanmar has experienced civil disorder and insurgency by various ethnic groups in recent years and may experience ongoing civil disorder and insurgency. Such risks are beyond the control of the Company and may affect industry profitability as well as the Company's capacity to explore and mine.</li> </ul>
<ul> <li>The Company's ability to proceed with the development of its mineral projects and benefit from any future mining operations will depend on market factors, some of which may be beyond its control. It is anticipated that any revenues derived from mining will primarily be derived from the sale of zinc, lead and silver metals.</li> </ul>
<ul> <li>Consequently, any future earnings are likely to be closely related to the price of these commodities and the terms of any off-take agreements that the Company enters into. Metals are principally sold throughout the world in US dollars. The Company's cost base may be payable in various currencies including Myanmar kyat, Australian dollars and US dollars. As a result, any significant and/or sustained fluctuations in the exchange rate between the Australian dollar and the US dollar or between the Australian dollar and the US dollar or between the Australian dollar and the Myanmar kyat could have a materially adverse effect on the Company's operations, financial position (including revenue and profitability) and performance. The Company may undertake measures, where deemed necessary by the Board to mitigate such risks.</li> </ul>
The operations of the Company may be affected by various factors, including failure to locate or identify mineral deposits, failure to achieve predicted grades in exploration and mining, operational and technical difficulties encountered in mining; difficulties in commissioning and operating plant and equipment, mechanical failure or plant breakdown, unanticipated metallurgical problems which may affect extraction costs; adverse weather conditions, industrial and environmental accidents, industrial disputes and unexpected shortages or increases in the costs of consumables, spare parts, plant and equipment. No assurances can be given that the Company will achieve commercial viability through the successful exploration and/or mining of its interests. Unless and until the Company is able to realise value from its projects, it is likely to incur ongoing operating losses.
<ul> <li>The Bawdwin Joint Venture operating through the BJV Company Limited (BJV) has operated successfully since its formation in June 2018 and has proven to be an effective vehicle for developing the Bawdwin project and the BJV partners have worked together to finalise feasibility studies. MYL's partners substantially de-risk joint venture operations through their local experience and knowledge.</li> <li>The Company's interest in the Bawdwin Project is held through a legally</li> </ul>



- The ability of the Company to achieve its stated objectives will depend on the performance by the Company, EAP and WMM under the aforementioned agreements. If any of EAP, WMM defaults in the performance of their obligations, or there is disagreement as to a matter of contractual interpretation, it may be necessary for the Company to initiate proceedings in an arbitral tribunal or a court to seek a legal remedy, which can be costly and has no certainty of resulting in a favourable outcome for the Company. The Bawdwin Joint Venture operates with commercial discipline (including cash calls, budgets and cost variance reporting) and is governed by a board that meets monthly, recording its decisions as properly minuted resolutions.
- Prior to Myanmar Metals' participation in the BJV, the Company engaged a leading international law firm to conduct a due diligence review on its Joint Venture partners to ensure they were not associated with any business or persons subject to U.S. sanctions. The due diligence confirmed no such associations existed and no persons associated with the BJV were subject to U.S. sanctions.



#### **JORC** Table 1

#### Table 1: Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections) Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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 downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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 30g 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.</li> </ul>	<ul> <li>The evaluation program at Bawdwin included diamonal core and RC drilling completed from August 2017 to March 2020.</li> <li>Diamond core drilling was completed from August 2011 to March 2020 using PQ, HQ and NQ triple tube diameter coring. A total of 104 diamond core drillholes and 36 diamond core drill-tail holes were completed, c which three were redrills, for a total of 19,275 m (including RC pre-collars).</li> <li>Drill core was geologically logged, cut and then ½ core samples sent to Intertek Laboratories for sample preparation in Yangon, Myanmar and then analysis in Manila, Philippines. The sample interval was nominally 1 m or to geological and mineralisation boundaries.</li> <li>RC Drilling commenced in January 2018 and has continued with minor breaks until March 2020 with 10 RC holes completed, for a total of 11,409 m.</li> <li>RC chips collected using a face sampling hammer were split into a bulk sample and a sub-sample collected in plastic bags at 1 m intervals. Samples were split using a riffle splitter, the bulk sample being stored on site, and an approximately 2 kg sub sample was sent to Intertek Laboratories for sample preparation in Yangon, Myanmar and then analysis in Manila, Philippines.</li> <li>Channel sampling in the open pit sampling was completed by a team of Valentis Resources (Valentis)a Win Myint Mo Industrial Co Ltd (WMM) geologists over most of the available open pit area wherever clean exposure was accessible. A total of 435 samples were collected from 47 channels totalling 1,790.8 m. Sample were typically 1.5 m in length or to geological and mineralisation boundaries. Approximately 3 kg of representative sample was systematically chipped from cleaned faces. Samples were despatched to Intertek Laboratories for sample preparation in Yangon, Myanmar and then analysis in Manila, Philippines.</li> <li>The underground sampling data is an extensive historid data set that was completed as part of mine development activities. The data set comprises system</li></ul>



(Criteria in	JORC Code explanation	Commentary
this section apply to all succeeding sections) Criteria		across-strike drives and across the backs of strike drives.
		Sample weights were around 5 pounds (2.3 kg) were analysed at the Bawdwin Mine site laboratory using chemical titration methods. Results were recorded in ledgers. Averaged results from each wall of the exploration cross-cuts were recorded on the level plans.
Drilling techniques	<ul> <li>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).</li> </ul>	• Drilling from 2017 to 2020 was completed by Titeline Valentis Drilling Myanmar (TVDM) using two Elton 500 drill rigs. Drilling is a combination of triple tubed PQ, HQ and NQ diameter diamond coring. Holes were typically collared in PQ, then reduced to HQ around 50 m, and later to NQ if drilling conditions dictated. Holes ranged from 63.4 m to 260.1 m depth.
2) 5)		<ul> <li>Attempts were made to orientate the core, but the ground was highly fractured and broken with short drilling runs. Obtaining consistently meaningful orientation data was very difficult.</li> </ul>
		• TVDM subcontracted a Hanjin DB30 multi-purpose drill rig for the RC drilling of nominal six-inch diameter holes.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>To maximise core recovery, triple tube PQ, HQ and NQ core drilling was used, with the drilling utilising TVDM drillers experienced in drilling difficult ground conditions Drill penetration rates and water pressure were closely monitored to maximise recovery.</li> <li>During the diamond drilling the length of each drill run and the length of sample recovered was recorded by the driller (driller's recovery). The recovered sample length was cross checked by the geologists logging the drill core and recorded as the final recovery.</li> <li>Core recoveries were variable and often poor with a</li> </ul>
		mean of 80% and a median of 87%, with lowest recoveries in the 10% to 30% range. Low recoveries reflect poor ground conditions and previously mined areas. Core recoveries were reviewed, and two intervals were excluded due to very poor recovery.
		<ul> <li>At present, no relationships between sample recovery and grade bias due to loss/gain of fines or washing away of clay material has been identified. It is assumed that the grade of lost material is similar to the grade of the recovered core.</li> </ul>
£		<ul> <li>RC drilling was conducted to maximise sample recoveries. Where voids or stopes were intersected recoveries were reduced, and such occurrences were recorded by the supervising geologist.</li> </ul>
		<ul> <li>For channel chip sampling, every effort was made to sample systematically across each sample interval with sampling completed by trained geologists.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in</li> </ul>	<ul> <li>All diamond core samples were geologically logged in a high level of detail down to a centimetre scale. Quantitative logging for lithology, stratigraphy, texture, hardness, RQD and defects was conducted using defined logging codes. Colour and any other additional qualitative comments are also recorded.</li> </ul>

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(Critoria in	IORC Code explanation	Commentary
(Criteria in this section apply to all succeeding sections) <b>Criteria</b>	JORC Code explanation	Commentary
	nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	<ul> <li>All RC samples were geologically logged for lithology, alteration and weathering by geologists. A small sub sample was collected for each metre and placed into plastic chip tray for future reference.</li> <li>The 2016 open pit channel rock samples were systematically geologically logged and recorded on sample traverse sheets.</li> <li>All drill core and open pit sampling locations were digitally photographed.</li> <li>The underground sampling data has no geological logging, however geological mapping was completed along the exploration drives and is recorded on level plans. Historical plan and section geological interpretations have been used in these areas to assist in geological model development.</li> </ul>
Subsampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>All core was half-core sampled. Most core was cut using an electric diamond saw and some more friable intervals were split manually. All core for sampling was pre- marked with the cut line, and only the left-hand side of the core was sent for assay to maintain consistency.</li> <li>The core sampling intervals were generally at one metre intervals which were refined to match logged lithology and geological boundaries. A minimum sample length of 0.5 m was used.</li> <li>RC samples were collected in plastic bags at 1 m intervals from a cyclone located adjacent to the drill rig. Valentis field staff passed the bulk sample through a riffle splitter to produce a nominal 2 kg sub sample.</li> <li>Given the nature of the RC drilling to pulverise the sample into small chips riffle splitting the sample is an appropriate technique for a sulphide base metal deposit. The 2 kg sub-sample was deemed an appropriate sample size for submittal to the laboratory.</li> <li>No sub-splitting of the open pit chips samples was undertaken. Sample lengths ranged from 1 m to 2 m (typically 1.5 m). Sample intervals were refined to match geological boundaries.</li> <li>Historical underground subsampling techniques are unknown.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The diamond, RC and open pit channel samples were all sent to Intertek Laboratories in Yangon for sample preparation.</li> <li>All samples were dried and weighed and crushed in a Boyd Crusher. A representative split of 1.5 kg was then pulverised in a LM5 pulveriser. A 200 g subsample pulp was then riffle split from the pulverised sample. The crusher residue and pulverised pulp residue were stored at the Yangon laboratory.</li> <li>Sample pulps were sent to the Intertek analytical facility in Manila, Philippines where they were analysed in 2017 using ICP-OES – Ore grade four-acid digestion. Elements analysed were Ag, Fe, Cd, Co, Ni, Pb, Cu, Mn, S and Zn. From 2018, ICP-OES – Ore grade four-acid digestion</li> </ul>



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		continued to be employed, along with additional multi- element analysis of 46 elements using four-acid standar ICP-OES and MS.
		<ul> <li>Quality control (QC) samples were submitted with each assay batch (certified reference standards, certified reference standard blanks and duplicate samples). The laboratory inserted their own QC samples as part of the internal QA procedures. All assay results returned were of acceptable quality based on assessment of the QC results.</li> </ul>
) ) ) )		<ul> <li>The underground data was assayed by the Bawdwin mine laboratory on site. Bulk samples were crushed in a jaw crusher, mixed, coned and quartered. Two 100 g samples were then dried and crushed in a ring mill to approximately 100 mesh. Two 0.5 g homogenised samples were taken for lead and zinc titration using aqu regia (Pb) and nitric acid (Zn). RSG inspected the laboratory in 1996 and noted it to be "clean, and great pride is taken in the conditions and quality of the work" The laboratory remains operational and CSA Global's review in 2017 reached similar conclusions to RSG. Results for Zn and Pb were reported to 0.1%.</li> </ul>
		• There is no QAQC data for the historical underground sampling data.



(Criteria in this section apply to all succeeding sections) <b>Criteria</b>	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All diamond drill core samples were checked, measured and marked up before logging in a high level of detail.</li> <li>RC Samples were sampled and logged at the drill rig. A small sub-sample from each metre was placed into a plastic chip tray to allow re-logging if required.</li> <li>The diamond and RC sampling and geological data were recorded into standardised templates in Microsoft Excel by the logging/sampling geologists.</li> <li>Geological logs and associated data were cross checked by the supervising Project Geologist.</li> <li>Laboratory assay results were individually reviewed by sample batch and the QC results checked before uploading.</li> <li>All geological and assay data were uploaded into a Datashed database.</li> <li>The Datashed database was loaded into Micromine mining software. This data was then validated for integrity visually and by running systematic checks for any errors in sample intervals, out of range values and other important variations.</li> <li>All drill core was photographed with corrected depth measurements before sampling.</li> <li>No specific twin holes were drilled; however, three daughter holes were inadvertently cut due to challenging drilling conditions during re-entry through collapsed ground and intersected mineralisation of very similar tenor and grade to the parent hole.</li> <li>Historical underground sampling data was captured off hard copy mine assay level plans. These plans show the development drives on the level along with the sampling traverse locations were scaled off the plans (in the local Bawdwin Mine Grid). Data was collated into spreadsheets and then uploaded into Micromine. Sampling traverses were loaded as horizontal drillholes. The channel sample swere systematically visually checked in Micromine against the georeferenced mine assay plans. The data was further validated by running systematic checks for any ervors in sample intervals, out of range values and other important variations. And dual anting systematic checkes for any ervors in sample i</li></ul>

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Location of data points	• Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches,	<ul> <li>The diamond drilling, RC drilling and pit mapping and channel sampling all utilised UTM WGS84 datum Zone 4</li> </ul>
$\mathcal{A}$	<ul> <li>mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>North.</li> <li>In June 2019 the Bawdwin Mine Grid (BMG) was created to ensure resource modelling was conducted on a grid near to parallel to the strike of the mineralisation. A grid origin adjacent to the Mine Office was assigned a coordinate of 50,000N and 10,000E and 1000m was added to the elevation of 950.3m The BMG grid north is oriented at 322.1717 decimal degrees.</li> </ul>
		<ul> <li>All data used in the Mineral Resource estimate and ongoing reporting was converted to the BMG from UTM</li> </ul>
		<ul> <li>All diamond drillholes and pit mapping sampling travers locations were surveyed using a Differential Global Positioning System (DGPS). The DGPS has an accuracy better than +/- 0.5 m.</li> </ul>
		• All diamond drillholes have downhole surveys. These were taken using a digital single shot camera typically taken every 30 m.
Ð		<ul> <li>The RC Holes were surveyed in the rods every 30 m, however because of interference from the steel only dips could be recorded during the early 2018 drilling. From September 2018, a gyroscopic system was utilised to provide both dip and azimuth survey information.</li> </ul>
		<ul> <li>Historically the underground and open pit mines operated in a local survey grid, the "Bawdwin Mine Grid". This grid is measured in feet with the Marmion Shaft as its datum. A plane 2D transformation was developed to transform data between the local Bawdw Mine Grid and UTM using surveyed reference points.</li> </ul>
		<ul> <li>Historical mine plans and sections were all georeferenced using the local Bawdwin Mine grid. The outlines of stopes, underground sample locations, basi geology and other useful information was all digitised i the local mine grid. This was later translated to UTM for use in geological and resource modelling.</li> </ul>
		• The historical underground channel sampling data is scaled off historical AO paper and velum mine plans which may have some minor distortion due to their age
		• The underground sampling locations were by marked tape from the midpoint of intersecting drives as a reference. They appear to be of acceptable accuracy.
		• Historically within the mine each level has a nominal Bawdwin grid elevation (in feet) which was traditionally assumed to be the elevation for the entire level. It is likely that these levels may be inclined for drainage so there is likely to be some minor differences in true elevation (<5 m).
		<ul> <li>The topography used for the estimate was based on a GPS drone survey completed by Valentis. This is assum to have &lt;1 m accuracy and it was calibrated against the Bawdwin Mine UTM survey of the open pit area and surveyed drill-hole collars. This survey is of appropriate accuracy for the stage of the project.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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)</li> </ul>	<ul> <li>The diamond and RC drillholes completed at the open are spaced on approximately 50 m spaced sections and were designed to provide systematic coverage along th strike/dip of the China, Shan and Meingtha Lodes. The open pit sampling was done on accessible berms and ramps. These traverses range from 10 m to 30 m apart</li> </ul>

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(Criteria in	JORC Code explanation	Commentary
this section apply to all succeeding sections) Criteria		Commentary
	<ul><li>and classifications applied.</li><li>Whether sample compositing has been applied.</li></ul>	<ul> <li>The historical underground samples are generally taken from systematic ore development crosscuts. These are typically on 50 to 100 feet spacings – 15 m to 30 m.</li> <li>Strike drives along mineralised lodes demonstrate continuity.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Drillholes were generally drilled on 065 azimuth (true) which is perpendicular to the main north and north-northeast striking lodes. Holes were generally inclined at -50° to horizontal. Some holes were also drilled on 245 azimuth (true) because of access difficulties due to topography and infrastructure.</li> <li>The drilling orientation is not believed to have caused any systematic sampling bias. Where drill direction was less than optimal, the geological model will be used to qualify the mineralised intersections.</li> <li>The open pit channel sampling sample traverses were orientated perpendicular to the main trend of mineralisation where possible. However, due to the orientation of the pit walls in many areas, sampling traverse are at an oblique angle to the main mineralised trend.</li> <li>Underground sampling data consists largely of cross strike drives which are orientated perpendicular to the steeply dipping lodes. The dataset also contains sampling from a number of along-strike ore drives. These drives are generally included within the modelled lodes which have hard boundaries to mitigate any smearing into neighbouring halo domains.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Drill core was taken twice daily from the drill rig, immediately following completion of day shift and night shift respectively.</li> <li>Core was transported to the core facility where it was logged and sampled.</li> <li>RC samples were collected from the rig upon hole completion.</li> <li>Samples were bagged and periodically sent to the Intertek laboratory in Yangon for preparation. All samples were delivered by a Valentis geologist to Lashio then transported to Yangon on express bus as consigned freight. The samples were secured in the freight hold of the bus by the Valentis geologist. The samples collected on arrival in Yangon by a Valentis driver and delivered to the Intertek laboratory.</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>Integrity of all data (drillhole, geological, assay) was reviewed before being incorporated into the database system.</li> </ul>

## Table 1: Section 2 Reporting of Exploration Results

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

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Criteria	JORC Code explanation	Commentary	
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Bawdwin Mine is in northeast Shan State, Myanmar.</li> <li>The project owner is Win Myint Mo Industries Co Ltd (WMM) who hold a Mining Concession which covers some approximately 38 km<sup>2</sup>.</li> <li>WMM has a current Production-sharing Agreement with the Myanmar Government.</li> <li>Myanmar Metals Limited (MYL) majority 51% interest in Bawdwin is held through a legally binding contractual Joint Venture between MYL, EAP and the owners of WMM.</li> </ul>	
		<ul> <li>Upon completion of a bankable feasibility study and the issue of Myanmar Investment Commission (MIC) permits allowing the construction and operation of the mine by the Joint Venture, shares in Concession holder WMM will be allotted to the parties in the JV ratio.</li> </ul>	
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>The Bawdwin Mine was operated as an underground and open pit base metal (Pb, Zn, Ag, Cu) mine from 1914 until 2009.</li> <li>The only modern study on the mine was completed by Resource Service Group (RSG) in 1996 for Mandalay Mining. RSG compiled the historical underground data and completed a JORC (1995) Mineral Resource estimate. The digital data for this work was not located and only the hardcopy report exists.</li> </ul>	
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>The Bawdwin deposit is hosted in volcanic (Bawdwin Tuff), intrusive (Lo Min Porphyry) and sedimentary (Pangyun Formation) rocks of late Cambrian to early Ordovician age.</li> <li>The historical mine was based on three high-grade massive Pb-Zn-Ag-Cu sulphide lodes, the Shan, China and Meingtha lodes. These lodes were considered to be formed as one lode and are now offset by two major faults the Hsenwi and Yunnan faults.</li> </ul>	
		<ul> <li>The major sulphides are galena and sphalerite with lesser amounts of pyrite, chalcopyrite, covellite, gersdorffite, boulangerite, and cobaltite amongst other minerals.</li> <li>The lodes are steeply-dipping structurally-controlled zones and each lode incorporated anastomosing segments and footwall splays.</li> </ul>	
		• The lodes occur within highly altered Bawdwin Tuff which hosts extensive stockwork and disseminated mineralisation as well as narrow massive sulphide lodes along structures. This halo mineralisation is best developed in the footwall of the largest China Lode.	
		<ul> <li>The main central part of the mineralised system is approximately 2 km in length by 400 m width, while ancient workings occur over a strike length of about 3.5 km.</li> <li>The upper portion of the China Lode was originally covered by a large gossan which has been largely mined as part of the earlier open pit. The current pit has a copper oxide zone exposed in the upper parts, transitional sulphide mineralisation in the central areas and fresh sulphide mineralisation near the base of the pit.</li> </ul>	
		• The Bawdwin deposit is interpreted as a structurally- controlled magmatic-hydrothermal replacement deposit emplaced within a rhyolitic volcanic centre.	

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Criteria	JORC Code explanation	Commentary
Drillhole information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:         <ul> <li>easting and northing of the drillhole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar</li> <li>dip and azimuth of the hole</li> <li>downhole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material</li> </ul>	Exploration results are not being reported.
	and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	Metal equivalents are not reported here.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').</li> </ul>	<ul> <li>Drillholes were orientated at an azimuth generally to the main orientation of mineralisation with a dip at about 40- 50° from the dip of mineralisation; reported drill composite intercepts are down-hole intervals, not true widths.</li> </ul>
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.	<ul> <li>Diagrams that are relevant to this release have been included in the main body of the document or reported in previous announcements.</li> </ul>
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	Exploration results are not being reported



Criteria	JORC Code explanation	Commentary
	Results.	
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>In Company's opinion, this material has been adequated reported in this or previous announcements.</li> </ul>
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).	<ul> <li>The details of additional work programmes will be determined by the results of the current exploration program that is currently underway.</li> </ul>
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	<ul> <li>It is envisaged that a drilling program will be undertaken to test exploration targets, supported by geology, geochemistry and geophysics.</li> </ul>

## Table 1: Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>All historical underground drive sampling data was compiled into a Microsoft Access database.</li> <li>Diamond and RC drilling sampling, and open pit sampling data was compiled into a DataShed database.</li> <li>Data was exported as Micromine tables and drilling/underground sampling databases constructed. These were validated in Micromine for inconsistencies, overlapping intervals, out of range values, and other important items.</li> <li>All data was visually checked.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The Competent Person has not undertaken a site visit. However, the Competent Person's colleague Dr Neal Reynolds, a director of CSA Global, conducted site visits to the project area in August 2017, October 2017, May 2018 and November 2018. Drill activities were observed and checked, drill core was examined and mineralisation in the open pit was observed. The historical systematic documentation of mining and exploration development, sampling and assaying was confirmed, and the assay laboratory was visited during 2017 visits.</li> </ul>



Criteria	JORC Code explanation	Commentary
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The Bawdwin Mine has a long underground and open pit mining history. The geological interpretation used for the resource estimate is based on historical sectional and plan underground geology interpretatior and recent open pit mapping and new diamond and RG drilling information. Stoped areas were also modelled, and these provide a useful guide to the geometry and orientation of the major lodes. This data has been used to create a wireframed 3D model of geology, structure and mineralisation.</li> <li>Underground and open pit channel sampling, drill-hole assay results have formed the basis for the geological interpretation.</li> <li>The major lodes were modelled in Micromine primarily in plan view and additionally in section view to integrate drill-hole data. A 3.5% Pb cut-off grade was applied for interpretation of the major high-grade lodes.</li> <li>Surrounding the major lodes, a "halo" zone was modelled based on 0.5% Pb cut-off grade and represents an alteration envelope around the high-grade lodes.</li> <li>A separate zinc resource estimate was completed independently as zinc does not always correlate with lead. A 1% Zn cut-off grade was applied for interpretation of the Zinc mineralisation.</li> <li>A separate copper resource estimate was completed independently due the low correlation between Pb and Cu. 1% Cu cut-off grade was applied for interpretations have been considered as the overall geometry of the mineralisation is generally well understood due to previous mining.</li> <li>The grade and to a lesser degree lithological interpretation forms the basis for the modelling.</li> </ul>
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.	<ul> <li>The currently interpreted mineralisation of the Bawdwin area extends for approximately 1.8 km along a 325° northwest strike. The dip angle of the zone varies from -70° to -90° with most common dip angle a -80°. The zone extends from surface to 475 m below the surface.</li> </ul>
Estimation and modelling techniques	<ul> <li>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 data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> </ul>	<ul> <li>Grade estimation was by ordinary kriging (OK) using Micromine 2018 software. The interpretation was extended perpendicular to the corresponding first and last interpreted plan levels to the distance equal to a half distance between the adjacent underground level</li> <li>CSA Global carried out the reported Mineral Resource estimate from December 2019 through April 2020.</li> <li>The OK estimate was completed concurrently with two check Inverse Distance Weighting (IDW) estimates. The OK estimate used the parameters obtained from the modelled variograms. The results of the check estimates correlate well.</li> <li>Additional elements (As, Cd, Co, Hg, Ni, Sb, S, S2) and Pb/Zn speciation were populated into the block model</li> <li>The block model was constructed using a 5 m E x 10 m N x 10 m RL parent block size, with sub-celling to</li> </ul>

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Criteria	JORC Code explanation	Commentary
	<ul> <li>JORC Code explanation</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. Sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	<ul> <li>1.25 m E x 1.25 m N x 1.25 m RL for domain volume resolution. The parent cell size was chosen based on the general morphology of mineralised zones and in order to avoid the generation of large block models. The sub-cell size was chosen to maintain the resolution of the mineralised zones and to allow a block model transfer to the Surpac mining package. The sub-cells were optimised in the models where possible to form larger cells.</li> <li>The search radii were determined by means of the evaluation of the semi-variogram parameters.</li> <li>The first search radius was selected to be equal to the block size dimensions to use the grades from the workings that intercepted the block. The second search radius was selected to be equal to two thirds of the semi-variogram long ranges in all directions. Model cells that did not receive a grade estimate from the first and second interpolation runs used the next interpolation run with greater search radii equal to the full long semi-variogram ranges in all directions. The model cells that did not receive grades from the first three runs were then estimated using radii incremented by the full long semi-variogram ranges. When model cells were estimated using radii not exceeding the five full semi-variogram ranges, a restriction of at least three samples from at least two drillholes was applied to increase the reliability of the estimates.</li> <li>No selective mining units were assumed in this</li> </ul>
Estimation and modelling techniques (continued)	<ul> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>estimate.</li> <li>No strong correlations were found between the grade variables estimated, except Pb and Ag.</li> <li>Grade envelopes were defined for Pb based on 3.5% Pb grade to define high grade lodes and 0.5% Pb for the "Halo" zone. Hard boundaries between the grade envelopes were used to select sample populations for grade estimation.</li> <li>Grade envelopes were defined for Zn based on 1.0% Zn grade to define zinc mineralisation.</li> <li>Grade envelopes were defined for Cu based on 1.0% Cu grade to define copper mineralisation.</li> <li>Statistical analysis to determine top cut grade values was carried out separately for each element (Pb, Zn, Cu Ag) and separately for each defined mineralisation domain.</li> <li>Validation of the block model included comparison of the block model volume to the wireframe volume. Grade estimates were validated by statistical comparison with the drill data, visual comparison of grade trends in the model with the drill data trends, and by using a second interpolation technique.</li> <li>No reconciliation data is available.</li> </ul>
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnages are estimated on a dry basis
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>The Mineral Resource above 750 m RL was reported at 0.5% Pb reflecting the pit optimisation which demonstrates potential for economic extraction in an</li> </ul>



Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	<ul> <li>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 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.</li> </ul>	<ul> <li>open pit to this depth.</li> <li>A single cut-off grade of 2% Pb has been applied to the reported Mineral Resource below the 750 m RL that has potential for eventual economic extraction by underground mining.</li> <li>Cut-off grade of 1% Zn has been applied to the reported Mineral Resource to the zinc mineralisation that lie outside of the Pb Halo zones.</li> <li>Cut-off grade of 0.5% Cu has been applied to the reported Mineral Resource to the copper mineralisation that lie outside of the Pb Halo zones.</li> <li>A Feasibility Study including a pit optimisation is currently assessing the open pit development opportunity at Bawdwin. It is expected that deeper parts of the deposit will be amenable to underground mining.</li> </ul>
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.	<ul> <li>It is assumed that Pb, Zn, Cu and Ag sulphide mineralisation can all be economically extracted using conventional flotation methods. These were all produced historically at the Bawdwin Mine and Namtu Smelter Complex.</li> <li>The metallurgical testing program being managed by Lycopodium shows generally good metal sulphide recoveries via flotation in fresh and transitional material, although sphalerite recovery may be compromised by copper pre-activation.</li> <li>The Mineral Resource estimate contains significant amounts of non-sulphide Pb and Zn which could be recoverable using established technologies, but which may not be economically recoverable; the estimate of the percentage of non-sulphide Zn and Pb in the deposit remains uncertain due to limited direct assay data for non-sulphide Pb and non-sulphide Zn and requires more evaluation.</li> </ul>
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.	<ul> <li>Suitable sites for waste dumps are located in the neighbouring valleys adjacent to the planned open pit area.</li> <li>The Pangyun creek that flows on the margins of the deposit will require a diversion for a large open pit.</li> <li>Ore processing is planned to take place with a processing plant on site. Tailings are currently planned to be de-watered and co-disposed with waste rock in an integrated dump.</li> </ul>

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Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>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.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vughs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>A total of 2,396 bulk density measurements were taken from a suite of mineralised and un-mineralised drill core using conventional water immersion and calliper techniques.</li> <li>The bulk density of mineralisation increases with sulphide content and hence Pb, Zn and Cu metal grade.</li> <li>Density data was used to develop a regression between the density and Pb, Zn, Cu and Ag grades for samples within the mineralised envelopes. Separate regression formulas were derived for transition and fresh zones.</li> <li>Based on the bulk density measurements, a density of 2.3 g/cm3 was applied to transitional and deep transitional zones outside of mineralised envelopes, and 2.5 g/cm3 for un-mineralised fresh material.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie 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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The Inferred Mineral Resource classification is based on the evidence from the available drillhole and channel sampling. This evidence is sufficient to imply but not verify geological and grade continuity. However, the areas with the denser drilling and robust continuation of the mineralised zones were classified as Indicated (where the new 2017-2020 drillholes were drilled).</li> <li>The Inferred and Indicated classification has considered all available geological and sampling information, and the classification level is considered appropriate for the current stage of this project.</li> <li>The open pit mapping and diamond drilling all have been carried in accordance with modern industry best practice standards and have QC data to support the assay data. The historical underground sampling has no QC data. The data quality is considered acceptable by the Competent Person for the classification of Indicated in the areas with supporting drilling data.</li> <li>The overall structure of the major lodes is well understood from the underground data and open pit mapping.</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Person.</li> </ul>
Audits or reviews.	• The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>Internal audits were completed by CSA Global which verified the technical inputs, methodology, parameters and results of the estimate.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> <li>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</li> </ul>	<ul> <li>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource to an Indicated and Inferred classification as per the guidelines of the 2012 JORC Code.</li> <li>The statement refers to global estimation of tonnes and grade.</li> </ul>

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Criteria	JORC Code explanation	Commentary
	<ul> <li>made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	

## Appendix 3. Modifying Factors for Mineable Material

Criteria JORC Code explanation		Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul> <li>The Bawdwin Mineral Resources are as reported by Myanmar Metals on the 22 March 2021.</li> <li>.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	• A visit to the Bawdwin site was undertaken by Myanmar Metals Principal Mining Engineer Chris Marissen during 2019.
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Prefeasibility 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.</li> </ul>	<ul> <li>A Mining Optimisation (MO) for the Bawdwin Project has been undertaken by the Bawdwin Joint Venture. The modifying factors used in this estimate are based on parameters generated in the MO.</li> <li>The mine plan in the MO is achievable and viable. All material modifying factors identified on the MO have been considered and applied in the estimation of the Mineable Material.</li> </ul>
Cut-off parameters	• The basis of the cut-off grade(s) or quality parameters applied.	• The cut-off between ore and waste has been determined by net value per block. A Net Smelter Return (\$NSR) value is estimated for the total block revenue from the processing recoverable and smelter payable metal within the block. Total block costs are estimated for all operating costs including mining, processing, general and administration, concentrate transport, royalties, smelter deductions and smelter penalties.
Mining factors or assumptions	<ul> <li>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).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as</li> </ul>	<ul> <li>The mining method applied to this Mineable Material is open pit mining using Drill &amp; Blast and Load &amp; Haul. The estimate is based on a Whittle optimisation, geotechnical analysis and a detailed open pit design.</li> <li>The mining method applied in this estimate is the most appropriate method for the nature of the deposit. The deposit is exposed on surface and an initial open pit has been mined in a previous period.</li> <li>The geotechnical parameters used in this estimate are based on a detailed geotechnical study that has defined geotechnical regions and slope design parameters for each of these regions.</li> </ul>



pre-strip, access, etc. The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.

- 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 optimisation has been conducted using a Mining Block Model. This is a re-blocked version of the Mineral Resource model into regular blocks representing an estimated selective mining unit (SMU). The SMU blocks took on the average grades of the blocks that were combined whilst the classification and the weathering took on the majority of the combined blocks. Using this methodology takes the practicality of mining into account whilst applying a practical mining dilution, which takes the thickness or ore bodies into account, rather than applying a global dilution factor to the ore mined.

Mining Block Model Parameters

Parameter	Minimum	Maximum
Easting (X)	9,800	11,400
Northing (Y)	49,000	51,400
RL (Z)	1,590	2,340
Block Size (X)	5	5
Block Size (Y)	5	5
Block Size (Z)	2.5	2.5
Rotation (°)	0.0	

• The MO design for the Bawdwin open pit targets both Indicated and Inferred Mineral Resources. The proportion of the Mineral Resource categories in the MO is shown below.

Sources of Resource for the Mineable Material

Source		Proportion (%)	Tonnes (mt)
Classification	Weathering		
Indicated	Oxide	0%	
	Transitional	7%	2.7
	Fresh	81%	28.9
	Total	88%	31.6
Inferred	Oxide	0%	
	Transitional	3%	1.2
	Fresh	8%	3.0
	Total	12%	4.2
	Ore Mined	Total	35.8
	Waste Mined	Total	159.7
	Strip Ratio	t:t	4.5

Metallurgical The processing plant design has been completed by consultants to • The metallurgical process factors or proposed and the appropriateness a Feasibility Study level of confidence. assumptions of that process to the style of The metallurgical testwork provided the basis for the plant design mineralisation. wherever possible. Other sources of data included benchmarking Whether the metallurgical process of thickener and filter parameters by consultants and vendors, is well-tested technology or novel consultant calculations, and comminution modelling. in nature. The nature, amount and The key process design criteria for the plant are: representativeness of Nominal throughput rate of 3.0 Mtpa with a primary metallurgical test work grind size of 80% passing 75µm. undertaken, the nature of the metallurgical domaining applied Flotation plant design based on sulphide flotation only and the corresponding (no sulphidising). metallurgical recovery factors

° Production of separate lead and zinc concentrates.

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applied.

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Environmental	<ul> <li>Any assumptions or allowances made for deleterious elements.</li> <li>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.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> <li>The status of studies of potential environmental impacts of the</li> </ul>	<ul> <li>Process plant availability of 91.3% supported by the selection of standby equipment in critical areas and reputable western vendor equipment.</li> <li>Regrind of lead scavenger concentrate to a product size of 80% passing 15µm.</li> <li>Regrind of bulk rougher scavenger concentrate to a product size of 80% passing 20µm.</li> <li>The proposed processing methodology follows conventional industry practice. The metallurgical test-work has been conducted on samples gathered from the deposit.</li> <li>Environmental and Social impact studies have been concluded.</li> </ul>
	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.	<ul> <li>Concluded.</li> <li>Base line-studies and stake-holder engagement work has been concluded</li> <li>A tailings trade-off study was conducted to select the preferred tailings storage facility (TSF) and method. Both conventional wet thickened tailings and dry stack / filtered tailings were considered. For Bawdwin, there were a number of advantages in adopting conventional wet thickened tailings such as: <ul> <li>Well-established technology.</li> <li>Significantly lower operating cost.</li> <li>Higher availability.</li> <li>Superior surface water management.</li> <li>Easier to operate during wet season.</li> </ul> </li> <li>Due to the lower risk profile of conventional wet thickened tailings, was adopted for the Project.</li> </ul>
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.	<ul> <li>Access Roads         <ul> <li>A new access road from Namtu to the processing plant basically following the existing railway alignment. The access road will also be used to transport regular supplies such as diesel and to transport containerised concentrate by truck to rail loading locations off site.</li> </ul> </li> <li>Power Supply         <ul> <li>Power for the mine site will be generated by a standalone diesel power station. The power station will be sized based on an N+2 reliability criteria.</li> </ul> </li> <li>Raw Water Services:         <ul> <li>Due to seasonal rainfall, raw water for the plant will be supplied from several water sources including:             <ul> <li>Water from a raw water dam in the upper Nam La creek.</li> <li>Water from the diversion dam, on the west side of TSFA.</li> <li>Electric pumps will transfer the raw water to the raw water tank located at the Bawdwin plant.</li> <li>The raw water will be used for the following duties:</li> <li>General distribution in the crushing and tailings filtration areas via the raw water pumps.</li> <li>Reagent mixing via the raw water pumps.</li> </ul> </li> </ul></li></ul>



		<ul> <li>Process water make-up via the raw water tank overflow.</li> </ul>
		<ul> <li>Zinc water make-up (for start-up only) via the raw water pumps</li> </ul>
		<ul> <li>Potable water production, after treatment in a package plant.</li> </ul>
		<ul> <li>Fire water, using a vendor package skid, which will include a fire water pump, a fire water jockey pump and a diesel fire water pump.</li> </ul>
		Potable Water:
		<ul> <li>Raw water will be treated in the vendor package potable water treatment plant. The plant potable water tank will be used to store potable water for use</li> </ul>
		in the OSA and ablutions. A separate safety shower water tank and ring main system will be installed to provide cool water to the safety showers and drinking fountains around the plant.
$(\bigcup / \bigcup)$		Concentrate Transport to Market
		<ul> <li>Concentrate will be transported by truck in containers to either the port of Yangon or the Myanmar/Chinese border at Ruili.</li> </ul>
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	<ul> <li>The capital cost estimates have been updated and are not materially different from the May 2019 PFS. Capital cost is estimated at US\$325 million.</li> </ul>
	The methodology used to estimate operating costs.	<ul> <li>Operating costs have been generated according to the following processes:</li> </ul>
	• Allowances made for the content of deleterious elements.	<ul> <li>Mining Costs based on a budget estimate from a reputable mining contractor and validated against</li> </ul>
	• The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	<ul> <li>other benchmark costs.</li> <li>The Processing costs estimate has been compiled using data from various consultants and vendors. The estimate estimate of the following environment of the following envir</li></ul>
	<ul> <li>The source of exchange rates used in the study.</li> </ul>	<ul> <li>estimate comprises of the following main categories:</li> <li>Consumables, including grinding media and mill linings.</li> </ul>
	Derivation of transportation	<ul> <li>Plant reagents.</li> </ul>
	charges.	<ul> <li>Diesel cost for mobile equipment.</li> </ul>
	• The basis for forecasting or source	<ul> <li>Plant maintenance materials, including mobile</li> </ul>
	of treatment and refining charges,	equipment parts.
	penalties for failure to meet specification, etc.	<ul> <li>Laboratory.</li> <li>Tailings deposition costs</li> </ul>
~	The allowances made for royalties	<ul> <li>Organisational workforce costs</li> </ul>
	payable, both	<ul> <li>General and administration costs</li> </ul>
	Government and private.	° Concentrate transport costs.
		<ul> <li>Commodity prices have been based on consensus forecast for 2020 metal prices for lead. zinc and silver.</li> </ul>
		<ul> <li>Exchange rates have been supplied by MYL based on specialist advice.</li> </ul>
		<ul> <li>Transportation costs have been based on budget estimates for containerized road transport of concentrate.</li> </ul>
		<ul> <li>Refining charges and payability estimates have been based on marketing Bawdwin's proposed concentrate specifications to Chinese smelters.</li> </ul>
		<ul> <li>The Bawdwin project is subject to a Production Sharing Agreement with the Myanmar Government and Mineral Tax (Royalties).</li> </ul>



	<ul> <li>made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals,</li> </ul>	<ul> <li>The metal production and grades are based on a mine plan which comprises a mine design and a schedule which interrogate the diluted mine block model.</li> <li>Transport cost and payability is based on direct experience and knowledge in the related areas.</li> <li>The commodity prices are based on a Consensus forecast for the produced metals in 2020.</li> <li>Commodity Price Forecasts</li> </ul>		
	minerals and co-products	Commodity Units Value		
		Lead U\$\$/t 2,098		
		Zinc US\$/t 2,391		
		Silver US\$/oz 18.50		
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.	<ul> <li>Lead, zinc and silver are traded on the open market and the expected customers for the concentrate from Bawdwin are any of a series of established smelters in Myanmar, neighbouring regions of China and overseas.</li> </ul>		
$\supset$	• A customer and competitor analysis along with the identification of likely market windows for the product.			
	<ul> <li>Price and volume forecasts and the basis for these forecasts.</li> </ul>			
	<ul> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>			
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.	<ul> <li>Financial estimates which rely on the PSA fiscal terms cannot be determined at this time as the PSA negotiations are incomplete.</li> </ul>		
	<ul> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>			
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	• Field surveys to inform the socio-economic baseline for the EIA have been concluded.		
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally</li> </ul>	• The Bawdwin Concession is held under a Production Sharing Agreement (PSA) between Win Myint Mo Industries Co. Ltd. (WMM) and Mining Enterprise No. 1, a Myanmar Government business entity within the Ministry of Natural Resources and Environmental Conservation (EAP).		
	<ul> <li>occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> </ul>	<ul> <li>The Bawdwin Base Metals Project is currently operated by BJV Company Limited (BJV). Myanmar Metals Limited (ASX: MYL) holds a majority 51% participating interest in the Bawdwin Project in joint venture with its project partners, WMM and EAP.</li> </ul>		
	<ul> <li>The status of governmental agreements and approvals</li> <li>critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must</li> </ul>	<ul> <li>The BJV is currently undertaking PSA negotiations with the relevant Government authorities. It is intended that a new PSA held by BJV would replace the existing PSA held by WMM.</li> </ul>		



	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.	
Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	• No ore reserve estimate has been declared from the MO.
Audits or reviews	<ul> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> <li>The results of any audits or</li> </ul>	• N/A
Discussion of relative accuracy/ confidence	<ul> <li>reviews of Ore Reserve estimates.</li> <li>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.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>Accuracy and confidence 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.</li> <li>It is recognised that this may not be possible or appropriate in all circumstances. These statements</li> </ul>	<ul> <li>The Mineable Material estimate for Bawdwin has been generated to acceptable industry standards.</li> <li>Estimates in the MO have been generated for specific elements of the project based on discrete design and modelling.</li> </ul>