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### 1 December 2017

# **BAWDWIN MINERAL RESOURCE INCREASE**

# Highlights

- A revised Inferred Mineral Resource of **75.9 Mt at 4.6% Pb, 2.3% Zn, 0.25% Cu and 119 g/t Ag** has been estimated for the Bawdwin project based on a cut-off grade of 0.5% Pb above the 750m RL and a cut-off grade of 2% Pb below the 750m RL.
- The revised estimate was **increased to include 34 million tonnes of low-grade material** within the block model that was not classified in the previous Mineral Resource estimate (ASX release 17 October 2017) as it fell below a 2% Pb cut-off grade.
- Revised estimate includes 66.5 Mt at 4.2% Pb, 2.2% Zn, 0.25% Cu and 112 g/t Ag above the 750m RL (0.5% Pb cut-off) and 9.4 Mt at 7.9% Pb, 3.4% Zn, 0.2% Cu and 165 g/t Ag below the 750m RL (2% Pb cut-off).
- A recently completed open pit optimisation study by CSA Global as part of the current Scoping Study indicates that a reduced cut-off grade of 0.5% Pb above 750m RL is appropriate to reflect potential economic extraction.
- The pit optimisation suggests that most of the resource above the 750m RL will fall within the final pit shell, and **there is potential to increase this proportion** through extending shallow resources by drilling.
- The remaining resource below the 750m RL supports the potential for a future underground mine at Bawdwin.
- The revised Mineral Resource estimate is underpinned by more than **56 kilometres of historical underground sampling** and geological mapping of exploration drives, supported by almost **3000 metres of diamond drilling** undertaken in 2016-17; geological mapping of mineralisation in the dormant open pit; and 669 metres of channel sampling
- The Inferred classification despite high data density reflects the absence of QAQC information for historical data.
- **92% of the Mineral Resource is in the preferred Fresh sulphide** zone with 8% in Transitional and Oxide zones.
- **Much of the original in-situ resource remains un-mined** the reported estimate reflects 15% depletion, based on modelled void volumes, from the total estimated pre-mining resource.
- Highly likely that **old stopes contain mineralised backfill** (low-grade mineralisation and sand fill from tailings) upside for open pit production beyond the estimated mineral resource.
- Drilling is planned to commence in January 2018 leading to an updated Mineral Resource estimate in the second quarter.
- Bawdwin Scoping Study to be released shortly.

**Myanmar Metals Limited** (ASX: MYL) ("MYL" or "the Company") is pleased to report a revised Mineral Resource estimate completed by CSA Global and reported under the guidelines of the JORC Code 2012 Edition. The maiden Mineral Resource estimate for Bawdwin was reported under the JORC Code and announced in the Company's release to the ASX on 17<sup>th</sup> October 2017. The revised estimate is based on the same block model and estimation parameters but applies different cut-off grades.

The Mineral Resource estimate is based on extensive historic channel sampling of underground exploration cross cuts supported by new diamond drilling and channel sampling data collected in 2017. The Mineral Resource estimate highlights the potential of the Bawdwin Project to be redeveloped as a large-scale mining operation.

As previously reported, MYL holds an option over the Bawdwin project with Win Myint Mo Industries Co. ("WMM"), the Myanmar company that holds the 38 km<sup>2</sup> Mining Concession at Bawdwin under a production sharing agreement with Myanmar state mining company, Mining Enterprise No. 1.

#### Myanmar Metals Limited's Chairman, John Lamb, commented:

"This revised Resource estimate is further evidence of the significant unlocked value of the Bawdwin deposit. The mining study undertaken by CSA Global as part of the current Scoping Study demonstrates significant potential for a very low cost open pit operation which in turn supports a lower cut-off grade for that portion of the resource, allowing more material to be classified in the Inferred Mineral Resource category.

While the previously published estimate of 41 million tonnes grading 7.5% Pb, 3.5% Zn, 0.33% Cu and 178g/t Ag quoted at a 2% Pb cut-off remains a valid and conservative view of the deposit, the opportunity to recover additional low-grade material from within the pit shell is compelling as it adds a substantial amount of contained metal into the total resource.

Based on these revised estimates, we expect to publish the Scoping Study on Bawdwin in the coming week.

As well, MYL's in-country partner, Win Myint Mo Industries, is now planning for a second drilling program in January which will lead to this revised Mineral Resource estimate being updated again.

We are very encouraged by the progress we are making at Bawdwin and will continue to update shareholders on our progress."

# **Bawdwin Mine Background**

The Bawdwin Mine in the northern Shan State in Myanmar was a globally significant lead, zinc and silver mine in the 1920's and 30's. Large-scale production ceased during World War 2 and the mine never returned to pre-war production levels. It was nationalised in the 1960's and no modern exploration has been conducted on the site up until the present time.





Figure 1. Location map for the Bawdwin Project

# **Geology and Mineral Resource Estimate**

The revised Mineral Resource estimate is provided in Table 1. This estimate is an update of the estimate reported to the ASX on 17<sup>th</sup> October 2017. The updated estimate is based on the same block model and all of the input data and interpolation parameters and methodology are unchanged from those reported previously. The new estimate is based on a lower 0.5% Pb cut-off grade applied to the block model above the 750m RL. The reduced cut-off grade is based on the results of a pit optimisation study that forms part of the Scoping Study on an open-pit development at Bawdwin that is nearing completion.

| Area     | Oxidation                                       | Tonnage (Mt)    | Pb (%)       | Zn (%)        | Cu (%)     | Ag (ppm) |
|----------|---|-----------------|--------------|---------------|------------|----------|
|          | Mineral Resources above 750m RL Cut-off 0.5% Pb |                 |              |               |            |          |
|          | Transition                                      | 1.5             | 2.0          | 0.2           | 0.45       | 47       |
| Shan     | Fresh   | 21.5            | 4.1          | 2.1           | 0.31       | 100      |
|          | Total   | 23.0            | 4.0          | 1.9           | 0.32       | 97       |
|          | Oxide   | 0.1             | 9.0          | 1.1           | 0.27       | 140      |
| China    | Transition                                      | 1.9             | 4.7          | 1.3           | 0.50       | 135      |
| Clillia  | Fresh   | 26.3            | 4.9          | 2.9           | 0.20       | 132      |
|          | Total   | 28.3            | 4.9          | 2.8           | 0.22       | 132      |
|          | Oxide   | 0.7             | 1.0          | 0.04          | 0.07       | 88       |
| Maingtha | Transition                                      | 1.9             | 1.7          | 0.3           | 0.07       | 102      |
| Meingtha | Fresh   | 12.6            | 3.4          | 1.6           | 0.26       | 99       |
|          | Total   | 15.2            | 3.1          | 1.4           | 0.23       | 99       |
|          | Oxide   | 0.8             | 1.7          | 0.1           | 0.09       | 93       |
| Subtotal | Transition                                      | 5.3             | 2.9          | 0.6           | 0.33       | 99       |
| Subtotal | Fresh   | 60.4            | 4.3          | 2.3           | 0.25       | 114      |
|          | Total   | 66.5            | 4.2          | 2.2           | 0.25       | 112      |
|          | Ndia anal                                       | Deservation had |              | Ct. aff 20/ D | <b>I</b> - |          |
|          |   | Resources belo  |              |               | 1          |          |
| Shan     | Fresh   | 4.9             | 9.2          | 4.0           | 0.19       | 206      |
|          | Total   | 4.9             | 9.2          | 4.0           | 0.19       | 206      |
| China    | Fresh   | 4.0             | 6.3          | 2.9           | 0.09       | 118      |
|          | Total   | 4.0             | 6.3          | 2.9           | 0.09       | 118      |
| Meingtha | Fresh   | 0.5             | 7.0          | 1.5           | 1.16       | 147      |
|          | Total   | 0.5             | 7.0          | 1.5           | 1.16       | 147      |
| Subtotal | Fresh   | 9.4             | 7.9          | 3.4           | 0.20       | 165      |
|          | Total   | 9.4             | 7.9          | 3.4           | 0.20       | 165      |
|          |   | Total Mine      | eral Resourc | e             |            |          |
|          | Transition                                      | 1.5             | 2.0          | 0.2           | 0.45       | 47       |
| Shan     | Fresh   | 26.4            | 5.1          | 2.4           | 0.29       | 120      |
|          | Total   | 27.9            | 4.9          | 2.3           | 0.29       | 116      |
|          | Oxide   | 0.1             | 9.0          | 1.1           | 0.27       | 140      |
|          | Transition                                      | 1.9             | 4.7          | 1.3           | 0.50       | 135      |
| China    | Fresh   | 30.3            | 5.1          | 2.9           | 0.18       | 130      |
|          | Total   | 32.3            | 5.1          | 2.8           | 0.20       | 130      |
|          | Oxide   | 0.7             | 1.0          | 0.04          | 0.07       | 88       |
|          | Transition                                      | 1.9             | 1.7          | 0.3           | 0.07       | 102      |
| Meingtha | Fresh   | 13.1            | 3.6          | 1.6           | 0.30       | 101      |
|          | Total   | 15.7            | 3.2          | 1.4           | 0.26       | 101      |
|          | Oxide   | 0.8             | 1.7          | 0.1           | 0.09       | 93       |
|          | Transition                                      | 5.3             | 2.9          | 0.6           | 0.33       | 99       |
| Total    | Fresh   | 69.8            | 4.8          | 2.5           | 0.24       | 121      |
|          | Total   | 75.9            | 4.6          | 2.3           | 0.25       | 119      |

The Mineral Resource has been classified as Inferred in accordance with guidelines contained in the JORC Code 2012 Edition. The Mineral Resource is contained in three separate zones, termed the Shan Lode, China Lode, and Meingtha Lode. Each includes high-grade massive sulphide zones that were mined historically underground ('lode' mineralisation) and lower-grade disseminated and stockwork mineralisation ('halo' mineralisation) that has been exploited in the open pit on the China Lode.

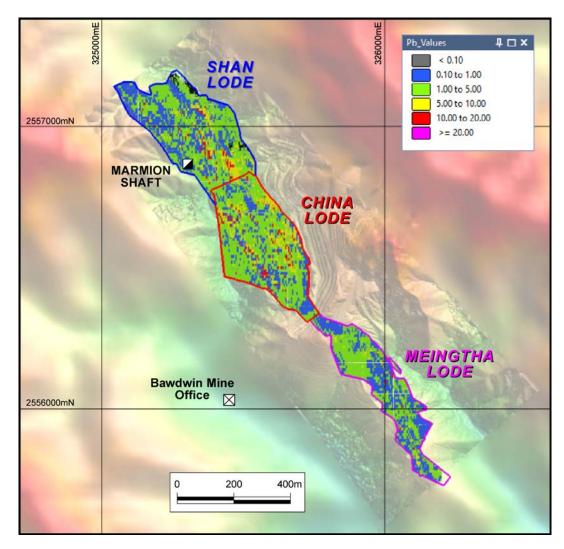


Figure 2. Plan view of the Bawdwin block model for Pb on a detailed DTM from a 2017 drone survey. The surrounding low-resolution DTM is derived from SRTM data.

The topography over the deposit is constrained by a high-resolution DTM captured with drone survey in 2017. This survey covers the main mineralised corridor but not the full extent of a likely open pit. A more extensive survey will be undertaken as part of the next work programme at Bawdwin.

Weathering and oxidation is deep on the ridges (20-50 metres), but much thinner in the valleys. The existing open pit at Bawdwin has largely removed the weathered zone and fresh sulphides observed at surface in the pit highlight underlying massive sulphide lodes. Only eight percent of the estimated Mineral Resource is in the transitional and oxidised zones. The oxidation surface is not well constrained by the limited drilling to date and will be more accurately defined by the next phase of planned drilling.

The Inferred Mineral Resource estimate is based on drill-hole sampling, open pit channel and historical underground channel sampling. The Mineral Resource is classified as Inferred because existing data is sufficient to imply but not verify geological and grade continuity due to the absence of QAQC information for the historical underground data. The Inferred classification has considered all available geological and sampling information and the classification level is considered appropriate. Key criteria that have been considered when classifying the Mineral Resource are detailed in JORC Table 1 which is contained in Appendix 1.

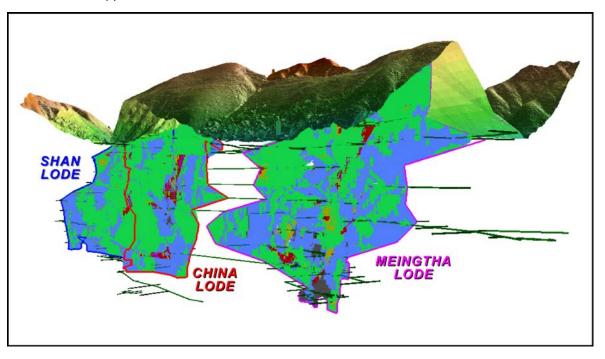


Figure 3. Oblique view of the Bawdwin Pb block-model from the southwest. Note that the 'cliffs' are artefacts between the high- and low-resolution DTMs.

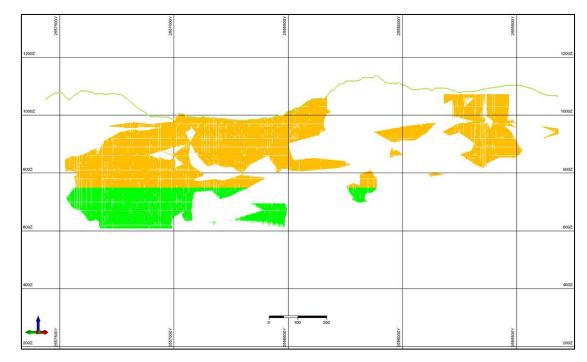


Figure 4. Bawdwin block-model long section showing the 750m RL boundary for reporting at 0.5% Pb or 2% Pb cut-off grade

#### Historical Underground Exploration at Bawdwin - Basis of the Mineral Resource

The Inferred Mineral Resource estimate is largely underpinned by historical underground exploration and grade-control data from the Bawdwin Mine, **including over 56,000 metres of underground drive sampling.** 

Exploration by mapping and sampling cross-cuts was the main exploration method at Bawdwin and continued until the 1980s. Cross cuts were developed on each of the mine levels at intervals of 20 to 60 metres and extending from 20 to 100 metres from the main lodes, with some drives extending up to 200 metres. Most exploration drives were developed on the eastern footwall side of the main lodes, especially in the relay zone of the China Lode where the open pit was developed in the 1980s.

Most underground exploration occurred above the No. 6 level (approx. 850m RL), underground exploration was less extensive from the No. 7 to 12 levels.

The exploration cross cuts were geologically mapped in detail and channel sampled for assaying at the mine laboratory. Geology and sample intervals were recorded on level plans. The assay level plans show the drives on the level along with the sampling traverse locations and Ag, Pb, Zn and Cu values. Sampling and mining between the levels is recorded on multiple floor plans at seven-foot (2.13 m) intervals.

The sampling data dates largely from the 1930s until the 1980s and utilised consistent sampling and analytical protocols through the mine history. Sampling consisted of 2-inch (5 cm) continuous channels cut with hammer and chisel at waist-height along both walls of across-strike drives and across the backs of strike drives. The sample interval was 5 feet (1.5m) and weights were around 5 pounds (2.3 kg).

Samples were prepared in the mine laboratory. Samples were crushed in a jaw crusher, mixed, and coned and quartered. Two 100-gram samples were then dried and pulverised in a ring mill to approximately 100 mesh. Two 0.5-gram homogenised samples were taken for lead and zinc titration using Aqua Regia (Pb) and Nitric acid (Zn). Results were recorded in ledgers. Averaged results from each wall of the exploration cross-cuts were recorded on the level plans.

The mine laboratory is still operational and employs the same analytical methods. It is operated by trained chemists and is kept in very good condition.

#### Data Capture and Validation

The mapping, sampling and analytical data represent a very valuable historical record that has been meticulously maintained until the present, with plans and ledgers stored in a fire-proof safe room at the Bawdwin Mine office. Most of this valuable dataset was digitally captured during 2017. The assay level plans were systematically scanned together with a subset of intervening floor plans. Levels were digitised and assay intervals and Ag, Pb, Zn and Cu assay values were entered from the plans into spreadsheets and imported into an Access database. Mined stopes were also digitised from level and floor plans and built into 3D wireframes. These were ultimately used to deplete the Mineral Resource Estimate.

Validation of the historical data by resampling is not possible as access is no longer possible. Confidence in the general validity of the data can be derived from the maintenance of consistent sampling and analytical techniques for sampling and grade control throughout the active mine history. The 2017 drilling also validates the historic records by confirming similar location and tenor of mineralisation. However, in the absence of validation sampling or QAQC, the historical data can only support an Inferred classification for the Mineral Resource.

#### Depletion of the Mineral Resource

The Mineral Resource estimate was first completed on a pre-mining (un-depleted) basis with the inclusion of sampled underground development that was later mined out. This approach is true to the data and allows data in mined areas to inform the estimate in unmined areas. It requires depletion or subtraction of the mined volume and tonnages after the estimate is complete. The resource was depleted using wireframes of mined stopes that were constructed from scanned level plans and some of the intervening floor plans that document all the square-set stopes. These records were kept meticulously up until underground mining ceased.

The pre-depletion Mineral Resource estimate at the same 0.5% Pb and 2% Pb cut-off grade criteria totals 89.5 Mt at 6.3% Pb, 3.3% Zn, 0.29% Cu and 163 g/t Ag. The difference in tonnage with the depleted resource of 13.6 Mt compares well with estimate of historical mine production. The depletion represents 15% of the block model tonnage at the applied 0.5% and 2% Pb cut-off grades, though a higher proportion of the contained metal due to the high grade of historically-mined material.

The stopes at Bawdwin are reported to have been largely backfilled with mine waste. Considering the high cut-off grade used in historic mining, it is likely that significantly mineralised backfill exists within these back-filled stopes.

After the flotation plant was constructed at the Bawdwin site in the early 1980s, tailings were separated into coarse (sand) and fine fractions and the coarse tailings were also used as backfill. Given the poor recoveries from the flotation plant, it is considered likely that this material may also carry significant metal grades.

#### Bawdwin Block Model and Grade Distribution

The high-grade mineralised zones or 'lodes' were wireframed separately and estimated as separate domains with hard boundaries to prevent the smearing of high grades into the lower-grade envelope, and vice-versa. However, some high-grade zones are too narrow or discontinuous to be modelled separately.

The block model shows remnant high-grade zones close to mined stopes. These zones may not have been mined because of the constraints of the square-set stoping method, however, there may also be discrepancies between surveys of sampled drives and mined stopes affecting the accuracy of the depletion of the resource. This is reflected in the Inferred classification.

#### **Resource Model Sections**

Figures 4, 5 and 6 show a cross-section through the deposit highlighting lead, silver and zinc blockmodel grades respectively.

These figures show:

• The relatively **high grade of the entire resource**, noting that lead, silver and zinc metal is colocated within the same rocks (i.e. true polymetallic mineralisation);

- The relatively small proportion that has been previously mined;
- The historical mining of the oxidised material near surface;
- The topography (i.e. a valley and historical open cut), which assists development of an open pit mine on this deposit by **reducing strip ratio**; and
- The shallow nature of the deposit with the **overwhelming majority of the resource located within 300-350 metres of the current natural surface** (being the valley floor, current road and 1980's pit floor).

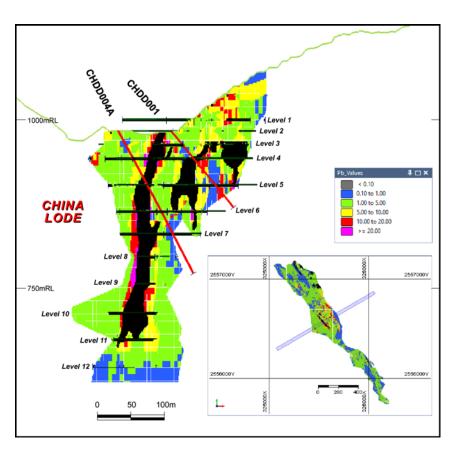


Figure 5. Cross section through the Pb block model at the China Lode. Mined stopes are in black. Note the 750m RL approximating to Level 9.

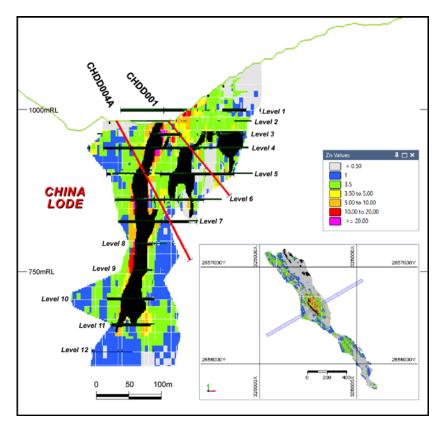


Figure 6. Cross section through the Zn block model at the China Lode. Mined stopes are in black. Note the 750m RL approximating to Level 9.

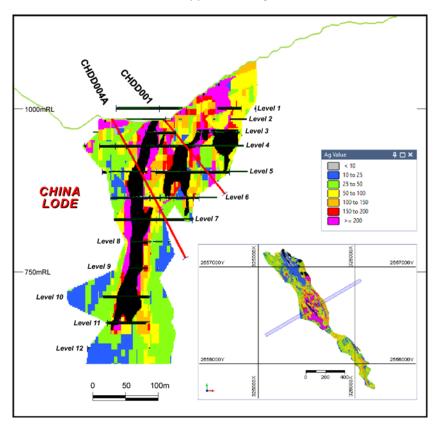


Figure 7. Cross section through the Ag block model at the China Lode. Mined stopes are in black. Note the 750m RL approximating to Level 9.

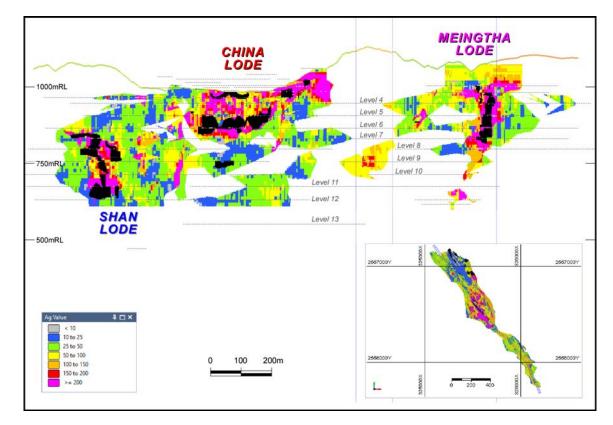


Figure 8. Long section through the Pb block model for the Shan, China and Meingtha lodes. Mined stopes are in black.

Figure 8 shows the resource (silver) block model and topography on a section line along the strike of the deposit. The high-grade, relative lack of historical depletion and amenability of the topography to open pit mining are clearly apparent and the long-section also clearly identifies areas with potential for resource extension through near-mine exploration. These areas appear as white space in the model signifying the absence of data.

# **Exploration and Resource Extension Potential**

Previous exploration at Bawdwin has been minimal outside the areas where exploration cross-cuts were developed. The underground exploration was quite limited at the deeper levels of the mine where additional peripheral lodes may exist.

The Company considers that there is **high potential for extensions of mineralisation with significant grade** below the very high cut-off grades used in historical mining. There is also potential for offset extensions to the high-grade lodes to north and south and at depth, related to the en-echelon relay geometry of the lodes or later fault offsets.

Initial structural mapping has been completed at Bawdwin and has improved the understanding of the structural controls on mineralisation. Additional future structural mapping and drill-core logging will provide a robust framework for the targeting of structurally controlled high-grade lodes.

Furthermore, systematic mapping of alteration and zonation is expected to provide additional vectors towards identifying high-grade mineralisation, further enhancing targeting effectiveness. This will be facilitated by using multi-element analysis of existing core samples, alteration mapping and logging using a Terraspec Halo SWIR for determining clay and mica mineralogy, and petrological studies.

Preliminary petrophysical testwork indicates that **mineralisation at Bawdwin has a strong geophysical response**. The high-grade lodes are conductive and amenable to detection and the lower-grade mineralisation is chargeable and amenable to detection by induced polarisation (IP) methods.

It is expected that the combination of electro-magnetic (EM) and IP surveys will provide a strong basis for direct targeting of mineralisation at Bawdwin, noting that **geophysical exploration has never been conducted previously**.

## **Bawdwin – Next Steps**

The Scoping Study by CSA Global into the development of an open pit mine and supporting infrastructure at Bawdwin and Namtu is nearing completion and the results of this study will be promptly reported to the ASX. Results from the study will underpin detailed discussions with the Myanmar government in the coming weeks and months.

At the same time, work will commence on supplementary technical studies including metallurgy and environmental assessments as well as a drilling programme. Drilling is planned to commence in January 2018 and will initially target the 'starter pit', with the aim of establishing and reporting an Indicated Mineral Resource Estimate in the second quarter of 2018.

This work will underpin the exercise of the Bawdwin option on or before 21 May 2018; thereafter a bankable feasibility study will be undertaken.

John Lamb Chairman and Chief Executive Officer

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#### **Forward Looking Statements**

The announcement contains certain statements, which may constitute "forward –looking statements". Such statements are only predictions and are subject to inherent risks and uncertainties, which could cause actual values, results, performance achievements to differ materially from those expressed, implied or projected in any forward-looking statements.

#### **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 Geology and Exploration Results is based, and fairly reflects, information compiled by Dr Neal Reynolds, who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Dr Reynolds is employed by CSA Global Pty Ltd, independent resource industry consultants. Dr Reynolds 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'. Dr Reynolds 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.

# APPENDIX: JORC Code, 2012 Edition – Table 1

# Section 1 Sampling Techniques and Data

| Criteria               | JORC Code explanation   | Commentary   |
|------------------------|---|--|
| Sampling<br>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 down hole 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 2017 evaluation programme at Bawdwin included diamond core drilling and systematic channel sampling in the open pit.</li> <li>The diamond core drilling was completed from February to June 2017 using PQ, HQ and NQ triple tube diameter coring. A total of 21 diamond core drill holes were completed, of which two were redrills, for a total of 2965.6 metres.</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 metre or to geological and mineralisation boundaries.</li> <li>Channel sampling in the open pit sampling was completed as part of a surface geological mapping programme in late 2016. Systematic channel sampling was completed by a team of Valentis and Win Myint Mo 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 1790.8 metres.</li> <li>Samples were typically 1.5m in length or to geological and mineralisation boundaries. Approximately 3kg 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 historical data set that was completed as part of mine development activities. The data set comprises systematic sampling from development drives, cross cuts, ore drives and exploration drives. This data date largely from the 1930s until the 1980s and utilised consistent sampling and analytical protocols through the mine history. Sampleing consisted of 2-inch (5cm) hammer/chisel cut continuous channels sampled at 5 feet (1.5m) intervals at waist-height along both walls of across-strike drives and across the backs of strike drives. Sample were recorded</li> </ul> |

| Criteria                 | JORC Code explanation  | Commentary   |
|--------------------------|--|--|
|                          |  | in ledgers. Averaged results from each wall of the exploration cro<br>cuts were recorded on the level plans.   |
| Drilling<br>techniques   | <ul> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air<br/>blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple<br/>or standard tube, depth of diamond tails, face-sampling bit or other<br/>type, whether core is oriented and if so, by what method, etc).</li> </ul>  | <ul> <li>Drilling was completed by Titeline Valentis Drilling Myanmar<br/>('TVDM') using two Elton 500 drill rigs. Drilling is a combination of<br/>triple tubed PQ, HQ and NQ diameter diamond coring. Holes we<br/>typically collared in PQ, then reduced to HQ around 50m, and lat<br/>to NQ if drilling conditions dictated. Holes ranged from 63.4 metr<br/>to 260.1 metres depth.</li> <li>Attempts were made to orientate the core but the ground was hig<br/>fractured and broken with short drilling runs. Obtaining consisten<br/>meaningful orientation data was very difficult.</li> </ul>   |
| Drill sample<br>recovery | <ul> <li>Method of recording and assessing core and chip sample recoveries<br/>and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure<br/>representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade<br/>and whether sample bias may have occurred due to preferential<br/>loss/gain of fine/coarse material.</li> </ul> | <ul> <li>To maximise core recovery, triple tube PQ, HQ and NQ core drill was used, with the drilling utilising TVDM drillers experienced in drilling difficult ground conditions. Drill penetration rates and wate pressure were closely monitored to maximise recovery.</li> <li>During the diamond drilling the length of each drill run and the lengt of sample recovered was recorded by the driller (driller's recover The recovered sample length was cross checked by the geologis logging the drill core and recorded as the final recovery.</li> <li>Core recoveries were variable and often poor with a mean of 80% and a median of 87%, with lowest recoveries in the 10 to 30% ra Low recoveries reflect poor ground conditions and previously mir areas. Core recoveries were reviewed and two intervals were excluded due to very poor recovery.</li> <li>At present, no relationships between sample recovery and grade bias due to loss/gain of fines or washing away of clay material habeen identified. It is assumed that the grade of lost material is sir to the grade of the recovered core.</li> <li>For channel chip sampling, every effort was made to sample systematically across each sample interval with sampling comple 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 nature. Core (or</li> </ul>  | <ul> <li>All diamond core samples were geologically logged in a high level<br/>detail down to a centimetre scale. Quantitative logging for litholo<br/>stratigraphy, texture, hardness, RQD and defects was conducted<br/>using defined logging codes. Colour and any other additional<br/>qualitative comments are also recorded.</li> </ul>  |

|          | Criteria  | JORC C  |
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| AJUO     |   | coste<br>• The t  |
| onal use | Sub-<br>sampling<br>techniques<br>and sample<br>preparation | <ul> <li>If contaken</li> <li>If nonwheth</li> <li>For a samp</li> <li>Qualimaxin</li> <li>Meas in-situduplic</li> <li>Whether being</li> </ul> |
| For pers | Quality of<br>assay data<br>and<br>laboratory<br>tests      | <ul> <li>The n<br/>labora<br/>partia</li> <li>For g<br/>the pa<br/>make<br/>deriva</li> <li>Natur<br/>duplic<br/>of acc</li> </ul>              |

| iteria  | JORC Code explanation  | Commentary   |
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|   | <ul> <li>costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>   | <ul> <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>  |
| ub-<br>ampling<br>chniques<br>nd sample<br>reparation | <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 sub-sampling 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 0.5m was used.</li> <li>No sub-splitting of the open pit chips samples was undertaken. Sample lengths ranged from 1 to 2m (typically 1.5m). Sample intervals were refined to match geological boundaries.</li> <li>The historical underground samples do not appear to have been sub-split.</li> </ul>   |
| uality of<br>ssay data<br>nd<br>boratory<br>sts       | <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 Valentis diamond drilling 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 to in a Boyd Crusher. A representative split of 1.5kg was then pulverised in a LM5 pulveriser. A 200-gram sub-sample 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 using ICP-OES – Ore grade 4 acid digestion. Elements analysed were Ag, Fe, Cd, Co, Ni, Pb, Cu, Mn, S and Zn.</li> <li>Quality Control (QAQC) samples were submitted with each assay batch (certified reference standards, blanks and duplicate samples).</li> </ul> |

 Quality Control (QAQC) samples were submitted with each assay batch (certified reference standards, blanks and duplicate samples).
 Laboratory inserted QAQC samples were also analysed. All assay

| ere of acceptable quality based on assessment of<br>data was assayed by the Bawdwin mine laborate<br>oles were crushed in a jaw crusher, mixed, coned<br>to 100g samples were then dried and crushed in<br>imately 100 mesh. Two 0.5-gram homogenised<br>en for lead and zinc titration using Aqua Regia (P<br>b). RSG inspected the laboratory in 1996 and not<br>d great pride is taken in the conditions and quality<br>laboratory remains operational and CSA Global's<br>ached similar conclusions to RSG. Results for Zn<br>rted to 0.1%.<br>C data for the historical underground sampling da<br>ore samples were checked, measured and marked<br>in a high level of detail.<br>ng, sampling and geological data were recorded<br>templates in Microsoft Excel by the<br>geologists.<br>nd associated data were cross checked by the<br>ct Geologist |
|---|
| et Geologist<br>results were individually reviewed by sample bate<br>ta integrity checked before uploading.<br>assay data were uploaded into an Access<br>ase was loaded into Micromine databases. This<br>idated for integrity visually and by running<br>s for any errors in sample intervals, out of range   |
| mportant variations.<br>hotographed with corrected depth measurement  |
| v cut due to challenging drilling conditions during<br>ollapsed ground. The daughter holes intersected<br>very similar tenor and grade to the parent hole.<br>ound sampling data was captured off hard copy   |
| on of v   |

| Criteria                   | JORC Code explanation   | Commentary   |
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|                            |   | <ul> <li>on the level along with the sampling traverse locations and Ag, Pb, Zn and Cu values. This process involved the systematic digital scanning of the various mine assay level hard copy plans, along with manual data entry of the assay intervals and assay results by Projec Geologists and assistants. Co-ordinates of 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 samples were systematically visually checked in Micromine against the georeferenced mine assay plans. The data was further validated by running systematic checks for any errors in sample intervals, out of range values and other important variations. Any data that was illegible or could not be accurately located was removed from the database. Underground channel sample databases were made for the Shan, Chin and Meingtha Lodes and associated mine development. These were later uploaded into a master Access to the underground sampled drives so check sampling has not been undertaken.</li> </ul> |
| Location of<br>data points | <ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, 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>The diamond drilling and pit mapping and channel sampling all utilised UTM WGS84 datum Zone 34 North.</li> <li>All diamond drill holes and pit mapping sampling traverse locations were surveyed using a Differential Global Positioning System (DGPS). The DGPS is considered to have better than 0.5m accuracy.</li> <li>All diamond drill holes have downhole surveys. These were taken using a digital single shot camera typically taken every 30 metres.</li> <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 Bawdwin Mine Grid and UTM using surveyed reference points.</li> <li>Historical mine plans and sections were all georeferenced using the local Bawdwin Mine grid. The outlines of stopes, underground sample locations, basic geology and other useful information was all digitised in the local mine grid. This was later translated to UTM for</li> </ul>  |

| Criteria  | JORC Code explanation  | Commentary   |
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|   |  | <ul> <li>use in geological and resource modelling.</li> <li>The historic underground channel sampling data is scaled off historic A0 paper and linen mine plans which may have some minor distortion due to their age.</li> <li>The underground sampling locations were by marked tape from the midpoint of intersecting drives as a reference. They appear to be of acceptable accuracy.</li> <li>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 (&lt;5 metres)</li> <li>The topography used for the estimate was based on a GPS drone survey completed by Valentis. This is assumed to have &lt;1 metre 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<br>and<br>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) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>                                 | <ul> <li>The diamond drill holes completed at the open pit are spaced on approximately 70 metre spaced sections and were designed to provide systematic coverage along the strike/dip of the China lode. Three drill holes were drilled at the Meingtha Lode on 50 metre spaced sections and two holes drilled at the Shan Lode on 100 metre spaced sections.</li> <li>The open pit sampling was done on accessible berms and ramps. These traverses range from 10 metres to 30 metres apart.</li> <li>The historical underground samples are generally taken from systematic ore development cross cuts. These are typically on 50 to 100 feet spacings – 15 metres to 30 metres. Strike drives along mineralised lodes demonstrate continuity</li> </ul>   |
| Orientation<br>of data in<br>relation to<br>geological<br>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>Drill holes were generally drilled on 065 azimuth (true) which is perpendicular to the main north and NNE striking lodes. Holes were generally inclined at -50 degrees to horizontal.</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</li> </ul>   |

| Criteria             | JORC Code explanation   | Commentary  |
|----------------------|---|---|
|                      |   | <ul> <li>trend.</li> <li>Underground sampling data consists largely of cross strike drives which are orientated perpendicular to the steeply dipping lodes. The data set 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> <li>The drilling orientation is not believed to have caused any sampling bias.</li> </ul>  |
| Sample<br>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>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<br>reviews | • The results of any audits or reviews of sampling techniques and data. | <ul> <li>Integrity of all data (drill hole, geological, assay) was reviewed before being incorporated into the database system.</li> <li>No external reviews have been completed</li> </ul>   |

# **Section 2 Reporting of Exploration Results**

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

| Criteria   | JORC Code explanation  | Commentary  |
|--|--|---|
| <i>Mineral<br/>tenement<br/>and land<br/>tenure status</i> | <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 NE Shan State, Myanmar</li> <li>The project owner is Win Myint Mo Co. Ltd ("WMM") who hold a Mining Concession which covers some approximately 38 square kilometres.</li> <li>WMM has a current Production-sharing Agreement with the Myanma Government.</li> <li>Myanmar Metals holds an exclusive option agreement with WMM, that has been extended to May 2018, under which it can acquire an</li> </ul> |

| Criteria                                | JORC Code explanation   | Commentary   |
|---|---|--|
|   |   | 85% interest in the Project from WMM subject to approval by the Myanmar government   |
| Exploration<br>done by<br>other parties | <ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul> | <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 historic 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 historic 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> <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> <li>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.</li> <li>The main central part of the mineralised system is approximately 2 km in length by 400m 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> <li>The Bawdwin deposit is interpreted as a structurally-controlled magmatic-hydrothermal replacement deposit emplaced within a</li> </ul> |

| Criteria   | JORC Code explanation   | Commentary   |
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|  |   | rhyolitic volcanic centre  |
| Drill hole<br>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 drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole 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 and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul> | All collar and composite data are provided in tables in the body of the document or as Appendices  |
| Data<br>aggregation<br>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>   | <ul> <li>Length-weighted composites have been reported based on lower cut-<br/>off criteria that are provided in the composite tables, primarily 2.5%<br/>Pb or 50 g/t Ag. Additional composites based on cut-off of 4% Zn or<br/>0.5% Cu have been reported to highlight zinc &amp; copper-rich zones.</li> <li>No top-cut has been applied. The Bawdwin deposit includes<br/>extensive high grade massive sulphide lodes that constitute an<br/>important component of the mineralisation; top-cuts will be applied if<br/>appropriate during estimation of mineral resources</li> <li>Composite incorporate a maximum of 2 metres internal waste</li> <li>Metal equivalents are not reported here.</li> </ul> |
| Relationship<br>between<br>mineralisatio<br>n widths and<br>intercept<br>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 drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>   | <ul> <li>Drill holes were orientated at an azimuth perpendicular 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> <li>Channel sampling was at variable orientation dependent on the orientation of pit faces; reported drill composite intercepts are down-hole intervals, not true widths</li> </ul>  |
| Diagrams   | <ul> <li>Appropriate maps and sections (with scales) and tabulations of<br/>intercepts should be included for any significant discovery being<br/>reported These should include, but not be limited to a plan view of<br/>drill hole collar locations and appropriate sectional views.</li> </ul>   | <ul> <li>Diagrams that are relevant to this release have been included in the<br/>main body of the document.</li> </ul>  |

|         | Criteria                                    | JORC Code explanation   |  |
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|         | Balanced<br>reporting                       | <ul> <li>Where comprehensive reporting of all Expracticable, representative reporting of b<br/>and/or widths should be practiced to avor<br/>Exploration Results.</li> </ul>  | ooth low and high grades   |
|         | Other<br>substantive<br>exploration<br>data | <ul> <li>Other exploration data, if meaningful and<br/>including (but not limited to): geological<br/>survey results; geochemical survey result<br/>method of treatment; metallurgical test re<br/>groundwater, geotechnical and rock chat<br/>deleterious or contaminating substances</li> </ul> | observations; geophysical<br>Ilts; bulk samples – size and<br>esults; bulk density,<br>racteristics; potential   |
| M S M   | Further work                                | <ul> <li>The nature and scale of planned further<br/>extensions or depth extensions or large-<br/>Diagrams clearly highlighting the areas of<br/>including the main geological interpretation<br/>provided this information is not commerce</li> </ul>  | scale step-out drilling).<br>of possible extensions,<br>ions and future drilling area  |
|         |   | Estimation and Reporting of M<br>n section 1, and where relevant in section 2, al   |  |
|         | Criteria                                    | IORC-Code Explanation   | Commentary   |
| DETSONA | Database •<br>integrity                     | Measures taken to ensure that data has<br>not been corrupted by, for example,<br>transcription or keying errors, between its<br>initial collection and its use for Mineral<br>Resource estimation purposes.<br>Data validation procedures used.   | <ul> <li>All historical undergroup</li> <li>Diamond drilling and compared interpretent of the constructed. These we constructed. These we constructed and compared in the constructed. These we constructed are values, and compared to a compar</li></ul> |
|         | Site visits                                 | Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  | Dr. Neal Reynolds, a c<br>and October 2017. Alt<br>and drill core was exa  |

- Results have been reported for all drill holes and channels to the cutoff criteria provided
- , should be reported All relevant data have been reported ons; geophysical amples – size and lk density, s; potential • The details of additional work programmes will be determined by the tests for lateral o-out drilling). results of the Mineral resource estimate and Scoping Study that are currently underway. extensions, uture drilling areas, • It is envisaged that a substantial drilling program will be undertaken to improve confidence in the Mineral Resource and to test extension itive. targets, supported by geology, geochemistry and geophysics

Commentary

# Resources

| teria         | JORC-Code Explanation   | Commentary   |
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| base<br>grity | <ul> <li>Measures taken to ensure that data has<br/>not been corrupted by, for example,<br/>transcription or keying errors, between its<br/>initial collection and its use for Mineral<br/>Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul> | <ul> <li>All historical underground drive sampling data was compiled into an Access database.</li> <li>Diamond drilling and open pit sampling data was also compiled into an Access database.</li> <li>Data was imported into 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> |
| e visits      | <ul> <li>Comment on any site visits undertaken by<br/>the Competent Person and the outcome of<br/>those visits.</li> <li>If no site visits have been undertaken<br/>indicate why this is the case.</li> </ul>   | <ul> <li>Dr. Neal Reynolds, a director of CSA Global, conducted site visits to the project area in August<br/>and October 2017. Although drilling was not underway, drill collars were observed and checked<br/>and drill core was examined and mineralisation in the open pit was observed. The historical<br/>systematic documentation of mining and exploration development, sampling and assaying was<br/>confirmed, and the assay laboratory was visited.</li> </ul>                |

|   | Criteria                                  | JORC-Code Explanation   | Commentary   |
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|   | Geological<br>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 interpretations and recent open pit mapping and new diamond 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. 3.5% Pb cut-off grade was applied for interpretation of the major 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>No alternate interpretations have been considered as the overall geometry of the mineralisation is generally well understood</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<br>Resource expressed as length (along<br>strike or otherwise), plan width, and depth<br>below surface to the upper and lower limits<br>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 degrees to -90 degrees with most common dip angle at -80 degrees. The zone extends from surface to 475m below the surface.</li> </ul>  |
| - | Estimation<br>and modelling<br>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> </ul> | <ul> <li>Grade estimation was by ordinary kriging (OK) using Micromine 2016.1 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 levels.</li> <li>CSA Global carried out the reported Mineral Resource estimate in September – October 2017.</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>No deleterious or non-grade variables were estimated.</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 1 m E x 2 m N x 2 m RL for domain volume resolution. The parent cell size was chosen on the basis of 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. The sub-cells were optimised in the models where possible to form larger cells.</li> </ul>   |

| Criteria   | JORC-Code Explanation   | Commentary   |
|--|---|--|
|  | <ul> <li>The assumptions made regarding recovery of by-products.</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>The search radii were determined by means of the evaluation of the semivariogram 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 semivariogram long ranges in all directions. Model cells that did not receive a grade estimate from the first interpolation run were used in the next interpolation with greater search radii equal to full long semivariogram 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 semivariogram ranges. When model cells were estimated using radii not exceeding the five full semivariogram ranges, a restriction of at least three samples from at least two drill holes was applied to increase the reliability of the estimates.</li> <li>No selective mining units were assumed in this estimate.</li> </ul> |
| Estimation<br>and modelling<br>techniques<br>(continued) | <ul> <li>Any assumptions about correlation<br/>between variables.</li> <li>Description of how the geological<br/>interpretation was used to control the<br/>resource estimates.</li> <li>Discussion of basis for using or not using<br/>grade cutting or capping.</li> <li>The process of validation, the checking<br/>process used, the comparison of model<br/>data to drill hole data, and use of<br/>reconciliation data if available.</li> </ul> | <ul> <li>No strong correlations were found between the grade variables estimated.</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>Statistical analysis to determine top cut grade values was carried out separately for each element (Pb, Zn, Cu, Ag) and separately for high grade lodes and the "Halo" zone.</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   | <ul> <li>Whether the tonnages are estimated on a<br/>dry basis or with natural moisture, and the<br/>method of determination of the moisture<br/>content.</li> </ul>  | The tonnages are estimated on a dry basis  |
| Cut-off<br>parameters                                    | <ul> <li>The basis of the adopted cut-off grade(s)<br/>or quality parameters applied.</li> </ul>  | <ul> <li>The Mineral Resource above 750 metre RL was reported at 0.5% Pb and it reflects the pit optimisation which demonstrates potential for economic extraction in an open pit to this depth.</li> <li>A higher cut-off grade of 2% Pb has been applied to the reported Mineral Resource below the 750metre RL that has potential for eventual economic extraction by underground mining.</li> </ul>  |

| Criteria  | JORC-Code Explanation  | Commentary   |
|---|--|--|
| Mining factors<br>or<br>assumptions                 | <ul> <li>Assumptions made regarding possible<br/>mining methods, minimum mining<br/>dimensions and internal (or, if applicable,<br/>external) mining dilution. It is always<br/>necessary as part of the process of<br/>determining reasonable prospects for<br/>eventual economic extraction to consider<br/>potential mining methods, but the<br/>assumptions made regarding mining<br/>methods and parameters when estimating<br/>Mineral Resources may not always be<br/>rigorous. Where this is the case, this<br/>should be reported with an explanation of<br/>the basis of the mining assumptions made.</li> </ul> | <ul> <li>A Scoping Study including a pit optimisation is currently assessing the open pit development<br/>opportunity at Bawdwin. It is expected that deeper parts of the deposit will be amenable to<br/>underground mining.</li> </ul>   |
| <i>Metallurgical<br/>factors or<br/>assumptions</i> | • The basis for assumptions or predictions<br>regarding metallurgical amenability. It is<br>always necessary as part of the process of<br>determining reasonable prospects for<br>eventual economic extraction to consider<br>potential metallurgical methods, but the<br>assumptions regarding metallurgical<br>treatment processes and parameters made<br>when reporting Mineral Resources may not<br>always be rigorous. Where this is the case,<br>this should be reported with an explanation<br>of the basis of the metallurgical<br>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 oxide and transitional portions of the resource represent a minor proportion of the total resource. The historic Pb-oxide concentrator plant had difficulties in treating the mixed sulphide/oxide ores (Pb recoveries of 30%).</li> <li>A modern metallurgical test work program is required.</li> </ul> |

|   | Criteria                                   | JORC-Code Explanation  | Commentary   |
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| 2 | Environmental<br>factors or<br>assumptions | <ul> <li>Assumptions made regarding possible<br/>waste and process residue disposal<br/>options. It is always necessary as part of<br/>the process of determining reasonable<br/>prospects for eventual economic extraction<br/>to consider the potential environmental<br/>impacts of the mining and processing<br/>operation. While at this stage the<br/>determination of potential environmental<br/>impacts, particularly for a greenfields<br/>project, may not always be well advanced,<br/>the status of early consideration of these<br/>potential environmental impacts should be<br/>reported. Where these aspects have not<br/>been considered this should be reported<br/>with an explanation of the environmental<br/>assumptions made.</li> </ul> | <ul> <li>Suitable sites for waste dumps are located in the neighbouring ER Valley.</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 sites are undergoing further evaluation but there are possible options to pump a slurry to Namtu along a pipeline following the old railway line to a new processing plant.</li> </ul>  |
|   | 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 (vugs, 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 625 bulk density measurements were taken from a suite of mineralised and unmineralised drill core using conventional water immersion techniques.</li> <li>The bulk density of mineralisation increases with sulphide content and hence Pb, Zn and Cu metal grade.</li> <li>For mineralised lodes and halo mineralisation bulk density has been estimated using a formula which assumes Pb is present as galena, Zn is present as sphalerite and Cu is present as chalcopyrite, with the remainder of the rock is gangue. The estimated values were calibrated against the measured densities from drill-core.</li> <li>Based on the bulk density measurements a density of 2.0 was used for oxide ore, 2.2 for transitional ore, 2.40 for un-mineralised Bawdwin Tuff and 2.40 for Lo Min Porphyry.</li> </ul> |

| Criteria              | JORC-Code Explanation  | Commentary   |
|-----------------------|--|--|
| 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 drill hole and channel sampling. This evidence is sufficient to imply but not verify geological and grade continuity.</li> <li>The Inferred 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 QAQC data to support the assay data. The historic underground sampling has no assay QAQC. The data quality is acceptable for the classification of Inferred.</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<br>reviews. | • The results of any audits or reviews of<br>Mineral Resource estimates.   | <ul> <li>Internal audits were completed by CSA Global which verified the technical inputs,<br/>methodology, parameters and results of the estimate.</li> </ul>   |

| Criteria   | JORC-Code Explanation   | Commentary  |
|--|---|---|
| Discussion of<br>relative<br>accuracy/<br>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 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> | <ul> <li>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource to an 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> |