



**SYMBOL**  
MINING

**ASX: SL1**

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## **AMENDED MACY JORC RESOURCE UPDATE**

**Symbol Mining Limited (ASX:SL1) Symbol or the Company** refers to the Macy Deposit Indicated and Inferred JORC Resource of 132,700t at 18.3% Zn and 2.1% Pb released to the ASX on 23 March 2018 and provides this amended Macy JORC Resource Update to provide, in accordance with ASX Listing Rule 5.8.1, a summary of the information provided in the Appendix JORC Tables 1, 2 and 3.

### **Imperial Project - Geology and geological interpretation**

The known prospects at the Imperial Project are fault controlled veins that have many of the characteristics of significant Pb/Zn deposits described as poly metallic or clastic hosted veins. Product previously mined at the site had reported grades of 38% Pb and 19% Zn with discrete layers of Galena and Sphalerite over significant strike distance. With over 400km<sup>2</sup> of tenement package there is significant regional prospectivity.

The Imperial main vein is a sandstone hosted 1,600m strike length of artisanal, open pit and underground historical mining. Significant tonnage has been extracted from the site historically. The orebody is clearly defined with extensive weathered massive sulphides of galena, sphalerite, pyrite and chalcopryite through multiple veins.

The Macy Deposit lies to the north within the 1.6km of strike length.

The confidence in the geological interpretation is considered good, as the Geological logging and interpretation allows extrapolation of drill intersections between adjacent sections.

The geological boundaries are determined by the spatial locations of the various mineralised structures, and the geological host rocks. Factors affecting continuity are cross faults, old historic workings and the potential complexity of the mineralized systems.

The drill density is considered appropriate to the level of classification.

### **Sampling techniques**

Interpreted mineralised intervals were marked up and cut via a diamond saw, with half core submitted for analysis. Length of intervals selected and cut ranged from 0.5 to 1.0 metre and were based on geological boundaries were appropriate.

Drill hole collar locations were recorded by handheld GPS survey with accuracy +/-2 metres.

Analysis was conducted by submitting the half core 2-4kg sample whole for preparation by crushing, drying and pulverising at Intertek Genalysis Laboratories for base metal analysis via FP1/OE, whereby sodium peroxide fusion and subsequent hydrochloric acid to dissolve the melt is completed followed by analysis via inductively coupled plasma.

### **Sub-sampling techniques**

HQ diamond core was sawn in half along orientation lines or cut lines marked by the geologist in the field. Sample preparation involved oven drying, fine crushing to 95% passing 4mm, followed by rotary splitting and pulverisation to 85% passing 75 microns, with sample preparation for all recent samples follows industry best practice.

Quality Control for sub sampling follows Intertek procedures in which:

- Field duplicates were taken at a rate of 1:17.
- Blanks were inserted at a rate of 1:17
- Standards were inserted at a rate of 1:17.

Sample sizes are considered appropriate to the grain size of the material being sampled.

### **Drilling techniques**

The drilling consisted of HQ Triple Tube from surface (78 mm) for the diamond drill holes and the reverse circulation drill holes used 118mm diameter hammers.

Downhole surveys were completed by Century using a KSP-2D Compass Inclinometer on nominal 30 metre downhole intervals. Drill holes SDD010 to SDD014 were not downhole surveyed due to problems with the driller's equipment. In general the diamond holes stayed relatively straight with the dips remaining relatively constant.

### **Sample analysis method**

Assaying has been carried out on the diamond core samples by Intertek Laboratories and MS Analytical on the RC samples with the resource estimate focusing on Zn and Pb. Independent Laboratory QA/QC involves the use of internal lab standards using certified reference material, blanks, splits and duplicates as part of the in house procedures. Repeat and duplicate analysis for samples shows that the precision of analytical methods is within acceptable limits.

Extractions are considered near total. The methods are considered appropriate to the style of mineralisation and no geophysical tools were used to determine any element concentrations at this stage.

### **Estimation methodology**

The Block model interpolation was carried out using Ordinary Kriging in Micromine 2016 (SP5). All estimation was carried out in Micromine 2016 (SP5) software.

- The block models were constructed using a 1m (E) by 5m (N) by 5m (Z) block size, constrained by a series of individual wireframes, with sub-cells to 0.25m x 1m x 1m to accurately represent wireframe shapes.
- Block size is generally half to one quarter the sample spacing.
- No deleterious elements have been identified.
- No assumptions regarding recovery of by-products have been made.
- The geological interpretation follows a steeply dipping fault in contact with flat lying and variably reactive sedimentary host rocks.

- Validation was carried out in a number of ways, including:
  - Visual inspection section, plan and 3D; and
  - Model vs composite statistics.

The resources estimation used the following methodologies:

- Sample data was composited to 1m down-hole composites prior to analysis and estimation. Breaks in mineralised zone interpretation. Were honoured by the compositing process
- Statistical and variogram analysis was carried out to determine optimal parameters for resource estimation.
- Search ellipsoids used an unfolding methodology to account for variations in dip and strike.
- The search ellipsoid had dimensions of 50m (N-S) by 50m vertically by 5m across the mineralisation, with a minimum of 6 samples and a maximum of 12. This pass also requires a minimum of 2 holes, with a minimum of 2 samples per hole and a maximum of 6 samples per hole.
- The number of samples used, the kriging variance and the average distance of samples from each block, were all stored in the block model for later use in resource classification.

The Grade estimation using an Ordinary Kriging methodology has been used. Two wireframes have been used to subset and constrain the data points used in the interpolation and only individual grades from individual wireframes were used.

**Classification Criteria, including drill and data spacing and distribution.**

The Macy Mineral Resource has been classified in the Indicated and Inferred categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). A range of criteria has been considered in determining this classification including:

- (a) Geological continuity;
- (b) Data quality;
- (c) Drill hole spacing;
- (d) Modelling technique;
- (e) Estimation properties including search strategy, number of informing data and average distance of data from blocks.

The resource classification methodology incorporated a number of parameters derived from the kriging algorithms in combination with drill hole spacing and continuity and size of mineralised domains.

**(a) Geological Continuity**

Geological continuity is understood with reasonable confidence. The classification reflects this level of confidence.

**(b) Data Quality**

Resource classification is based on information and data provided from the Imperial database, which has subsequently been validated by Widenbar. Descriptions of drilling techniques, survey, sampling/sample preparation, analytical techniques and database management/validation provided indicate that data collection and management is within industry standards. Widenbar considers that the database represents an accurate record of the drilling undertaken at the project.

**(c) Drilling Spacing**

Drill hole location plots have been used to ensure that local drill spacing conforms to the minimum expected for the resource classification. Section spacing is 25m along strike. All of the nine drill sections have three or four holes, with down-dip mineralisation intersections typically between 10 and 20m apart.

#### (d) Modelling Technique

The resource model was generated using an Ordinary Kriging interpolation method, with a multi-pass search approach. The search ellipsoid had dimensions of 50m (N-S) by 50m vertically by 5m across the mineralisation, with a minimum of 6 samples and a maximum of 12. This pass also requires a minimum of 2 holes, with a minimum of 2 samples per hole and a maximum of 6 samples per hole.

The number of samples used, the kriging variance and the average distance of samples from each block, were all stored in the block model.

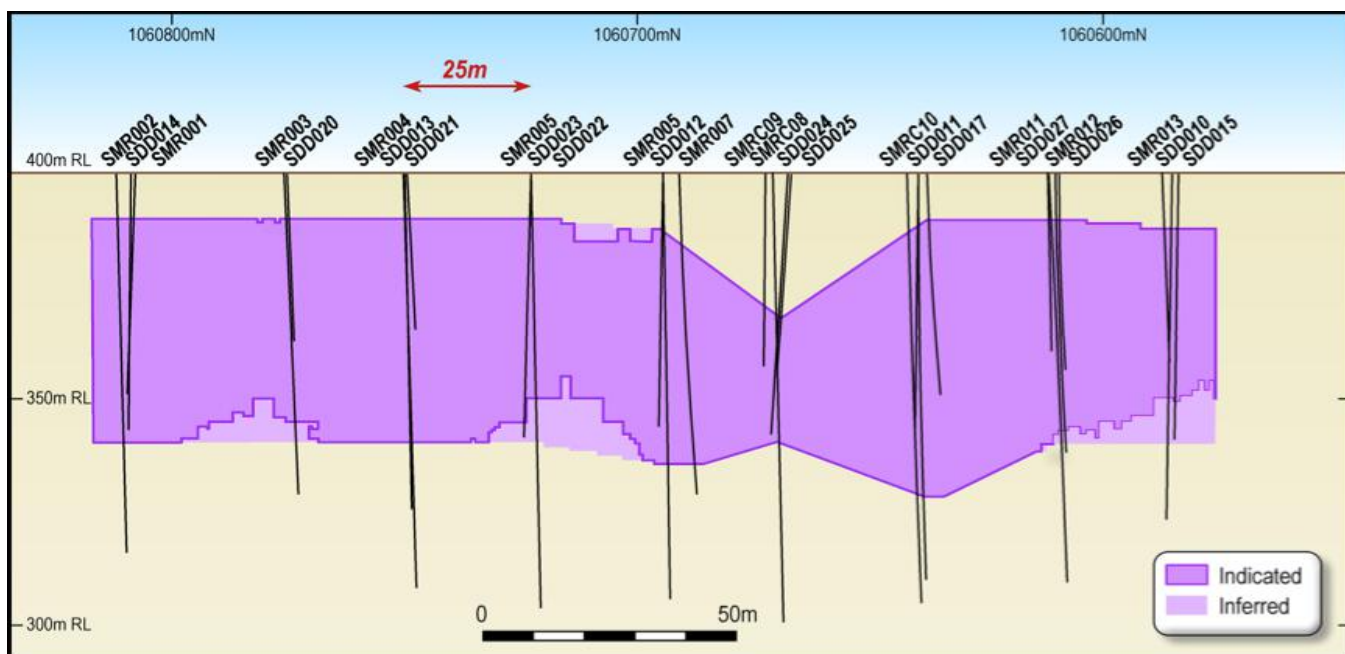
In general the kriging variance, search pass and average distance are all broadly correlated with a combination of drill hole spacing and domain thickness.

The above parameters were used as a guide in combination with drill spacing to arrive at a final resource classification.

#### (e) Final Classification

The final classification is shown below in long section, Maxima of 0.45 (Kriging Variance) and 25m (Average Distance) are used to define Indicated; other material is classified as Inferred.

Since the Kriging Variance in the variogram parameters is standardized to a sill of 1 a value of 0.45 represents a distance of about 20m, which is well within the range of the variogram (+/- 60m). The resulting Indicated block model also is a single coherent mass, corresponding essentially to where there are contiguous drill holes within 25m on section and in plan.



**Figure 1: Zinc Vein Final Resource Classification**

#### **Cut-off grade(s), including the basis for the selected cut-off grade(s)**

Nominal downhole cut-offs of 2% Zn (for the Zinc vein) and 2% Pb (for the Lead Vein) have been used to define the mineralised zones. The basis of the cutoffs is an economic analysis coupled to mining dilution considerations, with this cutoff correlating reasonably well with the mineralised zones as logged from the diamond core.

#### **Mining and metallurgical methods and parameters, and other material modifying factors considered to date**

The resources defined to date would potentially be amenable to simple open pit mining. Preliminary metallurgical test work has suggested excellent base metal recoveries, via conventional gravity concentration. The Company is currently undertaking development study to assess and determine the modifying factors.

The Company has also undertaken previous conceptual scoping studies provide adequate information to indicate there is a reasonable prospect for eventual economic extraction of the mineral resource. Refer to the Independent Geologist Report in Section 6 of the Company's Prospectus dated 5 July 2017 for more details on the conceptual scoping studies.

### JORC Resource Estimate

The drilling at Macy undertaken by the Company has defined an Indicated and Inferred JORC Resource of 132,700t at 18.3% Zn and 2.1%Pb that is a combination and inclusive of both the of the Macy Zinc Resource and the Macy Lead Resources set out in the tables below.

The two mineralised zones are spatially and statistically discrete. The zinc vein uses a downhole cut-off of 2% Zn, while the lead zone uses a 2% Pb cut-off.

#### Indicated and Inferred JORC Resource at the Macy Deposit

Macy Zinc Resource				
Category	Tonnes	Zn%	Pb%	% of Total
Indicated	104,300	19.0	2.2	85
Inferred	18,000	20.0	2.7	15
<b>TOTAL</b>	<b>122,300</b>	<b>19.2</b>	<b>2.3</b>	<b>100</b>

Reported under 2012 JORC using a Zinc cut-off grade of 2%

Macy Lead Resource				
Category	Tonnes	Pb%	Zn%	% of Total
Indicated	5,500	24.44	11.11	53%
Inferred	4,900	30.24	5.94	47
<b>TOTAL</b>	<b>10,400</b>	<b>27.18</b>	<b>8.25</b>	<b>100</b>

Reported under 2012 JORC using a Lead cut-off grade of 2%

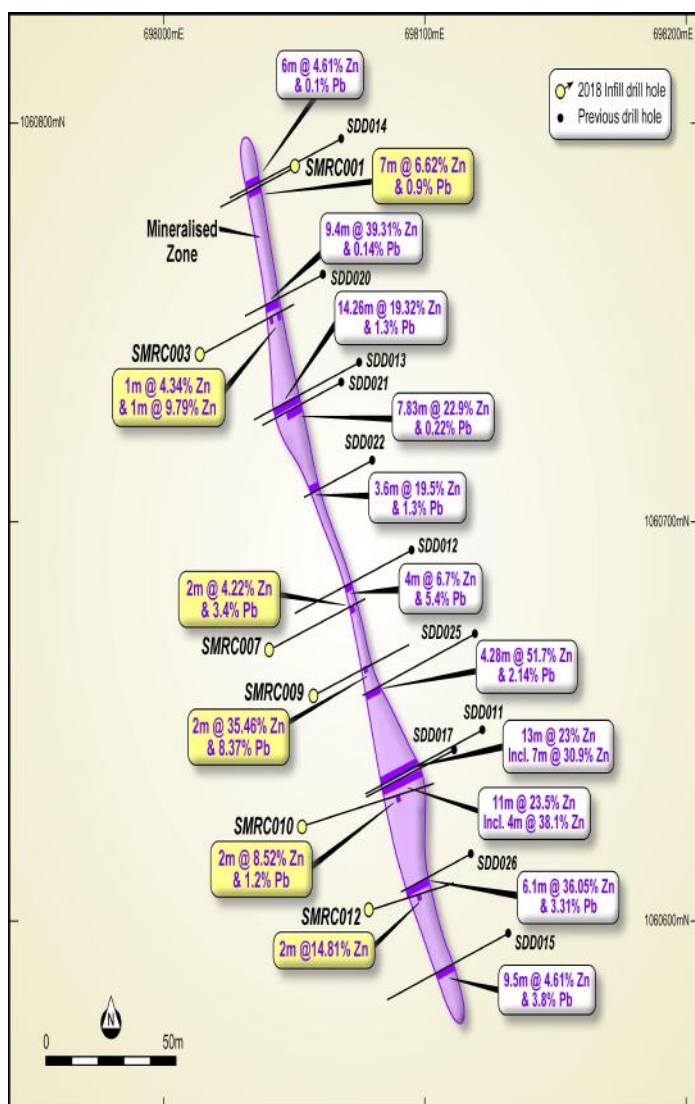


Figure 2: Macy Zinc Drill Hole Locations and Intersection

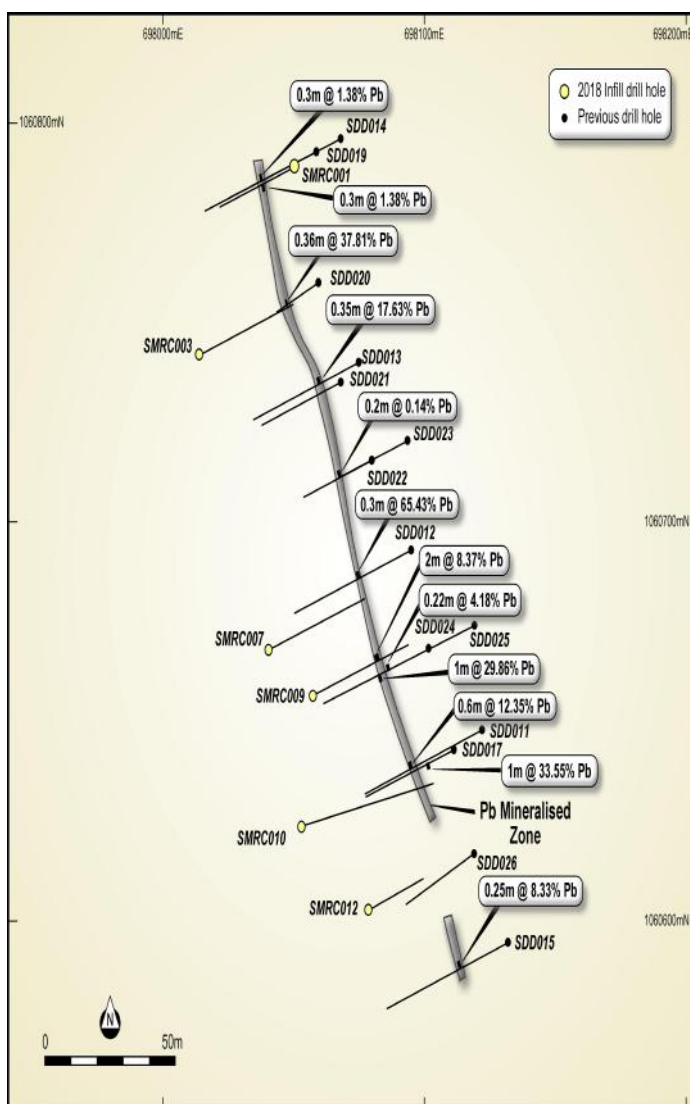


Figure 3: Macy Zinc Drill Hole Locations and Intersection



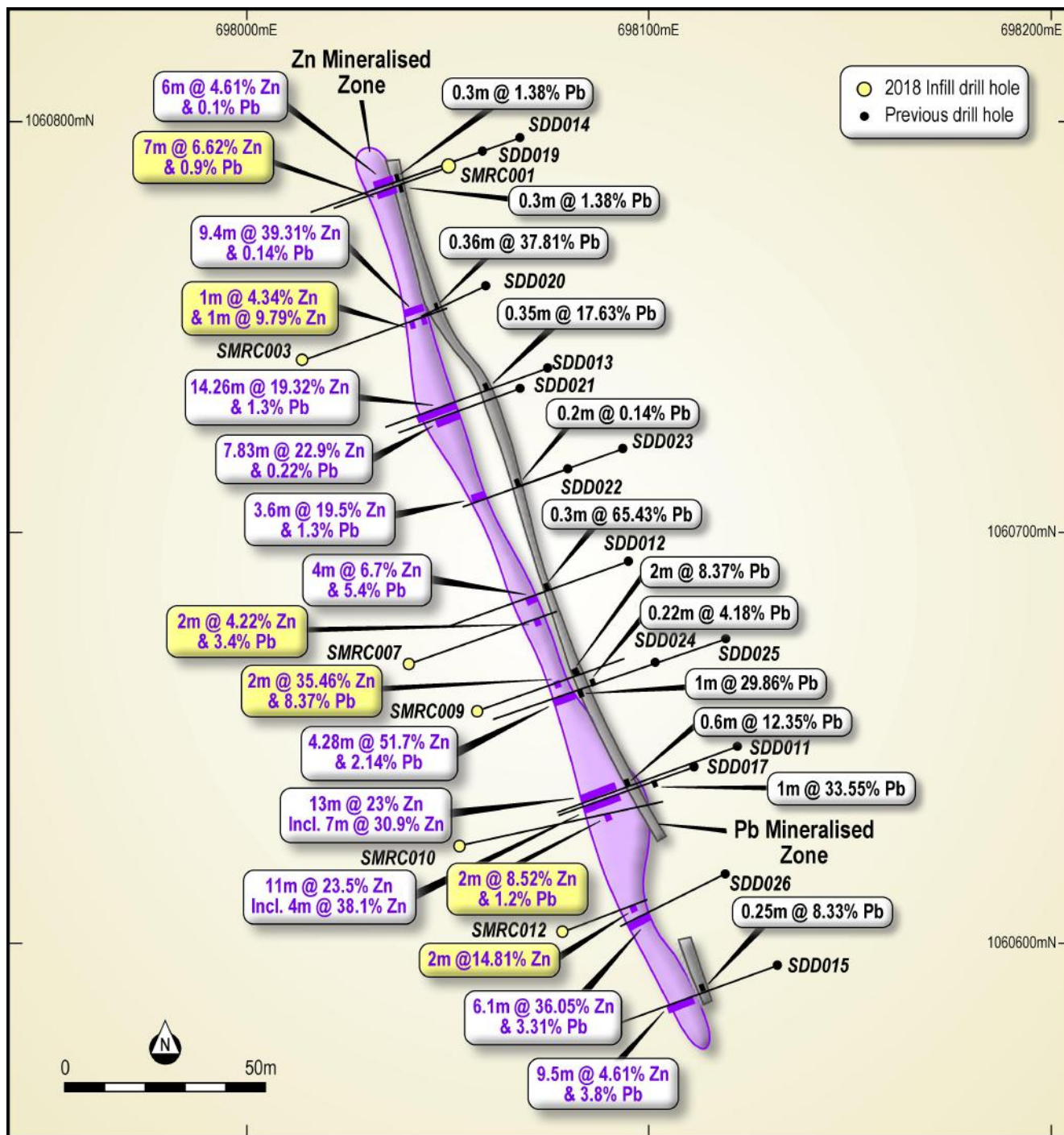


Figure 4: Macy Zinc and Lead total intersection for total Indicated and Inferred JORC Resource 132,700t @ 18.3% Zn and 2.1% Pb

**Barry Bolitho**  
 Executive Director

### Competent Person's Statement

The information in this report that relates to Mineral Resources has been compiled by Mr Lynn Widenbar, principal of Widenbar and Associates.

Mr Widenbar, who is a Member of the Australasian Institute of Mining and Metallurgy, is a full time employee of Widenbar and Associates and produced the Mineral Resource Estimate based on data and geological information supplied by Symbol. Mr Widenbar has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Widenbar consents to the inclusion in this report of the matters based on his information in the form and context that the information appears.

**About Symbol Mining ([www.symbolmining.com.au](http://www.symbolmining.com.au))**

Symbol Mining Limited (ASX:SL1) is an Australian based exploration and mining company, that has acquired significant and highly prospective JV tenements in Nigeria. The Company is focused on exploration and commercialisation of high margin Zn and Pb projects. Two of the Company's key project areas are detailed as follows:

- Imperial - Three exploration leases and three small scale mining leases, spanning 510km<sup>2</sup>. The project is a joint venture with partner Goidel Resources Limited (40% partner) that has been based in Nigeria for over 20 years. Of significance is the Macy site with initial JORC results showing world class grades of Zn and Pb
- Tawny - One exploration lease covering 7km<sup>2</sup>. The project is a joint venture with Adudu Farms Nigeria Limited (40% partner), and is also highly prospective for Pb, Zn and Ag

## Appendix 1

### JORC Code, 2012 Edition, Table 1

#### Section 1. Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <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 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>A diamond drilling program to test the mineralised structures was conducted between November and December 2015 by Century Mining Company Ltd ("Century") completed the drilling with a total of 19 NQ diamond holes for 2001 metres of drilling.</li> <li>A second diamond drilling program was carried out in 2016, consisting of an additional nine holes for 481m.</li> <li>A third Reverse Circulation (RC) drilling program was carried out in early 2018 consisting of 23 holes for a total of 1,970m. A total of 13 holes were in the area of interest for resource modelling. Drilling was carried out by Meridian Drilling with a Nemek 710 drill rig, with a capacity of 99 cfm at 350 psi.</li> <li>Interpreted mineralised intervals were marked up and cut via a diamond saw, with half core submitted for analysis. Length of intervals selected and cut ranged from 0.5 to 1.0 metre and were based on geological boundaries were appropriate.</li> <li>Drill hole collar locations were recorded by handheld GPS survey with accuracy +/-2 metres.</li> <li>Analysis was conducted by submitting the half core 2-4kg sample whole for preparation by crushing, drying and pulverising at Intertek Genalysis Laboratories for base metal analysis via FP1/OE, whereby sodium peroxide fusion and subsequent hydrochloric acid to dissolve the melt is completed followed by analysis via ICP.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>HQ Triple Tube from surface (78 mm) was used for DD holes.</li> <li>RC Holes used 118mm diameter hammers.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>DD Sample recovery was recorded as a percentage which in general was greater than 95%.</li> <li>A number of duplicate samples were collected by comparing ¼ core with ½ core and results were within 15% of each other. The recorded data indicates no potential sampling bias.</li> <li>RC sample recovery averages approximately 60%.</li> </ul>
Logging	<ul style="list-style-type: none"> <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 costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>HQ core was logged in detail, photographed wet and dry, RQDs, structural measurements on all completed. Core was orientated where possible.</li> <li>Logging and recording of critical data for the diamond core is a combination of qualitative and quantitative measurements and observations</li> <li>All drilling was logged.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>HQ diamond core was sawn in half along orientation lines or cut lines marked by the geologist in the field.</li> <li>Sample preparation for all recent samples follows industry best practice.</li> <li>Sample preparation involving oven drying, fine crushing to 95% passing 4mm, followed by rotary splitting and pulverisation to 85% passing 75 microns.</li> <li>QC for sub sampling follows Intertek procedures.</li> <li>Field duplicates were taken at a rate of 1:17.</li> <li>Blanks were inserted at a rate of 1:17</li> <li>Standards were inserted at a rate of 1:17.</li> <li>Sample sizes are considered appropriate to the grain size of the material being sampled.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>The methods are considered appropriate to the style of mineralisation. Extractions are considered near total.</li> <li>No geophysical tools were used to determine any element concentrations at this stage.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Laboratory QA/QC involves the use of internal lab standards using certified reference material, blanks, splits and duplicates as part of the in house procedures. Repeat and duplicate analysis for samples shows that the precision of analytical methods is within acceptable limits.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The Company's Geologist has visually reviewed the samples collected.</li> <li>No twin holes were drilled.</li> <li>Data and related information is stored in a validated Mapinfo or Micromine database. Data has been visually checked for import errors.</li> <li>No adjustments to assay data have been made.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>All drillholes have been located by GPS with precision of sample locations considered +/-2m.</li> <li>Location grid of plans and cross sections and coordinates in use WGS84, UTM Zone 32: Northern Hemisphere</li> <li>Topographic data and RL values are assumed.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The holes are nominally spaced on 25 metre sections (approx. E-W) with hole spacing down dip being 10 to 20 metres.</li> <li>Data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resource estimation classification applied.</li> <li>Sample compositing has not occurred.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The orientation of sampling is considered adequate and there is not enough data to determine bias if any.</li> <li>Mineralisation strikes north-north-west. Drilling was orthogonal to this apparent strike and comprised angled diamond drill holes.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Chain of custody is managed by the Company and samples are transported to the laboratory via Company staff with samples safely consigned to Intertek for preparation and analysis. Whilst in storage, they are kept in a locked yard. Tracking sheets are used track the progress of batches of samples.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No review or audit of sampling techniques or data compilation has been undertaken at this stage.</li> </ul>

## Section 2. Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The Imperial Project is covered by Exploration Licences EL 18444 and EL 18445 awarded to Goidel Resources Limited on 3 November 2014, expiry 2 November 2017 each covering an area of 186 square kilometres and are valid for copper, lead and zinc. These licences can be further renewed twice for periods of two years each (additional 4 years' extension).</li> <li>The tenement is in good standing</li> <li>No impediments to operating on the permit are known to exist.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>The Gwana project was previously explored by EcoPhoenix who held three base metal exploration licences in the Upper Benue Trough. Some basic mapping, sampling and broad interpretation was completed by EcoPhoenix, and this is summarised in a report by CSA Global (Chubb, 2009). The focus of the exploration was on the "Nahuta vein" (hereafter referred to as the Gwana vein), a well-defined north-south striking linear vein which has been worked by artisanal miners to</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>a shallow depth. The vein was recognised to be perpendicular to the axial planes of the regional folds within the sedimentary sequence (which dips to the northwest) with a number of parallel structures and veins in the area also recognised, but less explored.</p> <ul style="list-style-type: none"> <li>Based on the EcoPhoenix reported work, the Nahuta vein at surface consists of a 1-2 metre thick zone containing crystalline and massive aggregates of galena and sphalerite in a carbonate matrix with a host sequence of thinly bedded micritic limestones. Copper mineralisation, in the form of chalcocite was recognised by EcoPhoenix. .</li> </ul>
Geology	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Imperial Project is located on the border of Bauchi and Taraba states approximately 420km east/north-east of Abuja, Nigeria. Aside from the work Symbol is currently doing, there has been little modern exploration on the site. Significant historical mining has occurred as artisanal miners followed the surface expressions of high grade lead and zinc.</li> <li>The known prospects are fault controlled veins that have many of the characteristics of significant Pb/Zn deposits described as poly metallic or clastic hosted veins. Product previously mined at the site had grades of 38% Pb and 19% Zn with discrete layers of Galena and Sphalerite over significant strike distance. With over 400km2 of tenement package there is significant regional prospectivity.</li> <li>The Imperial main vein is a sandstone hosted 1,600m strike length of artisanal, open pit and underground historical mining. Significant tonnage has been extracted from the site historically. The orebody is clearly defined with extensive weathered massive sulphides of galena, sphalerite, pyrite and chalcopyrite through multiple veins.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li><i>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:</i> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception depth</i></li> <li><i>hole length.</i></li> </ul> </li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>A drilling program to test the mineralised structures was conducted between November and December 2015. Century Mining Company Ltd ("Century") completed the drilling with a total of 19 NQ diamond holes for 2001 metres of drilling.</li> <li>A second drill program by Century in 2016 infilled in the northern area, with nine holes for 481m.</li> <li>Collar locations were marked out in the field and have been surveyed with GPS with an expected accuracy of approximately +/- 5 metres. At Imperial, the southern end of the workings have been tested on nominal 50 metre centres and over approximately 200 metres of strike. The northern end of Imperial (the Macy Deposit) has been systematically assessed via drill holes on 25 metre centres, with a maximum of 3 holes per section over 250 metres of strike length.</li> <li>Downhole surveys were completed by Century using a KSP-2D Compass Inclinator on nominal 30 metre downhole intervals. Drill holes SDD010 to SDD014 were not downhole surveyed due to problems with the driller's equipment. In general the diamond holes stayed relatively straight with the dips remaining relatively constant.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>No averaging or aggregation techniques have been applied.</li> <li>No top cuts have been applied to exploration results.</li> <li>No metal equivalent values are used in this report.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The orientation or geometry of the mineralised zones strikes in a north-northwest direction and dips in sub vertical to steep manner to the west.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>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 drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate maps are included in main body of report with the Zinc and Lead results and full details are in the tables reported.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>All results for the target economic minerals being Zinc and Lead have been reported.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>An insitu bulk density of 3.5t/bcm and 4.5t/bcm was adopted for the zinc and lead zones respectively. Additional ISBD determinations are currently being conducted. No deleterious elements have been identified and a simple gravity concentration technique is likely to recover a high percentage of the sphalerite (zinc) and galena (lead) mineralization.</li> <li>The bulk density assumption has been calculated from the following Specific Gravity (SG) of the mineralisation as reported on Webmineral.com: <ul style="list-style-type: none"> <li>Sphalerite SG ~ 4.4 gm/cc</li> <li>Galena SG ~ 7.5 gm/cc</li> <li>Gangue, sandstone, shale SG ~2.5 gm/cc</li> <li>Quartz SG ~ 2.7 gm/cc.</li> </ul> </li> <li>Therefore by calculation the adopted insitu bulk density for the Zinc zone is 3.5t/bcm and 4.5t/bcm for the Lead zone</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Future diamond and RC drilling will be completed to reduce the drill density of the deposit leading to an upgrade in resource status and classification.</li> <li>Refer to maps in main body of report for potential target areas.</li> </ul>

### Section 3. Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Data was provided as Excel spreadsheets of collar, down hole survey, and sample intervals, together with four laboratory spreadsheets of assay results. The data was digitally imported and merged using Micromine software (V2016 SP5). Validation routines were run to confirm validity of all data.</li> <li>Analytical results have all been electronically merged to avoid any transcription errors.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The CP has not made a site visit at this stage due to time constraints.</li> <li>All logging has been done by site geologists under the supervision of Mr S Coxhell who has visited site twice. The controls on mineralisation have been communicated to the CP so that the CP has confidence in the resource estimation procedures and the lack of a site visit does compromise the estimate.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>The confidence in the geological interpretation is good.</li> <li>Geological logging and interpretation allows extrapolation of drill intersections between adjacent sections.</li> <li>Alternative interpretations are likely to result in similar tonnage and grade estimation techniques.</li> <li>Geological boundaries are determined by the spatial locations of the various mineralised structures, and the geological host rocks.</li> <li>Factors affecting continuity are cross faults, old historic workings and the potential complexity of the mineralized systems.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>The drill density is appropriate to the level of classification.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The lateral dimensions of the resources at Macy are shown in the diagrams in the body of this release. The mineralisation dips steeply to the west and ranges from 1m to 10m thick. The resource extends over approximately 250 metres of strike and extends to a vertical depth of 60 metres.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <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> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg 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> <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 drill hole data, and use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Sample data was composited to 1m down-hole composites prior to analysis and estimation. Breaks in mineralised zone interpretation. Were honoured by the compositing process</li> <li>Statistical and variogram analysis was carried out to determine optimal parameters for resource estimation.</li> <li>Search ellipsoids used an unfolding methodology to account for variations in dip and strike.</li> <li>The search ellipsoid had dimensions of 50m (N-S) by 50m vertically by 5m across the mineralisation, with a minimum of 6 samples and a maximum of 12. This pass also requires a minimum of 2 holes, with a minimum of 2 samples per hole and a maximum of 6 samples per hole.</li> <li>The number of samples used, the kriging variance and the average distance of samples from each block, were all stored in the block model for later use in resource classification.</li> <li>Grade estimation using an Ordinary Kriging methodology has been used. Two wireframes have been used to subset and constrain the data points used in the interpolation and only individual grades from individual wireframes were used.</li> <li>All estimation was carried out in Micromine 2016 (SP5) software.</li> <li>The block models were constructed using a 1m (E) by 5m (N) by 5m (Z) block size, constrained by a series of individual wireframes, with sub-cells to 0.25m x 1m x 1m to accurately represent wireframe shapes.</li> <li>Block size is generally half to one quarter the sample spacing.</li> <li>No deleterious elements have been identified</li> <li>No assumptions regarding recovery of by-products have been made</li> <li>The geological interpretation follows a steeply dipping fault in contact with flat lying and variably reactive sedimentary host rocks.</li> <li>Validation was carried out in a number of ways, including <ul style="list-style-type: none"> <li>Visual inspection section, plan and 3D</li> <li>Model vs composite statistics</li> </ul> </li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>Tonnages are estimated on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>In general, either the zones are mineralized or not. Nominal downhole cut-offs of 2% Zn (for the Zinc vein) and 2% Pb (for the Lead Vein) have been used to define the mineralised zones. The basis of the cutoffs is an economic analysis coupled to mining dilution considerations, with this cutoff correlating reasonably well with the mineralised zones as logged from the diamond core.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The resources defined to date would potentially be amenable to simple open pit mining.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>Preliminary metallurgical testwork has suggested excellent base metal recoveries, via conventional gravity concentration.</li> <li>The Company has undertaken previous conceptual scoping studies that provide adequate information to indicate there is a reasonable prospect for eventual economic extraction of the mineral resource. Refer to Independent Geologist Report in Section 6 of the Company's Prospectus dated 5 July 2017 for more details on the conceptual scoping studies</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>assumptions made.</i>	
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Preliminary environmental studies have been completed and a Mining Proposal is well advanced. The area has been extensively mined in the past and no environmental impediments are expected.</li> </ul>
<i>Bulk density</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Bulk density/specific gravity have been assigned based on mineralogical review and analytical results.</li> <li>Additional testwork (Archimedes Method) of material of various geological and mineralisation types is under way and will be used to update the model in due course. The following densities are applied to the resource model.</li> <li>Zinc Vein 3.5 t/bcm.</li> <li>Lead Vein 4.5 t/bcm.</li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The Mineral Resources have been classified as Indicated and Inferred.</li> <li>The Resource model uses a classification scheme based upon drill hole spacing plus block estimation parameters, kriging variance, number of composites in search ellipsoid informing the block cell and average distance of data to block centroid.</li> <li>The results of the Mineral Resource Estimation reflect the views of the Competent Person.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<i>Discussion of relative accuracy/confidence</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The relative accuracy of the Mineral Resource is reflected in the reporting of the Mineral Resource as being in line with the guidelines of the 2012 JORC Code.</li> <li>The statement relates to global estimates of tonnes and grade, with reference made to resources above a certain cut-off that are intended to assist mining studies.</li> <li>No production data is available for comparisons.</li> </ul>