

## UPDATED SULPHUR SPRINGS ORE RESERVE: NEW MINE PLAN ACHIEVES SIGNIFICANT CAPITAL AND OPERATING COST SAVINGS

### Highlights

- Updated Ore Reserve of 7.28 Mt at 1.2% Cu and 3.5% Zn for 84,000 t of contained copper and 255,000 t of contained zinc for the Sulphur Springs Copper-Zinc Project
- New underground mine plan using an optimised mining method results in forecast savings in operating and capital costs of \$61 million
- Ore Reserve excludes the recently identified high-grade supergene zone of 880,000 t at 3.9% Cu, which will be the focus for the next phase of project optimisation
- Ore Reserve confirms that Sulphur Springs is a valuable, development-ready base metal project which is highly leveraged to continued improvements in the zinc price

Venturex Resources (ASX: VXR – “Venturex”) is pleased to announce an updated Ore Reserve estimate for its 100%-owned **Sulphur Springs Copper-Zinc Project**, located 144km to the south-east of Port Hedland in the East Pilbara.

The Ore Reserve, which is based on the updated Mineral Resource Estimate announced last month (see ASX release – 11 May 2016), represents another step in the continued optimisation of the Sulphur Springs Project aimed at improving the value of this already attractive project.

The Ore Reserve estimate prepared by Entech Mining (“Entech”) is set out below:

| Description | Category                  | Tonnes '000  | Cu (%)     | Cu (t)        | Zn (%)     | Zn (t)         | Ag(g/t)     |
|-------------|---------------------------|--------------|------------|---------------|------------|----------------|-------------|
| Open pit    | Proved                    | -            | -          | -             | -          | -              | -           |
|             | Probable                  | 2,930        | 1.3        | 39,000        | 4.2        | 122,000        | 15.8        |
|             | <b>Total</b> <sup>1</sup> | <b>2,930</b> | <b>1.3</b> | <b>39,000</b> | <b>4.2</b> | <b>122,000</b> | <b>15.8</b> |
| Underground | Proved                    | -            | -          | -             | -          | -              | -           |
|             | Probable                  | 4,350        | 1.0        | 45,000        | 3.1        | 133,000        | 13.5        |
|             | <b>Total</b> <sup>2</sup> | <b>4,350</b> | <b>1.0</b> | <b>45,000</b> | <b>3.1</b> | <b>133,000</b> | <b>13.5</b> |
| Total       | Proved                    | -            | -          | -             | -          | -              | -           |
|             | Probable                  | 7,280        | 1.2        | 84,000        | 3.5        | 255,000        | 14.4        |
|             | <b>Total</b>              | <b>7,280</b> | <b>1.2</b> | <b>84,000</b> | <b>3.5</b> | <b>255,000</b> | <b>14.4</b> |

1. All Inferred Resources within the reserve pit design (1,400,000 t of massive sulphide Resource at a grade of 1.1% Cu and 3.3% Zn and 880,000 t of supergene Resource at a grade of 3.9% Cu and 0.6% Zn) have been categorised as waste material.
2. Inferred Resources contained within the underground reserve design (980,000 t at a grade of 1.4% Cu and 4.1% Zn) have been assigned a nil grade and dilute the reported Reserve.

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The mine plan supporting this estimate identified a bulk mining method for the underground portion of the project that has resulted in savings of \$61 million underground mining capital and operating costs when compared to the first phase of optimisation completed in November 2015 (see ASX release 4 November 2015). This represents a saving in underground mining costs of 22%.

### **Management Comment and Next Steps**

Venturex's Managing Director John Nitschke said: "This is another great piece of work by Entech. The reduction in underground mining costs goes straight to the bottom line value of the Sulphur Springs Copper-Zinc Project.


"The bulk mining method further reduces the start-up and operational risks of the project.

"The lower level of confidence in the Inferred Resource within the underground bulk mining envelope means that we have had to treat this material as waste dilution with no grade. Even after factoring in this 30% dilution of the underground portion of the deposit, the project still satisfies the financial hurdles for a JORC Reserve.

"The Inferred Supergene Resource of 880,000 tonnes at mined grade of 3.9% copper that sits on top of the sulphide ore body has not been included in the Reserve. This mineralisation includes enriched secondary copper mineralisation that it expected to be amenable to heap leaching.

"Logging of drill samples identified the presence of fine high-grade chalcocite mineralisation that may open up the opportunity to direct ship part of this resource to smelters, as Sandfire Resources did in the early stages of the DeGrussa Copper-Gold Mine in WA and as has been done historically at other operations.

"The final phase of the optimisation of Sulphur Springs will be focused on quantifying the value of the Inferred Supergene Resource and, in particular, the potential for a staged development of this greenfields project that Venturex can achieve at current metal prices. This will require proving up this Resource, metallurgical testwork, mining and processing plans and permitting."



**JOHN NITSCHKE**  
**Managing Director**

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**About Venturex Resources Limited**

Venturex Resources Limited (ASX: VXR) is an exploration and development company with two advanced Copper Zinc Projects near Port Hedland in the Pilbara region of Western Australia. The two projects are the Sulphur Springs Project which includes the Sulphur Springs Project, Kangaroos Caves Resource plus 27km of prospective tenements on the Panorama trend and the Whim Creek Project which includes the Resources at the Whim Creek, Mons Cupri and Salt Creek mines together with the Evelyn project and 18,100 ha of prospective tenements over the Whim Creek basin. Our strategy is to work with our partners Blackrock Metals to expand and extend the existing 5 tonne per day oxide copper heap leach and SXEW operation at Whim Creek, identify other near term production options at Whim Creek, Mons Cupri and Sulphur Springs and fully optimise the Sulphur Springs Project have it shovel ready to take advantage of forecast improvements in base metal prices.

**About Entech Mining**

Entech Pty Ltd has been associated with the Sulphur Springs Project since 2012 and was a key contributor to the 2015 Optimisation Study. Entech is an independent international mining consultancy specialising in mining engineering, geotechnical and geological services.

**Competency Statements**

The information in this report that relates to the Open Pit and Underground Ore Reserve and is based on information compiled or reviewed by Mr Donald, of Entech Mining Pty Ltd who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Donald has sufficient experience relevant to the style of mineralisation, type of deposit under consideration and to the activity being undertaken to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Mineral Reserve". Mr Donald consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on information compiled or reviewed by Mr David Milton of Hardrock Mining Consultants Pty Ltd who is a Member of the Australasian Institute of Mining and Metallurgy. The information contained in this report was previously released in an announcement titled "Sulphur Springs Resource Update" issued 11 May 2016.

The Company confirms that:

- a) The form and context of the material in this report has not been materially modified from the above previous announcement;
- b) It is not aware of any new information or data that materially affects the information included in the 11 May 2016 announcement and that all material assumptions and technical parameters underpinning the estimate in the 11 May 2016 announcements continue to apply and have not materially changed; and
- c) It is uncertain that following further exploration and evaluation that the historical estimates will be able to be reported as mineral resources or ore reserves in accordance with the JORC 2012 Code.

**Forward Looking Statements**

This report may include certain statements that may be deemed "forward-looking statements". All statements in this report, other than statements of historical facts, that address future activities and events or developments that the Company expects, are forward-looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the forward-looking statements. The Company, its shareholders, directors, officers, agents, employees or advisers, do not represent, warrant or guarantee, expressly or impliedly, that the information in this Report is complete or accurate. To the maximum extent permitted by law, the Company disclaims any responsibility to inform any recipient of this Report of any matter that subsequently comes to its notice which may affect any of the information contained in this Report. Factors that could cause actual results to differ materially from those in forward-looking statements include market prices, continued availability of capital and financing, and general economic, market or business conditions. Venturex assumes no obligation to update such information.

Investors are cautioned that any forward-looking statements are not guarantees of future performance and that actual results or developments may differ materially from those projected in forward-looking statements. Please undertake your own evaluation of the information in this presentation and consult your professional advisers if you wish to buy or sell Venturex shares.

## NOTES RELATING TO THE REOPTIMISATION STUDY RESOURCE AND RESERVE STATEMENT

### Section 1 Sampling Techniques and Data

Details on resources for the Sulphur Springs Deposit has previously been announced to the market refer ASX announcement dated 11<sup>th</sup> May 2016 “Sulphur Springs Resource Update Increases Copper Content” for most recent update.

(Criteria in this section apply to all succeeding sections.)

| Criteria  | JORC Code explanation  | Commentary  |
|---|--|---|
| <b>Sampling techniques</b>                            | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Drilling techniques</b>                            | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Drill sample recovery</b>                          | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Logging</b>  | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Sub-sampling techniques and sample preparation</b> | <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> </ul>   | <ul style="list-style-type: none"> <li>No new results are being released in this announcement.</li> </ul> |

| Criteria   | JORC Code explanation   | Commentary  |
|--|---|---|
|  | <ul style="list-style-type: none"> <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>   |   |
| <b>Quality of assay data and laboratory tests</b>              | <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 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 style="list-style-type: none"> <li>No new results are being released in this announcement.</li> </ul> |
| <b>Verification of sampling and assaying</b>                   | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Location of data points</b>                                 | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Data spacing and distribution</b>                           | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Orientation of data in relation to geological structure</b> | <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>No new results are being released in this announcement.</li> </ul> |
| <b>Sample security</b>   | <ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>   | <ul style="list-style-type: none"> <li>No new results are being released in this announcement</li> </ul>  |
| <b>Audits or reviews</b>                                       | <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 new results are being released in this announcement</li> </ul>  |

## Section 2 Reporting of Exploration Results

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

| Criteria  | JORC Code explanation   | Commentary   |
|---|---|--|
| <b>Mineral tenement and land tenure status</b>                          | <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>Sulphur Springs Deposit is located wholly within Mining Lease 45/494 and Venturex Resources Limited has a 100% interest in the tenement.</li> <li>The tenement is within the Njamal Native Title Claim (WC99/8).</li> <li>The tenement is subject to two third party royalties.</li> <li>The tenement is a granted Mining Lease, is in good standing and no known impediments exist.</li> </ul>   |
| <b>Exploration done by other parties</b>                                | <ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>   | <ul style="list-style-type: none"> <li>Previous exploration has been conducted at Sulphur Springs by Sipa Resources Limited in conjunction with Ashling Resources, Homestake Limited and Outokumpu since 1985 under various joint ventures and CBH Resources Limited from 2005.</li> </ul>   |
| <b>Geology</b>  | <ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>   | <ul style="list-style-type: none"> <li>The Sulphur Springs zinc-copper deposit is hosted by the Kangaroo Caves Formation, a volcano-sedimentary sequence within the north –northeasterly trending tectonostratigraphic domain known as the Lalla Rookh –Western Shaw Corridor (LWSC) in the central east of the Archaean Pilbara Craton. The deposit is a well preserved example of an Archaean volcanogenic massive sulphide (VMS) style deposit in a low grade metamorphic terrain.</li> </ul> |
| <b>Drill hole Information</b>   | <ul style="list-style-type: none"> <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 style="list-style-type: none"> <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> | <ul style="list-style-type: none"> <li>Not Applicable (NA). No new exploration data being released. This report relates to only previously publically reported and recorded information.</li> </ul>  |
| <b>Data aggregation methods</b>   | <ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>All reported assays have been length weighted.</li> <li>No top cut has been applied.</li> <li>For reporting exploration results, a nominal 0.25% copper and 2.0% zinc lower cut-off has been applied.</li> <li>High-grade massive sulphide intervals internal to broader zones of sulphide mineralisation are reported as included intervals.</li> </ul>  |
| <b>Relationship between mineralisation widths and intercept lengths</b> | <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>Previous reports highlight down hole intercept and true widths</li> </ul>   |
| <b>Diagrams</b>   | <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</li> </ul>  | <ul style="list-style-type: none"> <li>See long section in ASX release dated 18<sup>th</sup> November 2012.</li> </ul>   |

| Criteria                                  | JORC Code explanation   | Commentary  |
|---|---|---|
|   | <i>limited to a plan view of drill hole collar locations and appropriate sectional views.</i>   |   |
| <b>Balanced reporting</b>                 | <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 representative results have been reported or publically released.</li> </ul>   |
| <b>Other substantive exploration data</b> | <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>Previous feasibility studies (2002 and 2013) outline project geological characteristics and features with respect to possible mining methods, metallurgical characteristics, possible treatment routes, geotechnical and rock characteristics, ore densities, and potential deleterious or contaminating materials.</li> </ul> |
| <b>Further work</b>                       | <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>No further work of an exploration nature is proposed at this time of reporting.</li> </ul>   |

## Section 3 Estimation and Reporting of Mineral Resources

Details on resources for the Sulphur Springs Deposit has previously been announced to the market refer ASX announcement dated 11<sup>th</sup> May 2016 “Sulphur Springs Resource Update Increases Copper Content” for most recent update.

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

| Criteria                                   | JORC Code explanation   | Commentary   |
|--|---|--|
| <b>Database integrity</b>                  | <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>No new mineral resources are being announced</li> </ul> |
| <b>Site visits</b>                         | <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>No new mineral resources are being announced</li> </ul> |
| <b>Geological interpretation</b>           | <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> <li>The factors affecting continuity both of grade and geology.</li> </ul>  | <ul style="list-style-type: none"> <li>No new mineral resources are being announced</li> </ul> |
| <b>Dimensions</b>                          | <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>No new mineral resources are being announced</li> </ul> |
| <b>Estimation and modelling techniques</b> | <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 (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> <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>No new mineral resources are being announced</li> </ul> |
| <b>Moisture</b>                            | <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>No new mineral resources are being announced</li> </ul> |
| <b>Cut-off parameters</b>                  | <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>No new mineral resources are being announced</li> </ul> |
| <b>Mining factors</b>                      | <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</li> </ul>   | <ul style="list-style-type: none"> <li>No new mineral resources are being announced</li> </ul> |

| Criteria  | JORC Code explanation  | Commentary   |
|---|--|--|
| <b>or assumptions</b>                             | <i>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.</i>  |  |
| <b>Metallurgical factors or assumptions</b>       | <ul style="list-style-type: none"> <li>• <i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></li> </ul>  | <ul style="list-style-type: none"> <li>• No new mineral resources are being announced</li> </ul> |
| <b>Environmental factors or assumptions</b>       | <ul style="list-style-type: none"> <li>• <i>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 greenfield 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.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• No new mineral resources are being announced</li> </ul> |
| <b>Bulk density</b>                               | <ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• No new mineral resources are being announced</li> </ul> |
| <b>Classification</b>                             | <ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li>• <i>Whether appropriate account has been taken of all relevant factors (i.e. 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).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>  | <ul style="list-style-type: none"> <li>• No new mineral resources are being announced</li> </ul> |
| <b>Audits or reviews</b>                          | <ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• No new mineral resources are being announced</li> </ul> |
| <b>Discussion of relative accuracy/confidence</b> | <ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul> | <ul style="list-style-type: none"> <li>• No new mineral resources are being announced</li> </ul> |

## Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3 apply to this section.)

| Criteria  | JORC Code explanation  | Commentary  |
|---|--|---|
| <b>Mineral Resource estimate for conversion to Ore Reserves</b> | <ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>   | <ul style="list-style-type: none"> <li>This ore reserve is based entirely on the Indicated portion of the current reported Mineral Resources at the Sulphur Springs deposit (refer to ASX release 11/05/16 Sulphur Springs Resource Update Increases Copper Content).</li> <li>Mineral Resources are reported inclusive of the Ore Reserves.</li> </ul>   |
| <b>Site visits</b>  | <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 competent person has not visited the site.</li> <li>The competent person is comfortable relying on reports from other independent consultants, and other Entech staff, who have visited site and other operations in the area respectively.</li> </ul>   |
| <b>Study status</b>   | <ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>   | <ul style="list-style-type: none"> <li>The mining study supporting the Ore Reserve has been completed to a pre-feasibility level.</li> <li>Modifying factors accurate to the study level have been applied. The resulting mine plan is technically achievable and economically viable.</li> </ul>   |
| <b>Cut-off parameters</b>                                       | <ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>   | <ul style="list-style-type: none"> <li>A "Net Smelter Return" (NSR) function was modelled at the block level, based on block grades, recovery and pricing. For both open cut and underground, material was stockpiled and available for processing if NSR &gt;\$AUD46 (total of processing cost plus G&amp;A).</li> </ul>   |
| <b>Mining factors or assumptions</b>                            | <ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul> | <ul style="list-style-type: none"> <li>Conventional mining methods have been chosen. Open cut operations are planned around a 190t-class excavator and 100t dump trucks. Underground operations use rubber tyred diesel equipment, 1:7 decline, 50t class trucks. Open pit and underground designs are matched to the planned equipment fleet.</li> <li>The selected mining methods resulted from an analysis of previous underground feasibility studies combined with additional geotechnical analysis.</li> <li>Underground production will be predominantly from longhole open stopes and sub-level cave for removal of interstitial pillars. Voids will be filled post extraction with waste rock backfill introduced from a mill hole breaking through to the pit floor.</li> <li>Independent consultants prepared the geotechnical analysis for the open pit. This forms the basis of pit design criteria. For the underground design, Entech's geotechnical engineer made an in-depth review of all previous geotechnical work and data to arrive at the currently adopted set of geotechnical parameters. These include stope size, fill method and additional support installation. Only the Indicated portion of the Mineral Resource was used to estimate the Ore Reserve.</li> </ul> |

| Criteria                                    | JORC Code explanation   | Commentary  |
|---|---|---|
|   |   | <ul style="list-style-type: none"> <li>• Open pit mining blocks were diluted by 10%. Underground stopes were diluted by the following factors according to stope type: <ul style="list-style-type: none"> <li>○ Longhole open stope – 10%</li> <li>○ Core and shell rib – 10%</li> <li>○ Core and shell sill – 25%</li> </ul> Underground ore development has assumed 0% dilution. </li> <li>• Mining Recovery of 95% was assumed for the open pit. Underground Mining Recovery factors were specified according to stope type: <ul style="list-style-type: none"> <li>○ Longhole open stope – 95%</li> <li>○ Core and shell rib – 80%</li> <li>○ Core and shell sill – 80%</li> </ul> A 100% mining recovery for ore development has been assumed. </li> <li>• Pre-feasibility level mine designs support the Ore Reserve estimation. The Ore Reserve is technically and economically viable without the inclusion of Inferred Mineral Resource.</li> <li>• The following infrastructure will be required and is included in the pre-feasibility capital and operating cost estimate: Backfill Plant; Tailings Storage Facility; Waste Rock Landform; Administration buildings; Stores and maintenance facilities; Power generation and Reticulation; Waste water treatment facilities; Water catchment dams; bore fields; evaporation ponds; Accommodation village; Airstrip; Processing Plant; Site access road</li> </ul> |
| <b>Metallurgical factors or assumptions</b> | <ul style="list-style-type: none"> <li>• <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li>• <i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li>• <i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li>• <i>Any assumptions or allowances made for deleterious elements.</i></li> <li>• <i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></li> <li>• <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul> | <ul style="list-style-type: none"> <li>• The metallurgical process was developed to a pre-feasibility level including the development of a flowsheet and capital and operating costs.</li> <li>• The process stages are based on well understood conventional unit processes. The plant design flow sheet uses confirmed metallurgical processes for this style of ore. The technology is standard in the base metal industry and will process the varying ore types through a conventional three stage crushing and grinding circuit, followed by sequential flotation of the copper, lead and zinc sulphide minerals to produce saleable copper, lead and zinc concentrates.</li> <li>• Considerable feasibility study level metallurgical test work programs were completed previously in 2002 and 2006. A further program of confirmatory test work was completed in 2011-12 including extensive testing of individual and composited geological domains. Metallurgical recovery factors were determined for each recovered metal in each concentrate product stream.</li> <li>• The deleterious element content of each concentrate product was determined and profiled against typical concentrate specifications sourced from third party purchasers.</li> <li>• No bulk sample or pilot scale test work has been undertaken.</li> </ul>   |
| <b>Environmental</b>                        | <ul style="list-style-type: none"> <li>• <i>The status of studies of potential environmental impacts of the mining and processing</i></li> </ul>  | <ul style="list-style-type: none"> <li>• Extensive baseline environmental studies for the project area were completed</li> </ul>  |

| Criteria              | JORC Code explanation  | Commentary   |
|-----------------------|--|--|
|                       | <p><i>operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></p>   | <p>in 2006 by CBH for a previous feasibility study. Further baseline studies have been conducted by Venturex in 2011-12 to add to this. Extensive materials (waste rock and tailings) characterisation studies have been undertaken.</p> <ul style="list-style-type: none"> <li>• Venturex have reviewed the issues arising from the Public Environmental Review process partially completed for the Panorama Copper-Zinc Project submitted by CBH Sulphur Springs Pty Ltd in November 2007.</li> <li>• Key issues identified for the project are impacts on conservation significant flora, long term management of potentially acid forming waste materials (waste rock and tailings) and water management.</li> <li>• Approvals received in 2013-14 for ore processing, underground mining and development of supporting infrastructure are considered to remain valid for the revised project. Additional approvals required for the revised project design have been identified. These relate to development of a small open pit with an associated waste rock landform, changed tailings storage method and location and the resultant increase in project footprint. Information needs to prepare application documents including a revised mine closure plan have been identified, scheduled and costed.</li> <li>• The project has carefully designed its footprint to minimise environmental impacts. Final design options were selected to minimise the disturbed area within landform constraints imposed by rugged topography.</li> </ul> |
| <b>Infrastructure</b> | <ul style="list-style-type: none"> <li>• <i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• The site is remote. There is currently no substantial on-site infrastructure, and the pre-feasibility study comprehensively estimates the costs for the development of all necessary infrastructure items. Haul road access to the sealed Port Hedland- Marble road has been constructed under an agreement with Atlas Iron Limited.</li> </ul>   |
| <b>Costs</b>          | <ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> <li>• <i>The methodology used to estimate operating costs.</i></li> <li>• <i>Allowances made for the content of deleterious elements.</i></li> <li>• <i>The source of exchange rates used in the study.</i></li> <li>• <i>Derivation of transportation charges.</i></li> <li>• <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> <li>• <i>The allowances made for royalties payable, both Government and private.</i></li> </ul> | <ul style="list-style-type: none"> <li>• Capital and Operating costs were estimated to pre-feasibility level accuracy (+/-25%) in 3<sup>rd</sup> quarter 2015 based on the mechanical equipment lists, drawings and scope definition undertaken as part of the study. Process operating cost estimates were based on a breakdown of costs by discipline including consumables, power, labour and maintenance.</li> <li>• Mining operating costs were largely sourced from quotations provided by mining contractors along with first principles estimations and database rates by independent consultants. Processing, and general and administration operating costs were built up on standard industry cost profiles.</li> <li>• The product price has been assigned based on its full expected elemental makeup including all revenue drivers and deleterious components.</li> <li>• Venturex applied a fixed exchange rate of 0.775 cents/USD</li> <li>• All infrastructure components and consumables are assumed delivered to site at estimated road haulage rates. Product is considered sold upon delivery to</li> </ul>   |

| Criteria                 | JORC Code explanation   | Commentary   |
|--------------------------|---|--|
|                          |   | <p>the destination port.</p> <ul style="list-style-type: none"> <li>• TC/RC forecasts are based on analysis of independent forecasts from a range of third party providers and third party smelters.</li> <li>• Allowances have been made for royalties, land access payments and mine rehabilitation fund.</li> </ul>   |
| <b>Revenue factors</b>   | <ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></li> <li>• <i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• The revenue is a function of diluted block modelled grade, modelled comprehensively through the mining, mineral processing and transportation chain where it is expected to be delivered to an offtaker at a forecast price.</li> <li>• The mine planning underpinning the Ore Reserves was conducted using preliminary, fixed point product pricing that was suitable for blockmodel coding and mine design. The Ore Reserves are feasible and economic under both pricing schedules.</li> <li>• Metal price and foreign exchange assumptions are based on analysis of consensus forecasts from a range of third party providers.</li> </ul> |
| <b>Market assessment</b> | <ul style="list-style-type: none"> <li>• <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li>• <i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></li> <li>• <i>Price and volume forecasts and the basis for these forecasts.</i></li> <li>• <i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• Zinc concentrate is committed under MOU to Toho Zinc Limited for the first 230,000 tonnes of contained zinc metal. The volume and high quality of zinc concentrate produced would attract a ready market domestically and internationally.</li> <li>• Based on design plant capacity and mining schedule, steady state production is forecast to be approximately 12,500t of copper, 32,200t of Zinc and 95,400t of silver.</li> </ul>  |
| <b>Economic</b>          | <ul style="list-style-type: none"> <li>• <i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></li> <li>• <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• For the purpose of estimating an Ore Reserve, an NPV was estimated at a discount rate of 8%. The confidence in the inputs is consistent with a Probable classification of the Ore Reserve. The project has a positive NPV.</li> </ul>   |
| <b>Social</b>            | <ul style="list-style-type: none"> <li>• <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>   | <ul style="list-style-type: none"> <li>• The plant site is located on vacant crown land.</li> <li>• The NJAAMAL People have Native Title Rights over the area, the Company has a mining agreement in place with the NJAAMAL People to allow development of the site.</li> </ul>  |
| <b>Other</b>             | <ul style="list-style-type: none"> <li>• <i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></li> <li>• <i>Any identified material naturally occurring risks.</i></li> <li>• <i>The status of material legal agreements and marketing arrangements.</i></li> <li>• <i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></li> </ul> | <ul style="list-style-type: none"> <li>• Major construction, supply, operational, consumables supply and site service contracts remain to be committed and finalised. Zinc concentrate off-take MOU completed. Copper concentrate off-take is uncommitted.</li> <li>• Joint Access and Haul Road Development agreement completed.</li> <li>• All tenements required for the construction and operation of the Project are granted and in good standing.</li> <li>• The mining operation is proposed to occur upon M45/494, which has been granted. There are no grounds to believe that remaining required approvals will not be successfully granted.</li> </ul>                      |

| Criteria   | JORC Code explanation  | Commentary  |
|--|--|---|
| <b>Classification</b>                              | <ul style="list-style-type: none"> <li><i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> <li><i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>   | <ul style="list-style-type: none"> <li>The Probable Ore Reserve is based on that portion of the Indicated Mineral Resource within the mine designs that may be economically extracted and includes an allowance for dilution and ore loss.</li> <li>The result appropriately reflects the Competent Persons view of the deposit.</li> <li>None of the Probable Ore Reserves have been derived from Measured Mineral Resource.</li> </ul>  |
| <b>Audits or reviews</b>                           | <ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>  | <ul style="list-style-type: none"> <li>No external Audits or reviews have been completed.</li> </ul>  |
| <b>Discussion of relative accuracy/ confidence</b> | <ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></li> <li><i>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.</i></li> <li><i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li><i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul> | <ul style="list-style-type: none"> <li>This Ore Reserve is attributed a confidence classification of "Probable" Ore Reserve in its entirety. There is a degree of uncertainty associated with the Mineral Resource estimate and the modifying factors.</li> <li>The accuracy and confidence limits are based on the current mine design and cut-off grade analysis employed in the technical and economic evaluation. Material changes to the technical or economic assumptions used, including operating costs, TC/RC costs, transport charges, concentrate payability factors and metal prices may materially impact the accuracy of the estimate.</li> <li>No production data is available.</li> </ul> |