ASX Announcement

**5 March, 2019**

Great Boulder
RESOURCES LIMITED

# More strong metallurgical results from Mt Venn highlight development potential

## High-quality copper, nickel and cobalt concentrates produced from the Mt Venn deposit within the Yamarna Project, WA

## Highlights

- **Latest results demonstrate a robust, reliable flowsheet developed in the preliminary metallurgical program can produce readily marketable copper and nickel-cobalt sulphide concentrates**
- **The results strengthen the economic potential of Great Boulder's Yamarna project as they show high-quality sulphide concentrates can be produced from Mt Venn**
- **High overall copper recovery of more than 90% achieved in the flotation and leach circuit to produce a +20% saleable copper sulphide concentrate**
- **Exceptionally high-value nickel-cobalt sulphide concentrate produced grading 26% Ni and 9% Co, suitable for use in the battery and EV markets**
- **Overall nickel and cobalt recoveries approaching 80% in a combined nickel-cobalt sulphide product demonstrated in these initial trials**
- **Improved nickel and cobalt recoveries expected from higher-grade and higher-tenor mineralisation at the Eastern Mafic and Winchester (drilling underway)**

Great Boulder Resources (ASX:GBR) is pleased to announce more strong results from initial metallurgical testwork completed on samples from the Mt Venn deposit, within the Company's Yamarna project in Western Australia.

The testwork was completed on a composite diamond drill hole sample from Mt Venn containing copper mainly as chalcopyrite, and nickel and cobalt in solid solution in pyrrhotite.

The primary purpose of the testwork was to demonstrate a viable flowsheet that would maximize recovery for multiple, high-value products containing copper, nickel and cobalt.

Copper is recovered primarily through a conventional flotation circuit to produce a copper concentrate, with nickel and cobalt recovery from a separate bulk concentrate through a hydrometallurgical circuit to produce a high purity nickel-cobalt sulphide concentrate.

The leaching circuit recovered over 90% of nickel and cobalt from pyrrhotite and also captured the majority of copper rejected from the floatation circuit, producing a high purity (46% Cu) sulphide that when combined with the flotation concentrate, improves overall copper recovery to above 90%.

The testwork was completed on a relatively low-grade sample, containing 0.43% Cu, 0.18% Ni and 0.06% Co. Recent drilling at the Eastern Mafic and Winchester has identified significantly higher grade and tenor nickel sulphide that is expected to improve recoveries through the flotation and leach circuits.

Great Boulder Managing Director Stefan Murphy said the results exceeded expectations and a clear development path had been set for the Yamarna project.

“These results show that high-quality concentrates can be produced at high recoveries from sulphide mineralisation at Mt Venn,” Mr Murphy said.

“Our preference to pursue a combined nickel-cobalt sulphide concentrate has demonstrated an exceptional high value product can be produced, with scope to further improve concentrate grade through process optimization.

“These results are based on early drilling from Mt Venn before the Eastern Mafic was discovered and we are confident that the higher nickel grades we are seeing at the Eastern Mafic and nearby Winchester deposits will further improve overall recoveries.”

## Metallurgical Testwork Summary

Initial metallurgical testwork has been completed on a composite diamond drill hole sample from Mt Venn

The key objective of this phase of metallurgical testwork is to develop a robust, viable flowsheet for Mt Venn.

Testwork was completed to:

- Test the ability to separate copper into a saleable concentrate, with minimal losses of other value metals
- Select leaching conditions for nickel and cobalt extraction from bulk pyrrhotite concentrate
- Demonstrate effective impurity rejection
- Select the preferred route for nickel and cobalt recovery that would be relatively simple and generate high value products

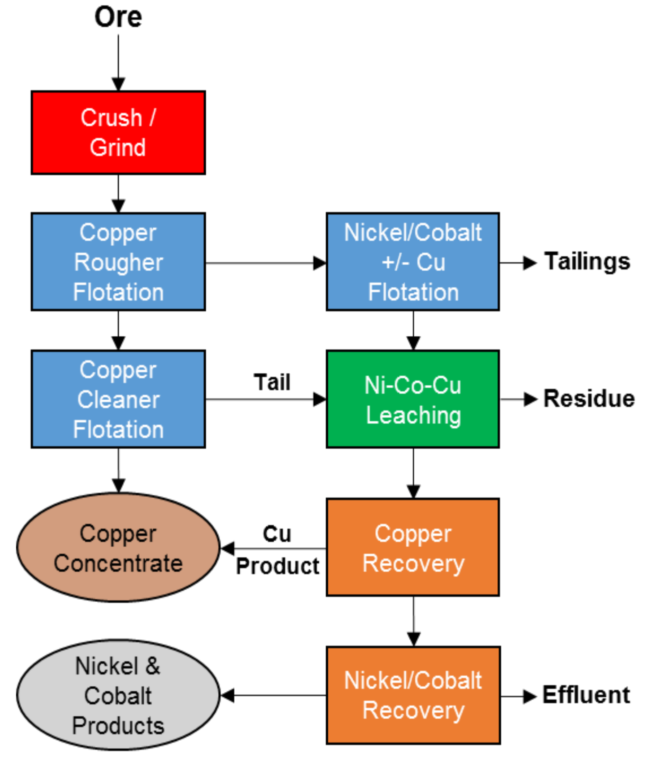

**Figure 1**. Simplified process flowsheet

Flotation testwork was conducted on the Mt Venn Composite sample to produce a separate

- Copper concentrate (chalcopyrite), and
- Bulk nickel-cobalt-copper concentrate (pyrrhotite +/- chalcopyrite)

A clean copper flotation concentrate with no deleterious elements was produced in the flotation circuit grading between 16 and 20% Cu. This flotation concentrate is mixed with the high purity copper sulphide (46% Cu) produced from the hydrometallurgical circuit to generate a combined saleable +20% Cu concentrate at over 90% overall recovery.

~90% of both nickel and cobalt was recovered into a bulk concentrate following copper flotation. The nickel and cobalt upgrade into the bulk concentrate is modest (~70%) to 0.31% Ni and 0.10% Co, which reflects the tenor of metal in sulphide.

Drilling at the Eastern Mafic and Winchester projects has returned considerably higher nickel tenor of 1-3% Ni which should positively influence the future nickel and cobalt upgrade to the hydrometallurgy circuit and recoveries.

The bulk concentrate underwent leaching and solution purification testing to produce high value sulphide products that are in demand in the battery and EV markets. Two leaching processes were investigated:

- Atmospheric oxidative leach, and
- Pressure oxidation (POX).

While atmospheric leach tests indicated good metal recoveries of over 85%, POX process was selected in this phase of work due to higher recoveries and improved quality of leach solution for downstream processing.

Successful tests were carried out at 1,000 kPa oxygen pressure and 150°C temperature, with almost complete extractions of value metals typically achieved within 60-90 minutes. Average extractions of 92%, 97% and 96% were achieved for nickel, cobalt and copper respectively.

The selected POX leach conditions are less costly and energy intensive than those used for High Pressure Acid Leach (“HPAL”) of nickel laterites that typically operate at very high pressure (~4,500 kPa) and temperature (~250°C) and require significant acid addition.

Following POX, the leached slurry is neutralised with limestone to remove residual acid and the majority of iron from solution.

Minor losses of copper occur at this stage but most of the nickel and cobalt metal is retained in solution (>95%). As the subsequent nickel and cobalt recovery by sulphide precipitation is not sensitive to iron concentration at low levels, metal losses in neutralisation can be further reduced by targeting a lower terminal pH through reduced limestone addition.

Precipitation testwork on neutralised liquor successfully produced very high-quality copper sulphide and a combined nickel and cobalt sulphide product with no deleterious elements and at very high extraction rates of 95-99%.

**SUMMARY OF RESULTS: PRECIPITATE ASSAYS**

| | Assay (%) | | | | | | |
|---|---|---|---|---|---|---|---|
| **Product** | **Cu** | **Ni** | **Co** | **Fe** | **Al** | **Ca** | **Mg** |
| **Copper sulphide** | 45.9 | 2.85 | 1.28 | 0.30 | 0.20 | 2.10 | 0.36 |
| **Mixed sulphide** | 0.81 | 25.9 | 9.22 | 1.49 | 0.29 | 0.22 | 0.31 |

The copper sulphide product is extremely high-grade and free of any deleterious elements. It is added back into the copper flotation concentrate to produce an attractive +20% copper concentrate at a high overall recovery of over 90%.

The mixed nickel-cobalt concentrate is a high-grade and very high value intermediate product (+35% Ni+Co) suitable for the battery and EV markets.

Overall recoveries of ~80% for Ni and Co are impacted by the low nickel and cobalt tenor of the selected Mt Venn material used in this preliminary testwork. Sulphide mineralisation at the Eastern Mafic and Winchester both exhibit significantly higher nickel tenor and are expected to materially improve overall recoveries.

Solvent extraction ("SX") and crystallisation testwork has also been successfully completed to produce a very high purity cobalt sulphate product grading 29% Co or +99% Cobalt sulphate (see below product specifications).

The particularly high-grade and purity cobalt sulphate is a premium refined product in demand for use in the battery and EV markets.

Additional nickel sulphide precipitation testwork was conducted on cobalt free liquor post cobalt removal by SX. A very high purity nickel sulphide concentrate grading 41% Ni and 1.5% Co was produced (see below product specifications).

**Figure 2**. Cobalt Sulphate crystals produced from SX and crystallisation testwork

| SUMMARY OF RESULTS: CRYSTAL ASSAYS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Product** | **Assay (%)** | | | | | | |
| | **Al** | **Ca** | **Co** | **Cu** | **Fe** | **Mg** | **Ni** |
| **Cobalt sulphate** | 0.25 | 0.00 | 28.9 | 0.00 | 0.06 | 0.74 | 0.02 |

| SUMMARY OF RESULTS: PRECIPITATE ASSAYS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Product** | **Assay (%)** | | | | | | |
| | **Ni** | **Co** | **Cu** | **Ca** | **Fe** | **Mg** | **Al** |
| **Nickel sulphide** | 40.9 | 1.49 | 0.0 | 0.60 | 0.08 | 0.22 | 0.08 |

While the testwork to produce a high-value and readily saleable cobalt sulphate product was successful, the solvent extraction circuit and additional solution purification requirements add significant cost and technical risk to the process flowsheet.

It was decided at this stage of testwork to focus on a simplified precipitation flowsheet, producing copper and nickel-cobalt sulphide concentrates.

The significantly larger, well established markets and ability to freely trade and hedge copper and nickel-cobalt sulphide concentrates makes this an attractive process route.

The reduced capital and operating costs, as well as transport, logistics and marketing benefits in a more transparent market are all important considerations when deciding the optimal process flowsheet for future metallurgical testwork.

The next steps will be to collect diamond drill core from the Eastern Mafic during this current drilling campaign and conduct metallurgical testwork using similar but more optimised conditions than the initial Mt Venn testwork.

Once the formal joint venture agreement is in place for Winchester, further drilling will be completed to define the mineralised lenses and collect representative samples for additional metallurgical testwork.

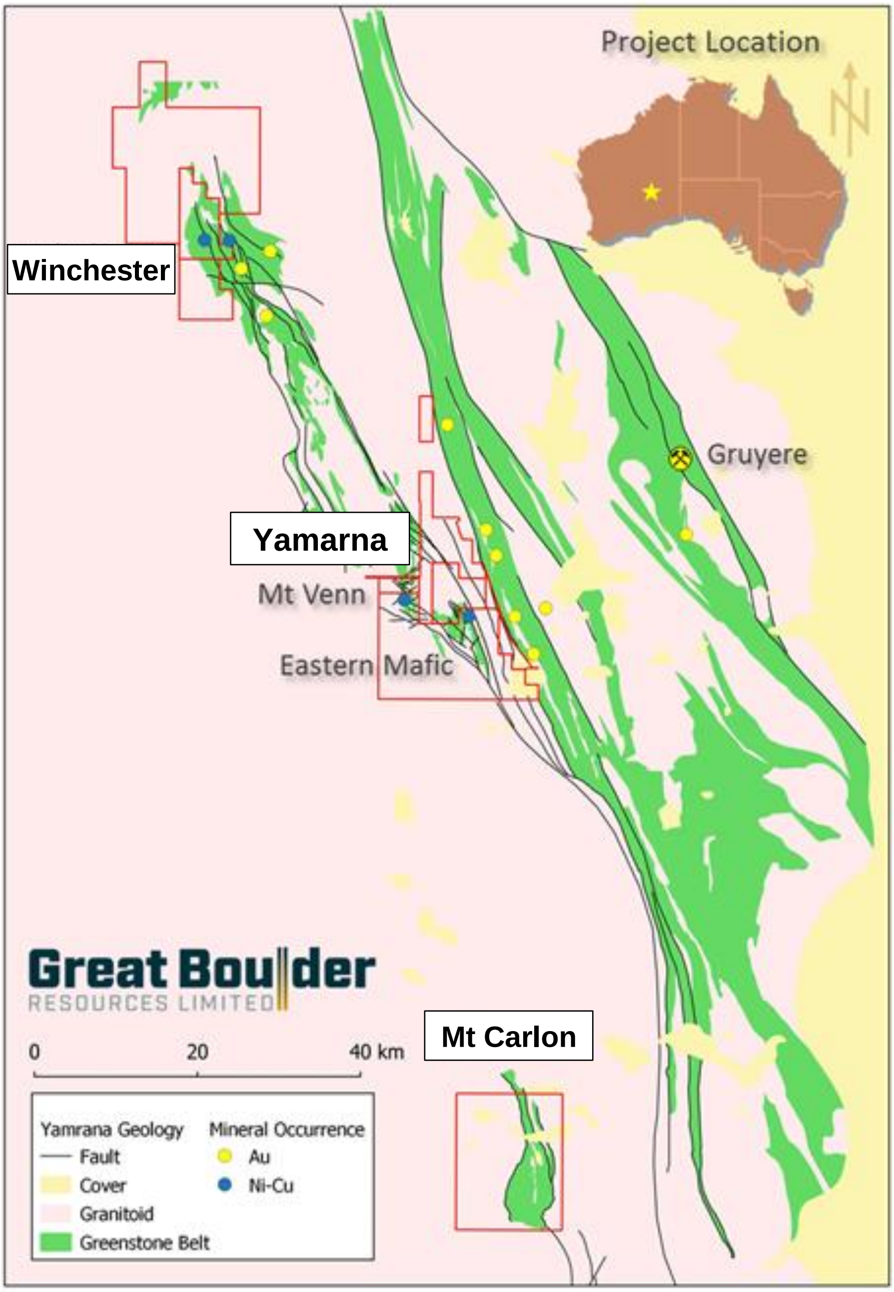

**Figure 3**. Project Location Map

## Competent Person’s Statement

Exploration information in this Announcement is based upon work undertaken by Mr Stefan Murphy whom is a Member of the Australasian Institute of Geoscientists (AIG). Mr Stefan Murphy has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a ‘Competent Person’ as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ (JORC Code). Mr Stefan Murphy is an employee of Great Boulder and consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

## Forward Looking Statements

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## Appendix 1 –Drill hole 17MVDD002 Significant Intersections

**17MVDD002**

| From | To | Interval | Cu % (max graph 2%) | Ni % (max graph 0.3 %) | Co ppm (max graph 1000ppm) |
|---|---|---|---|---|---|
| 8 | 9 | 1 | 0.37 | 0.04 | 141 |
| 9 | 10 | 1 | 0.50 | 0.03 | 188 |
| 10 | 11 | 1 | 0.45 | 0.05 | 229 |
| 11 | 12.3 | 1.3 | 0.27 | 0.07 | 327 |
| 12.3 | 13 | 0.7 | 0.76 | 0.08 | 323 |
| 13 | 14 | 1 | 0.89 | 0.16 | 587 |
| 14 | 15 | 1 | 0.38 | 0.24 | 867 |
| 15 | 15.75 | 0.75 | 0.60 | 0.24 | 831 |
| 15.8 | 16.3 | 0.55 | 0.22 | 0.04 | 89 |
| 16.3 | 17 | 0.7 | 0.43 | 0.07 | 281 |
| 17 | 18 | 1 | 1.51 | 0.05 | 213 |
| 18 | 19 | 1 | 0.38 | 0.15 | 537 |
| 19 | 20 | 1 | 0.55 | 0.11 | 421 |
| 20 | 21 | 1 | 0.85 | 0.13 | 483 |
| 21 | 22 | 1 | 0.43 | 0.23 | 798 |
| 22 | 23 | 1 | 0.26 | 0.24 | 823 |
| 23 | 24 | 1 | 0.72 | 0.26 | 890 |
| 24 | 25 | 1 | 0.37 | 0.28 | 964 |
| 25 | 26 | 1 | 0.30 | 0.22 | 755 |
| 26 | 27 | 1 | 0.30 | 0.18 | 611 |
| 27 | 28 | 1 | 0.40 | 0.13 | 458 |
| 28 | 29 | 1 | 0.50 | 0.16 | 551 |
| 29 | 30 | 1 | 0.41 | 0.15 | 531 |
| 30 | 31 | 1 | 1.39 | 0.11 | 396 |
| 31 | 32 | 1 | 0.22 | 0.24 | 804 |
| 32 | 33 | 1 | 0.28 | 0.26 | 866 |
| 33 | 34 | 1 | 0.19 | 0.26 | 857 |
| 34 | 35 | 1 | 0.56 | 0.17 | 577 |
| 35 | 36 | 1 | 0.43 | 0.16 | 548 |
| 36 | 37 | 1 | 0.54 | 0.11 | 358 |
| 37 | 38 | 1 | 0.35 | 0.21 | 671 |
| 38 | 38.5 | 0.5 | 0.41 | 0.19 | 617 |
| 47 | 48 | 1 | 0.61 | 0.08 | 343 |
| 48 | 49 | 1 | 1.74 | 0.06 | 184 |
| 49 | 50 | 1 | 0.19 | 0.20 | 569 |
| 50 | 51 | 1 | 0.81 | 0.03 | 108 |
| 51 | 52 | 1 | 0.23 | 0.17 | 538 |
| 52 | 52.65 | 0.65 | 0.67 | 0.04 | 126 |
| 52.7 | 53.4 | 0.75 | 0.06 | 0.26 | 758 |
| 53.4 | 54.1 | 0.7 | 1.46 | 0.15 | 460 |
| 54.1 | 55 | 0.9 | 0.20 | 0.25 | 739 |
| 55 | 56 | 1 | 0.39 | 0.24 | 707 |
| 56 | 57 | 1 | 0.31 | 0.24 | 699 |
| 57 | 58 | 1 | 0.28 | 0.20 | 606 |
| 58 | 59 | 1 | 0.16 | 0.24 | 714 |
| 59 | 60 | 1 | 0.18 | 0.25 | 757 |
| 60 | 60.9 | 0.9 | 0.18 | 0.24 | 734 |
| 60.9 | 61.9 | 1 | 0.30 | 0.05 | 162 |
| 61.9 | 62.9 | 1 | 0.08 | 0.10 | 306 |
| 62.9 | 63.9 | 1 | 0.26 | 0.01 | 29 |
| 63.9 | 64.3 | 0.4 | 1.37 | 0.04 | 154 |
| 64.3 | 65 | 0.7 | 0.53 | 0.17 | 499 |
| 65 | 66 | 1 | 0.24 | 0.22 | 667 |
| 66 | 66.6 | 0.6 | 0.12 | 0.24 | 716 |
| 66.6 | 67 | 0.4 | 1.08 | 0.12 | 380 |
| 67 | 68 | 1 | 0.11 | 0.18 | 554 |
| 68 | 68.5 | 0.5 | 0.73 | 0.15 | 469 |
| 68.5 | 69 | 0.5 | 0.12 | 0.22 | 652 |
| 69 | 70 | 1 | 0.20 | 0.18 | 561 |
| 70 | 71 | 1 | 0.19 | 0.18 | 546 |
| 71 | 71.38 | 0.38 | 0.11 | 0.21 | 664 |
| 71.4 | 72.18 | 0.8 | 0.80 | 0.08 | 257 |
| 72.2 | 73 | 0.82 | 0.14 | 0.01 | 49 |
| 83.8 | 84.2 | 0.38 | 0.36 | 0.02 | 57 |
| 84.2 | 85 | 0.8 | 0.41 | 0.18 | 567 |
| 85 | 86 | 1 | 0.11 | 0.24 | 735 |
| 86 | 87 | 1 | 0.31 | 0.20 | 621 |
| 87 | 87.68 | 0.68 | 0.70 | 0.15 | 485 |
| 98 | 99 | 1 | 0.61 | 0.06 | 189 |
| 107 | 108 | 0.7 | 0.07 | 0.21 | 616 |
| 108 | 108.5 | 0.5 | 0.29 | 0.18 | 513 |
| 109 | 108.8 | 0.3 | 0.21 | 0.04 | 132 |
| 109 | 109.2 | 0.4 | 1.12 | 0.06 | 178 |

## JORC Code, 2012 Edition Table 1

The following table relates to activities undertaken at Great Boulder's Yamarna project.

**Section 1 Sampling Techniques and Data**

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *Nature and quality of sampling (eg 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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.* | This announcement reports metallurgical test work on diamond drill hole 17MVDD002 from the Company's Mt Venn project.<br>Drill hole and assay data for 17MVDD002 has previously been reported to the ASX on 14 February 2018.<br>Samples were chosen from mineralised zones determined by assay results, obtained from ALS Minerals (Perth).<br>Sample intervals of the mineralised zone was undertaken, based on the guidance above. |
| ***Drilling techniques*** | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).* | See ASX Announcement on 14 February 2018 |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to* | Recovery on 17MVDD002, selected for metallurgical test work, was good. |

| | | |
|---|---|---|
| | *preferential loss/gain of fine/coarse material.* | |
| ***Logging*** | • *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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | See ASX Announcement on 14 February 2018 |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | Diamond Core was cut using a core saw. ¾ core was submitted to the laboratory for metallurgical test work<br>Samples for metallurgical testing were assayed before commencement of metallurgical test work, to ensure appropriate material was sampled.<br>A total of 430.5 kg of core was collected from 17MVDD002 for metallurgical test work.<br>Two 16 kg subsamples of the composite were used in the flotation circuit to make approximately 2.3 kg of Copper rougher concentrate and approximately 16 kg of a bulk nickel-cobalt pyrrhotite concentrate.<br>Cleaner flotation tests were completed on the copper rougher concentrate, adjusting for reagent addition, regrind and a magnetic separation of the pyrrhotite. The best results were obtained using the removal of magnetic pyrrhotite on a $P_{80}$ 75µm copper rougher concentrate prior to the copper cleaner stage<br>The bulk nickel-cobalt pyrrhotite concentrate and some unseparated chalcopyrite was used for leaching testwork.<br>The bulk concentrate was reground to $P_{80}$ 20 µm and transferred into a 1-gallon autoclave, where it was mixed with site water to form a slurry.<br>Solutions produced from the autoclave tests were assayed and subsequent sulphide precipitation tests were performed on a synthetic solution made to represent different stages of the metal purification process |
| ***Quality of assay data and laboratory tests*** | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the* | The samples for metallurgical test work were shipped to ALS Metallurgy, Balcatta. They were assayed individually, and as a composite, prior to commencement of metallurgical test work.<br>ALS Metallurgy also completed assays on the products generated from metallurgical test work. |

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<td></td>
<td><i>parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i><br>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></td>
<td>▪ General base metals and major oxide elements: XRF<br>▪ Multi-element scans: 4-acid digest/ICP-OES, ICP-MS<br>▪ Non-sulphide nickel: HClO4/HF digest/AAS<br>▪ Gold: Fire Assay<br>▪ Total and Sulphide Sulphur: CS2000 analyses<br>No mineralogy has yet been undertaken on the solid products from the hydrometallurgical process.</td>
</tr>
<tr>
<td><b><i>Verification of sampling and assaying</i></b></td>
<td>• <i>The verification of significant intersections by either independent or alternative company personnel.</i><br>• <i>The use of twinned holes.</i><br>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i><br>• <i>Discuss any adjustment to assay data.</i></td>
<td>The samples for metallurgical test work are from diamond drill hole 17MVDD002 that twinned an earlier RC hole. Mineralised zones reported in assays correspond well with the same zones from the RC twin hole.<br>Great Boulder has strict procedures for data capture, flow and data storage, and validation.</td>
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<td><b><i>Location of data points</i></b></td>
<td>• <i>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.</i><br>• <i>Specification of the grid system used.</i><br>• <i>Quality and adequacy of topographic control.</i></td>
<td>The hole has been surveyed using Differential GPS (DGPS).</td>
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<td><b><i>Data spacing and distribution</i></b></td>
<td>• <i>Data spacing for reporting of Exploration Results.</i><br>• <i>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.</i><br>• <i>Whether sample compositing has been applied.</i></td>
<td>Composite sample intervals used for metallurgical test work are below,
<table>
<tr><th>Hole ID</th><th>From (m)</th><th>To (m)</th><th>Wt. (kg)</th></tr>
<tr><td><b>17MVDD002</b></td><td>12.3</td><td>38.5</td><td>212.5</td></tr>
<tr><td><b>17MVDD002</b></td><td>47.0</td><td>60.9</td><td>114.0</td></tr>
<tr><td><b>17MVDD002</b></td><td>63.9</td><td>72.2</td><td>60.5</td></tr>
<tr><td><b>17MVDD002</b></td><td>84.2</td><td>87.7</td><td>30.0</td></tr>
<tr><td><b>17MVDD002</b></td><td>107.3</td><td>109.2</td><td>13.5</td></tr>
<tr><td><b>Total</b></td><td></td><td></td><td>430.5</td></tr>
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<tr>
<td><b><i>Orientation of data in relation to geological structure</i></b></td>
<td>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i><br>• <i>If the relationship between the drilling orientation and the orientation of key</i></td>
<td>See ASX Announcement on 14 February 2018</td>
</tr>
</table>

| | | |
|---|---|---|
| | *mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | |
| ***Sample security*** | • *The measures taken to ensure sample security.* | Great Boulder has strict chain of custody procedures that are adhered to for drill samples.<br>The sample for metallurgical test work were prepared for dispatch to ALS Metallurgy by senior Great Boulder staff. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | None completed. |

**Section 2 Reporting of Exploration Results**

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Mineral tenement and land tenure status*** | • 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.<br>• The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area. | Great Boulder Resource Ltd (GBR) is comprised of several projects with associated tenements;<br>Yamarna tenements and details;<br>Exploration licences E38/2685, E38/2952, E38/2953, E38/5957, E38/2958, E38/2320 and prospecting licence P38/4178 where,<br>GBR holds a 75% interest in the Yamarna Project with its joint venture partner EGMC holding a 25% interest. EGMC has elected to contribute to expenditure to maintain its 25% interest I the Yamarna project. If EGMC elects to not contribute to the joint venture it will convert to a 2% Net Smelter Royalty (NSR) and GBR will have a 100% interest in the project. |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | Previous explorers included:<br>– 1990's. Kilkenny Gold NL completed wide-spaced, shallow, RAB drilling over a limited area. Gold assay only.<br>– 2008. Elecktra Mines Ltd (now Gold Road Resources Ltd) completed two shallow RC holes targeting extension to Mt Venn igneous complex. XRF analysis only, no geochemical analysis completed.<br>– 2011. Crusader Resources Ltd completed broad-spaced aircore drilling targeting extensions to Thatcher's Soak uranium mineralisation. XRF anlaysis only, no geochemical analysis completed.<br>– In late 2015 Gold Road drilled and assayed an RC drill hole on the edge of an EM anomaly identified from an airborne XTEM survey, identifying copper-nickel-cobalt mineralisation. |

| | | |
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| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | Great Boulder's Yamarna Project hosts the southern extension of the Mt Venn igneous complex. This complex is immediately west of the Yamarna greenstone belt.<br>The mineralisation encountered in the Mt Venn drilling suggests that sulphide mineralisation is prominent along an EM conductor trend, and shows a highly sulphur-saturated system within metamorphosed pyroxenite and gabbro sequence.<br>Visual logging and QEMScan analysis of sulphide mineralogy shows pyrrhotite dominant with secondary chalcopyrite. |
| ***Drill hole Information*** | • *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:*<br>○ *easting and northing of the drill hole collar*<br>○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>○ *dip and azimuth of the hole*<br>○ *down hole length and interception depth*<br>○ *hole length.*<br>• *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.* | See ASX Announcement on 14 February 2018 |
| ***Data aggregation methods*** | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | No data aggregation was undertaken.<br>All results reported are assays on the composite feed sample for metallurgical test work, and then assays on the products after the hydrometallurgical tests. |
| ***Relationship between mineralisation widths and*** | • *These relationships are particularly important in the reporting of Exploration Results.* | Samples discussed in this announcement relate to metallurgical test work. |

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| ***intercept lengths*** | • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | |
| ***Diagrams*** | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | See ASX Announcement on 14 February 2018 |
| ***Balanced reporting*** | • *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | Metallurgical test work samples only in this release. For other results, see ASX Announcement on 14 February 2018 |
| ***Other substantive exploration data*** | • *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.* | See ASX Announcement on 14 February 2018 |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | Further metallurgical results will be conducted as part of ongoing testwork and studies. |