Great Boulder RESOURCES LIMITED

Metallurgical testwork generates high quality copper, nickel and cobalt products from Mt Venn

Results demonstrate viable processing flowsheet for developing Mt Venn

Highlights

- **First metallurgical tests on samples from the Mt Venn project in WA have generated high-value copper, nickel and cobalt products**
- **Products include copper sulphide (42% Cu), which will be blended with the copper flotation concentrate, improving overall recovery and concentrate grade**
- **High quality chemical grade cobalt sulphate (29% Co, +99% Cobalt sulphate) has also been produced; This product is suitable for high value use in the battery market**
- **A high-quality nickel sulphide (42% Ni) was produced; Testwork to produce nickel sulphate will commence shortly**

Great Boulder Resources (ASX:GBR) is pleased to announce initial metallurgical testwork has generated high-quality copper, nickel and cobalt products from its Mt Venn project.

The testwork was completed on a composite diamond drill hole sample from Mt Venn containing copper (Cu 0.4%), mainly as chalcopyrite, and nickel and cobalt (0.2% Ni, 0.06% Co) in solid solution in pyrrhotite.

The primary purpose of the initial testwork was to develop a viable flowsheet that would maximize value recovery for multiple products containing copper, nickel and cobalt. Copper is shown to primarily report to the flotation concentrate with additional copper reporting to the bulk nickel-copper concentrate that was leached to extract nickel and cobalt as well as any copper which was not captured in copper flotation.

The results show staged precipitation and solvent extraction and crystallisation processes can be used to produce separate copper, nickel and cobalt products from the leach liquor.

The proposed processing design will blend the high-grade copper sulphide produced in the leach circuit with the copper concentrate produced from the conventional floatation plant, improving overall recovery and grade of the saleable copper concentrate.

A very high-purity cobalt sulphate has been produced from a solvent extraction and crystallization process. The particularly high-grade cobalt (29% Co) is assumed to reflect a combination of hydrous and anhydrous cobalt sulphate in the product.

A simple process of nickel precipitation produces a high-quality nickel sulphide product that is in demand from the battery and stainless steel sectors. A flowsheet has been developed for solvent extraction and crystallization of nickel sulphate which will be assessed in the next phase of testwork.

Copper Sulphide	Nickel Sulphide	Cobalt Sulphate
		
46% Cu	42% Ni	29% Co

Copper, nickel and cobalt products produced in the Mt Venn Metallurgical Testwork

Great Boulder Managing Director Stefan Murphy said the results were highly significant because they show high-quality products can be generated by applying conventional and newly-developed processing techniques to Mt Venn ore.

"These results provide more evidence of the strong development potential at Mt Venn," Mr Murphy said. "When they are combined with the extensive mineralised systems we have outlined at Mt Venn and the adjacent Eastern Mafic complex, the outlook for this project is very bright."

The testwork is of an exploratory nature and completed at bench-scale only. Several optimisation steps need to be implemented before more definitive product specifications and recoveries can be determined. These steps include:

- Separate testwork on higher grade feed that is more representative of Mt Venn, and higher nickel tenor feed from the Eastern Mafic and Winchester deposits;
- Recycling of leach solution to improve grade of pregnant leach solution (PLS);
- Optimising impurity removal, reagent dosage and pH profile to improve selectivity at each stage of metal precipitation/crystallization, and
- Investigating which suite of products can provide best recoveries and payabilities to assure highest revenue generation for the project.

In addition to the leach circuit, testwork will be undertaken on the copper flotation circuit from more representative samples across Mt Venn and the Eastern mafic deposits. This includes the more chalcopyrite (copper) dominant domains from Mt Venn and higher nickel tenor mineralisation from the Eastern Mafic.

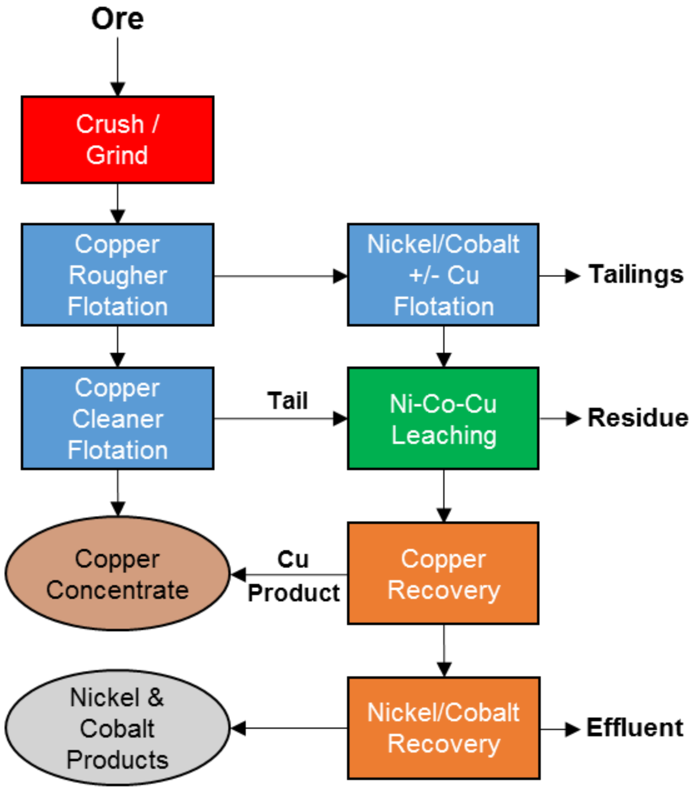
Metallurgical Testwork Summary

The testwork was completed on a composite sample collected from diamond hole 17MVDD002. The hole contains low grade copper and nickel but was selected for the large amount of pyrrhotite which is the primary focus of the leach tests.

Subsamples of the composite sample were taken and various tests completed to generate separate chalcopyrite (copper) and pyrrhotite (nickel-cobalt) concentrates.

Chalcopyrite can be selectively floated to produce a saleable copper concentrate with no deleterious elements. Some chalcopyrite reports to the pyrrhotite concentrate which is recovered through the leaching process.

Atmospheric and pressure leaching options have been tested with high extractions of greater than 90% achieved.



High purity copper, nickel and cobalt products have been recovered from a combination of precipitation and solvent extraction and crystallization processes. These results are preliminary in nature and further optimisation of the hydrometallurgical process and feed material is required.

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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *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. Drill hole and assay data for 17MVDD002 has previously been reported to the ASX on 14 February 2018. Samples were chosen from mineralised zones determined by assay results, obtained from ALS Minerals (Perth). 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.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *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.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *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 Samples for metallurgical testing were assayed before commencement of metallurgical test work, to ensure appropriate material was sampled. A total of 430.5 kg of core was collected from 17MVDD002 for metallurgical test work. 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. The bulk nickel-cobalt pyrrhotite concentrate and some unseparated chalcopyrite was used for leaching testwork. The copper rougher concentrate will be used for ongoing cleaner testwork.
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.* • *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.* • *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.*	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. ALS Metallurgy also completed assays on the products generated from metallurgical test work. Leach liquor samples were analysed by AAS/ICP OES direct spray and the solids were analysed by lithium metaborate fusion followed by XRF. No mineralogy has yet been undertaken on the solid products from the hydrometallurgical process.

<table>
<tr>
<td>Verification of sampling and assaying</td>
<td>The verification of significant intersections by either independent or alternative company personnel.
The use of twinned holes.
Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.
Discuss any adjustment to assay data.</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.

Great Boulder has strict procedures for data capture, flow and data storage, and validation.</td>
</tr>
<tr>
<td>Location of data points</td>
<td>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.
Specification of the grid system used.
Quality and adequacy of topographic control.</td>
<td>The hole has been surveyed using Differential GPS (DGPS).</td>
</tr>
<tr>
<td>Data spacing and distribution</td>
<td>Data spacing for reporting of Exploration Results.
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.
Whether sample compositing has been applied.</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>17MVDD002</td><td>12.3</td><td>38.5</td><td>212.5</td></tr>
<tr><td>17MVDD002</td><td>47.0</td><td>60.9</td><td>114.0</td></tr>
<tr><td>17MVDD002</td><td>63.9</td><td>72.2</td><td>60.5</td></tr>
<tr><td>17MVDD002</td><td>84.2</td><td>87.7</td><td>30.0</td></tr>
<tr><td>17MVDD002</td><td>107.3</td><td>109.2</td><td>13.5</td></tr>
<tr><td>Total</td><td></td><td></td><td>430.5</td></tr>
</table></td>
</tr>
<tr>
<td>Orientation of data in relation to geological structure</td>
<td>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.
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.</td>
<td>See ASX Announcement on 14 February 2018</td>
</tr>
<tr>
<td>Sample security</td>
<td>The measures taken to ensure sample security.</td>
<td>Great Boulder has strict chain of custody procedures that are adhered to for drill samples.

The sample for metallurgical test work were prepared for dispatch to ALS Metallurgy by senior Great Boulder staff.</td>
</tr>
</table>

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. • 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; Yamarna tenements and details; Exploration licences E38/2685, E38/2952, E38/2953, E38/5957, E38/2958, E38/2320 and prospecting licence P38/4178 where, 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: – 1990's. Kilkenny Gold NL completed wide-spaced, shallow, RAB drilling over a limited area. Gold assay only. – 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. – 2011. Crusader Resources Ltd completed broad-spaced aircore drilling targeting extensions to Thatcher's Soak uranium mineralisation. XRF anlaysis only, no geochemical analysis completed. – 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.
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. 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.

		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:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No data aggregation was undertaken. 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 intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	Samples discussed in this announcement relate to metallurgical test work.

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 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).* • *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.