

## Metallurgy Confirms further REO Upgrading at Merivale Prospect

### Highlights

- Further upgrading of the REO is possible using simple hydrocyclones
- 82% of the rare earth elements report to the minus 7 micron fraction
- Primary REE bearing minerals are from the bastnäsite group
- Liberation of the mineralisation was excellent at >91%

**Larvotto Resources Limited** (ASX: LRV, Germany: K6X, Larvotto or the Company) have received the results from further positive Metallurgical studies and TIMA SEM mineralogy testwork on Rare Earth Oxides (REO) samples from the Merivale Prospect at the Company's Eyre Project in Western Australia.

### Managing Director, Ron Heeks commented,

*"This recent round of testwork has added significantly to our knowledge of the deposit and its mineralogy. A highlight is the simple and efficient upgrading of REO by hydrometallurgical processes. A good understanding of the exact mineralogy gained from TIMA studies will now allow us to target extractive metallurgical processes in the next phase of testwork. The significant reduction in calcite, which is a high acid consuming mineral, during upgrading is also extremely positive. We look forward to the results from the next phase of extractive testwork that will be commencing this month."*

### Cyclosizer testwork

Previous metallurgical testwork on the Merivale REO aircore drill samples revealed that screening to minus 25 micron upgraded the sample grade by up to 2.13 times<sup>1</sup>. Recently completed testwork by Independent Metallurgical Operations (IMO) focussing on the upgraded minus 25 micron fraction has revealed further upgrading by a factor of 1.07:1 is possible using simple hydrometallurgical cyclosizer. The sample analysed during testwork had an average REO grade of >5000ppm TREO.

The Cyclosizer is a hydrometallurgical apparatus for the rapid and accurate determination of particle size distribution within the sub sieve range. It efficiently creates accurately sized sample fractions. The cyclosizer testwork divided the sub 25 micron sample generated by previous simple screening testwork into 6 further size ranges termed C1 to -C5 with -C5 being the finest at minus 7 micron. During the

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<sup>1</sup> See ASX: LRV Release July 3, 2023 Metallurgical Testwork Highlights REO Potential at Eyre

cyclosizer testwork process 82% of the rare earth elements reported to the finer -C5 fraction. Each size fraction was collected, weighed and analysed for rare earth elements (REE) and associated mineralisation. The cyclosizer testing equipment undertaking the sizing is displayed in Figure 1.



Figure 1 Cyclosizer Testing

The results of the testwork (Figure 2) clearly demonstrate the high percentage of TREO (Total REO) reporting to the finest -C5 fraction. No significant sample reported to the C1 fraction and was therefore not reported. The analysis of each fraction is provided in Table 1.

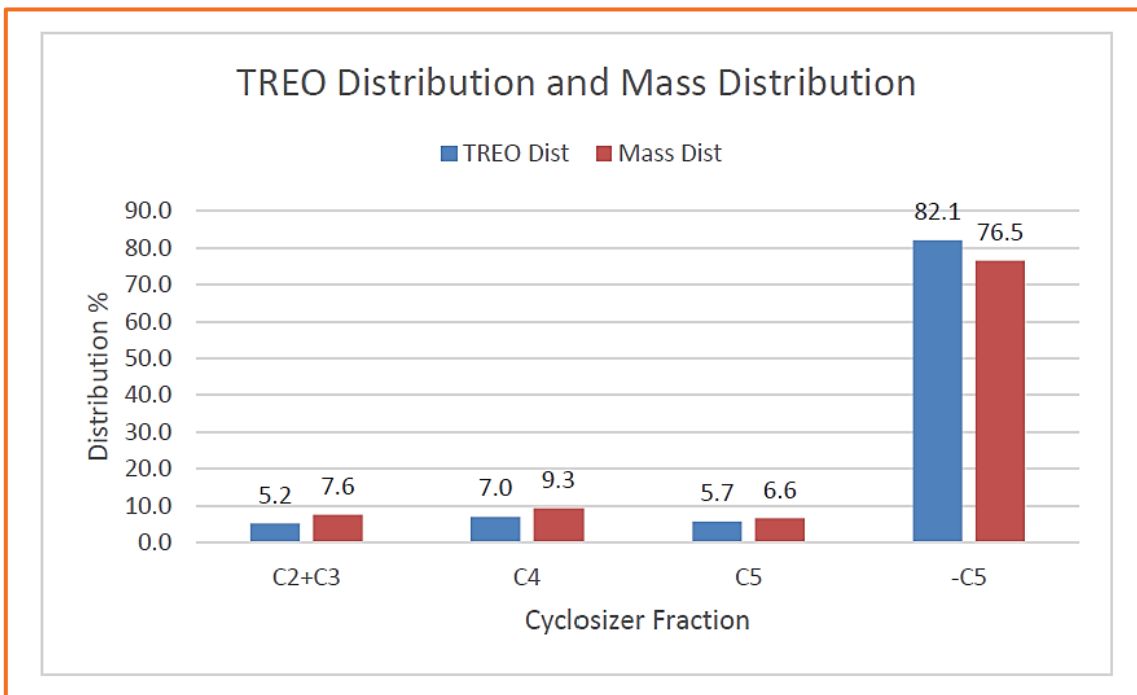


Figure 2 TREO and Mass Distributions – Cyclosizer Samples



Table 1 REE analysis by size fraction

Assay Analysis of LRV 53569

Size Fraction (µm)	Mass (g)	Mass %	Assays								
			Al %	Ba ppm	Ca %	Ce ppm	Cr %	Dy ppm	Er ppm	Eu ppm	Fe %
C2+C3	13.7	7.6	1.41	791	24.8	968.3	0.0	85.3	50.9	11.3	4.01
C4	16.9	9.3	2.08	777	26.8	1036.3	0.0	98.3	64.6	12.5	5.11
C5	11.9	6.6	2.67	730	25.8	1177.0	0.0	120.7	77.3	14.2	6.25
-C5	138.5	76.5	7.82	434	4.7	1218.8	0.0	167.5	123.9	17.4	12.93
<b>Total</b>	<b>181.0</b>	<b>100.0</b>	<b>6.46</b>	<b>512</b>	<b>9.7</b>	<b>1180.0</b>	<b>0.0</b>	<b>151.7</b>	<b>109.8</b>	<b>16.3</b>	<b>11.09</b>

Size Fraction (µm)	Mass (g)	Mass %	Assays							
			Gd ppm	Ho ppm	K %	La ppm	Lu ppm	Mg %	Mn %	Nd ppm
C2+C3	13.7	7.6	93.6	17.7	0.47	577.3	6.3	2.0	0.0	442.0
C4	16.9	9.3	108.3	21.4	0.39	620.0	7.8	1.6	0.0	472.5
C5	11.9	6.6	127.5	26.1	0.37	706.8	9.8	1.4	0.0	546.2
-C5	138.5	76.5	158.4	39.6	1.28	815.7	16.3	0.9	0.0	628.6
<b>Total</b>	<b>181.0</b>	<b>100.0</b>	<b>146.8</b>	<b>35.4</b>	<b>1.08</b>	<b>772.2</b>	<b>14.3</b>	<b>1.06</b>	<b>0.0</b>	<b>594.5</b>

Size Fraction (µm)	Mass (g)	Mass %	Assays								
			P %	Pb ppm	Pr ppm	S %	Sb ppm	Si %	Sm ppm	Sn ppm	Sr ppm
C2+C3	13.7	7.6	0.01	62	119.8	0.10	1.70	10.0	88.6	0.0	182
C4	16.9	9.3	0.01	64	127.7	0.11	1.70	6.4	94.0	0.0	184
C5	11.9	6.6	0.02	72	147.4	0.14	2.10	5.8	112.5	0.0	170
-C5	138.5	76.5	0.04	189	164.9	1.47	4.00	11.3	125.1	0.0	179
<b>Total</b>	<b>181.0</b>	<b>100.0</b>	<b>0.03</b>	<b>160</b>	<b>156.9</b>	<b>1.15</b>	<b>3.49</b>	<b>10.4</b>	<b>118.6</b>	<b>0.0</b>	<b>179</b>



Size Fraction (µm)	Mass (g)	Mass %	Assays							
			Tb ppm	Th ppm	Ti %	Tm ppm	U ppm	V ppm	Y ppm	Yb ppm
C2+C3	13.7	7.6	14.2	14.2	0.11	7.3	10.3	59	438.7	42.7
C4	16.9	9.3	16.3	16.9	0.11	9.2	12.0	85	535.0	55.0
C5	11.9	6.6	19.2	21.1	0.11	11.0	14.3	101	635.3	65.9
-C5	138.5	76.5	24.9	45.0	0.16	18.1	17.6	250	1037.1	108.6
<b>Total</b>	<b>181.0</b>	<b>100.0</b>	<b>22.9</b>	<b>38.5</b>	<b>0.15</b>	<b>16.0</b>	<b>16.3</b>	<b>210</b>	<b>918.5</b>	<b>95.8</b>

### TIMA Analysis

The minus 7 micron fraction was then analysed at the AXT Automated Mineral Incubator Laboratory by a Tescan Integrated Mineral Analyser (TIMA) Scanning Electron Microscope (SEM) and it was found that the majority of the mineralisation containing REE was contained in fluorcarbonate minerals from the bastnäsite group.

Bastnäsite is one of largest sources of cerium and other REE. Bastnäsite is also the main ore mineral in many carbonatite-related REE deposits.

TIMA analysis also revealed the mineral composition of the -C5 fraction, as displayed in Figure 3. Importantly, the -C5 fraction also contained substantially less calcite (5% as compared to over 80%) than the coarser size fractions which may lead to a significant reduction in acid consumption during the REO extraction process. Further testwork is required to test this fully.

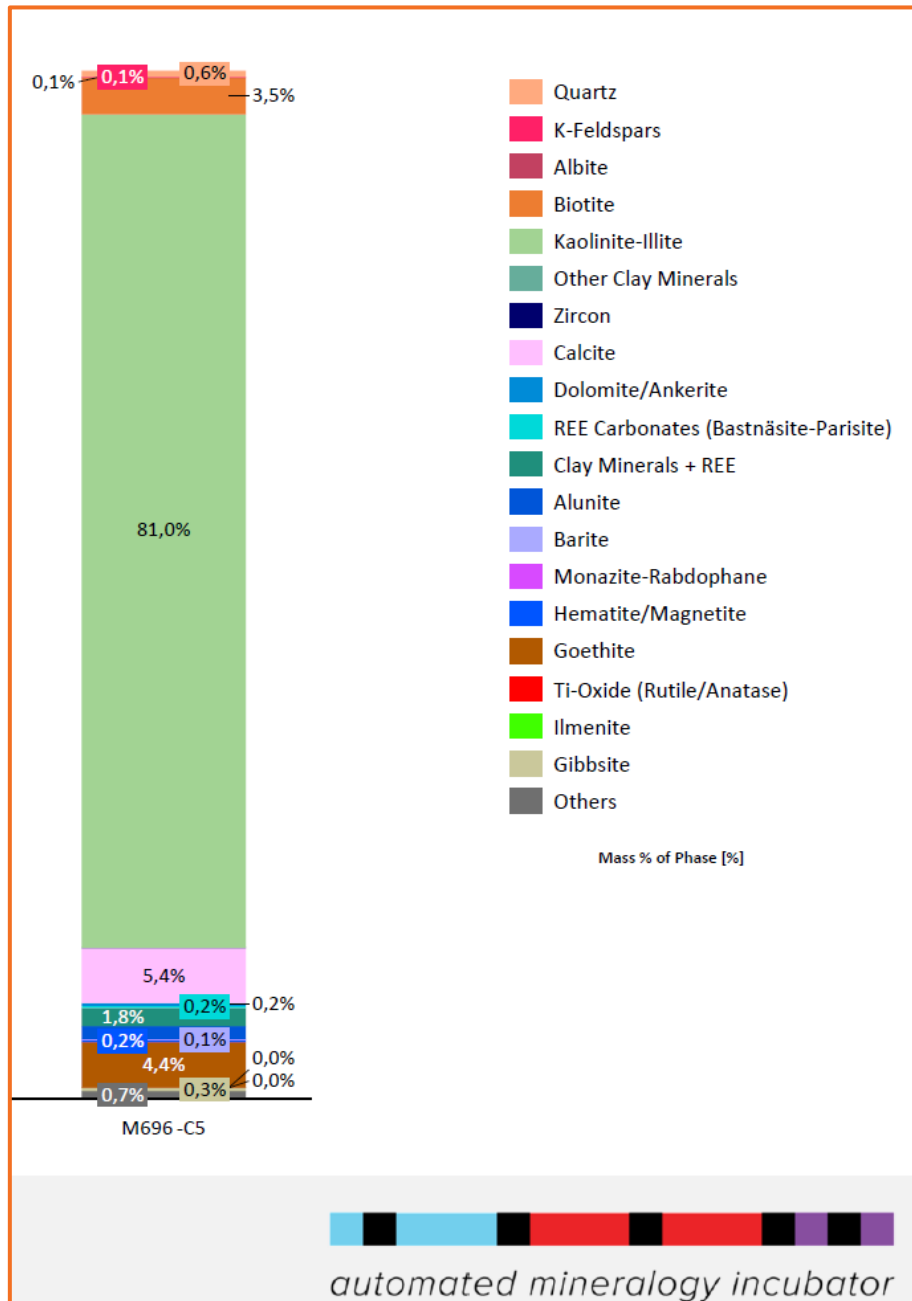


Figure 3 Mineral abundance of -C5 (minus 7 micron) fraction

An analysis of the individual minerals within the -C5 fraction revealed an excellent liberation of over 91% of the bastnäsite, making it easily accessible for leaching of the REE as shown in Figure 4.

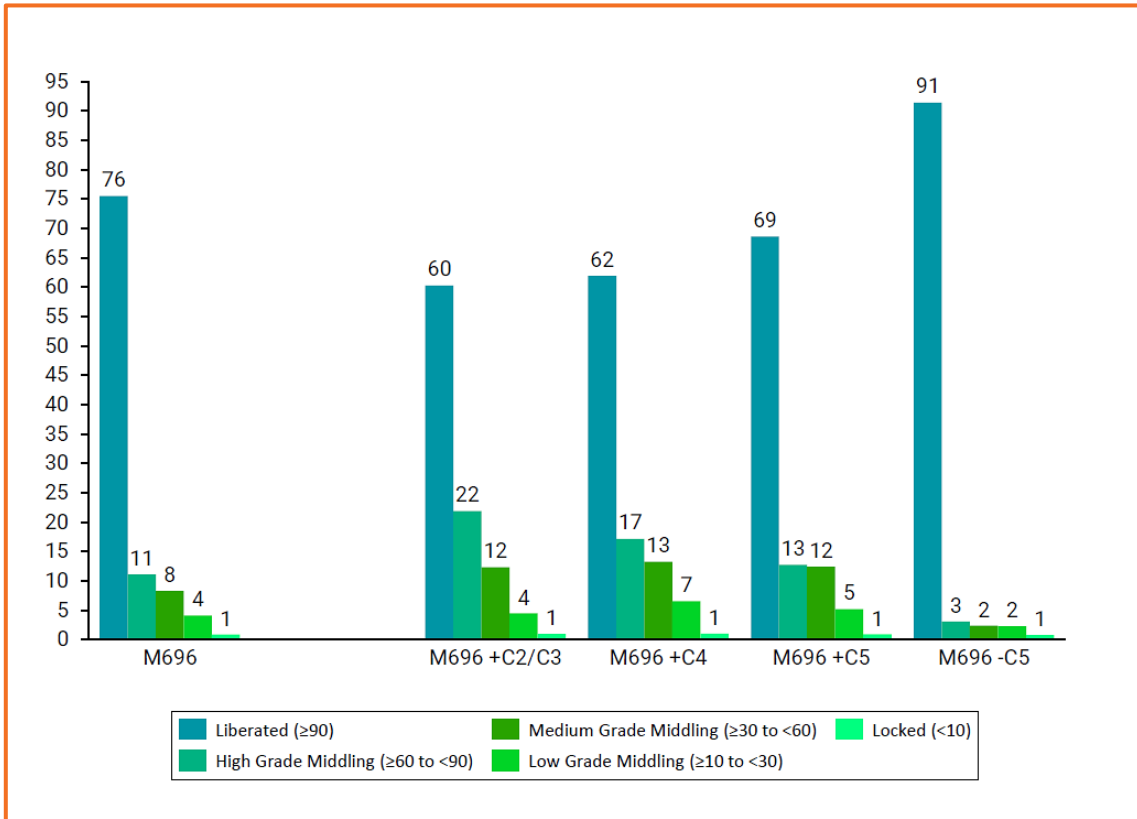


Figure 4 REE liberation results sample M696, sizes C2 to -C5

In Figure 5, a SEM image shows an individual grain and the high accessibility of cerium to potential leaching agents.

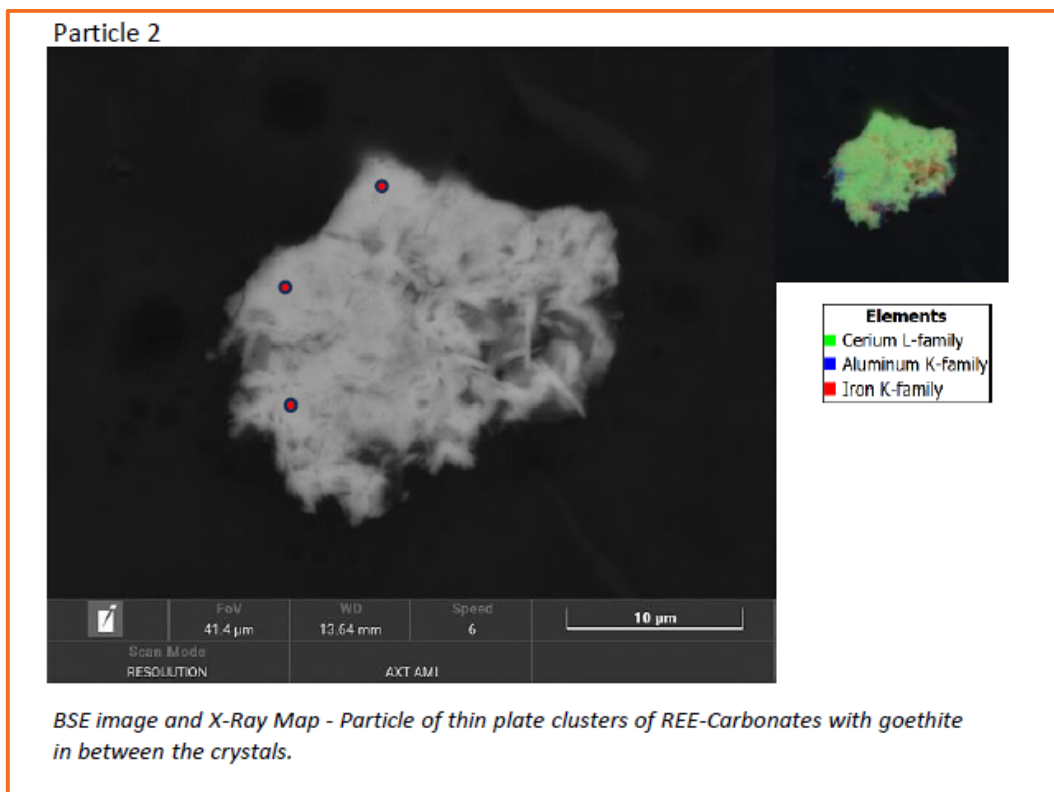


Figure 5 SEM photomicrograph of REO grain

## Next Steps

Now that the minerals containing the majority of the REO have been identified and it has been determined that these can be easily upgraded, studies will commence on the best method of extracting the REE from the mineralisation. This will include leaching testwork under varying pH, temperature and acid conditions to determine leach amenability and reagent consumption to determine if a viable process path exists. This work will commence in January 2024.

## Competent Persons Statement

### Exploration Results

The information in this presentation that relates to exploration results is based on information compiled by Mr Ron Heeks, who is a Member of the Australasian Institute of Mining and Metallurgy and who is Managing Director of Larvotto Resources Limited.

Mr Heeks has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr Heeks consents to the inclusion in the release of the matters based on his information in the form and context in which it appears. The Company is not aware of any new information or data that materially affects the information included in this Announcement. All material assumptions and technical parameters underpinning the estimates in the Announcements referred to, continue to apply and have not materially changed.



This announcement was authorised for release by the Board of Larvotto Resources Limited.

## About Larvotto Resources Ltd

Larvotto Resources Limited (ASX:LRV) is actively advancing its portfolio of in-demand minerals projects including the 1.4moz AuEq high-grade Hillgrove Gold-Antimony Project in NSW, the large Mt Isa copper, gold, and cobalt project adjacent to Mt Isa townsite in Queensland, the Eyre multi-metals and lithium project located 30km east of Norseman in Western Australia and an exciting gold exploration project at Ohakuri in New Zealand's North Island. Larvotto's board has a mix of experienced explorers and corporate financiers to progress its projects. Visit [www.larvottoresources.com](http://www.larvottoresources.com) for further information.

## Forward Looking Statements

Any forward-looking information contained in this news release is made as of the date of this news release. Except as required under applicable securities legislation, Larvotto does not intend, and does not assume any obligation, to update this forward-looking information. Any forward-looking information contained in this news release is based on numerous assumptions and is subject to all of the risks and uncertainties inherent in the Company's business, including risks inherent in resource exploration and development. As a result, actual results may vary materially from those described in the forward-looking information. Readers are cautioned not to place undue reliance on forward looking information due to the inherent uncertainty thereof.



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## JORC Code, 2012 Edition – Table 1

### Section 1 Eyre Project Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>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.</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> </ul>	<ul style="list-style-type: none"> <li>Soil samples were collected by collecting a 2kg near surface sample and sieving to sub 2mm and collecting a 300g sample for laboratory submission.</li> <li>Aircore drilling samples were collected from 1m composite piles placed on the ground using a 40mm tube sample taken diagonally across the pile. The 1m piles were composited into 6m samples for laboratory submission except where blade refusal created a lesser interval. 1 in 20 field duplicates were taken.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details.</li> </ul>	<ul style="list-style-type: none"> <li>Drilling was undertaken with an aircore drill rig and samples were collected from 1m runs and placed in piles on the ground adjacent to the drill rig for sampling.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	<ul style="list-style-type: none"> <li>All drilling was undertaken dry using an aircore blade bit except where near surface conditions required a RC hammer to penetrate harder layers. Recovery was deemed to be very good for the method.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	<ul style="list-style-type: none"> <li>Soil samples were logged for colour and type (residual vs transported). Basic geological observations were recorded.</li> <li>Drill samples we logged for a range of geological parameters including rock type, colour, texture and oxidation.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	<ul style="list-style-type: none"> <li>The soil samples were sieved to -2mm and pressed into 1cm diameter pellets.</li> <li>Drill samples were 6m composites from 2m drill samples.</li> </ul>

<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• For soil samples pXRF readings were conducted on a pressed pellet of the soil samples using the SciAps portable XRF analyser. pXRF measurements are a direct elemental analysis on the surface of the sample with high sensitivity to the element.</li> <li>• Each soil pellet sample was analysed a minimum of 3 times and the results averaged. The soil samples are non-homogenous and the results are semi-quantitative and are deemed to only provide an indication of the degree of base metal mineralisation.</li> <li>• Standard quality control procedures were put in place.</li> <li>• For drill samples <ul style="list-style-type: none"> <li>○ Samples were submitted to Intertek Genalysis Laboratories, where they were dried and pulverized and then analysed by Four Acid Digestion Multi-Element Analysis.</li> <li>○ Four acid digestion offers a “near total” dissolution of almost all minerals’ species, targeting silicates not dissolved in less aggressive aqua regia digests. Carefully staged digestion steps minimise losses due to volatilisation of some elements.</li> </ul> </li> </ul>
<p>Samples</p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No independent verification of results has been undertaken at this stage.</li> <li>• No adjustment to assay data has been undertaken.</li> </ul>
<p>Location of data points</p>	<ul style="list-style-type: none"> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• Drill hole location were surveyed with a handheld GPS. RL’s were obtained from the government 1 second DEM.</li> </ul>
<p>Data spacing and distribution</p>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <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></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Soils - the surface sample spacing was nominally 40 and 80 metres along the lines and 160 and 320 metres which is considered appropriate at this early stage of exploration. This is infilled over zones of geological interest.</li> <li>• Drill samples were collected from 1m samples collected from drillholes angled 60 degrees to the east. Holes were drilled to blade refusal with spacing designed to provided 100% ground coverage where possible.</li> </ul>
<p>Orientation of data in</p>	<ul style="list-style-type: none"> <li>• <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></li> </ul>	<ul style="list-style-type: none"> <li>• Soil sampling was generally taken along north-south lines, which is approximately perpendicular to the strike of the stratigraphy.</li> </ul>



<i>relation to geological structure</i>		<ul style="list-style-type: none"> <li>• Drill holes were predominantly drilled to the east with some west orientated holes where interesting rock units were encountered</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No specific security measures were undertaken, apart from normal industry procedures.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Given the early stage of the exploration results, no audits or reviews have been undertaken.</li> </ul>

## Section 2 Reporting of Exploration Results

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

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The tenure is considered to be secure. It is held 100% under Exploration Licence E63/2008, by Eyre Resources Pty Ltd a wholly owned subsidiary of Larvotto.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Previous exploration was conducted on the project by Western Mining Corporation in the 1960's and 70's with a limited geochemistry program and several diamond drillholes. Anomalous copper was identified in the drilling over an intersection of several feet. Newmont Exploration undertook further geochemistry on a limited area around Mt Norcott in the 1980's.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralization.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The tenement package covers a very wide range of mineralisation styles The Company is seeking base metals particularly Ni and PGE metals that may be associated. Lithium minerals and REE as ionic clays.</li> </ul>



<p><i>Drill hole Information</i></p>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: 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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drill hole details are provided in the text.</li> </ul>
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No data aggregation was undertaken for soil geochemical exploration.</li> <li>• Drill samples were composited in field into 6m composites and submitted for analysis.</li> <li>• Multielement results (REE) are converted to stoichiometric oxide (REO) using element-to-stoichiometric conversion factors.</li> </ul>
<p><i>Relationship between mineralization widths and intercept lengths</i></p>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> </ul>	<ul style="list-style-type: none"> <li>• At this stage of exploration widths and extents are difficult to determine. Composite intervals may vary once they are submitted in 2m intervals.</li> </ul>
<p><i>Diagrams</i></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Diagrams are provided in the body of the report.</li> </ul>
<p><i>Balanced reporting</i></p>	<ul style="list-style-type: none"> <li>• <i>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 Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The reporting is considered to be balanced taking into account the early stage of the exploration.</li> </ul>
<p><i>Other substantive</i></p>	<ul style="list-style-type: none"> <li>• <i>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;</i></li> </ul>	<ul style="list-style-type: none"> <li>• Metallurgical testwork has identified that the REO mineralisation is contained in the fine fraction of the oxide zone. The majority of the mineralogy is clay derived but most mineralisation is primary in nature.</li> </ul>

<i>exploration data</i>	<i>bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	
<i>Future work</i>	<ul style="list-style-type: none"><li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li></ul>	<ul style="list-style-type: none"><li>Resampling of significant intersections will be undertaken and RC drilling of anomalous zones will test zones at depth.</li></ul>