



ASX Release

26 September 2017

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## MAIDEN JORC MINERAL RESOURCE ESTIMATE - LONGONJO MAGNET METALS PROJECT

Rift Valley Resources Limited ("the Company") (ASX: RVY) is pleased to publish the maiden JORC Mineral Resource Estimate (MRE) for the Company's 70% owned Longonjo Magnet Metals Project in Angola.

Highlights include: -

- **11.6 Mt @ 4.30% TREO\* in the oxide material.**
- **33.2 Mt @ 1.87% TREO\* in the fresh material.**
- **A combined 44.7 Mt @ 2.50% TREO\*.**
- **Mineralization remains open in all directions and at depth.**
- **MRE forms the basis of an independent Scoping Study presently being carried out by Amec Foster Wheeler.**

\*TREO = Sum of La<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>

\* Cut-off of 1% TREO applied

\* Inferred level of confidence

\* Reported in accordance with the JORC Code (2012)

\* individual totals may not sum to combined total due to rounding

Commenting on the maiden MRE, the Company's Executive Chairman Mr Stephen Dobson said: *"The announcement of the MRE is an important milestone in the development of the Longonjo Project as a potential low-cost producer of the "in demand" magnet metal products neodymium and praseodymium oxide. These excellent results will drive the company's strategy to a development path with all potential options considered that will increase shareholder value. The company's Australian and European shareholder base is well positioned to provide considerable support both corporately and financially moving forward as the company develops and exploits its magnet metals, copper and gold assets. The Company looks forward to announcing positive results from the ongoing Scoping Study in November in conjunction with the upcoming drilling results from the Cassenha Hill copper project"*.

The Inferred MRE is reported at a 1% cut-off grade and tabulations at various cut-off grades and material types are given in Tables 1, 2 and 3, with a detailed summary of the supporting data and methodology in, JORC Code 2012 Edition Appendix 1, provided at the end of the Press Release.

The Longonjo MRE is based on the recently announced (ASX announcement 24<sup>th</sup> August 2017) diamond drilling results. Geological modelling and grade estimation were undertaken by Amec Foster Wheeler. The diamond drill (DD) and Rotary Air Blast (RAB) drilling grids are over an average length of ~780 north-south and ~395m east-west. Quality Assurance and Quality Control formed an integral part of the exploration process from drilling management, to shipment and analysis of the samples. A three-dimensional model was compiled using both the RAB and DD information. The two domains, fresh and oxide, were estimated separately. The estimation methodology employed was Inverse Distance Squared (ID2) utilizing the DD hole results. The block size for the grade model estimation was 50 X 50 X 2m (X, Y and Z respectively). The in-situ density applied to the volumes were obtained from measurements taken on samples from the Longonjo DD campaign.

**Table 1: Inferred Mineral Resource (JORC 2012) – Longonjo Oxide Material.**

| Oxide |                  | Tonnage     | Grade       | Content    |
|-------|------------------|-------------|-------------|------------|
|       | Cut-off (% TREO) | Mt          | TREO (%)    | TREO (t)   |
|       | 0.0              | 11.6        | 4.30        | 499        |
|       | 0.5              | 11.6        | 4.30        | 499        |
|       | <b>1.0</b>       | <b>11.6</b> | <b>4.30</b> | <b>499</b> |
|       | 1.5              | 11.6        | 4.32        | 501        |
|       | 2.0              | 11.4        | 4.35        | 496        |
|       | 2.5              | 10.9        | 4.44        | 484        |
|       | 3.0              | 10.2        | 4.56        | 465        |
|       | 3.5              | 9.3         | 4.68        | 435        |
|       | 4.0              | 7.6         | 4.89        | 372        |

**Table 2: Inferred Mineral Resource (JORC 2012) – Longonjo Fresh Material.**

| Fresh |                  | Tonnage     | Grade       | Content    |
|-------|------------------|-------------|-------------|------------|
|       | Cut-off (% TREO) | Mt          | TREO (%)    | TREO (t)   |
|       | 0.0              | 34.6        | 1.82        | 630        |
|       | 0.5              | 34.6        | 1.82        | 630        |
|       | <b>1.0</b>       | <b>33.2</b> | <b>1.87</b> | <b>621</b> |
|       | 1.5              | 24.5        | 2.08        | 510        |
|       | 2.0              | 11.7        | 2.43        | 284        |
|       | 2.5              | 3.7         | 2.95        | 109        |
|       | 3.0              | 1.1         | 3.52        | 39         |
|       | 3.5              | 0.4         | 4.09        | 16         |
|       | 4.0              | 0.2         | 4.74        | 9          |

**Table 3: Inferred Mineral Resource (JORC 2012) – Longonjo Oxide and Fresh Material.**

| Combined - Fresh & Oxide |                  | Tonnage     | Grade       | Content      |
|--------------------------|------------------|-------------|-------------|--------------|
|                          | Cut-off (% TREO) | Mt          | TREO (%)    | TREO (t)     |
|                          | 0.0              | 46.3        | 2.44        | 1,129        |
|                          | 0.5              | 46.2        | 2.44        | 1,129        |
|                          | <b>1.0</b>       | <b>44.7</b> | <b>2.50</b> | <b>1,120</b> |
|                          | 1.5              | 36.1        | 2.80        | 1,011        |
|                          | 2.0              | 23.1        | 3.38        | 780          |
|                          | 2.5              | 14.6        | 4.06        | 593          |
|                          | 3.0              | 11.3        | 4.46        | 504          |
|                          | 3.5              | 9.8         | 4.61        | 452          |
|                          | 4.0              | 7.7         | 4.95        | 381          |

**Mineral Resource Tabulation – supporting information:**

- 5% Geological loss applied
- 1% TREO Cut-off applied to the MRE
- Density used in the determination of the tonnes: 2.98t/m<sup>3</sup> for fresh (carbonatite) and 2.43t/m<sup>3</sup> for oxide
- 100% of the MRE stated in above tables
- Effective Date based on latest technical information utilised

The Inferred MRE covers a small portion, less than 10%, of the prospective Longonjo Carbonatite, based on the current geological understanding and available exploration information. The mineralization remains demonstrably open in all directions, and at depth, with the highest-grade tenor holes being largely on the periphery of the RAB (prefix 'LJ') and DD ('prefix LJD') drill holes.

A plan detailing the extent of the MRE in relation to the drilling is included below as Figure 1. A type section follows as Figure 2. The higher-grade oxide material conformably overlies the fresh material throughout the deposit, mineralised from surface in every drill hole. The average depth of the oxide zone is estimated at 20m below surface.

The Longonjo Mineral Resource Estimate forms the basis of the independent Scoping Study presently being carried out by Amec Foster Wheeler (ASX announcement 6<sup>th</sup> June 2017). Metallurgical test work is presently underway on composite samples of the diamond core. Both the oxide and fresh mineralisation types are being assessed for their potential for physical upgrading to produce a high-grade flotation concentrate.

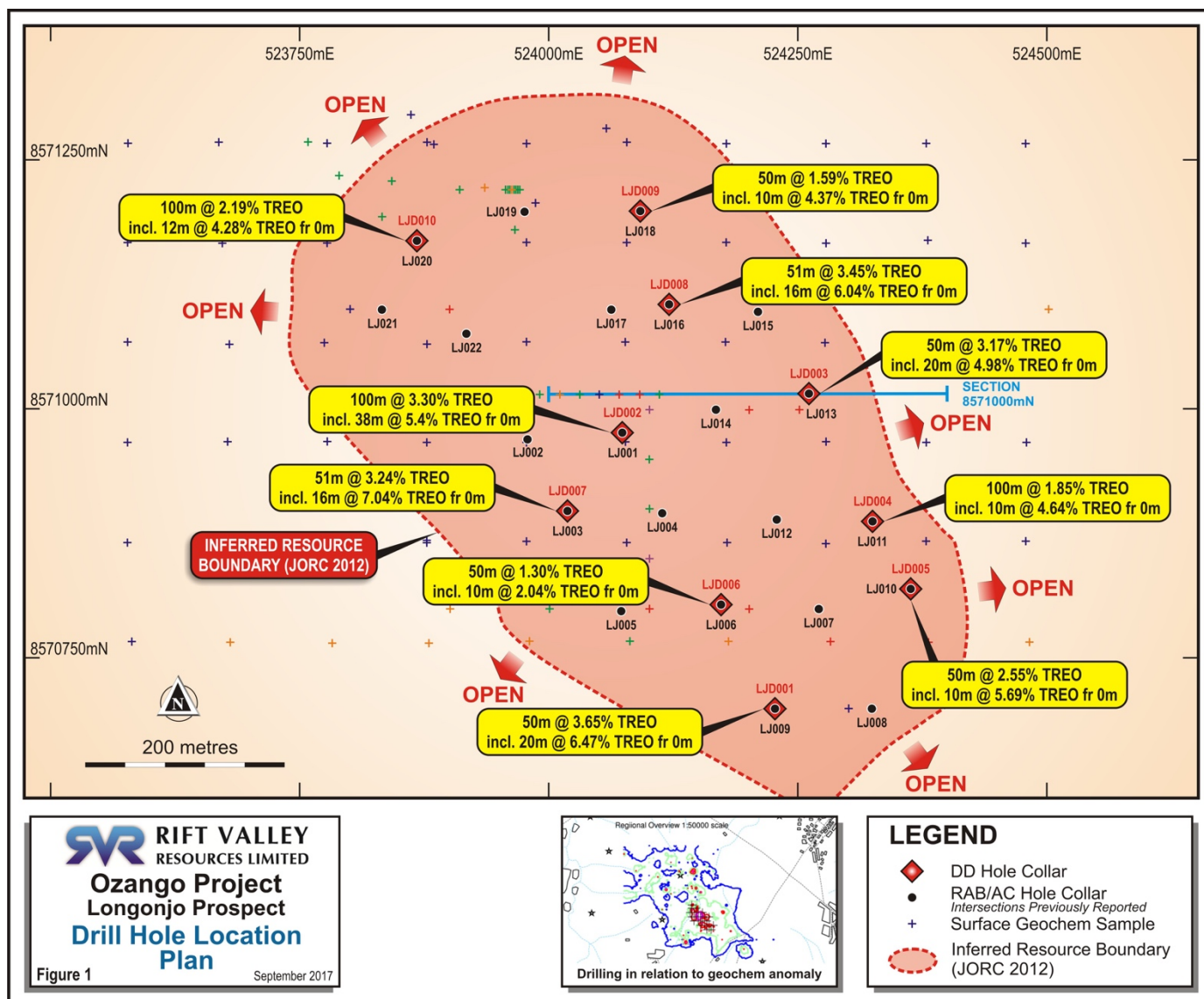


Figure 1. Plan View of the RAB and DD Holes, and Inferred MRE Boundary, for the Longonjo Magnet Metals Project.



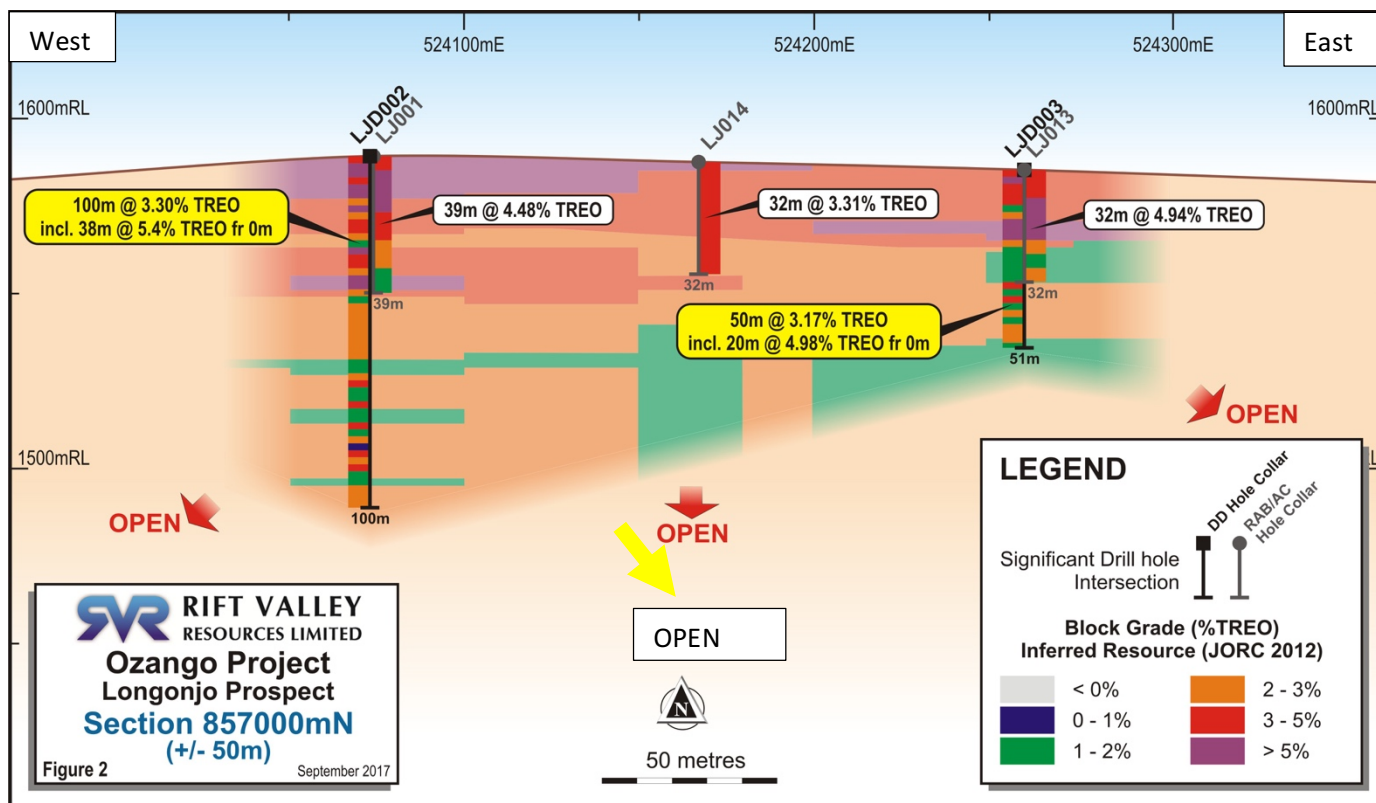


Figure 2. Cross-section looking North illustrating the RAB and DD Holes and Inferred MRE Block Model for the Longonjo Magnet Metals Project.

- Drill hole grades at a 0% cut-off TREO

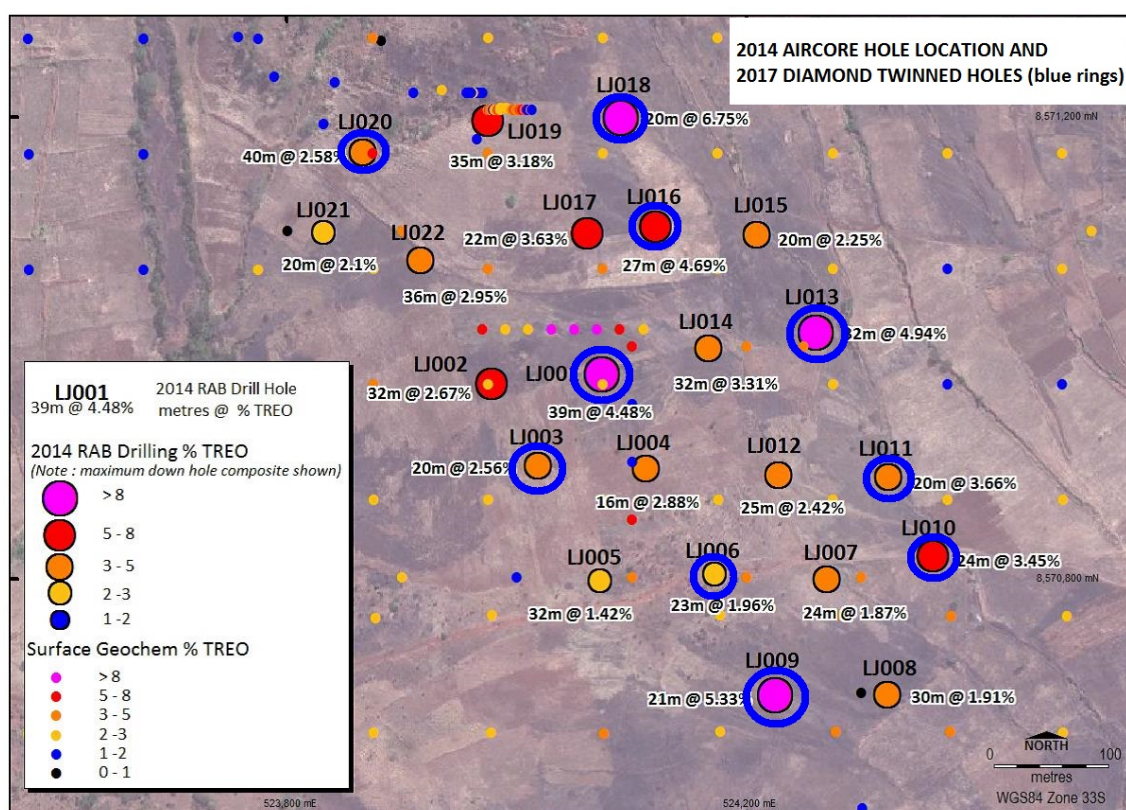
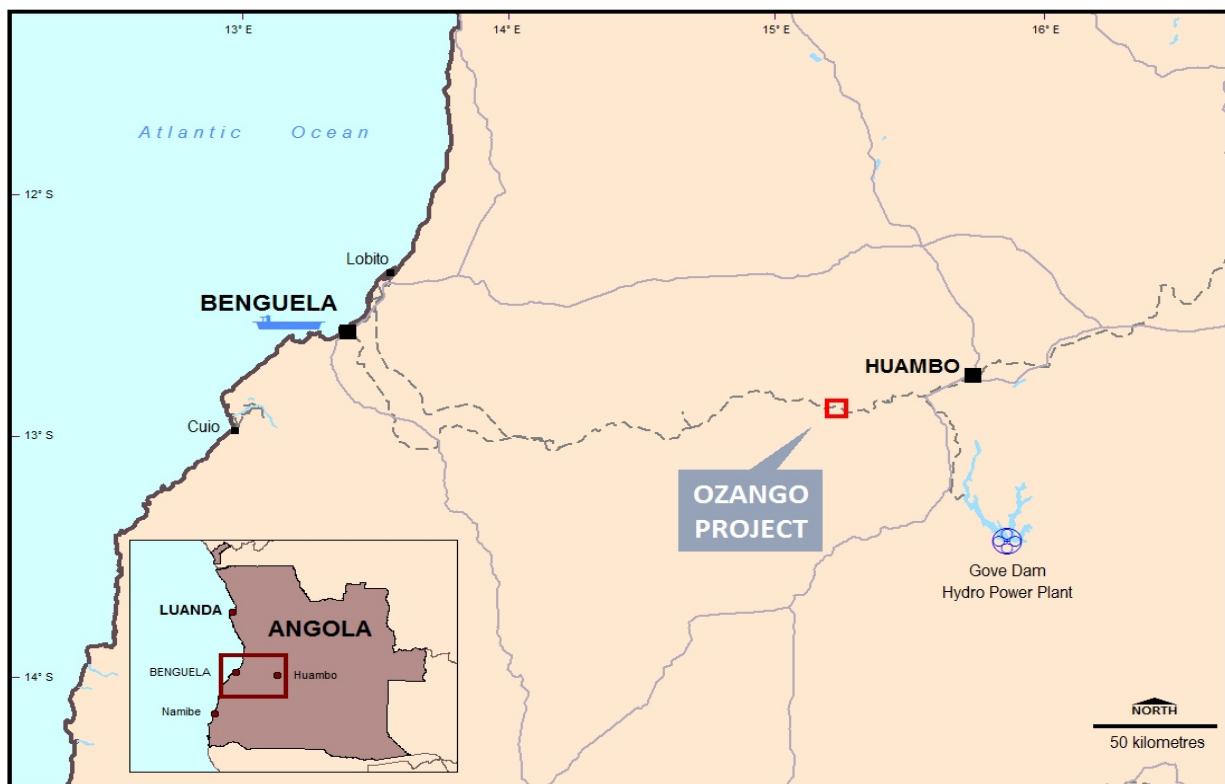


Figure 3 – Diamond Drill Hole Locations (blue ringed) with Respect to Previous Air Core Holes.

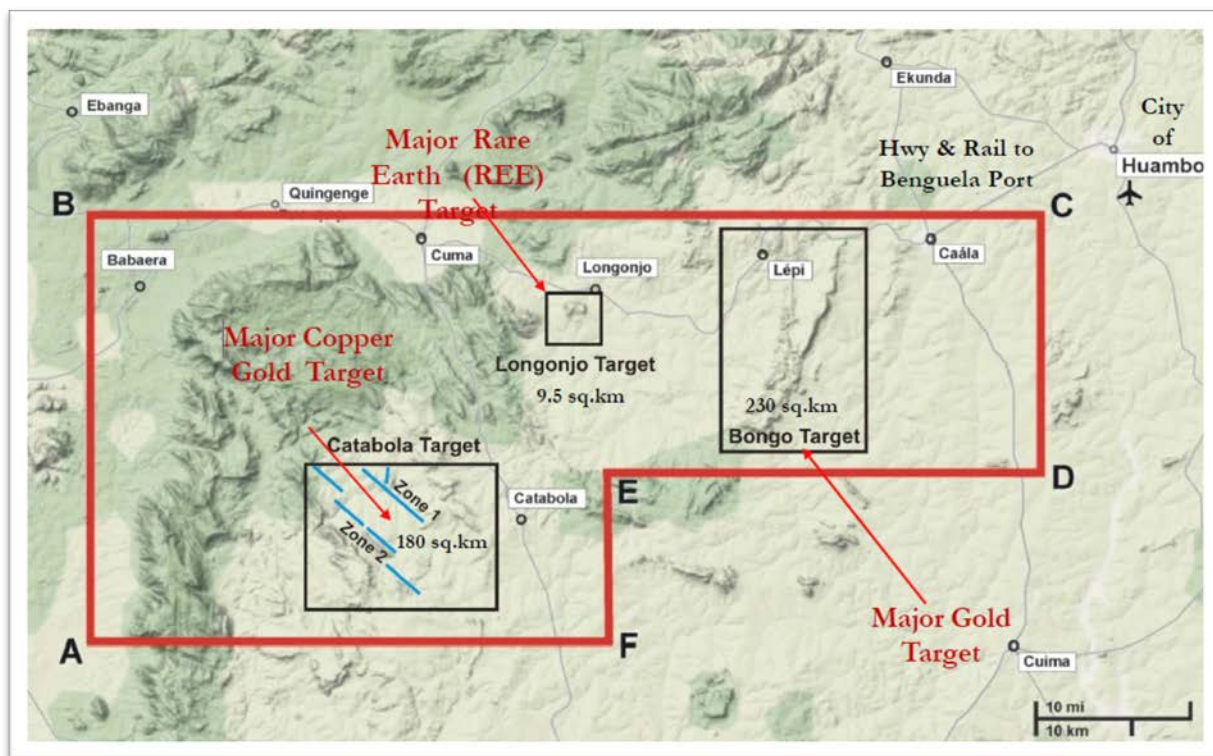


**Figure 4 – Diamond Drill Rig on Site at Longonjo, June 2017**



**Figure 5: Location of the 3670km<sup>2</sup> Ozango Project.**





**Figure 6: Ozango Project showing the Longonjo Magnet Metals Project and other major targets.**



**Figure 7: Hole LJD007 – Core 18- 21M**

## COMPETENT PERSON STATEMENT

*The information in this release that relates to the Mineral Resource estimate for Longonjo REE Project is based on information compiled by Mrs. Heather King who is a member of a 'Recognised Professional Organisation' (RPO) included in a list posted on the ASX website from time to time, specifically the South African Council for Natural Scientific Professions, and Mrs. King is registered as a Professional Natural Scientist (Pr. Sci. Nat.) Mrs. King is a full-time employee of Amec Foster Wheeler, consulting to Rift Valley Resources. Mrs. Heather King has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken 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'. Mrs. King consents to the inclusion in the report of the matters based on his (or her) information in the form and context in which it appears.*

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## JORC Code, 2012 Edition – Appendix 1

### Section 1 Sampling Techniques and Data

(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><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g. ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</i></li> </ul> | <ul style="list-style-type: none"> <li>Two drilling and sampling programs have been undertaken on the Longonjo carbonatite, both under the ownership of Rift Valley Resources (RVR).</li> <li>RAB Drilling/sampling – 22 drill holes, diameter 114.3mm, length 657m: <ul style="list-style-type: none"> <li>During the Rotary Air Blast (RAB) drilling campaign, regular air and manual cleaning of cyclone to remove hung up clays were undertaken.</li> <li>Genalysis (Perth-Australia) undertook the RAB sample analysis by way of fusion with an ICP-MS finish. RAB drilling was used to obtain 1m samples from which 4m composite samples from which 3kg was pulverised to produce a 30g charge for fusion and ICP-MS analysis.</li> <li>No sample recovery information is available</li> </ul> </li> <li>Diamond Drilling/sampling – 10 drill holes, diameter 116mm or PQ, 655.6m: <ul style="list-style-type: none"> <li>Triple tube drilling was undertaken to ensure core recoveries for the diamond drill campaign. The average depth for the DD drilling was 50.56m below surface (minimum 50.05m and maximum 51.00m, with three drill holes between 100m and 101m below surface).</li> <li>On average 3kg of material was pulverized to produce a 30g charge for fusion and ICP-MS analysis for the diamond core sample composites, undertaken by Nagrom.</li> <li>Diamond drilling showed reasonable sample recoveries, averaging at 90.8%</li> </ul> </li> </ul> |
| <b>Drilling techniques</b> | <ul style="list-style-type: none"> <li><i>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.).</i></li> </ul>   | <ul style="list-style-type: none"> <li>In 2014, a RAB program totalling 657m was completed. In 2017, a diamond drill program totalling 655.55m was completed.</li> <li>RAB Drilling: <ul style="list-style-type: none"> <li>RAB drilling was carried out to blade refusal, or when samples returned wet. A 4.5” blade drill bit was used together with 3m rods. 22 drill holes were completed rendering 168 composite samples from the 100mX100m staggered grid pattern. The</li> </ul> </li> </ul>  |

| Criteria              | JORC Code explanation   | Commentary  |
|-----------------------|---|---|
|                       |   | <p>average depth of 30m–40m below surface was achieved for the RAB drilling.</p> <ul style="list-style-type: none"> <li>○ 22 RAB holes were completed. The prefix used to identify the RAB drilling is 'LJ0'.</li> </ul> <ul style="list-style-type: none"> <li>• Diamond Drilling: <ul style="list-style-type: none"> <li>○ The diamond drilling was undertaken using an Atlas Copco Mustang track mounted drill rig. The diamond drilling was undertaken using a PQ-sized (116mm) bit, except for LJD002 which was collared using PQ to 51.85m below surface and completed with a HQ bit to a depth of 100.40m below surface. Triple tube barrels were employed in the drilling process to ensure maximum core recovery.</li> <li>○ Diamond drilling program totalling 655.55m undertaken in June 2017, twinning several RAB holes. 10 diamond drill holes were completed. The prefix used to identify the DD drilling is 'LJD0'.</li> </ul> </li> </ul>  |
| Drill sample recovery | <ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>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.</i></li> </ul> | <ul style="list-style-type: none"> <li>• RAB Drilling: <ul style="list-style-type: none"> <li>○ RAB recovery and meterage was assessed by comparing drill cutting volumes (sample bags) for individual meters. Routine checks for correct sample depths were undertaken every rod (3m). RAB sample recoveries were visually checked for recovery, moisture and contamination.</li> </ul> </li> <li>• Diamond Drilling: <ul style="list-style-type: none"> <li>○ Recoveries for the diamond drill core varied from 52% to 100%, the average being 90.8%. Triple tube barrels were employed in the drilling process to ensure maximum core recovery. The average recovery for fresh carbonatite was 92% with a minimum of 70%, for the saprolitic horizon an average of 87% recovery was achieved, whilst a recovery of 89.7% was obtained for the soil horizon. The recoveries below 70% all relate to the either the saprolite or soil horizon, the lowest being recorded at 52%. The higher grades occur predominately where sample recoveries are high suggesting a possible low bias.</li> <li>○ Due to good drilling conditions (dry, firm material), the Company's geologist believes the diamond drill samples are homogeneous and representative.</li> </ul> </li> </ul> |
| Logging               | <ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>  | <ul style="list-style-type: none"> <li>• Geological logging of the RAB and DD drilling campaigns were undertaken using the same standardised logging convention, to a level sufficient to support geological modelling and Mineral Resource classification.</li> <li>• The diamond drill logs were logged on a lithological basis, hence qualitative, whilst the</li> </ul>   |

| Criteria                                       | JORC Code explanation   | Commentary   |
|--|---|--|
|  | <ul style="list-style-type: none"> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>  | <p>RAB holes were logged on metre basis. Geological logging involved the recording of lithology, colour, hardness, weathering, grain size, mineralogy, structures, presence of veining, alteration, lithological description and comments. Drill recoveries were recorded for DD.</p> <ul style="list-style-type: none"> <li>For both the RAB and diamond drill holes, the entire hole lengths were logged.</li> <li>Geotechnical logging has been undertaken on the DD core, recording RQD, RQD percentage, strength and fracturing.</li> </ul>   |
| Sub-sampling techniques and sample preparation | <ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.</i></li> <li><i>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.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul> | <ul style="list-style-type: none"> <li>The geological staff on site in Angola were responsible for the sample collection, splitting, dispatch and storage of the RAB and DD samples.</li> <li>RAB drilling sampling: <ul style="list-style-type: none"> <li>Following collection from the cyclone, the RAB sampling campaign rendered 168 composite samples which were generated from four metre composites compiled on site and collected from the 1m sample bags, using a 450mmX50mm PVC spear pushed diagonally through the sample bag.</li> </ul> </li> <li>Diamond drilling sampling: <ul style="list-style-type: none"> <li>The DD samples were compiled using ¼ core, cut on site using a diamond saw by an experience field technician. The less competent material such as soil and weathered material was quartered by using a knife. The diamond core was geologically logged over 1m intervals and sampled over 2m composite lengths from surface. Depending on the hole depth, the maximum interval was 2m, and the minimum was 1m. The samples were assayed for a suite of REE minerals as well as 49 other elements.</li> <li>The diamond drill hole samples were transferred to calico bags, with labelling undertaken using permanent marker on the outside of the calcio bag. The sample bags are secured by means of tying the top of the bag closed securely.</li> </ul> </li> <li>The secured samples were freighted to Australia from Angola and delivered to Nagrom laboratory in Perth.</li> <li>At Nagrom laboratory, the samples were oven dried and then pulverized in an LM5 or equivalent pulverizing mill to a grind size of 85% passing 75 microns.</li> <li>The sample sizes derived from the sampling campaigns are deemed appropriate for the grain size of the material being sampled.</li> </ul> |



| Criteria                                   | JORC Code explanation  | Commentary   |
|--|--|--|
| Quality of assay data and laboratory tests | <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>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.</i></li> <li><i>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.</i></li> </ul> | <ul style="list-style-type: none"> <li>RAB and diamond drilling were used to obtain samples from which ~3kg were pulverized to produce a 30g charge for fusion and ICP-MS analysis. The fusion digest is a complete digest and is the best available for the ICP-MS finish. Checks against a 4-acid (hydrofluoric, nitric, perchloric and hydrochloric acids) analysis are planned to be carried out on the pulps as a check. Aqua Regia digestion was used.</li> <li>RAB samples were composited to four metre samples on site which were submitted to Intertek (Walvis Bay, Namibia) for sample preparation. The pulp samples were then sent to Genalysis (Perth, Australia) for analysis.</li> <li>No geophysical or portable analysis tools were used to determine assay values stored in the database. Handheld XRF machine was only used as a guide while drilling and readings have not been included in review of the data. Assay data only is used.</li> <li>For the diamond drill samples, QC results (duplicates, standards) were in line with commercial procedures, reproducibility and accuracy. No blank samples were reported for the DD analyses. Insertion of all QAQC samples was undertaken at the Laboratory for the RAB and DD analyses. All standard reference materials (SRMs) used during the analyses of the DD samples were obtained from external suppliers such as Geostats Pty Ltd and Ore Research and Exploration P/L.</li> <li>The use of Umpire laboratories was not undertaken by the Company.</li> <li>Laboratory internal standards &amp; repeat assays were undertaken by the laboratory during the analyses of the RAB samples, and the diamond drill samples. <ul style="list-style-type: none"> <li>Duplicate and repeat sample analyses were undertaken by Nagrom laboratory. Insertion of the quality control and assurance samples occurred at a ratio of 1 in 20.</li> </ul> </li> <li>Client SRMs were inserted (totalling 50 SRM samples) into the sampling stream for the diamond drilling samples.</li> <li>The SRMs used by Nagrom include: <ul style="list-style-type: none"> <li>GRE-02 and GRE-03 (Source Carbonatite, Tanzania)</li> <li>NCS_DC 86304 (Lithium ore)</li> <li>OREAS 461 (Carbonatite supergene Mount Weld Project)</li> <li>ARA09-1 (Arafura)</li> </ul> </li> <li>The company's geologist assumed that laboratory sample repeats (totalling 17 samples) and pulp duplicates (totalling 16 samples) would suffice. No field duplicates were taken as the samples are core samples.</li> <li>The quality control and assurance data reviewed by the CP indicates the assays are</li> </ul> |

| Criteria                              | JORC Code explanation   | Commentary   |
|---------------------------------------|---|--|
|                                       |   | generally within expected limits. The CP is satisfied the quality assurance and control data is sufficient to support the Mineral Resource classification of Inferred confidence.  |
| Verification of sampling and assaying | <ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul> | <ul style="list-style-type: none"> <li>Work was supervised by the Technical Director experienced in metals assaying, for both the RAB and diamond drilling campaigns. The Technical Director reviewed the QC data reports and confirms the sample quality and methodology.</li> <li>The Competent Person (CP) verified the data based on information provided by RVR.</li> <li>Significant intersections were not verified by either independent or alternate company personnel.</li> <li>The diamond drill holes twinned ten RAB drill holes. The correlation between the RAB and diamond drill hole lithologies is good. The correlation between the grades derived from the RAB and diamond hole samples is reasonable. The primary data was received from Nagrom in the form of MS Excel spreadsheets with copies of the original PDF files. The data was transferred by an independent contractor into a MS Access database and verified. Copies of the database is stored securely on the Company's server. Data storage as OCRIS files on company PC in Perth office.</li> <li>No adjustments other than the conversion of element (REE) to oxides (REO) occurred. The following REE to REO adjustments were made: <ul style="list-style-type: none"> <li>La - La<sub>2</sub>O<sub>3</sub> - 1.1728</li> <li>Ce - CeO<sub>2</sub> - 1.2284</li> <li>Pr - Pr<sub>6</sub>O<sub>11</sub> - 1.2082</li> <li>Nd - Nd<sub>2</sub>O<sub>3</sub> - 1.1664</li> <li>Sm - Sm<sub>2</sub>O<sub>3</sub> - 1.1596</li> <li>Eu - Eu<sub>2</sub>O<sub>3</sub> - 1.1579</li> <li>Gd - Gd<sub>2</sub>O<sub>3</sub> - 1.1526</li> <li>Tb - Tb<sub>4</sub>O<sub>7</sub> - 1.1762</li> <li>Dy - Dy<sub>2</sub>O<sub>3</sub> - 1.1477</li> <li>Ho - Ho<sub>2</sub>O<sub>3</sub> - 1.1455</li> <li>Er - Er<sub>2</sub>O<sub>3</sub> - 1.1435</li> <li>Tm - Tm<sub>2</sub>O<sub>3</sub> - 1.1421</li> <li>Yb - Yb<sub>2</sub>O<sub>3</sub> - 1.1387</li> <li>Lu - Lu<sub>2</sub>O<sub>3</sub> - 1.1372</li> <li>Y - Y<sub>2</sub>O<sub>3</sub> - 1.2699</li> </ul> </li> </ul> |

| Criteria                                  | JORC Code explanation  | Commentary   |
|---|--|--|
| <i>Location of data points</i>            | <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>• The collars for both the RAB and DD drilling programs were obtained by means of a handheld GPS, which has an accuracy of 3-5m on the Easting and Northing coordinates. The datum and coordinate system employed are UTM WGS84 33S. The site geologists undertook the GPS surveys of the collar, not a qualified/registered surveyor.</li> <li>• The Amec Foster Wheeler CP undertook check readings on three drill holes during the site visit. Comparison to the collar coordinates recorded in the RVR drill hole database, both the Easting and Northing have a good correlation. However, discrepancies were noted in the elevation values for several of the drill holes. Due to the significant variations noted in the elevation readings, the USGS/NASA SRTM data was used to create contours spaced at 5m which were utilized to create the topographic surface for the area. The RAB and DD drill hole collars were draped to the topographic surface, and these adjusted Z values utilized for the modelling and estimation process.</li> <li>• The small differences between the GPS readings and the topographical survey data do not influence the mineralization widths.</li> <li>• Topography is flat to undulating.</li> </ul> |
| <i>Data spacing and distribution</i>      | <ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul> | <ul style="list-style-type: none"> <li>• The RAB holes were drilled on an approximate 100mX100m (X &amp; Y) grid, whilst the diamond drilling twinned ten of the RAB holes.</li> <li>• The RAB holes were not included in the Mineral Resource estimation as the lack of quality control in the RAB drilling was not adequate. <ul style="list-style-type: none"> <li>○ The RAB data was however considered suitable to be used in the geological, domain and variability modelling.</li> <li>○ Sample compositing occurred for the RAB drill holes. Four meter composites compiled on site and collected from the 1m sample bags, using a 450mmX50mm PVC spear pushed diagonally through the sample bag.</li> </ul> </li> <li>• The diamond drill data spacing is deemed by the CP to be sufficient to imply geological and grade continuity, sufficient for the classification of Inferred.</li> <li>• The DD samples are 2m composites, from two one meter samples were taken for the diamond drill samples. ¼ core for each metre contributed to the 2m composite.</li> </ul>  |
| <i>Orientation of data in relation to</i> | <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</li> </ul>   | <ul style="list-style-type: none"> <li>• The basis for the geological model for REE-hosting carbonatite bodies is disseminated mineralization throughout the host rock, hence vertical drill holes were undertaken. The area drilled is deemed to be within the carbonatite plug.</li> <li>• There is no mineralized surface introducing a sample bias.</li> </ul>   |



| Criteria                    | JORC Code explanation  | Commentary  |
|-----------------------------|--|---|
| <i>geological structure</i> | <i>the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> |   |
| <i>Sample security</i>      | <ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>  | <ul style="list-style-type: none"> <li>The RAB and diamond drill core and chips were transported daily to the geological camp located within the Ozango License. This was undertaken by Company personnel.</li> <li>After preparation in the field, samples were packed into polyweave bags and dispatched to the freight forwarders directly by the Company. All bags were transported by the Company directly to the assay laboratory. The assay laboratory audits the samples on arrival and reports any discrepancies back to the Company.</li> <li>Sample security was managed by the Company. The CP was not able to inspect the sample dispatches and relies on the Company's representative to ensure that no discrepancies occurred and the chain of custody is acceptable.</li> </ul> |
| <i>Audits or reviews</i>    | <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 audits or reviews of the sampling techniques and data have occurred beyond the site visit and reviews undertaken by the CP who prepared the Mineral Resource estimate.</li> </ul>   |

## Section 2 Reporting of Exploration Results

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

| Criteria                                       | JORC Code explanation  | Commentary   |
|--|--|--|
| <i>Mineral tenement and land tenure status</i> | <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 license to operate in the area.</li> </ul> | <ul style="list-style-type: none"> <li>The Longonjo Rare Earth Element (REE) prospect (within the Ozango Project Area, located near the regional town of Huambo, in the Provincia do Huambo of the Republic of Angola</li> <li>The Ozango Project, of which 70% is owned by RVR, comprises a single Exploration License (No 013/03/09/T.P/ANG-MGM/2015) over an area of 3,670km<sup>2</sup>.</li> <li>In 2014, RVR acquired 100% of Sable Minerals Pty Ltd which gave RVR 70% ownership of the Ozango project (009/01/07T.P/ANG-MGMI/2011), and the remaining 30% held by the Angolan State and Nationals. In November 2014, a Mining and Investment Contract (MIC) was executed between the 70% owned Angolan company, "Ozango Minerais SA" and "Ferrangol EP" an Angolan state owned enterprise, providing RVR with up to 7 years of exploration for a suite of minerals including precious metals. In February 2015, the Hon Minister of Geology and Mines approved the MIC.</li> </ul> |

| Criteria                          | JORC Code explanation  | Commentary   |
|-----------------------------------|--|--|
|                                   |  | <ul style="list-style-type: none"> <li>o <a href="http://www.asx.com.au/asxpdf/20151105/pdf/432rsbpllt2qc.pdf">http://www.asx.com.au/asxpdf/20151105/pdf/432rsbpllt2qc.pdf</a></li> <li>• The license was issued to Ozango Minerais, S.A, on the 3<sup>rd</sup> November 2015 and is valid until the 3<sup>rd</sup> November 2020.</li> <li>• The areal extent of the Exploration License is approximately 100km in an East-West direction and between 28–46km in width.</li> <li>• Within the Longonjo project area, there are no known historical sites, wilderness or national park and environmental settings.</li> <li>• There are no known impediments to obtaining and maintaining a license in the area.</li> <li>• The CP relies on the information provided by the Company that the tenement is in good standing and all fees are paid.</li> </ul>   |
| Exploration done by other parties | <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>• In July 2005, Aurum Exploration Limited undertook prospecting and sampling primarily for kimberlites on the Longonjo Project, for Kassai Diamonds plc.</li> <li>• In 2005, Murphy Geological Services (MGS) completed a structural interpretation of satellite imagery for the Longonjo license for Kassai plc, identifying a further 16 targets within the license area. One Landsat ETM+ image (Scene No. 180/69 and band 8; acquisition date 31<sup>st</sup> May 2000) was acquired as well as an ASTER imagery for the area, although the ASTER imagery covered only 83% of the Longonjo Project area.</li> <li>• In 2006, Glenvale Associates Ltd, a joint venture company between Petro-African Energy and CityView Corporation Limited, engaged the services of Black Rock Resources and Aurum Exploration Ltd to plan, supervise and implement exploration activities on the Longonjo license area.</li> <li>• In 2007 and 2008, a soil geochemical survey was conducted which highlighted the presence of a REE anomaly. A large 3.5km long and 1.7km wide REO anomaly was defined.</li> <li>• Glenvale Associates Limited, which was a joint venture between CityView Corporation Limited and Petro African Energy, was acquired by Fortitude Minerals Limited (Belize) in 2008. Sable Minerals Pty Ltd acquired the property after Fortitude Minerals Limited.</li> <li>• In June 2010, four rock samples (LR009, LR015-017) from the 2008 samples, were sent to OMAC laboratories (Stewarts Group) for full ICP and silicate assay laboratory for assay indicating anomalous P, Ba, Sr, Zn and LREE (La – Sm), as well as HREE (Eu, Ga, Dy).</li> </ul> |
| Geology                           | <ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul> | <ul style="list-style-type: none"> <li>• The Longonjo Prospect is a REE-enriched carbonatite, an intrusive plug, intensively silicified, and emplaced as a large concentric ring structure. Longonjo is specifically a</li> </ul>  |

| Criteria               | JORC Code explanation  | Commentary   |         |                |              |           |                |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
|------------------------|--|--|---------|----------------|--------------|-----------|----------------|--------------|-----------|----------|--------|--------|---------|------|---|------|-------|------|--------|--------|---------|------|---|-------|-------|------|--------|--------|---------|------|---|------|------|------|--------|--------|---------|------|---|-----|-----|------|--------|--------|---------|------|---|-------|-------|------|--------|--------|---------|------|---|------|------|------|--------|--------|---------|------|---|----|----|------|
|                        |  | <p>magnet metals deposit. Three REE constitute magnet metals; Neodymium (Nd), Praseodymium (Pr) and Dysprosium (Dy).</p> <ul style="list-style-type: none"><li>• The basis for the geological model for REE-hosting carbonatite bodies is disseminated mineralisation throughout the host rock. A three-dimensional (3D) model was compiled for both the RAB and DD information in Datamine RM. As the completed drilling is over a portion of the carbonatite, the 3D model forms a grade shell based on the available intercepts. Lateral extrapolation is limited to half the drill hole spacing, as the extent of mineralisation is unknown at present.</li><li>• The Central Plateau region in Angola is underlain by Neoproterozoic crystalline basement, predominantly granites, medium-to high-grade metamorphic units and migmatites. The carbonatites and alkaline intrusions, related to the break-up on Pangea, are hosted by the Neoproterozoic basement. The Longonjo carbonatite is primarily a dolomitic and alkali feldspar-dolomite carbonatite, termed a magnesiocarbonatite. dolomite, calcite and Fe-oxides, specifically ankerite, represent the main mineralogy of the carbonatite, which generally have a fine-grained brecciated texture together with quartz veins, alkali feldspar and kalsilite xenocrysts and syenitic xenoliths.</li></ul>   |         |                |              |           |                |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| Drill hole Information | <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>• The following table summarizes the information material to understanding the exploration results and for use in a Mineral Resource estimation. All the DD and RAB holes were drilled vertically. The RL stated below are the GPS elevations rather than the draped elevations for the geological modelling. Due to their limited depths, no down-hole surveys were conducted. For RAB holes and information, the reader is referred to previous press releases by the Company.</li></ul> <table><tr><th>Hole ID</th><th>Easting</th><th>Northing</th><th>RL (m)</th><th>Depth From (m)</th><th>Depth To (m)</th><th>Width (m)</th><th>TREO (%)</th></tr><tr><td>LJD001</td><td>524226</td><td>8570700</td><td>1563</td><td>0</td><td>50.2</td><td>50.20</td><td>3.65</td></tr><tr><td>LJD002</td><td>524073</td><td>8570977</td><td>1577</td><td>0</td><td>100.4</td><td>100.4</td><td>3.30</td></tr><tr><td>LJD003</td><td>524260</td><td>8571016</td><td>1585</td><td>0</td><td>50.8</td><td>50.8</td><td>3.17</td></tr><tr><td>LJD004</td><td>524324</td><td>8570888</td><td>1566</td><td>0</td><td>101</td><td>101</td><td>1.85</td></tr><tr><td>LJD005</td><td>524362</td><td>8570820</td><td>1566</td><td>0</td><td>50.05</td><td>50.05</td><td>2.55</td></tr><tr><td>LJD006</td><td>524172</td><td>8570804</td><td>1568</td><td>0</td><td>50.1</td><td>50.1</td><td>1.30</td></tr><tr><td>LJD007</td><td>524018</td><td>8570898</td><td>1570</td><td>0</td><td>51</td><td>51</td><td>3.24</td></tr></table> | Hole ID | Easting        | Northing     | RL (m)    | Depth From (m) | Depth To (m) | Width (m) | TREO (%) | LJD001 | 524226 | 8570700 | 1563 | 0 | 50.2 | 50.20 | 3.65 | LJD002 | 524073 | 8570977 | 1577 | 0 | 100.4 | 100.4 | 3.30 | LJD003 | 524260 | 8571016 | 1585 | 0 | 50.8 | 50.8 | 3.17 | LJD004 | 524324 | 8570888 | 1566 | 0 | 101 | 101 | 1.85 | LJD005 | 524362 | 8570820 | 1566 | 0 | 50.05 | 50.05 | 2.55 | LJD006 | 524172 | 8570804 | 1568 | 0 | 50.1 | 50.1 | 1.30 | LJD007 | 524018 | 8570898 | 1570 | 0 | 51 | 51 | 3.24 |
| Hole ID                | Easting  | Northing   | RL (m)  | Depth From (m) | Depth To (m) | Width (m) | TREO (%)       |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| LJD001                 | 524226   | 8570700  | 1563    | 0              | 50.2         | 50.20     | 3.65           |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| LJD002                 | 524073   | 8570977  | 1577    | 0              | 100.4        | 100.4     | 3.30           |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| LJD003                 | 524260   | 8571016  | 1585    | 0              | 50.8         | 50.8      | 3.17           |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| LJD004                 | 524324   | 8570888  | 1566    | 0              | 101          | 101       | 1.85           |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| LJD005                 | 524362   | 8570820  | 1566    | 0              | 50.05        | 50.05     | 2.55           |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| LJD006                 | 524172   | 8570804  | 1568    | 0              | 50.1         | 50.1      | 1.30           |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |
| LJD007                 | 524018   | 8570898  | 1570    | 0              | 51           | 51        | 3.24           |              |           |          |        |        |         |      |   |      |       |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |     |     |      |        |        |         |      |   |       |       |      |        |        |         |      |   |      |      |      |        |        |         |      |   |    |    |      |



| Criteria   | JORC Code explanation  | Commentary   |        |        |         |       |      |    |    |      |        |        |         |      |   |       |       |      |        |        |         |      |   |     |     |      |
|--|--|--|--------|--------|---------|-------|------|----|----|------|--------|--------|---------|------|---|-------|-------|------|--------|--------|---------|------|---|-----|-----|------|
|  |  | <table><tr><td>LJD008</td><td>524120</td><td>8571105</td><td>1601</td><td>0</td><td>51</td><td>51</td><td>3.45</td></tr><tr><td>LJD009</td><td>524091</td><td>8571199</td><td>1624</td><td>0</td><td>50.75</td><td>50.75</td><td>1.59</td></tr><tr><td>LJD010</td><td>524867</td><td>8571169</td><td>1589</td><td>0</td><td>100</td><td>100</td><td>2.19</td></tr></table> <ul style="list-style-type: none"><li>The grades reported in the table were sourced from the press release dated the 24<sup>th</sup> August 2017; <a href="http://www.asx.com.au/asxpdf/20170824/pdf/43lpnfhfxr0qw0.pdf">http://www.asx.com.au/asxpdf/20170824/pdf/43lpnfhfxr0qw0.pdf</a></li><li>No information from the diamond drilling campaign is excluded. Only diamond drill hole information and assay results were used in the Mineral Resource estimation. The RAB samples would not qualify for use in a Mineral Resource estimate due to quality control aspects.</li></ul> | LJD008 | 524120 | 8571105 | 1601  | 0    | 51 | 51 | 3.45 | LJD009 | 524091 | 8571199 | 1624 | 0 | 50.75 | 50.75 | 1.59 | LJD010 | 524867 | 8571169 | 1589 | 0 | 100 | 100 | 2.19 |
| LJD008   | 524120   | 8571105  | 1601   | 0      | 51      | 51    | 3.45 |    |    |      |        |        |         |      |   |       |       |      |        |        |         |      |   |     |     |      |
| LJD009   | 524091   | 8571199  | 1624   | 0      | 50.75   | 50.75 | 1.59 |    |    |      |        |        |         |      |   |       |       |      |        |        |         |      |   |     |     |      |
| LJD010   | 524867   | 8571169  | 1589   | 0      | 100     | 100   | 2.19 |    |    |      |        |        |         |      |   |       |       |      |        |        |         |      |   |     |     |      |
| Data aggregation methods   | <ul style="list-style-type: none"><li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li><li><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li><li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li></ul> | <ul style="list-style-type: none"><li>Both low grade and high grade results were treated equally within the report and estimation process.</li><li>No cutting or capping of grade outlier values occurred during the estimation process. Limited capping was only used in the variography stage.</li><li>Individual REO values were aggregated to derive the LREO, HREO and TREO values. This was achieved by adding the relevant REO together, as follows:<ul style="list-style-type: none"><li>LREO = La + Ce + Pr + Nd + Sm</li><li>HREO = Eu + Gd + Tb + Dy Ho + Er + Tm + Yb + Lu + Y</li><li>TREO = LREO + HREO.</li></ul></li></ul>   |        |        |         |       |      |    |    |      |        |        |         |      |   |       |       |      |        |        |         |      |   |     |     |      |
| Relationship between mineralisation widths and intercept lengths | <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><li><i>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').</i></li></ul>   | <ul style="list-style-type: none"><li>The basis for the geological model for REE-hosting carbonatite bodies is disseminated mineralisation throughout the host rock. A three-dimensional (3D) model was compiled for both the RAB and DD information in Datamine RM. As the completed drilling is over a portion of the carbonatite, the 3D model forms a grade shell based on the available intercepts. Lateral extrapolation is limited to half the drill hole spacing as the extent of mineralisation is unknown at present.</li><li>Down hole length reflects drilled meters not the true width of the carbonatite.</li></ul>  |        |        |         |       |      |    |    |      |        |        |         |      |   |       |       |      |        |        |         |      |   |     |     |      |
| Diagrams   | <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</i></li></ul>  | <ul style="list-style-type: none"><li>The appropriate maps and sections and tabulations of intercepts are included in this report.</li></ul>   |        |        |         |       |      |    |    |      |        |        |         |      |   |       |       |      |        |        |         |      |   |     |     |      |

| Criteria                                  | JORC Code explanation   | Commentary   |
|---|---|--|
|   | <i>include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>   |  |
| <i>Balanced reporting</i>                 | <ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>   | <ul style="list-style-type: none"> <li>Twenty-two RAB holes and ten diamond drill holes have been drilled on the Longonjo carbonatite. The summarized results for all diamond drill holes are reported.</li> </ul>   |
| <i>Other substantive exploration data</i> | <ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul> | <ul style="list-style-type: none"> <li>See details from previous ASX releases dealing with Longonjo work activities and programmes; these can be accessed via the Internet. <ul style="list-style-type: none"> <li><a href="http://www.asx.com.au/asxpdf/20170824/pdf/43lpnfhfxr0qw0.pdf">http://www.asx.com.au/asxpdf/20170824/pdf/43lpnfhfxr0qw0.pdf</a></li> <li><a href="http://www.asx.com.au/asxpdf/20150611/pdf/42z42gh5lr5kh.pdf">http://www.asx.com.au/asxpdf/20150611/pdf/42z42gh5lr5kh.pdf</a></li> <li><a href="http://www.asx.com.au/asxpdf/20140331/pdf/42npt7q99xw3t8.pdf">http://www.asx.com.au/asxpdf/20140331/pdf/42npt7q99xw3t8.pdf</a></li> <li><a href="http://www.asx.com.au/asxpdf/20140404/pdf/42ntl91qpjgkqf.pdf">http://www.asx.com.au/asxpdf/20140404/pdf/42ntl91qpjgkqf.pdf</a></li> </ul> </li> </ul> |
| <i>Further work</i>                       | <ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>                                     | <ul style="list-style-type: none"> <li>Amec Foster Wheeler is undertaking an independent Scoping Study following the JORC Mineral Resource estimation.</li> <li>Commercially sensitive information regarding further and future work.</li> </ul>   |

### Section 3 Estimation and Reporting of Mineral Resources

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

| Criteria                  | JORC Code explanation   | Commentary  |
|---------------------------|---|---|
| <i>Database integrity</i> | <ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul> | <ul style="list-style-type: none"> <li>Drill logs were captured by project geologists and validated on transfer to the Access database. Periodic review of the geological logging was undertaken by RVR as well as the independent consultant (Expedio) responsible for the generation and maintenance of the database.</li> <li>Data was loaded into Datamine RM to check collars, samples and lithological overlaps and missing. For consistency, the drill hole collar elevations (RL) were draped onto a</li> </ul> |

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|                           |  | <p>SRTM topographic surface. No errors or missing data were noted.</p> <ul style="list-style-type: none"> <li>Calculated LREO% and HREO% from database.</li> </ul>  |
| Site visits               | <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>CP undertook site visit on the 6-10<sup>th</sup> June 2017 accompanied by Technical Director and Project Geologist. Diamond drilling was underway at time of site visit. Core logging, sampling and security were observed and reviewed. A sample of check collar GPS readings taken. Outcrops, although sparse, were visited. The infrastructure within and adjacent to the project site was noted.</li> </ul>  |
| Geological interpretation | <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>Diamond drilling and RAB drilling data are on an approximately 100X100m grid spacing, which is currently insufficient to undertake detailed geological interpretation other than division into general saprolite and carbonatite zones.</li> <li>Geological interpretation is still at an inferred stage, and limited interpolation between drill holes is possible, other than grade and major lithological types.</li> <li>The split into geological domains of predominately saprolite and predominately carbonatite guides and controls the geological interpretations at present.</li> <li>Grade continuity is affected by lithology, with the REE mineralization being greater in the saprolite unit.</li> <li>At present the mineralization/carbonatite is open at depth and along strike. All RAB and DD drill holes terminated in mineralisation.</li> </ul>  |
| Dimensions                | <ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>   | <ul style="list-style-type: none"> <li>Three of the ten Diamond drill holes had final depths of 100m below surface; the remaining seven drill holes terminated at approximately 50m below surface. The depth of the mineralization was taken as the depths of the completed diamond drill holes. The vertical depth was not extrapolated beyond the end-of-hole depths.</li> <li>The average depth for the RAB drilling was 29.86m below surface (minimum 20m and maximum 40m).</li> <li>The average depth for the DD drilling was 50.56m below surface (minimum 50.05m and maximum 51.00m, with three drill holes between 100m and 101m below surface).</li> <li>The mineralization appears open both at depth and on strike. Hence, the Mineral Resource area was derived as the area containing diamond drill holes and extrapolated approximately to half the drill hole spacing away from the outer DD and RAB drill holes. The average horizontal width is approximately 400m, the length of the Mineral Resource area is approximately 815m. The projected surface area is 259,400m<sup>2</sup>. The elevation of the project area is approximately 1,580 meters above sea level.</li> <li>The geological model for REE-hosting carbonatite at Longonjo is disseminated</li> </ul> |



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|  |   | mineralization throughout the host rock.  |
| <i>Estimation and modelling techniques</i> | <ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul> | <ul style="list-style-type: none"> <li>No previous Mineral Resource estimates have been undertaken for the Longonjo carbonatite REE mineralisation.</li> <li>The geological model was prepared in Datamine RM software. GeoAccess Professional was used for statistical analyses of the drill hole data. No REE cut-off grade was applied in the geological modelling, as limited areas of low grade mineralization are located randomly within the mineralized zones, and based on current drill hole spacing with limited definition, these are ineffective to remove.</li> <li>Wireframes were composed for the top and bottom surface of the saprolite and carbonatite zones. Drill holes were flagged by mineralized zone.</li> <li>Experimental variograms, both planar and down hole, were generated. The experimental planar semi-variograms used a 100m lag length. Directional variograms and omni variogram were computed. Omni-directional variograms were modelled. The anisotropy noted in the variography is related to the drill hole grid and spacing. Downhole variograms were modelled to determine the nugget for the planar variogram, and the vertical search range. Search radii were based on the variogram ranges modelled. The minimum and maximum number of samples were derived from the drilling grid. Grade capping was employed for the experimental variograms. The grades were determined from probability plots. The two metre composite samples were used in the experimental variograms. Only the diamond drill holes were used in the variography process.</li> <li>The block models constructed were based on the drill hole spacing of 100X100m (X, and Y). The parent cells constructed were 50X50X2m (X, Y and Z respectively). The Z cell size was based on the sample size assayed. Sub-celling to 4X4X2 (X, Y and Z) was applied. No split cells were applied. The model is unrotated.</li> <li>Ordinary kriging (OK) and Inverse Power of Distance (squared) (ID2) were undertaken for TREO (%), LREO (%), HREO (%). Grades were interpolated using parent cell estimation by only points which fall inside sub cells. ID2 used search ellipse. Cell discretization employed was by number of points in the X, Y and Z, using 9 by 9 by 3 for X, Y and Z. No grade capping was employed during the estimation. The two metre composite samples were used in the estimation. Only the diamond drill holes were used in the estimation process.</li> <li>Thorium (Th) and uranium (U), the deleterious elements, were estimated via ID2. Th and U were estimated as ppm, whilst the REO were estimated as %.</li> <li>Search radii were derived from the variography stage with consideration of the drill grid</li> </ul> |

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|                                      |  | <p>spacing.</p> <ul style="list-style-type: none"> <li>The Longonjo carbonatite is a LREO deposit, hence the TREO and LREO estimation used the same search radii and parameters. Th has a strong correlation with HREO. U occurs as background grades.</li> <li>The estimates were compared to the input drill hole data, both statistically and graphically. Based on the grid spacing, regularity of the grid and distance between drill holes and the limited diamond drill hole data, ID2 was considered the most representative estimation process.</li> <li>Density was calculated from a representative set of samples by the company representative. Eight samples comprised the number of saprolite samples used to determine the density, whilst 69 samples constituted the dataset for the density of the carbonatite (unweathered) material.</li> </ul> |
| Moisture                             | <ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>   | <ul style="list-style-type: none"> <li>Tonnages were estimated on a dry basis.</li> </ul>   |
| Cut-off parameters                   | <ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>   | <ul style="list-style-type: none"> <li>A 1% TREO cut-off was utilised as the Mineral Resource cut-off.</li> <li>A preliminary economic assessment, using generic costs and likely eventual product pricing has been undertaken to determine the Mineral Resource cut-off parameters.</li> </ul>   |
| Mining factors or assumptions        | <ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul> | <ul style="list-style-type: none"> <li>Due to the mineralization extending from surface and the higher grades related to the surface saprolite zone, it is assumed that conventional open pit mining will be employed.</li> <li>No other mining assumptions have been made.</li> </ul>  |
| Metallurgical factors or assumptions | <ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the</li> </ul>  | <ul style="list-style-type: none"> <li>Metallurgical work has been previously undertaken for the Project. The recently completed diamond drilling campaign facilitated samples for further metallurgical analysis and will be incorporated into the Scoping Study underway. See details from previous ASX press releases dealing with the metallurgical work on Longonjo; these can be accessed via the Internet on the link provided below.</li> </ul>   |

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|   | 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.   | <ul style="list-style-type: none"> <li><a href="http://www.asx.com.au/asxpdf/20161123/pdf/43d3vyv84n55zv.pdf">http://www.asx.com.au/asxpdf/20161123/pdf/43d3vyv84n55zv.pdf</a></li> </ul>   |
| <b>Environmental factors or assumptions</b> | <ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul> | <ul style="list-style-type: none"> <li>The determination of potential environmental impacts, particularly for a greenfields project, are not well advanced as Longonjo is a greenfields project. The area is flat to undulating and consists of predominantly crop fields for the local inhabitants. No major watercourses occur in or near the Longonjo Project.</li> <li>The CP is not aware of any environmental impediments which would unduly influence the prospects for eventual economic extraction.</li> </ul>   |
| <b>Bulk density</b>                         | <ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>  | <ul style="list-style-type: none"> <li>A density of 2.43 t/m<sup>3</sup> was used for the saprolite zone, and a density of 2.98 t/m<sup>3</sup> for the competent/carbonatite zone. These densities were applied to the Mineral Resource estimation to calculate the estimated tonnage.</li> <li>The basis of the density determination was weight and volume calculations, whereby the weight of the friable material, not disturbing the sample as far as possible, and solid core was measured, and the theoretical mass/volume of the sample material calculated. Samples chosen were representative of the materials present and comparable in length and recovery.</li> </ul> |
| <b>Classification</b>                       | <ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all</li> </ul>   | <ul style="list-style-type: none"> <li>In line with the JORC (2012) definitions and guidelines, the Mineral Resource is classified as Inferred. The classification of Inferred reflects the CP's view of the deposit models and estimates and supporting information.</li> </ul>  |

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|   | <p><i>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></p> <ul style="list-style-type: none"> <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>• The CP applied an Inferred classification based on: <ul style="list-style-type: none"> <li>○ Quantity and grade are estimated from limited geological evidence and sampling. Evidence is such that geological and grade continuity are implied but not verified with sufficient supporting data.</li> <li>○ The diamond drill hole and RAB drill hole data provide sufficient information to support the classification.</li> <li>○ The materials' density to determine tonnage quantity has been estimated on a local deposit basis.</li> </ul> </li> </ul>   |
| Audits or reviews                           | <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 independent review of the Mineral Resource estimate has occurred. An internal peer review has been undertaken as standard practice.</li> </ul>  |
| Discussion of relative accuracy/ confidence | <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>• The approach used to estimate the deposit is deemed appropriate by the CP. Both RAB and diamond drill hole data was used to interpret the geological model and indicative variography. ID2 is an industry accepted standard particularly where data is sparse and on a regular grid. The ID2 estimates were compared to OK estimates; OK is also an industry standard grade estimation technique. Both visual and distribution reconciliation suggested that the ID estimates better represented the available data.</li> <li>• The density utilized in the Mineral Resource tabulation were derived from deposit specific samples.</li> <li>• The accuracy and confidence in the Mineral Resource estimate is based on industry standard data gathering and estimation techniques, and represents the low confidence in the available data and geological interpretation.</li> <li>• The relative accuracy and confidence have been considered and classified appropriately as Inferred.</li> <li>• The estimates are local estimates based on the available diamond drill hole information. The precursor RAB drill results and surface trenching and soil geochemical surveys were not used in the estimation process.</li> <li>• No mining has occurred on the Longonjo carbonatite; hence no production data is available for reconciliation purposes.</li> </ul> |