## Major Clay Hosted Ionic Rare Earth Discovery at Mt Clere, WA

- Significant and widespread clay hosted ionic Rare Earth Element (REE) mineralisation confirmed at the $100 \%$ owned Mt Clere Project
- First batch of assay results from the Tower Prospects have reported thick intersections of clay hosted REE mineralisation, including:
- 15m @ 1,395ppm TREO from 16m (21MAC026)
- 12m @ 1,130ppm TREO from surface (21MAC020)
- 10m @ 1,251ppm TREO from 32m, within 14m @ 979ppm TREO from 28m (21MAC004)
- 8m @ 1,264ppm TREO from 16m; within 13m @ 952ppm TREO from 16m (21MAC016)
- 21m @ 1,005ppm TREO from 20m; within 33m @ 765ppm TREO from 8m (21MAC021)
- 12m @ 1,012ppm TREO from 8m; within 22m @ 689ppm TREO from surface (21MAC009)
- 8m @ 941ppm TREO from 20m; within 32m @ 643ppm TREO from 12m (21MAC038)
- 28m @ 841ppm TREO from 8m (21MAC025)
- Enriched in high value magnetic and critical rare earth elements
- Mineralisation occurs from surface and is open
- Results pending for a further 18 holes at the Tower Prospects
- Weak acid solution (WAR) analysis displays weakly bound, highly soluble REEs, characteristic of ionic adsorption and colloidal clay REE mineralisation
- Comprehensive infill and extensional drill program at Tower Prospect and reconnaissance drilling of other highly prospective areas to be fast tracked

Krakatoa Resources Limited (ASX: KTA) ("Krakatoa" or the "Company") is pleased to announce the discovery of widespread clay hosted ionic type REE in the regolith. The discovery was made at the highly prospective Mt Clere project, located in the north-western margins of the Yilgarn Craton, Gascoyne Region of Western Australia.

The Company has received the first batch of results from the reconnaissance drilling geochemical analysis taken at the Tower prospect. The results are showing high levels of regolith hosted REE's, including significant enrichment in the magnetic elements, concentrated in the clay saprolite profiles.

## Krakatoa's CEO Mark Major commented:

"These results have now confirmed that widespread clay hosted, ready soluble REE's exist at significant concentrations within the thick saprolite regolith of the Mt Clere project.
This discovery has come at a great time for the Company and our shareholders. Demand for these magnetic and critical REEs are expected to increase over the next ten years, as the world embarks on the electric revolution.
We are now in a strong position to capitalise on this potential as we have only covered a six square kilometre area, mineralisation is open, thick and close to surface. Significantly, we have multiple other high priority targets within the extensive $2,300 \mathrm{~km}^{2}$ property."


Figure 1 Map showing AC collars over satellite image, showing status of assays

## Rare Earth Element Discovery Program

Krakatoa completed 39 vertical reconnaissance air core (AC) drill holes ( 1,047 meters) around the Tower prospect in December 2021 (Figure 1). The aim of the Tower prospect reconnaissance drilling was to investigate and test for well-developed clay-rich regolith profiles that could be prospective for ion adsorption REE mineralisation. The area tested was around $6 \mathrm{~km}^{2}$.

The majority of holes intersected the expected bedrock of alkaline granitic and gneissic basement rocks with the pallid clay zones being well developed and having thickness from 10 to 30 plus metres.
The Company has received the initial batch of assay results for 21 of the 39 drill holes drilled at Tower (Figure 1). The remaining assays are still outstanding and will be reported when they come to hand. Samples were collected each metre and combined into 4 metre composite samples (from surface) for laboratory analysis. End of hole samples composites varied from 1 to 4 metres, dependent on the depth encountered.

Samples were assayed using two methods of sample digestion; a near complete digestion (Lithium Borate Fusion method) and a second representing only the leachable portion of the sample (weak aqua regia (WAR) method).

## Results

The analytical results revealed significant levels of widespread REEs, with abundant quantities of magnetic and critical rare earth elements. Details of drill intersections having significant clay REE mineralised intersection over 500ppm TREO are reported in Table 1. All drill hole assay data is shown in Table 2.

Table 1: Summary Table of significant intersection >500ppm TREO

| Hole | From <br> (m) | To <br> (m) | Width <br> (m) | TREO (ppm) | $\begin{aligned} & \text { TREO-Ce } \\ & \text { (ppm) } \\ & \hline \end{aligned}$ | LREO (ppm) | HREO (ppm) | CREO <br> (\%) | MREO <br> (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC004 incl. | 28 | 42 | 14 | 979 | 642 | 793 | 186 | 30\% | 28\% |
|  | 32 | 42 | 10 | 1251 | 834 | 999 | 252 | 33\% | 29\% |
| 21MAC009 incl. | 0 | 22 | 22 | 689 | 389 | 609 | 80 | 27\% | 27\% |
|  | 8 | 20 | 12 | 1012 | 562 | 921 | 91 | 23\% | 27\% |
| 21MAC014 | 12 | 26 | 14 | 587 | 308 | 488 | 98 | 26\% | 25\% |
| 21MAC015 | 20 | 40 | 20 | 536 | 333 | 421 | 115 | 28\% | 25\% |
| 21MAC016 incl. | 16 | 29 | 13 | 952 | 418 | 766 | 186 | 27\% | 21\% |
|  | 16 | 24 | 8 | 1264 | 486 | 1041 | 223 | 22\% | 18\% |
| 21MAC017 | 4 | 16 | 12 | 833 | 587 | 677 | 156 | 34\% | 32\% |
| 21MAC020 | 0 | 12 | 12 | 1130 | 618 | 1055 | 75 | 20\% | 23\% |
| 21MAC021 incl. | 8 | 41 | 33 | 765 | 534 | 490 | 263 | 37\% | 25\% |
|  | 20 | 41 | 21 | 1005 | 719 | 638 | 367 | 40\% | 26\% |
| 21MAC023 | 20 | 36 | 16 | 720 | 369 | 645 | 75 | 21\% | 24\% |
| 21MAC024 | 12 | 25 | 13 | 653 | 369 | 551 | 102 | 26\% | 24\% |
| 21MAC025 | 8 | 36 | 28 | 841 | 255 | 444 | 36 | 20\% | 23\% |
| 21MAC026 | 16 | 31 | 15 | 1395 | 777 | 1243 | 152 | 23\% | 25\% |
| 21MAC027 | 12 | 31 | 19 | 521 | 282 | 449 | 72 | 24\% | 23\% |
| 21MAC028 | 12 | 22 | 10 | 541 | 295 | 492 | 49 | 23\% | 26\% |
| $\begin{array}{r} \text { 21MAC029 } \\ \text { incl. } \end{array}$ | 20 | 43 | 23 | 555 | 355 | 436 | 120 | 31\% | 28\% |
|  | 28 | 32 | 4 | 1363 | 890 | 1084 | 278 | 31\% | 29\% |
| 21MAC035 | 12 | 25 | 13 | 502 | 327 | 387 | 138 | 38\% | 34\% |
| 21MAC036 | 12 | 31 | 19 | 645 | 436 | 467 | 178 | 37\% | 29\% |
| 21MAC037 | 12 | 36 | 24 | 692 | 406 | 568 | 124 | 28\% | 26\% |
| $\begin{array}{r} \text { 21MAC038 } \\ \text { incl. } \end{array}$ | 12 | 44 | 32 | 643 | 417 | 496 | 147 | 33\% | 28\% |
|  | 20 | 28 | 8 | 941 | 578 | 767 | 174 | 28\% | 25\% |
| 21MAC039 | 16 | 37 | 21 | 520 | 290 | 396 | 113 | 32\% | 26\% |

The clay intersection of over 500ppm TREO range in thickness from 10 m to 33 m within the current area of drilling. Only one hole, 21MCAC011 located on the edge of Tower west zone returned grades lower than 500ppm TREO. Zirconium was also elevated within several zones of the regolith, with several assays higher than 1000ppm returned (see Table 2) from some intervals.

The main mineralisation envelopes are interpretated to lie within the large horizontal clay saprolite layer, which is and are open to the north, east and west. Additional areas within the laterite caprock and within the highly weathered saprock have also shown significant REE mineralisation. Figure 2 and 3 show cross sections of the simplified regolith profile with mineralised zones of $>500 \mathrm{ppm}$ and $>200 \mathrm{ppm}$ TREO, and drill holes with annotated intersections.


Figure 2 Cross section 7172740 N showing simplified regolith profile and TREO zones of 500 and 200ppm


Figure 3 Cross section 7171500 N showing simplified regolith profile and TREO zones of 500 and 200ppm

The regolith tends to be dominated by light rare earth oxides (LREO) with up to $40 \%$ of the TREO being critical rare earth oxide (CREO) and 34\% as magnetic rare earth oxide (MREO). The presence of high value Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy), Terbium (Tb) and Holmium (Ho) is encouraging.

## Geochemistry and Mineralogy

Clay hosted REE deposits tend to be a mixture of multiple mineralization styles including the currently targeted ionic adsorption clay and colloidal clay fractions, as well as the refractory primary minerals.

The ionic and colloidal bonded mineralisation fractions are weakly bound to the clay matrix. These systems are developed from the weathering and dissolution of the primary mineral. Both the ionic and colloidally bonded fractions are the target focus of other clay hosted REE companies like Ionic Rare Earth Limited (ASX:IXR), Aclara Resources Inc (TSX.ARA), and Mount Ridley Mines (ASX:MRD) amount others.

The WAR digestion method is used to test for weakly bound - highly soluble REEs, a recognised characteristic of ionic absorption and colloidal bonding within the clay hosted fractions of REE deposits.

The average recovery by WAR for each CREO and MREO ranges from 65-85\%. Some REO had 100\% recovery with WAR. Comparison of the full digestion assay results and the weak acid assay results for all intersection $>500 \mathrm{ppm}$ TREO are shown in Table 3.

## Next Steps

The Company is awaiting analysis of results for the remaining Tower drill holes. Once received the Company will undertake a full review of the regolith geochemistry and undertake phase 1 metallurgical test work, to assist with understanding the metallurgical recoveries across the various mineralised zones identified within the drill program.

A fast tracked drill program is now being planned to infill and extend the drilling traverses within the Tower prospect as well as reconnaissance drilling of other highly prospective areas.

Authorised for release by the Board.

## FOR FURTHER INFORMATION:

Colin Locke
Executive Chairman
+61 457289582
locke@ktaresources.com
www.ktaresources.com

## Competent Person's Statement

The information in this announcement is based on, and fairly represents information compiled by Mark Major, Krakatoa Resources CEO, who is a Member of the Australasian Institute of Mining and Metallurgy and a full-time employee of Krakatoa Resources. Mr Major has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Major consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

## Disclaimer

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "feel(s)", "believe(s)", "will", "may", "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company's prospects, properties and business strategy. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

Table 2: AC Drilling Analytical Results

| Hole | From (m) | To (m) | Interval (m) | $\begin{gathered} \mathbf{Z r} \\ \mathrm{ppm} \end{gathered}$ | Ce ppm | La ppm | $\begin{gathered} \mathbf{Y} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \text { Dy } \\ \text { ppm } \end{gathered}$ | Er ppm | Eu <br> ppm | $\begin{gathered} \mathbf{G d} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Ho} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Lu} \\ \mathrm{ppm} \end{gathered}$ | Nd ppm | Pr ppm | Sm ppm | Tb ppm | Tm ppm | $\begin{gathered} \mathrm{Yb} \\ \mathrm{ppm} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC004 | 0 | 4 | 4 | 710 | 73.2 | 24.7 | 20.4 | 3.58 | 2.16 | 0.76 | 3.73 | 0.78 | 0.38 | 20.9 | 5.73 | 3.93 | 0.58 | 0.36 | 2.3 |
| 21MAC004 | 4 | 8 | 4 | 637 | 14.9 | 8 | 7.7 | 1.06 | 0.91 | 0.12 | 0.96 | 0.26 | 0.2 | 5 | 1.45 | 0.93 | 0.16 | 0.15 | 1.06 |
| 21MAC004 | 8 | 12 | 4 | 642 | 8.7 | 5.1 | 4.1 | 0.73 | 0.58 | 0.14 | 0.62 | 0.15 | 0.16 | 3.4 | 0.9 | 0.7 | 0.11 | 0.09 | 0.85 |
| 21MAC004 | 12 | 16 | 4 | 712 | 6.1 | 6.2 | 4.9 | 0.88 | 0.67 | 0.13 | 0.61 | 0.2 | 0.16 | 3 | 0.92 | 0.61 | 0.12 | 0.11 | 0.87 |
| 21MAC004 | 16 | 20 | 4 | 830 | 14 | 9 | 6.4 | 1.3 | 0.94 | 0.25 | 1.06 | 0.29 | 0.2 | 5.8 | 1.7 | 1.1 | 0.2 | 0.2 | 1.12 |
| 21MAC004 | 20 | 24 | 4 | 335 | 12.9 | 6.4 | 4.6 | 0.69 | 0.5 | 0.15 | 0.63 | 0.17 | 0.11 | 3.4 | 0.98 | 3.6 | 0.59 | 0.1 | 0.32 |
| 21MAC004 | 24 | 28 | 4 | 435 | 74.3 | 42.2 | 7.1 | 1.5 | 0.75 | 0.25 | 2.46 | 0.28 | 0.16 | 26.4 | 7.44 | 4.07 | 0.29 | 0.12 | 0.95 |
| 21MAC004 | 28 | 32 | 4 | 645 | 111.5 | 61.5 | 8.2 | 2.15 | 1.22 | 0.57 | 3.57 | 0.35 | 0.24 | 41.1 | 11.5 | 5.85 | 0.43 | 0.16 | 1.4 |
| 21MAC004 | 32 | 36 | 4 | 442 | 475 | 367 | 87.8 | 23.6 | 11.25 | 10.95 | 31.8 | 4.14 | 1.43 | 282 | 76.5 | 48.6 | 4.17 | 1.56 | 10.35 |
| 21MAC004 | 36 | 40 | 4 | 222 | 302 | 171 | 101 | 22.4 | 12.35 | 6.54 | 24.2 | 4.35 | 1.63 | 131.5 | 33.1 | 26.1 | 3.49 | 1.71 | 11.35 |
| 21MAC004 | 40 | 42 | 2 | 268 | 144 | 91.3 | 190.5 | 25.1 | 16.45 | 4.1 | 22.3 | 5.52 | 1.95 | 81.8 | 19.05 | 17.7 | 3.55 | 2.19 | 12.65 |
| 21MAC009 | 0 | 4 | 4 | 547 | 83.8 | 37.5 | 28.5 | 5.31 | 3.52 | 0.95 | 5.53 | 1.12 | 0.51 | 27.8 | 7.99 | 6.3 | 5.68 | 0.86 | 0.67 |
| 21MAC009 | 4 | 8 | 4 | 377 | 133.5 | 60 | 20.1 | 4.36 | 2.27 | 0.84 | 6.48 | 0.8 | 0.32 | 42.1 | 11.85 | 4.7 | 7.75 | 0.84 | 0.51 |
| 21MAC009 | 8 | 12 | 4 | 575 | 286 | 154 | 27.9 | 7.14 | 2.59 | 1.08 | 13.35 | 1.05 | 0.3 | 109.5 | 29.4 | 17.9 | 1.44 | 0.3 | 1.93 |
| 21MAC009 | 12 | 16 | 4 | 737 | 639 | 344 | 52 | 14 | 4.7 | 1.78 | 27.5 | 2.1 | 0.47 | 243 | 66.1 | 39.5 | 2.96 | 0.49 | 3.25 |
| 21MAC009 | 16 | 20 | 4 | 485 | 172 | 94.1 | 30.6 | 7.12 | 3.4 | 1.41 | 10.4 | 1.23 | 0.48 | 74.9 | 19.6 | 13.5 | 1.3 | 0.46 | 3.18 |
| 21MAC009 | 20 | 22 | 2 | 262 | 76 | 39.4 | 48.3 | 8.52 | 5.15 | 1.28 | 8.18 | 1.76 | 0.77 | 35.6 | 8.66 | 8.47 | 1.3 | 0.79 | 5.24 |
| 21MAC011 | 0 | 4 | 4 | 567 | 55 | 27.2 | 45.8 | 7.83 | 4.86 | 0.62 | 6.15 | 1.68 | 0.75 | 25.4 | 6.26 | 5.6 | 1.1 | 0.71 | 4.86 |
| $21 \mathrm{MAC011}$ | 4 | 8 | 4 | 491 | 72.8 | 40.6 | 39.6 | 6.81 | 4.19 | 0.59 | 6.51 | 1.45 | 0.62 | 31.5 | 8.25 | 6.74 | 1.04 | 0.6 | 4.02 |
| 21MAC011 | 8 | 12 | 4 | 348 | 42.6 | 25.8 | 22.2 | 3.7 | 2.4 | 0.51 | 3.92 | 0.77 | 0.35 | 19.8 | 5.33 | 4.12 | 0.58 | 0.33 | 2.32 |
| $21 \mathrm{MAC011}$ | 12 | 16 | 4 | 347 | 85.3 | 44.2 | 14.2 | 3.28 | 1.58 | 0.49 | 4.76 | 0.59 | 0.23 | 33.8 | 8.85 | 6.07 | 0.63 | 0.21 | 1.45 |
| $21 \mathrm{MAC011}$ | 16 | 20 | 4 | 282 | 83.6 | 45.2 | 14 | 3.33 | 1.69 | 0.85 | 4.79 | 0.63 | 0.27 | 33.3 | 8.75 | 6.28 | 0.6 | 0.23 | 1.79 |
| $21 \mathrm{MAC011}$ | 20 | 23 | 3 | 201 | 128.5 | 70.7 | 17.2 | 4.22 | 1.84 | 1.3 | 6.97 | 0.72 | 0.25 | 51.3 | 13.65 | 9.13 | 0.82 | 0.25 | 1.61 |
| $21 \mathrm{MAC014}$ | 0 | 4 | 4 | 405 | 30.2 | 16.2 | 14.8 | 2.6 | 1.74 | 0.5 | 2.46 | 0.56 | 0.28 | 12.2 | 3.33 | 7 | 2.49 | 0.41 | 0.47 |
| $21 \mathrm{MAC014}$ | 4 | 8 | 4 | 655 | 5.8 | 5.5 | 6.2 | 0.98 | 0.75 | 0.16 | 0.78 | 0.19 | 0.16 | 3.7 | 0.99 | 0.78 | 0.13 | 0.13 | 0.89 |
| 21MAC014 | 8 | 12 | 4 | 270 | 12 | 11.8 | 4.7 | 0.8 | 0.51 | 0.18 | 0.97 | 0.15 | 0.09 | 6.9 | 1.68 | 1.16 | 0.11 | 0.07 | 0.59 |
| 21MAC014 | 12 | 16 | 4 | 318 | 80.9 | 63.2 | 18.7 | 4.52 | 2.02 | 1.59 | 5.98 | 0.78 | 0.26 | 45.6 | 11.95 | 8.22 | 0.8 | 0.27 | 1.76 |
| 21MAC014 | 16 | 20 | 4 | 391 | 136 | 61.3 | 32.7 | 6.98 | 3.86 | 1.69 | 7.84 | 1.35 | 0.62 | 48.1 | 12.55 | 9.21 | 1.13 | 0.54 | 3.96 |


| Hole ID | From <br> (m) | $\begin{aligned} & \text { To } \\ & \text { (m) } \end{aligned}$ | Interval (m) | $\begin{gathered} \mathrm{Zr} \\ \mathrm{ppm} \end{gathered}$ | $\mathrm{Ce}$ <br> ppm | La ppm | $\begin{gathered} \mathbf{Y} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \text { Dy } \\ \text { ppm } \end{gathered}$ | Er <br> ppm | $\begin{gathered} \text { Eu } \\ \text { ppm } \end{gathered}$ | Gd <br> ppm | Ho <br> ppm | $\begin{gathered} \mathrm{Lu} \\ \mathrm{ppm} \end{gathered}$ | Nd <br> ppm |  | Sm ppm | Tb <br> ppm | Tm ppm | $\begin{gathered} \mathbf{Y b} \\ \mathrm{ppm} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC014 | 20 | 24 | 4 | 332 | 437 | 108 | 72.4 | 16.25 | 9.62 | 4.02 | 15 | 3.27 | 1.38 | 87.6 | 23.3 | 17.4 | 2.54 | 1.3 | 9.07 |
| 21MAC014 | 24 | 26 | 2 | 310 | 280 | 122.5 | 55.1 | 11.7 | 6.08 | 3.35 | 14.45 | 2.29 | 0.78 | 93.5 | 26.3 | 17.2 | 2.13 | 0.82 | 4.91 |
| 21MAC015 | 0 | 4 | 4 | 564 | 57.8 | 29.6 | 39.7 | 6.01 | 4.04 | 0.98 | 5.15 | 1.41 | 0.6 | 25.2 | 6.72 | 4.94 | 0.9 | 0.62 | 3.86 |
| 21MAC015 | 4 | 8 | 4 | 703 | 12.8 | 8.4 | 53.5 | 7.02 | 5.66 | 0.33 | 4.06 | 1.82 | 0.86 | 7.3 | 1.74 | 2.07 | 0.93 | 0.86 | 5.17 |
| 21MAC015 | 8 | 12 | 4 | 777 | 13.1 | 5.5 | 54.7 | 7.53 | 6.11 | 0.22 | 3.88 | 1.93 | 0.95 | 5.3 | 1.31 | 1.82 | 0.94 | 0.88 | 5.77 |
| 21MAC015 | 12 | 16 | 4 | 503 | 40.3 | 20 | 53.3 | 7.5 | 5.88 | 0.5 | 5.14 | 1.88 | 0.92 | 15.8 | 4.08 | 4.05 | 1.06 | 0.9 | 5.71 |
| 21MAC015 | 16 | 20 | 4 | 575 | 74.2 | 32.7 | 28.5 | 5.1 | 3.22 | 1.07 | 5.06 | 1.1 | 0.52 | 29.5 | 7.62 | 5.77 | 0.85 | 0.5 | 3.17 |
| 21MAC015 | 20 | 24 | 4 | 198 | 190.5 | 89.1 | 40.4 | 9.16 | 4.1 | 2.79 | 11.8 | 1.63 | 0.4 | 81.2 | 21.8 | 15.9 | 1.7 | 0.5 | 2.92 |
| 21MAC015 | 24 | 28 | 4 | 219 | 128 | 61.3 | 22.3 | 5.22 | 2.22 | 1.32 | 7.89 | 0.92 | 0.23 | 52.2 | 13.7 | 10.15 | 1.05 | 0.28 | 1.69 |
| 21MAC015 | 28 | 32 | 4 | 199 | 136.5 | 66.6 | 38.7 | 8.76 | 4.16 | 2.73 | 10.7 | 1.69 | 0.45 | 52.6 | 13.45 | 11.25 | 1.62 | 0.53 | 3.13 |
| 21MAC015 | 32 | 36 | 4 | 129 | 289 | 149 | 107.5 | 18.75 | 10.1 | 4.73 | 22.6 | 3.81 | 1.2 | 111 | 28.7 | 21.8 | 3.35 | 1.31 | 7.62 |
| 21MAC015 | 36 | 40 | 4 | 72 | 81.1 | 59.5 | 60.9 | 9.62 | 5.22 | 2.06 | 11.65 | 2.01 | 0.61 | 48 | 12.15 | 10.55 | 1.65 | 0.72 | 4.08 |
| 21MAC015 | 40 | 41 | 1 | 69 | 43.9 | 19.2 | 21.1 | 3.53 | 2.04 | 0.83 | 3.55 | 0.71 | 0.28 | 20.3 | 5.02 | 4.17 | 0.6 | 0.29 | 1.88 |
| 21MAC016 | 0 | 4 | 4 | 320 | 44.2 | 19.9 | 90.1 | 11.9 | 9.1 | 0.62 | 7.01 | 3.03 | 1.05 | 17.4 | 4.31 | 4.11 | 1.54 | 1.19 | 7.15 |
| 21MAC016 | 4 | 8 | 4 | 118 | 20.4 | 12.7 | 29.5 | 3.94 | 2.86 | 0.29 | 2.49 | 0.96 | 0.34 | 8.7 | 2.37 | 1.86 | 0.55 | 0.4 | 2.3 |
| 21MAC016 | 8 | 12 | 4 | 217 | 8.7 | 8 | 4.8 | 0.73 | 0.49 | 0.15 | 0.8 | 0.17 | 0.09 | 4.9 | 1.34 | 0.87 | 0.12 | 0.06 | 0.46 |
| 21MAC016 | 12 | 16 | 4 | 188 | 41.5 | 20.7 | 6.3 | 1.27 | 0.65 | 0.45 | 1.73 | 0.24 | 0.1 | 14.8 | 4.26 | 2.44 | 0.24 | 0.1 | 0.67 |
| 21MAC016 | 16 | 20 | 4 | 240 | 257 | 107.5 | 44.4 | 10 | 5.27 | 2.88 | 12.25 | 1.99 | 0.67 | 76.8 | 22 | 14.75 | 1.81 | 0.75 | 4.8 |
| 21MAC016 | 20 | 24 | 4 | 202 | 1010 | 103 | 161.5 | 34 | 19.2 | 6.04 | 27.5 | 7.13 | 2.36 | 79.7 | 20.9 | 23.3 | 5.43 | 2.61 | 15.75 |
| 21MAC016 | 24 | 28 | 4 | 182 | 128.5 | 76.8 | 67.7 | 10.8 | 6.57 | 3.07 | 12.2 | 2.39 | 0.8 | 60.5 | 16.4 | 12.45 | 1.9 | 0.87 | 5.26 |
| 21MAC016 | 28 | 29 | 1 | 211 | 76.4 | 54.5 | 46.9 | 7.39 | 4.31 | 2.12 | 8 | 1.6 | 0.56 | 37.4 | 9.88 | 7.55 | 1.23 | 0.61 | 3.51 |
| $21 \mathrm{MAC017}$ | 0 | 4 | 4 | 334 | 55.8 | 37.9 | 14.1 | 2.68 | 1.56 | 0.74 | 2.88 | 0.56 | 0.22 | 23.1 | 7.05 | 3.87 | 0.48 | 0.21 | 1.45 |
| $21 \mathrm{MAC017}$ | 4 | 8 | 4 | 267 | 415 | 300 | 117 | 24 | 12.95 | 8.33 | 30.9 | 4.8 | 1.98 | 257 | 66.8 | 42.3 | 4.42 | 1.89 | 12.05 |
| $21 \mathrm{MAC017}$ | 8 | 12 | 4 | 248 | 90.7 | 49.6 | 28.9 | 5.63 | 3.23 | 1.53 | 6.09 | 1.14 | 0.48 | 45.4 | 11.9 | 8.01 | 0.93 | 0.48 | 3.13 |
| $21 \mathrm{MAC017}$ | 12 | 16 | 4 | 65 | 95.6 | 167.5 | 72.3 | 9.98 | 5.13 | 3.41 | 14.95 | 2.05 | 0.51 | 109.5 | 27.4 | 16.65 | 1.93 | 0.61 | 3.41 |
| $21 \mathrm{MAC017}$ | 16 | 18 | 2 | 245 | 43.8 | 50.7 | 20.7 | 2.65 | 1.44 | 1.29 | 3.67 | 0.56 | 0.17 | 28.3 | 7.68 | 4.38 | 0.5 | 0.18 | 1.02 |
| 21MAC020 | 0 | 4 | 4 | 488 | 410 | 247 | 16.6 | 3.91 | 1.38 | 1.27 | 9.12 | 0.62 | 0.17 | 138 | 41 | 16.45 | 0.92 | 0.17 | 1.15 |
| 21MAC020 | 4 | 8 | 4 | 297 | 431 | 286 | 51.2 | 9.86 | 4.62 | 3.05 | 15.75 | 1.87 | 0.58 | 160 | 45.4 | 21.6 | 1.95 | 0.62 | 3.75 |
| 21MAC020 | 8 | 12 | 4 | 489 | 411 | 235 | 29.4 | 6.25 | 2.56 | 1.85 | 11.9 | 1.11 | 0.31 | 138.5 | 40.1 | 18.35 | 1.37 | 0.34 | 2.15 |
| 21MAC021 | 0 | 4 | 4 | 665 | 25.9 | 14.5 | 29.9 | 4.29 | 3.15 | 0.51 | 3.02 | 1.08 | 0.5 | 13.9 | 3.57 | 2.65 | 0.6 | 0.5 | 3.28 |


| Hole ID | From <br> (m) | To <br> (m) | Interval <br> (m) | $\begin{gathered} \mathrm{Zr} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Ce} \\ \mathrm{ppm} \end{gathered}$ | La <br> ppm | $\begin{gathered} \mathbf{Y} \\ \mathrm{ppm} \end{gathered}$ | Dy ppm | $\begin{gathered} \mathrm{Er} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Eu} \\ \mathrm{ppm} \end{gathered}$ | Gd <br> ppm | Ho <br> ppm | $\begin{gathered} \mathrm{Lu} \\ \mathrm{ppm} \end{gathered}$ | Nd <br> ppm | Pr ppm | Sm <br> ppm | $\begin{array}{c\|} \hline \text { Tb } \\ \text { ppm } \end{array}$ | $\begin{aligned} & \mathrm{Tm} \\ & \mathrm{ppm} \end{aligned}$ | Yb ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC021 | 4 | 8 | 4 | 399 | 25.9 | 9.2 | 18.8 | 2.8 | 1.97 | 0.37 | 2.1 | 0.65 | 0.32 | 8.9 | 2.29 | 1.76 | 0.38 | 0.33 | 1.99 |
| $21 \mathrm{MAC021}$ | 8 | 12 | 4 | 524 | 77.3 | 45 | 44.8 | 6.88 | 4.4 | 0.68 | 5.77 | 1.54 | 0.62 | 27.1 | 7.49 | 5.85 | 1.03 | 0.63 | 3.86 |
| 21MAC021 | 12 | 16 | 4 | 617 | 136 | 75 | 36.1 | 5.71 | 3.83 | 0.96 | 5.91 | 1.31 | 0.61 | 37.8 | 11.25 | 6.82 | 0.97 | 0.55 | 3.77 |
| 21MAC021 | 16 | 20 | 4 | 615 | 114 | 55.7 | 43.5 | 7.41 | 4.46 | 1.4 | 6.71 | 1.59 | 0.68 | 40.9 | 11.45 | 8.09 | 1.16 | 0.68 | 4.18 |
| 21MAC021 | 20 | 24 | 4 | 287 | 237 | 120.5 | 68.3 | 13.85 | 7.05 | 4.82 | 16.3 | 2.67 | 0.86 | 101 | 27.5 | 20.3 | 2.54 | 0.96 | 5.82 |
| 21MAC021 | 24 | 28 | 4 | 440 | 208 | 124 | 76.6 | 15.7 | 8.57 | 5.64 | 18.3 | 3.03 | 1.01 | 96.6 | 24.4 | 19.9 | 2.62 | 1.13 | 7.46 |
| 21MAC021 | 28 | 32 | 4 | 473 | 235 | 128.5 | 201 | 34.1 | 21.7 | 6.85 | 29.5 | 7.27 | 2.83 | 116 | 28.3 | 26.2 | 5.06 | 2.93 | 19 |
| 21MAC021 | 32 | 36 | 4 | 154 | 358 | 212 | 337 | 55.2 | 34.1 | 7.91 | 50.8 | 11.7 | 3.99 | 191.5 | 47 | 45.1 | 8.22 | 4.53 | 27.7 |
| 21MAC021 | 36 | 40 | 4 | 229 | 124 | 68.4 | 159.5 | 24.1 | 16.1 | 3.16 | 19.85 | 5.35 | 1.87 | 64.2 | 15.35 | 16.75 | 3.53 | 2.1 | 13.1 |
| 21MAC021 | 40 | 41 | 1 | 130 | 242 | 124.5 | 501 | 75.2 | 53.1 | 6.48 | 49.3 | 17.1 | 6.44 | 129.5 | 30.5 | 36.1 | 9.91 | 7.27 | 45.2 |
| 21 MACO 23 | 0 | 4 | 4 | 531 | 38.7 | 21.9 | 19.1 | 3.1 | 1.87 | 0.73 | 3.22 | 0.66 | 0.31 | 18.9 | 4.7 | 3.61 | 0.49 | 0.3 | 1.88 |
| 21MAC023 | 4 | 8 | 4 | 453 | 9.4 | 10.9 | 8.8 | 1.31 | 0.85 | 0.22 | 1.23 | 0.29 | 0.15 | 7 | 1.6 | 1.3 | 0.18 | 0.13 | 0.87 |
| 21 MACO 23 | 8 | 12 | 4 | 261 | 9.6 | 6.3 | 3.4 | 0.47 | 0.35 | 0.1 | 0.56 | 0.12 | 0.07 | 3.2 | 0.88 | 0.58 | 0.09 | 0.05 | 0.37 |
| 21 MACO 23 | 12 | 16 | 4 | 392 | 19.8 | 10.2 | 5 | 0.76 | 0.56 | 0.13 | 0.84 | 0.19 | 0.12 | 6 | 1.64 | 1 | 0.13 | 0.09 | 0.72 |
| 21 MACO 23 | 16 | 20 | 4 | 176 | 28.6 | 13.6 | 4.1 | 0.68 | 0.4 | 0.12 | 0.9 | 0.15 | 0.07 | 7.5 | 2.09 | 1.1 | 0.11 | 0.07 | 0.47 |
| 21 MACO 23 | 20 | 24 | 4 | 199 | 110 | 70.7 | 8.2 | 1.87 | 0.7 | 0.79 | 3.67 | 0.32 | 0.11 | 41.7 | 12 | 5.93 | 0.41 | 0.11 | 0.65 |
| 21 MACO 23 | 24 | 28 | 4 | 130 | 123 | 84.8 | 11.3 | 2.93 | 1.11 | 1.92 | 5.06 | 0.5 | 0.11 | 51.8 | 15 | 7.85 | 0.64 | 0.15 | 0.83 |
| 21 MACO 23 | 28 | 32 | 4 | 170 | 706 | 225 | 67.1 | 17.95 | 7.74 | 6.86 | 22.5 | 3.06 | 0.79 | 147 | 38.8 | 28.7 | 3.28 | 1 | 5.87 |
| 21MAC023 | 32 | 36 | 4 | 171 | 204 | 152.5 | 41.5 | 6.78 | 3.53 | 2.47 | 9.59 | 1.36 | 0.45 | 85 | 23.8 | 12.5 | 1.26 | 0.47 | 2.89 |
| 21MACO24 | 0 | 4 | 4 | 412 | 13.4 | 7.9 | 5.8 | 0.83 | 0.63 | 0.15 | 0.83 | 0.19 | 0.12 | 4.7 | 1.3 | 0.78 | 0.11 | 0.11 | 0.73 |
| 21 MACO 24 | 4 | 8 | 4 | 196 | 4.2 | 4.1 | 3 | 0.44 | 0.32 | 0.11 | 0.49 | 0.11 | 0.05 | 2.9 | 0.76 | 0.51 | 0.08 | 0.05 | 0.37 |
| 21 MACO 24 | 8 | 12 | 4 | 381 | 37.5 | 8.9 | 6.9 | 1.28 | 0.8 | 0.31 | 1.5 | 0.27 | 0.16 | 7.1 | 1.82 | 1.49 | 0.2 | 0.14 | 0.96 |
| 21 MACO 24 | 12 | 16 | 4 | 148 | 116 | 76.6 | 17.4 | 5.1 | 2.12 | 2 | 6.94 | 0.84 | 0.26 | 50.3 | 13.5 | 8.7 | 0.96 | 0.27 | 1.81 |
| 21 MACO 24 | 16 | 20 | 4 | 354 | 293 | 124.5 | 42 | 8.68 | 4.93 | 2.45 | 11 | 1.79 | 0.73 | 76.4 | 21.2 | 13.45 | 1.57 | 0.73 | 4.62 |
| 21 MACO 24 | 20 | 24 | 4 | 190 | 338 | 159 | 80.6 | 14 | 7.48 | 3.93 | 17.25 | 2.81 | 0.97 | 104 | 27.5 | 19.15 | 2.43 | 1.03 | 6.28 |
| 21MAC024 | 24 | 25 | 1 | 152 | 70.5 | 63.8 | 52.8 | 5.58 | 2.95 | 1.8 | 8.25 | 1.21 | 0.34 | 44.1 | 11.75 | 8.08 | 1.01 | 0.38 | 1.96 |
| 21MAC025 | 0 | 4 | 4 | 616 | 15.6 | 10.4 | 7.7 | 1.12 | 0.79 | 0.26 | 1.19 | 0.25 | 0.15 | 7.1 | 1.88 | 1.32 | 0.18 | 0.12 | 0.8 |
| 21MAC025 | 4 | 8 | 4 | 384 | 16.6 | 10 | 3.5 | 0.59 | 0.32 | 0.08 | 0.73 | 0.12 | 0.09 | 6 | 1.72 | 0.95 | 0.1 | 0.07 | 0.47 |
| 21MAC025 | 8 | 12 | 4 | 306 | 168 | 94.6 | 7.2 | 2.13 | 0.74 | 1.26 | 3.69 | 0.32 | 0.1 | 48.3 | 14.45 | 6.9 | 0.45 | 0.11 | 0.62 |
| 21MAC025 | 12 | 16 | 4 | 483 | 426 | 235 | 15.7 | 5.42 | 1.77 | 3.82 | 9.74 | 0.78 | 0.17 | 124.5 | 36.1 | 18.3 | 1.18 | 0.22 | 1.27 |


| Hole ID | From <br> (m) | To (m) | Interval <br> (m) | $\begin{gathered} \mathrm{Zr} \\ \mathrm{ppm} \end{gathered}$ | Ce <br> ppm | La <br> ppm | $\begin{gathered} \text { Y } \\ \text { ppm } \end{gathered}$ | Dy ppm | Er <br> ppm | Eu <br> ppm | Gd <br> ppm | Ho <br> ppm | Lu <br> ppm | Nd ppm | Pr ppm | Sm <br> ppm | Tb <br> ppm | Tm <br> ppm | Yb <br> ppm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC025 | 16 | 20 | 4 | 378 | 121 | 66.1 | 11.1 | 2.82 | 1.3 | 1.25 | 3.97 | 0.53 | 0.17 | 34.9 | 10.15 | 5.67 | 0.56 | 0.2 | 1.17 |
| 21MAC025 | 20 | 24 | 4 | 293 | 131.5 | 71.6 | 13.9 | 3.48 | 1.43 | 1.44 | 4.74 | 0.57 | 0.18 | 43.5 | 12.3 | 7.21 | 0.64 | 0.21 | 1.3 |
| 21MAC025 | 24 | 28 | 4 | 246 | 114 | 68.3 | 16.8 | 3.41 | 1.67 | 1.77 | 4.82 | 0.66 | 0.2 | 38.4 | 10.75 | 6.3 | 0.65 | 0.21 | 1.29 |
| 21MAC025 | 28 | 32 | 4 | 317 | 208 | 118 | 19.3 | 4.1 | 1.78 | 1.96 | 6.22 | 0.75 | 0.19 | 65.7 | 18.8 | 9.61 | 0.78 | 0.23 | 1.35 |
| $21 \mathrm{MAC0} 25$ | 32 | 36 | 4 | 208 | 119.5 | 74.3 | 17.9 | 3.74 | 1.77 | 1.45 | 5.06 | 0.7 | 0.22 | 44.3 | 12.4 | 6.79 | 0.71 | 0.24 | 1.5 |
| 21MAC026 | 0 | 4 | 4 | 620 | 47.3 | 24.8 | 19.3 | 3.09 | 1.97 | 0.7 | 3.02 | 0.66 | 0.32 | 18.1 | 4.68 | 3.5 | 0.48 | 0.3 | 2.03 |
| $21 \mathrm{MAC0} 26$ | 4 | 8 | 4 | 869 | 7.4 | 6.1 | 9.3 | 1.27 | 0.94 | 0.22 | 1.08 | 0.29 | 0.2 | 4.8 | 1.16 | 0.99 | 0.17 | 0.16 | 1.19 |
| $21 \mathrm{MAC0} 26$ | 8 | 12 | 4 | 1015 | 7.1 | 4 | 6 | 0.81 | 0.76 | 0.09 | 0.49 | 0.19 | 0.2 | 2.6 | 0.71 | 0.42 | 0.1 | 0.15 | 1.06 |
| 21MAC026 | 12 | 16 | 4 | 466 | 47.4 | 14.1 | 6.1 | 1.25 | 0.84 | 0.21 | 1.21 | 0.24 | 0.18 | 9.9 | 2.69 | 1.4 | 0.18 | 0.13 | 1.02 |
| $21 \mathrm{MAC0} 26$ | 16 | 20 | 4 | 578 | 136 | 62.9 | 22.2 | 4.68 | 2.49 | 1.33 | 5.56 | 0.91 | 0.39 | 46.7 | 13.7 | 7.17 | 0.81 | 0.34 | 2.34 |
| 21MAC026 | 20 | 24 | 4 | 420 | 281 | 154 | 34.5 | 8.71 | 3.38 | 3.41 | 12.4 | 1.46 | 0.3 | 108.5 | 30.1 | 15.9 | 1.64 | 0.43 | 2.55 |
| $21 \mathrm{MAC0} 26$ | 24 | 28 | 4 | 292 | 455 | 278 | 42.8 | 12.35 | 4.54 | 4.69 | 17.2 | 1.86 | 0.36 | 155 | 44.3 | 22.8 | 2.3 | 0.53 | 2.81 |
| $21 \mathrm{MAC0} 26$ | 28 | 31 | 3 | 243 | 1355 | 743 | 196 | 43 | 19.2 | 11.4 | 56.6 | 7.77 | 2.03 | 465 | 131 | 71.4 | 7.96 | 2.56 | 14.75 |
| $21 \mathrm{MAC027}$ | 0 | 4 | 4 | 192 | 45 | 29.5 | 17.2 | 2.81 | 1.68 | 0.61 | 3 | 0.57 | 0.21 | 19.8 | 5.35 | 3.31 | 0.44 | 0.23 | 1.41 |
| $21 \mathrm{MAC027}$ | 4 | 8 | 4 | 412 | 26 | 18.4 | 6.1 | 0.96 | 0.68 | 0.17 | 1.18 | 0.2 | 0.14 | 10.5 | 2.97 | 1.49 | 0.16 | 0.11 | 0.72 |
| $21 \mathrm{MAC027}$ | 8 | 12 | 4 | 267 | 60.3 | 34.2 | 9.4 | 1.98 | 1.09 | 0.39 | 2.83 | 0.37 | 0.19 | 23.6 | 6.49 | 3.74 | 0.35 | 0.15 | 1.09 |
| $21 \mathrm{MAC027}$ | 12 | 16 | 4 | 280 | 103 | 57.5 | 16.9 | 3.61 | 2.07 | 0.91 | 4.63 | 0.65 | 0.34 | 40.5 | 11.15 | 5.98 | 0.6 | 0.33 | 2.1 |
| 21MAC027 | 16 | 20 | 4 | 304 | 177 | 63.9 | 27.6 | 6.16 | 3.3 | 1.5 | 7.27 | 1.14 | 0.5 | 50.5 | 13.75 | 8.56 | 0.98 | 0.51 | 3.42 |
| $21 \mathrm{MAC0} 27$ | 20 | 24 | 4 | 236 | 139.5 | 39 | 24.4 | 5.77 | 3.36 | 1.29 | 5.4 | 1.12 | 0.46 | 30.5 | 8.07 | 5.63 | 0.84 | 0.52 | 3.23 |
| 21MAC027 | 24 | 28 | 4 | 259 | 255 | 118 | 34.7 | 7.99 | 4.41 | 2.11 | 9.32 | 1.46 | 0.62 | 78.3 | 22.3 | 12 | 1.27 | 0.64 | 4.28 |
| $21 \mathrm{MAC027}$ | 28 | 31 | 3 | 334 | 210 | 151.5 | 43.7 | 8.06 | 4.17 | 2.1 | 11.95 | 1.48 | 0.52 | 99.2 | 27.4 | 14.9 | 1.4 | 0.57 | 3.35 |
| 21MAC028 | 0 | 4 | 4 | 345 | 52.4 | 23.1 | 12.4 | 2.59 | 1.55 | 0.52 | 2.86 | 0.48 | 0.25 | 18.8 | 5.07 | 3.34 | 0.41 | 0.23 | 1.59 |
| $21 \mathrm{MAC0} 28$ | 4 | 8 | 4 | 426 | 26.9 | 16.6 | 7.4 | 1.24 | 0.87 | 0.27 | 1.42 | 0.25 | 0.2 | 10.8 | 2.9 | 1.64 | 0.18 | 0.15 | 1.08 |
| 21MAC028 | 8 | 12 | 4 | 350 | 58.8 | 35.1 | 7.3 | 1.34 | 0.77 | 0.51 | 2.43 | 0.26 | 0.19 | 23.7 | 6.58 | 3.49 | 0.27 | 0.14 | 1.04 |
| $21 \mathrm{MAC028}$ | 12 | 16 | 4 | 442 | 250 | 120.5 | 15.6 | 3.64 | 1.77 | 1.3 | 7.14 | 0.61 | 0.29 | 80.1 | 22.6 | 10.95 | 0.72 | 0.26 | 1.77 |
| 21MAC028 | 16 | 20 | 4 | 409 | 206 | 120.5 | 24 | 4.93 | 2.33 | 1.62 | 9.41 | 0.86 | 0.33 | 83.1 | 22.5 | 12.4 | 0.98 | 0.31 | 1.96 |
| $21 \mathrm{MAC028}$ | 20 | 22 | 2 | 211 | 88.1 | 47.7 | 24.3 | 4.88 | 2.53 | 1.24 | 6.15 | 0.88 | 0.31 | 38 | 9.83 | 6.94 | 0.82 | 0.33 | 2.04 |
| 21MAC029 | 0 | 4 | 4 | 619 | 26.3 | 12.9 | 28.8 | 4.23 | 3.2 | 0.44 | 3.03 | 0.96 | 0.52 | 11.7 | 2.9 | 2.41 | 0.55 | 0.5 | 3.18 |
| $21 \mathrm{MAC0} 29$ | 4 | 8 | 4 | 592 | 55.6 | 22 | 68 | 10.3 | 7.54 | 0.45 | 7.25 | 2.28 | 1.04 | 21.5 | 5.21 | 5.17 | 1.36 | 1.09 | 6.73 |
| 21MAC029 | 8 | 12 | 4 | 639 | 79.5 | 40.5 | 26.7 | 4.98 | 2.86 | 0.49 | 6.6 | 0.96 | 0.46 | 35.5 | 9.15 | 6.92 | 0.86 | 0.4 | 2.74 |


| Hole ID | From <br> (m) | To <br> (m) | Interval <br> (m) | $\begin{gathered} \mathrm{Zr} \\ \mathrm{ppm} \end{gathered}$ | Ce <br> ppm | La <br> ppm | $\begin{gathered} \mathrm{Y} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \text { Dy } \\ \text { ppm } \end{gathered}$ | $\begin{gathered} \mathrm{Er} \\ \mathrm{ppm} \end{gathered}$ | $\begin{gathered} \mathrm{Eu} \\ \mathrm{ppm} \end{gathered}$ | Gd <br> ppm | $\begin{aligned} & \text { Ho } \\ & \text { ppm } \end{aligned}$ | $\begin{gathered} \mathrm{Lu} \\ \mathrm{ppm} \end{gathered}$ | Nd ppm | Pr ppm | Sm ppm | $\mathrm{Tb}$ $\mathrm{ppm}$ | Tm ppm | $\begin{gathered} \mathrm{Yb} \\ \mathrm{ppm} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC029 | 12 | 16 | 4 | 871 | 40.1 | 20.3 | 15.7 | 2.69 | 1.83 | 0.27 | 3.11 | 0.56 | 0.44 | 19.2 | 4.66 | 3.47 | 0.42 | 0.32 | 2.37 |
| 21MACO29 | 16 | 20 | 4 | 760 | 32.9 | 16.3 | 19.2 | 3.05 | 2.35 | 0.36 | 3.39 | 0.66 | 0.51 | 16.7 | 3.97 | 3.57 | 0.48 | 0.38 | 2.87 |
| 21MAC029 | 20 | 24 | 4 | 978 | 130 | 71.5 | 24 | 5.63 | 3.14 | 1.96 | 8.15 | 1.07 | 0.57 | 53.1 | 14.45 | 10.05 | 1.1 | 0.45 | 3.29 |
| 21MAC029 | 24 | 28 | 4 | 590 | 139 | 58.8 | 33.4 | 8.71 | 4.78 | 2.86 | 9.61 | 1.62 | 0.71 | 55.4 | 14 | 11.05 | 1.44 | 0.67 | 4.53 |
| 21MAC029 | 28 | 32 | 4 | 264 | 384 | 249 | 125.5 | 25.5 | 12.5 | 9.69 | 34 | 4.72 | 1.38 | 188 | 48.9 | 36.4 | 4.57 | 1.5 | 9.61 |
| 21MACO29 | 32 | 36 | 4 | 1215 | 51.6 | 33.5 | 26.7 | 4.68 | 3.27 | 2.77 | 4.74 | 0.98 | 0.71 | 21.8 | 5.65 | 4.53 | 0.74 | 0.52 | 4.04 |
| 21MACO29 | 36 | 40 | 4 | 969 | 143.5 | 75.5 | 55.9 | 12.2 | 7.51 | 3.74 | 13.6 | 2.35 | 1.12 | 66.9 | 16.45 | 14.5 | 1.98 | 1.01 | 6.94 |
| 21MACO29 | 40 | 43 | 3 | 704 | 117 | 60.7 | 47.5 | 9.58 | 5.46 | 3.1 | 11.4 | 1.86 | 0.8 | 55.4 | 13.55 | 11.6 | 1.6 | 0.74 | 4.81 |
| 21MAC035 | 0 | 4 | 4 | 422 | 73.3 | 42.3 | 34.9 | 6.84 | 3.82 | 1.1 | 8.8 | 1.34 | 0.49 | 40.4 | 9.79 | 8.99 | 1.19 | 0.47 | 3.08 |
| 21MAC035 | 4 | 8 | 4 | 422 | 48 | 24 | 15.8 | 3.15 | 1.72 | 0.51 | 4.54 | 0.59 | 0.3 | 22.6 | 5.2 | 4.83 | 0.59 | 0.26 | 1.86 |
| 21MAC035 | 8 | 12 | 4 | 467 | 53.8 | 26 | 18.8 | 3.84 | 2.14 | 0.58 | 4.85 | 0.72 | 0.35 | 24 | 5.97 | 5.03 | 0.66 | 0.29 | 2.06 |
| 21MAC035 | 12 | 16 | 4 | 501 | 117.5 | 60.9 | 20.5 | 5.13 | 2.09 | 1.18 | 8.49 | 0.85 | 0.28 | 51.3 | 13.25 | 9.98 | 1.1 | 0.25 | 1.78 |
| 21MAC035 | 16 | 20 | 4 | 415 | 192.5 | 101.5 | 62.6 | 14.35 | 6.43 | 2.17 | 19.35 | 2.55 | 0.7 | 94.7 | 23.3 | 20.4 | 2.64 | 0.77 | 4.66 |
| $21 \mathrm{MAC035}$ | 20 | 24 | 4 | 505 | 118 | 74.8 | 68.6 | 13.5 | 7.73 | 3.17 | 14.8 | 2.65 | 1.09 | 63.2 | 15.7 | 13.75 | 2.19 | 1.08 | 7.06 |
| 21MAC035 | 24 | 25 | 1 | 1100 | 142.5 | 75.4 | 66.5 | 12.8 | 7.91 | 2.66 | 14.6 | 2.57 | 1.3 | 66.7 | 16.55 | 14.9 | 2.06 | 1.12 | 7.93 |
| 21MAC036 | 0 | 4 | 4 | 573 | 32.8 | 19.9 | 24.6 | 3.94 | 2.82 | 0.57 | 3.39 | 0.88 | 0.47 | 16.1 | 4.29 | 3.44 | 0.58 | 0.4 | 2.79 |
| $21 \mathrm{MAC036}$ | 4 | 8 | 4 | 368 | 15.8 | 8.9 | 28.2 | 3.75 | 4.09 | 0.22 | 2.34 | 1.01 | 0.77 | 7.7 | 1.94 | 1.68 | 0.44 | 0.6 | 4.35 |
| 21MAC036 | 8 | 12 | 4 | 567 | 48.8 | 26 | 68.2 | 9.5 | 9.15 | 0.53 | 6.48 | 2.44 | 1.68 | 23.7 | 5.83 | 5.39 | 1.22 | 1.41 | 10.2 |
| $21 \mathrm{MAC036}$ | 12 | 16 | 4 | 525 | 82.5 | 49.9 | 79.5 | 12.95 | 9.07 | 1.16 | 10.4 | 3.01 | 1.12 | 38.5 | 9.81 | 8.68 | 1.79 | 1.21 | 8.15 |
| $21 \mathrm{MAC036}$ | 16 | 20 | 4 | 382 | 102 | 86.3 | 72.3 | 12.95 | 7.98 | 2.5 | 14.25 | 2.81 | 0.97 | 76.7 | 19 | 15.05 | 2.08 | 1 | 6.85 |
| 21MAC036 | 20 | 24 | 4 | 584 | 193 | 80.6 | 62 | 13.95 | 7.9 | 3.72 | 13.6 | 2.7 | 1.16 | 74.2 | 19.05 | 14.35 | 2.19 | 1.16 | 8.31 |
| 21MAC036 | 24 | 28 | 4 | 632 | 265 | 142 | 104 | 20.7 | 12.05 | 5.81 | 22.7 | 4.31 | 1.83 | 127.5 | 30.5 | 23.9 | 3.26 | 1.78 | 12.8 |
| $21 \mathrm{MAC036}$ | 28 | 31 | 3 | 425 | 221 | 130 | 100 | 22 | 10.6 | 5.09 | 25.5 | 4.05 | 1.14 | 121.5 | 29.7 | 26.4 | 3.73 | 1.33 | 8.5 |
| $21 \mathrm{MAC037}$ | 0 | 4 | 4 | 576 | 39.3 | 23.5 | 21.4 | 3.96 | 2.64 | 0.72 | 3.67 | 0.82 | 0.4 | 18.9 | 4.93 | 3.69 | 0.6 | 0.37 | 2.52 |
| $21 \mathrm{MAC037}$ | 4 | 8 | 4 | 723 | 24.3 | 13 | 28.9 | 4.71 | 3.42 | 0.47 | 3.03 | 1.06 | 0.56 | 12.9 | 3.2 | 2.74 | 0.63 | 0.49 | 3.48 |
| $21 \mathrm{MAC037}$ | 8 | 12 | 4 | 687 | 25.2 | 11 | 22.5 | 3.74 | 2.86 | 0.43 | 2.65 | 0.9 | 0.51 | 10 | 2.63 | 2.25 | 0.49 | 0.43 | 3.24 |
| 21 MACO 37 | 12 | 16 | 4 | 315 | 150 | 50.5 | 21.7 | 5.46 | 2.86 | 0.91 | 5.58 | 0.99 | 0.42 | 31.6 | 8.86 | 5.95 | 0.87 | 0.43 | 2.73 |
| $21 \mathrm{MAC037}$ | 16 | 20 | 4 | 535 | 295 | 171.5 | 29.9 | 7.6 | 3.32 | 1.36 | 11.45 | 1.26 | 0.42 | 92.2 | 26.3 | 15 | 1.44 | 0.41 | 2.72 |
| $21 \mathrm{MAC037}$ | 20 | 24 | 4 | 519 | 378 | 189.5 | 42.7 | 11.8 | 5.48 | 2.56 | 16.95 | 2.05 | 0.58 | 117.5 | 33.1 | 21.1 | 2.27 | 0.61 | 4.01 |
| 21MAC037 | 24 | 28 | 4 | 408 | 294 | 119.5 | 95.1 | 23.5 | 12 | 5.43 | 24.6 | 4.37 | 1.44 | 122 | 29.9 | 26.5 | 3.86 | 1.58 | 10.45 |


| Hole ID | From <br> (m) | $\begin{aligned} & \text { To } \\ & \text { (m) } \end{aligned}$ | Interval <br> (m) | $\begin{gathered} \mathrm{Zr} \\ \mathrm{ppm} \end{gathered}$ | $\mathrm{Ce}$ <br> ppm | $\begin{aligned} & \text { La } \\ & \text { ppm } \end{aligned}$ | Y ppm | Dy <br> ppm | Er ppm | $\begin{gathered} \text { Eu } \\ \text { ppm } \end{gathered}$ | Gd <br> ppm | Ho ppm | Lu ppm | Nd <br> ppm | Pr ppm |  | $\begin{gathered} \mathrm{Tb} \\ \mathrm{ppm} \end{gathered}$ | Tm ppm |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC037 | 28 | 32 | 4 | 448 | 173.5 | 114 | 107.5 | 16.75 | 7.97 | 3.96 | 22.1 | 3.33 | 0.76 | 97.2 | 23.4 | 19.85 | 2.96 | 0.92 | 5.31 |
| 21MAC037 | 32 | 36 | 4 | 256 | 109 | 57.9 | 38.4 | 7.69 | 4.11 | 2.05 | 8.69 | 1.53 | 0.56 | 46.5 | 11.85 | 9.17 | 1.3 | 0.57 | 3.93 |
| 21MAC038 | 0 | 4 | 4 | 605 | 66.5 | 34.1 | 38.4 | 6.66 | 4.59 | 1.01 | 5.97 | 1.44 | 0.66 | 29.5 | 7.72 | 5.92 | 1 | 0.62 | 4.04 |
| 21MAC038 | 4 | 8 | 4 | 645 | 21.1 | 11.9 | 22.5 | 3.61 | 2.57 | 0.37 | 2.56 | 0.85 | 0.42 | 9.7 | 2.54 | 2.04 | 0.48 | 0.39 | 2.87 |
| 21MAC038 | 8 | 12 | 4 | 605 | 17 | 8.2 | 25.6 | 4.09 | 2.92 | 0.25 | 2.65 | 0.95 | 0.46 | 8.1 | 1.94 | 1.81 | 0.51 | 0.42 | 3.17 |
| 21MAC038 | 12 | 16 | 4 | 662 | 98.1 | 51.3 | 27.8 | 5.91 | 2.69 | 0.68 | 9.2 | 1.07 | 0.35 | 52 | 12.35 | 10.25 | 1.16 | 0.35 | 2.34 |
| 21MAC038 | 16 | 20 | 4 | 761 | 188 | 118 | 48.8 | 10.15 | 5.06 | 1.54 | 12.05 | 1.98 | 0.62 | 67.8 | 18.35 | 12.75 | 1.78 | 0.66 | 4.55 |
| 21MAC038 | 20 | 24 | 4 | 226 | 249 | 143 | 85.8 | 16.25 | 8.21 | 2.68 | 17.8 | 3.14 | 0.87 | 92.5 | 24.8 | 18.45 | 2.76 | 1.06 | 6.88 |
| 21MAC038 | 24 | 28 | 4 | 569 | 342 | 213 | 75.3 | 17.05 | 7.79 | 3.53 | 22 | 3.12 | 0.89 | 135 | 36.7 | 24.8 | 3.1 | 0.99 | 6.46 |
| 21MAC038 | 28 | 32 | 4 | 720 | 124 | 81.9 | 36.8 | 7.42 | 4.18 | 1.68 | 8.45 | 1.47 | 0.64 | 46.2 | 12.85 | 9 | 1.22 | 0.6 | 4.62 |
| 21MAC038 | 32 | 36 | 4 | 575 | 261 | 132 | 71 | 16.1 | 8.25 | 4.53 | 18.7 | 3.03 | 1 | 108 | 27.4 | 21.8 | 2.71 | 1.1 | 7.5 |
| 21MAC038 | 36 | 40 | 4 | 573 | 147 | 83 | 116 | 18.75 | 13.05 | 4.89 | 18.25 | 4.3 | 1.93 | 85.6 | 20.4 | 17.8 | 2.87 | 1.89 | 13.45 |
| 21MAC038 | 40 | 44 | 4 | 206 | 68 | 65.4 | 88.3 | 14.25 | 8.1 | 3.66 | 17.3 | 2.92 | 1.03 | 64.9 | 15.85 | 14.75 | 2.39 | 1.04 | 6.77 |
| 21MAC038 | 44 | 46 | 2 | 148 | 55 | 33.8 | 53 | 8.61 | 5.1 | 1.84 | 8.48 | 1.8 | 0.62 | 31.3 | 7.47 | 7.39 | 1.34 | 0.7 | 4.01 |
| 21MAC039 | 0 | 4 | 4 | 652 | 71.9 | 28.4 | 21.7 | 3.98 | 2.64 | 0.6 | 3.53 | 0.85 | 0.4 | 19.3 | 5.29 | 3.52 | 0.56 | 0.38 | 2.49 |
| 21MAC039 | 4 | 8 | 4 | 445 | 18.5 | 11.1 | 37.5 | 5.68 | 4.01 | 0.28 | 2.94 | 1.37 | 0.53 | 8.1 | 2.23 | 1.89 | 0.69 | 0.57 | 3.79 |
| 21MAC039 | 8 | 12 | 4 | 380 | 55.1 | 24.1 | 21.4 | 3.82 | 2.34 | 0.53 | 3.22 | 0.84 | 0.32 | 15.7 | 4.47 | 2.92 | 0.56 | 0.33 | 2.28 |
| 21MAC039 | 12 | 16 | 4 | 284 | 84.6 | 59.3 | 14.2 | 3.48 | 1.61 | 1 | 4.13 | 0.61 | 0.23 | 29.7 | 9.13 | 5.45 | 0.62 | 0.22 | 1.5 |
| 21MAC039 | 16 | 20 | 4 | 201 | 142.5 | 56.5 | 32.5 | 9.28 | 4.07 | 2.12 | 10.7 | 1.52 | 0.44 | 54.2 | 13.8 | 12.1 | 1.68 | 0.5 | 3.17 |
| 21MAC039 | 20 | 24 | 4 | 373 | 368 | 82.1 | 58.9 | 16.65 | 8.27 | 3.03 | 14.4 | 3.11 | 1.06 | 71.2 | 19.2 | 15.5 | 2.56 | 1.18 | 8.2 |
| 21MAC039 | 24 | 28 | 4 | 385 | 243 | 96.5 | 44.5 | 10.9 | 4.97 | 2.77 | 13.3 | 2 | 0.61 | 79.3 | 21 | 15.4 | 1.94 | 0.68 | 4.54 |
| 21MAC039 | 28 | 32 | 4 | 187 | 89.2 | 61.1 | 60.4 | 10.55 | 5.64 | 2.29 | 11.85 | 2.1 | 0.62 | 50.1 | 12.65 | 10.5 | 1.72 | 0.73 | 4.59 |
| 21MAC039 | 32 | 36 | 4 | 256 | 79.7 | 42.4 | 56.9 | 10.2 | 6.03 | 1.75 | 10.1 | 2.08 | 0.8 | 38.2 | 9.64 | 9.37 | 1.61 | 0.78 | 5.09 |
| 21MAC039 | 36 | 37 | 1 | 316 | 66 | 33.3 | 55.2 | 10.1 | 6.13 | 1.61 | 9.61 | 2.07 | 0.84 | 33.3 | 8.02 | 8.4 | 1.56 | 0.82 | 5.28 |

Table 3: Comparison of Fusion and Weak Acid Aqua Reqia (WAR) extractions for each REO with recovery by WAR

| Hole ID | $\begin{aligned} & \text { From } \\ & \text { MBGL } \end{aligned}$ | To MBGL | Interval (m) | Analysis Type | $\begin{gathered} \mathrm{CeO}_{2} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{aligned} & \mathrm{La}_{2} \mathrm{O}_{3} \\ & (\mathrm{ppm}) \end{aligned}$ | $\begin{gathered} \mathrm{Nd}_{2} \mathrm{O}_{3} \star / * * \\ (\mathrm{ppm}) \end{gathered}$ | $\mathrm{Pr}_{6} \mathrm{O}_{11} \text { ** }$ (ppm) | $\begin{gathered} \mathrm{Sm}_{2} \mathrm{O}_{3}{ }^{\star *} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{Tb}_{4} \mathrm{O}_{7} \star / \star * \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{Dy}_{2} \mathrm{O}_{3} \text { */** } \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{aligned} & \mathrm{Y}_{2} \mathrm{O}_{3}{ }^{*} \\ & (\mathrm{ppm}) \end{aligned}$ | $\mathrm{Gd}_{2} \mathrm{O}_{3}$ ** (ppm) | $\begin{gathered} \mathrm{Eu}_{2} \mathrm{O}_{3} \text { * } \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{aligned} & \mathrm{Er}_{2} \mathrm{O}_{3} \\ & (\mathrm{ppm}) \end{aligned}$ | $\mathrm{Ho}_{2} \mathrm{O}_{3}$ <br> (ppm) | $\begin{aligned} & \mathrm{Lu}_{2} \mathrm{O}_{3} \\ & (\mathrm{ppm}) \end{aligned}$ | $\mathrm{Tm}_{2} \mathrm{O}_{3}$ (ppm) | $\mathrm{Yb}_{2} \mathrm{O}_{3}$ <br> (ppm) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC004 | 28 | 42 | 14 | Fusion | 317.08 | 202.54 | 156.41 | 42.33 | 28.48 | 3.42 | 21.02 | 123.02 | 23.59 | 6.41 | 11.80 | 4.11 | 1.49 | 1.60 | 10.18 |
|  |  |  |  | Weak AR | 232.72 | 168.03 | 146.09 | 38.25 | 25.34 | 2.80 | 16.40 | 97.01 | 20.80 | 5.99 | 8.60 | 2.95 | 0.89 | 1.06 | 6.26 |
|  |  |  |  | \% Recovery | 73\% | 83\% | 93\% | 90\% | 89\% | 82\% | 78\% | 79\% | 88\% | 93\% | 73\% | 72\% | 60\% | 66\% | 62\% |
| 21MAC009 | 0 | 22 | 22 | Fusion | 282.57 | 142.50 | 103.60 | 28.79 | 17.47 | 3.95 | 8.89 | 43.90 | 13.72 | 1.42 | 4.12 | 1.54 | 0.54 | 0.71 | 2.80 |
|  |  |  |  | Weak AR | 95.61 | 46.44 | 36.82 | 9.92 | 6.23 | 0.56 | 2.83 | 12.21 | 4.64 | 0.75 | 1.19 | 0.44 | 0.13 | 0.14 | 0.88 |
|  |  |  |  | \% Recovery | 34\% | 33\% | 36\% | 34\% | 36\% | 14\% | 32\% | 28\% | 34\% | 53\% | 29\% | 29\% | 23\% | 20\% | 32\% |
| 21MAC014 | 12 | 26 | 14 | Fusion | 286.80 | 104.09 | 80.13 | 22.38 | 15.08 | 1.94 | 11.32 | 56.80 | 12.47 | 3.08 | 6.17 | 2.20 | 0.86 | 0.84 | 5.61 |
|  |  |  |  | Weak AR | 175.32 | 92.48 | 74.68 | 20.40 | 12.73 | 1.21 | 6.65 | 30.59 | 9.43 | 2.58 | 3.09 | 1.11 | 0.33 | 0.38 | 2.42 |
|  |  |  |  | \% Recovery | 61\% | 89\% | 93\% | 91\% | 84\% | 63\% | 59\% | 54\% | 76\% | 84\% | 50\% | 50\% | 39\% | 46\% | 43\% |
| 21MAC015 | 20 | 40 | 20 | Fusion | 202.71 | 99.81 | 80.48 | 21.70 | 16.15 | 2.20 | 11.82 | 68.52 | 14.90 | 3.16 | 5.90 | 2.30 | 0.66 | 0.76 | 4.43 |
|  |  |  |  | Weak AR | 134.71 | 84.07 | 69.68 | 18.53 | 13.83 | 1.61 | 8.76 | 44.01 | 12.46 | 2.86 | 3.84 | 1.45 | 0.32 | 0.43 | 2.47 |
|  |  |  |  | \% Recovery | 66\% | 84\% | 87\% | 85\% | 86\% | 73\% | 74\% | 64\% | 84\% | 91\% | 65\% | 63\% | 49\% | 56\% | 56\% |
| 21MAC016 | 16 | 29 | 13 | Fusion | 452.02 | 100.22 | 74.18 | 20.90 | 16.83 | 3.05 | 17.84 | 101.75 | 17.27 | 4.08 | 10.11 | 3.75 | 1.25 | 1.38 | 8.35 |
|  |  |  |  | Weak AR | 196.36 | 88.72 | 73.07 | 20.17 | 14.82 | 1.99 | 11.92 | 63.53 | 13.93 | 3.42 | 6.26 | 2.16 | 0.63 | 0.76 | 4.65 |
|  |  |  |  | \% Recovery | 43\% | 89\% | 99\% | 97\% | 88\% | 65\% | 67\% | 62\% | 81\% | 84\% | 62\% | 58\% | 51\% | 55\% | 56\% |
| 21MAC017 | 4 | 16 | 12 | Fusion | 246.21 | 202.15 | 160.15 | 42.73 | 25.88 | 2.85 | 15.15 | 92.36 | 19.96 | 5.12 | 8.12 | 3.05 | 1.13 | 1.13 | 7.06 |
|  |  |  |  | Weak AR | 134.18 | 169.27 | 155.56 | 40.54 | 24.46 | 2.44 | 13.95 | 77.72 | 21.34 | 4.98 | 6.92 | 2.38 | 0.79 | 0.85 | 5.53 |
|  |  |  |  | \% Recovery | 54\% | 84\% | 97\% | 95\% | 94\% | 85\% | 92\% | 84\% | 107\% | 97\% | 85\% | 78\% | 71\% | 75\% | 78\% |
| 21MAC020 | 0 | 12 | 12 | Fusion | 512.65 | 300.24 | 169.71 | 50.95 | 21.80 | 1.66 | 7.66 | 41.14 | 14.13 | 2.38 | 3.26 | 1.37 | 0.40 | 0.43 | 2.68 |
|  |  |  |  | Weak AR | 363.61 | 212.08 | 140.98 | 40.92 | 18.28 | 1.28 | 6.53 | 30.86 | 12.59 | 2.28 | 2.51 | 0.99 | 0.21 | 0.27 | 1.63 |
|  |  |  |  | \% Recovery | 71\% | 71\% | 83\% | 80\% | 84\% | 77\% | 85\% | 75\% | 89\% | 96\% | 77\% | 72\% | 52\% | 63\% | 61\% |
| 21MAC021 | 8 | 41 | 33 | Fusion | 236.30 | 124.26 | 104.28 | 27.28 | 23.85 | 4.58 | 30.37 | 207.11 | 25.93 | 4.88 | 19.48 | 6.56 | 2.39 | 2.64 | 16.46 |
|  |  |  |  | Weak AR | 159.90 | 88.44 | 80.74 | 20.48 | 16.48 | 2.12 | 12.52 | 65.03 | 16.46 | 4.21 | 5.75 | 2.05 | 0.53 | 0.67 | 4.18 |
|  |  |  |  | \% Recovery | 68\% | 71\% | 77\% | 75\% | 69\% | 46\% | 41\% | 31\% | 63\% | 86\% | 30\% | 31\% | 22\% | 25\% | 25\% |
| $21 \mathrm{MAC023}$ | 20 | 36 | 16 | Fusion | 351.02 | 156.28 | 94.92 | 27.06 | 15.94 | 1.64 | 8.47 | 40.67 | 11.76 | 3.49 | 3.74 | 1.50 | 0.42 | 0.49 | 2.92 |
|  |  |  |  | Weak AR | 217.46 | 129.65 | 86.14 | 25.15 | 13.21 | 1.15 | 5.96 | 26.87 | 10.14 | 3.02 | 2.34 | 0.92 | 0.21 | 0.26 | 1.60 |
|  |  |  |  | \% Recovery | 62\% | 83\% | 91\% | 93\% | 83\% | 70\% | 70\% | 66\% | 86\% | 87\% | 63\% | 61\% | 50\% | 53\% | 55\% |
| 21MAC024 | 12 | 25 | 13 | Fusion | 251.05 | 124.29 | 80.13 | 22.34 | 14.32 | 1.76 | 9.57 | 61.21 | 12.52 | 2.95 | 5.00 | 1.90 | 0.65 | 0.69 | 4.18 |
|  |  |  |  | Weak AR | 156.84 | 116.08 | 84.24 | 23.91 | 13.53 | 1.34 | 7.15 | 46.38 | 12.13 | 2.72 | 3.33 | 1.23 | 0.32 | 0.37 | 2.30 |
|  |  |  |  | \% Recovery | 62\% | 93\% | 105\% | 107\% | 95\% | 76\% | 75\% | 76\% | 97\% | 92\% | 67\% | 65\% | 49\% | 54\% | 55\% |
| 21MAC025 | 8 | 36 | 28 | Fusion | 226.03 | 121.95 | 66.58 | 19.84 | 10.07 | 0.84 | 4.12 | 18.49 | 6.30 | 2.14 | 1.71 | 0.71 | 0.20 | 0.23 | 1.38 |
|  |  |  |  | Weak AR | 160.61 | 88.38 | 65.20 | 19.42 | 9.43 | 0.70 | 3.51 | 14.36 | 6.26 | 2.06 | 1.27 | 0.52 | 0.09 | 0.13 | 0.78 |
|  |  |  |  | \% Recovery | 71\% | 72\% | 98\% | 98\% | 94\% | 84\% | 85\% | 78\% | 99\% | 96\% | 74\% | 74\% | 45\% | 58\% | 57\% |
| 21 MAC026 | 16 | 31 | 15 | Fusion | 480.57 | 257.04 | 157.01 | 46.04 | 23.58 | 2.51 | 13.14 | 63.00 | 17.87 | 4.32 | 5.66 | 2.30 | 0.60 | 0.74 | 4.31 |
|  |  |  |  | Weak AR | 347.36 | 201.85 | 159.61 | 46.11 | 22.86 | 2.27 | 12.33 | 50.72 | 18.59 | 4.30 | 4.79 | 1.90 | 0.39 | 0.55 | 3.24 |
|  |  |  |  | \% Recovery | 72\% | 79\% | 102\% | 100\% | 97\% | 91\% | 94\% | 81\% | 104\% | 100\% | 85\% | 83\% | 65\% | 74\% | 75\% |
| $21 \mathrm{MAC027}$ | 12 | 31 | 19 | Fusion | 217.30 | 100.84 | 69.75 | 19.98 | 10.92 | 1.20 | 7.25 | 37.41 | 8.89 | 1.83 | 3.96 | 1.34 | 0.55 | 0.59 | 3.73 |
|  |  |  |  | Weak AR | 159.05 | 96.17 | 68.79 | 19.41 | 9.85 | 0.94 | 5.17 | 24.32 | 7.76 | 1.64 | 2.37 | 0.88 | 0.25 | 0.29 | 1.87 |
|  |  |  |  | \% Recovery | 73\% | 95\% | 99\% | 97\% | 90\% | 79\% | 71\% | 65\% | 87\% | 89\% | 60\% | 66\% | 45\% | 50\% | 50\% |


| Hole ID | From MBGL | $\begin{gathered} \text { To } \\ \text { MBGL } \end{gathered}$ | Interval <br> (m) | Anaylsis <br> Type | $\begin{aligned} & \mathrm{Ce}_{2} \mathrm{O}_{3} \\ & (\mathrm{ppm}) \end{aligned}$ | $\begin{gathered} \mathrm{La}_{2} \mathrm{O}_{3} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{Nd}_{2} \mathrm{O}_{3}{ }^{* / * *} \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{Pr}_{\mathrm{o}}^{\mathrm{O} 11}{ }^{* *} \\ (\mathrm{ppm}) \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{Sm}_{2} \mathrm{O}_{3}^{* *} \\ (\mathrm{ppm}) \end{gathered}$ | $\mathrm{Tb}_{4} \mathrm{O}_{7}$ */** (ppm) | $\begin{gathered} \mathrm{Dy}_{2} \mathrm{O}_{3} \star / k * \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{aligned} & \mathbf{Y}_{2} \mathbf{O}_{3}{ }^{*} \\ & (\mathrm{ppm}) \end{aligned}$ | $\begin{gathered} \mathrm{Gdd}_{2} \mathrm{O}_{3} * * \\ (\mathrm{ppm}) \end{gathered}$ | $\begin{gathered} \mathrm{Eu}_{2} \mathrm{O}_{3} \text { * } \\ (\mathrm{ppm}) \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{Er}_{2} \mathrm{O}_{3} \\ (\mathrm{ppm}) \end{gathered}$ | $\mathrm{Ho}_{2} \mathrm{O}_{3}$ (ppm) | $\begin{aligned} & \mathrm{Lu}_{2} \mathrm{O}_{3} \\ & (\mathrm{ppm}) \\ & \hline \end{aligned}$ | $\mathrm{Tm}_{2} \mathrm{O}_{3}$ (ppm) | $\begin{aligned} & \mathrm{Yb}_{2} \mathrm{O}_{3} \\ & (\mathrm{ppm}) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21MAC028 | 12 | 22 | 10 | Fusion | 222.79 | 112.86 | 78.23 | 22.12 | 11.71 | 0.99 | 5.15 | 27.05 | 8.72 | 1.61 | 2.53 | 0.90 | 0.35 | 0.34 | 2.19 |
|  |  |  |  | Weak AR | 176.81 | 102.70 | 70.14 | 20.00 | 10.35 | 0.74 | 3.60 | 16.70 | 6.75 | 1.36 | 1.40 | 0.56 | 0.14 | 0.16 | 0.98 |
|  |  |  |  | \% Recovery | 79\% | 91\% | 90\% | 90\% | 88\% | 75\% | 70\% | 62\% | 77\% | 85\% | 55\% | 62\% | 40\% | 46\% | 45\% |
| 21MAC029 | 20 | 43 | 23 | Fusion | 197.59 | 107.31 | 85.65 | 22.75 | 17.03 | 2.24 | 12.68 | 66.25 | 15.66 | 4.65 | 6.99 | 2.41 | 1.00 | 0.93 | 6.30 |
|  |  |  |  | Weak AR | 144.23 | 102.82 | 83.68 | 22.27 | 14.84 | 1.52 | 8.43 | 44.48 | 12.54 | 4.21 | 3.71 | 1.42 | 0.36 | 0.43 | 2.66 |
|  |  |  |  | \% Recovery | 73\% | 96\% | 98\% | 98\% | 87\% | 68\% | 66\% | 67\% | 80\% | 90\% | 53\% | 59\% | 36\% | 46\% | 42\% |
| 21MAC035 | 12 | 25 | 13 | Fusion | 175.20 | 91.65 | 80.45 | 20.78 | 17.11 | 2.35 | 13.14 | 69.27 | 16.49 | 2.66 | 6.91 | 2.47 | 0.96 | 0.92 | 6.10 |
|  |  |  |  | Weak AR | 99.47 | 59.55 | 50.56 | 12.79 | 10.03 | 1.18 | 6.52 | 30.87 | 9.45 | 2.26 | 2.91 | 1.05 | 0.30 | 0.34 | 2.18 |
|  |  |  |  | \% Recovery | 57\% | 65\% | 63\% | 62\% | 59\% | 50\% | 50\% | 45\% | 57\% | 85\% | 42\% | 43\% | 31\% | 37\% | 36\% |
| 21MAC036 | 12 | 31 | 19 | Fusion | 212.14 | 114.65 | 102.27 | 26.11 | 20.50 | 3.07 | 18.95 | 106.11 | 19.93 | 4.23 | 10.89 | 3.87 | 1.41 | 1.48 | 10.16 |
|  |  |  |  | Weak AR | 99.28 | 88.36 | 80.48 | 20.78 | 14.69 | 1.40 | 7.70 | 38.30 | 11.97 | 3.15 | 3.31 | 1.27 | 0.34 | 0.39 | 2.48 |
|  |  |  |  | \% Recovery | 47\% | 77\% | 79\% | 80\% | 72\% | 46\% | 41\% | 36\% | 60\% | 74\% | 30\% | 33\% | 24\% | 26\% | 24\% |
| $21 \mathrm{MAC037}$ | 12 | 36 | 24 | Fusion | 286.52 | 137.39 | 98.56 | 26.86 | 18.86 | 2.49 | 13.93 | 70.97 | 17.17 | 3.14 | 6.81 | 2.58 | 0.79 | 0.86 | 5.53 |
|  |  |  |  | Weak AR | 111.25 | 62.92 | 55.61 | 14.59 | 11.21 | 1.33 | 7.21 | 35.85 | 10.32 | 2.16 | 3.11 | 1.20 | 0.29 | 0.36 | 2.24 |
|  |  |  |  | \% Recovery | 39\% | 46\% | 56\% | 54\% | 59\% | 54\% | 52\% | 51\% | 60\% | 69\% | 46\% | 46\% | 37\% | 41\% | 40\% |
| 21MAC038 | 12 | 44 | 32 | Fusion | 226.81 | 130.12 | 95.06 | 25.48 | 18.79 | 2.64 | 15.19 | 87.27 | 17.83 | 3.36 | 8.19 | 3.01 | 1.04 | 1.10 | 7.48 |
|  |  |  |  | Weak AR | 93.50 | 58.63 | 57.02 | 14.72 | 11.46 | 1.28 | 6.68 | 34.25 | 10.35 | 2.43 | 2.89 | 1.11 | 0.27 | 0.33 | 2.03 |
|  |  |  |  | \% Recovery | 41\% | 45\% | 60\% | 58\% | 61\% | 48\% | 44\% | 39\% | 58\% | 72\% | 35\% | 37\% | 26\% | 30\% | 27\% |
| 21MAC039 | 16 | 36 | 20 | Fusion | 202.36 | 72.69 | 63.43 | 16.98 | 13.77 | 2.17 | 12.95 | 65.27 | 13.44 | 2.62 | 6.69 | 2.46 | 0.83 | 0.89 | 5.86 |
|  |  |  |  | Weak AR | 142.25 | 67.59 | 56.98 | 15.56 | 11.73 | 1.45 | 7.92 | 37.67 | 10.57 | 2.12 | 3.44 | 1.33 | 0.33 | 0.39 | 2.47 |
|  |  |  |  | \% Recovery | 70\% | 93\% | 90\% | 92\% | 85\% | 67\% | 61\% | 58\% | 79\% | 81\% | 51\% | 54\% | 39\% | 44\% | 42\% |


| LREO | Light Rare Earth Oxides | * | CREO - Critical REO |
| :--- | :--- | ---: | :--- |
| HREO | Heavy Rare Earth Oxides | ** | MREO - Magnetic REO |

Table 4: AC Drill hole collar locations. All holes drilled vertically

| Hole ID | Easting <br> MGA Zone 50 | Northing <br> MGA Zone 50 | RL <br> M | EOH <br> $(\mathbf{m})$ |
| :--- | :---: | :---: | :---: | :---: |
| 21MAC001 | 502988 | 7174056 | 461 | 15 |
| 21MAC002 | 503227 | 7173969 | 474 | 29 |
| 21MAC003 | 503368 | 7173785 | 473 | 3 |
| 21MAC004 | 503035 | 7173430 | 467 | 42 |
| 21MAC005 | 503276 | 7173161 | 473 | 16 |
| 21MAC006 | 503479 | 7173079 | 477 | 17 |
| 21MAC007 | 503705 | 7172926 | 475 | 23 |
| 21MAC008 | 503202 | 7172586 | 475 | 46 |
| 21MAC009 | 503486 | 7172583 | 478 | 22 |
| 21MAC010 | 503664 | 7172460 | 486 | 24 |
| 21MAC011 | 503812 | 7172351 | 485 | 23 |
| 21MAC012 | 505263 | 7173055 | 496 | 11 |
| 21MAC013 | 505522 | 7173084 | 493 | 12 |
| 21MAC014 | 505797 | 7173077 | 493 | 26 |
| 21MAC015 | 506108 | 7173084 | 489 | 41 |
| 21MAC016 | 506310 | 7173072 | 486 | 29 |
| 21MAC017 | 506687 | 7173132 | 478 | 18 |
| 21MAC018 | 506958 | 7173171 | 478 | 23 |
| 21MAC019 | 506982 | 7172868 | 480 | 19 |
| 21MAC020 | 506687 | 7172852 | 483 | 12 |
| 21MAC021 | 506374 | 7172836 | 481 | 41 |
| 21MAC022 | 506037 | 7172846 | 483 | 33 |
| 21MAC023 | 505707 | 7172903 | 488 | 36 |
| 21MAC024 | 505396 | 7172729 | 491 | 25 |
| 21MAC025 | 505610 | 7172490 | 487 | 36 |
| 21MAC026 | 505931 | 7172550 | 489 | 31 |
| 21MAC027 | 506152 | 7172502 | 490 | 31 |
| 21MAC028 | 506256 | 7172321 | 488 | 22 |
| 21MAC029 | 506517 | 7172462 | 486 | 43 |
| 21MAC030 | 506659 | 7172310 | 488 | 21 |
| 21MAC031 | 506963 | 7172295 | 482 | 28 |
| 21MAC032 | 507399 | 7172189 | 481 | 28 |
| 21MAC033 | 506685 | 7172038 | 491 | 18 |
| 21MAC034 | 506995 | 7171867 | 489 | 28 |
| 21MAC035 | 507226 | 7171817 | 487 | 25 |
| 21MAC036 | 507373 | 7171479 | 484 | 31 |
| 21MAC037 | 507533 | 7171280 | 482 | 36 |
| 21MAC038 | 507728 | 7171492 | 481 | 46 |
| 21MAC039 | 507764 | 7171794 | 481 | 37 |
|  |  |  |  |  |



## Mt Clere REEs, HMS \& Ni-Cu-Co, PGEs Project (100\%); Gascoyne WA

The Mt Clere REE Project located at the north western margins of the Yilgarn Graton. The Company holds 2,310km² of highly prospective exploration licenses prospective for rare earth elements, heavy mineral sands hosted zircon-ilmenite-rutile-leucoxene; and gold and intrusion hosted Ni-Cu-Co-PGEs. Historical exploration has identified the potential presence of three REE deposit types, namely, Ion adsorption clays in extensive laterite areas; monazite sands in vast alluvial terraces; and carbonatite dyke swarms.

## Dalgaranga Critical Metals Project, Nb, Li, Rb, Ta, Sn, (100\%); Mt Magnet WA.

The Dalgaranga project has an extensive rubidium exploration target defined next to the old Dalgaranga tantalum mine, with extensive pegmatite swarms with little exploration completed throughout the area. The project is clearly under-explored, the historical drilling was very shallow as it mainly focused on defining shallow open pitable resources in the mine area.

## Rand Gold, REEs Project (100\%); Lachlan Fold NSW

The Rand Project covers an area of $580 \mathrm{~km}^{2}$, centred approximately 60 km NNW of Albury in southern NSW. The Project has a SW-trending shear zone that transects the entire tenement package forming a distinct structural corridor some 40 km in length. The historical Bulgandry Goldfield, which is captured by the Project, demonstrates the project area is prospective for shear-hosted and intrusion-related gold. Historical production records show substantial gold grades, including up to $265 \mathrm{~g} / \mathrm{t}$ Au from the exposed quartz veins in the Show Day Reef. REE's have recently been identified over several intrusive basement areas which lead to extensive exploration application ( $2,008 \mathrm{~km}^{2}$ ) being placed over recognised prospective areas which will undergo clay hosted REE exploration once granted.

## Belgravia Cu-Au Porphyry Project (100\%); Lachlan Fold NSW

The Belgravia Project covers an area of $80 \mathrm{~km}^{2}$ and is in the central part of the Molong Volcanic Belt (MVB), between Newcrest Mining's Cadia Operations and Alkane Resources Boda Discovery. The Project target areas are considered highly prospective for porphyry Cu-Au and associated skarn Cu-Au, with Bell Valley and Sugarloaf the most advanced target areas. Bell Valley contains a considerable portion of the Copper Hill Intrusive Complex, the porphyry complex which hosts the Copper Hill deposit ( $890 \mathrm{koz} \mathrm{Au} \& 310 \mathrm{kt} \mathrm{Cu}$ ) and Sugarloaf is co-incident with anomalous rock chips including 5.19g/t Au and 1.73\% Cu.

## Turon Gold Project (100\%); Lachlan fold NSW

The Turon Project covers $120 \mathrm{~km}^{2}$ and is located within the Lachlan Fold Belt's Hill End Trough, a north-trending elongated pull-apart basin containing sedimentary and volcanic rocks of Silurian and Devonian age. The Project contains two separate north-trending reef systems, the Quartz Ridge and Box Ridge, comprising shafts, adits and drifts that strike over 1.6 km and 2.4 km respectively. Both reef systems have demonstrated high grade gold anomalism (up to $1,535 \mathrm{~g} / \mathrm{t}$ Au in rock chips) and shallow gold targets ( $10 \mathrm{~m} @ 1.64 \mathrm{~g} / \mathrm{t}$ Au from surface to EOH).

[^0]
## JORC Code, 2012 Edition - Table 1

## Section 1 Sampling Techniques and Data

Criteria
JORC Code explanation

- Nature and quality of sampling (e.g. cut channels, random chips, or specificic specialized industry standard measurement tools appropriate to the minerals under etc). These examples should not be taken as liniting the broad meaning of sampling.

Sampling techniques

Drilling echniques

## Drill sample

recovery
Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.

- Aspects of the determination of mineralisation that are Material to the Public Report
- In cases where 'industry standard' work has been done this would be relatively simple (eg' reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverized to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types may warrant disclosure of detailed information
- Drill type (e.g., core, RC, open-hole hammer, RAB, auger 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.).
- Method of recording and assessing core and chip sample recoveries and results assessed.
- Measures taken to maximize sample recovery and ensure representative nature of the samples.
- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.
- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel) photography.
- $\quad$ The total length and percentage of the relevant intersections logged.
- If core, whether cut or sawn, whether $1 / 4,1 / 2$ or whole core taken
- If non-core, whether riffled, rotary split, etc. and whether sampled wet or dry.
- For all sample types, the nature quality and appropriateness of the samp preparation technique
Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.
- Measures taken to ensure that the sampling is representative of the in-situ materia collected, including for instance results for field duplicate/second-half sampling.
- Whether sample sizes are appropriate to the grain size of the material being sampled.


## Commentary

Aircore (AC) holes were collected at 1 metre intervals and contained in large plastic bags. Samples for geochemical analysis were collected as 4 m composites, taken by the spear method from each 1 metre plastic bag. Near the end-of-hole narrower composite sample intervals, usually 3 to 1 m depending on the depth of the reminder of the hole. A representative sample was taken by spearing from each one metre bulk sample and depositing into calico bags to create a composited $\sim 3 \mathrm{~kg}$ sample. Additionally, a representative 1 m calico sample was also speared from each bulk sample bag and kept as master sample.
All AC samples were prepped by ALS Global in Perth.
All AC samples were pulverised to $95 \%$ passing 75 microns
All AC sample weights were recorded

- Lithium Borate Fusion on sample pulps analyzed via ICP-MS (ME-MS81)

Elements include: Ba, Ce, Cr, Cs, Dy, Er, Eu, Ga, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Rb, Sm, Sn, Sr, Ta, Tb, Th, Tm, U, V, W, Y,
$\mathrm{Yb}, \mathrm{Zr}$.
Weak Acid Aqua Regia digest (ME-MS41W with MS41W-REE) on sample pulps analyzed via ICP-MS
Elements include: Ba, Ce, Cr, Cs, Dy, Er, Eu, Ga, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Rb, Sm, Sn, Sr, Ta, Tb, Th, Tm, U, V, W, Y, $\mathrm{Yb}, \mathrm{Zr}$.

AC blade drilling with a face sampling bit, 90 mm nominal hole diameter.

- AC sample recovery and moisture content was monitored and recorded.
- AC sample recovery is ensured by keeping the hole as dry as possible and cleaning the cyclone out at regular intervals. If groundwater couldn't be controlled the holes were terminated.
- No relationship has been observed between sample recovery and grade. Sample bias is unlikely due to the good general recovery of sample.

All AC 1 metre intervals were qualitatively logged in detail, for particular observations such as weathering, alteration, vein and mineral content a quantitative recording is made. Rock samples were described qualitatively

- The detailed descriptions recorded were more than sufficient in detail to support the current work.

AC samples are speared from the bulk samples, which are collected in buckets from the rig's cyclone then tipped into plastic bulk sample bags. Sample moisture is recorded. Most samples were dry
Sample preparation comprises an industry standard of drying and pulverising to -75 microns ( $85 \%$ passing). Samples over 3 kg were split.
No Sample duplicates were collected as the program was designed for reconnaissance test work and internal laboratory QA/QC is considered suitable for this level of sampling.
The size of the sample is considered to have been appropriate to the grain size for all holes

| Criteria | JORC Code explanation | Commentary |
| :---: | :---: | :---: |
| Quality of assay data and laboratory tests | - The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. <br> - For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. <br> - 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. | - ALS Global method ME-MS81 are considered to be near total. <br> - Analysis reported from ME-MS41W (including MS41W-REE) using weak acid aqua regia digestion are considered to be only a partial digestion method, as recognised method for determining the ionic nature of the elements <br> - No standards were inserted into this batch of testwork. <br> - The nature and quality of the QA-QC and analytical methods are considered appropriate to style of mineralisation at this early stage of the project. |
| Verification of sampling and assaying | - The verification of significant intersections by either independent or alternative company personnel. <br> - The use of twinned holes. <br> - Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. <br> - Discuss any adjustment to assay data. | - Verification has been undertaken by Company personnel. <br> - Sample results from previous methods are comparable to those undertaken in both campaigns. <br> - AC sample data has been recorded in a database with QA-QC analysis of samples undertaken to validate data prior to it being inserted into the database. <br> - Conversion of elemental analysis (REE parts per million) to stoichiometric oxide (REO parts per million) was undertaken by KTA geological staff using the below element to stoichiometric oxide conversion factors. <br> - Rare earth oxide is the industry accepted form for reporting rare earths. The following calculations are used for compiling REO into their reporting and evaluation groups: <br> - TREO (Total Rare Earth Oxide) $=\mathrm{La} 2 \mathrm{O} 3+\mathrm{CeO} 2+\mathrm{Pr} 6 \mathrm{O} 11+\mathrm{Nd} 2 \mathrm{O} 3+\mathrm{Sm} 2 \mathrm{O} 3+\mathrm{Eu} 2 \mathrm{O} 3+\mathrm{Gd} 2 \mathrm{O} 3+\mathrm{Tb} 4 \mathrm{O} 7+\mathrm{Dy} 2 \mathrm{O} 3+\mathrm{Ho} 2 \mathrm{O} 3+$ $\mathrm{Er2O}$ + Tm2O3 + Yb2O3 + Y2O3 + Lu2O3. <br> - TREO-Ce = TREO -CeO 2 <br> - LREO (Light Rare Earth Oxide) $=\mathrm{La} 2 \mathrm{O} 3+\mathrm{CeO} 2+\mathrm{Pr} 6 \mathrm{O} 11+\mathrm{Nd} 2 \mathrm{O} 3+\mathrm{Sm} 2 \mathrm{O} 3$ <br> - HREO (Heavy Rare Earth Oxide) $=\mathrm{Eu} 2 \mathrm{O} 3+\mathrm{Gd} 2 \mathrm{O} 3+\mathrm{Tb} 4 \mathrm{O} 7+\mathrm{Dy} 2 \mathrm{O} 3+\mathrm{Ho} 2 \mathrm{O} 3+\mathrm{Er} 2 \mathrm{O} 3+\mathrm{Tm} 2 \mathrm{O} 3+\mathrm{Yb} 2 \mathrm{O} 3+\mathrm{Y} 2 \mathrm{O} 3+\mathrm{Lu} 2 \mathrm{O} 3$ <br> - CREO (Critical Rare Earth Oxide) $=\mathrm{Nd} 2 \mathrm{O} 3+\mathrm{Eu} 2 \mathrm{O} 3+\mathrm{Tb} 4 \mathrm{O} 7+\mathrm{Dy2O} 3+\mathrm{Y} 2 \mathrm{O} 3$ <br> - MREO (Magnetic Rare Earth Oxide) $=$ Pr6011 + Nd2O3 + Sm2O3 + Gd2O3 + Tb4O7 + Dy2O3. |
| Location of data points | - Accuracy and quality of surveys used to locate drill holes (collar \& downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. <br> - Specification of the grid system used. <br> - Quality and adequacy of topographic control. | - Drillhole collars were surveyed by a handheld GPS (Garmin Map 64sx with 3-5m precision). The grid system used on the Mt Clere Project for all surveys is GDA94 Zone 50. <br> - No downhole surveys were done on the AC holes as all holes were drilled vertically. |


| Criteria | JORC Code explanation | Commentary |
| :---: | :---: | :---: |
| Data spacing and distribution | - Data spacing for reporting of Exploration Results. <br> - 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. <br> - Whether sample compositing has been applied. | - analytical data points downhole are sufficient to characterize the nature of the rock and its mineralisation. Drill hole spacings are designed to test specific anomalies relative to ease of access. All are appropriate for exploration results reporting. <br> - No Mineral Resource is being calculated in this report. <br> - 2 to 4 m AC sample composites were nominally taken on site for the AC Drilling, with 1 m samples taken near end of hole. |
| Orientation of data in relation to geological structure | - Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. <br> - If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. | - All AC holes were drilled vertically. The holes were designed to test various regolith geology. <br> - The orientation of the mineralisation is typically within the saprolite of the regolith profile, although some areas of the laterite and saprock profiles are mineralised. |
| Sample security | - The measures taken to ensure sample security. | - 2 to 4 meter composite sub-set samples were collected via the riffle splitter into pre-labelled calico bags. Calico bags were placed into polyweave sacks that were sealed with plastic cable ties. The polyweaves were placed into large bulka bags and submitted in four batches. Each batch was transported-frighted to ALS Global Perth. |
| Audits or reviews | - The results of any audits or reviews of sampling techniques and data. | - No audits have been completed to date. |

## Section 2 Reporting of Exploration Results

| Criteria | JORC Code explanation | Commentary |
| :---: | :---: | :---: |
| Mineral tenement andland tenure status | - Type, reference name/number, location and ownership including agreementsor material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. <br> - The security of the tenure held at the time of reporting along with any knownimpediments to obtaining a licence to operate in the area. | - E09/2537, E52/3730, E52/3731, E51/1994, E52/3876, E52/3836, E52/3873, E52/3938, E52/3962and E52/3877 are granted licenses to Krakatoa <br> - The tenements are owned and managed by Krakatoa <br> - The Company holds $100 \%$ interest and all rights in the Mt Clere tenements <br> - All are considered to be in good standing. |
| Exploration by other parties | - Acknowledgment and appraisal of exploration by other parties. | - Various parties have held different parts of the Mt Clere Project in different periods and explored for different commodities over several decades. <br> - The project area was previously explored by BHP, All Star and Astro Mining NL respectively for $\mathrm{Au}, \mathrm{Pb}-\mathrm{Zn}-\mathrm{Ag}$ mineralisation and diamonds (see ASX announcement 9 October 2020 and 19 June 2019). |
| Geology | - Deposit type, geological setting and style of mineralisation. | - Ionic absorption Clay and Clay hosted rare earth deposit. <br> - The project is focused on multiple REE opportunities, including REE and thorium in enriched monazite sands released from gneissic rocks, REE ion adsorption on clays within the widely preserved deeply weathered lateritic profiles and lastly REE occurring in plausible carbonatites associated with alkaline magmatism. <br> - The project covers regions of structural complexity within the Narryer Terrane in the Yilgarn Craton said to represent reworked remnants of greenstone sequences that are prospective for intrusion-hosted Ni-Cu-(Co)(PGE's). |


| Drill hole Information | - A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <br> - easting and northing of the drill hole collar <br> - elevation or RL (Reduced Level - elevation above sea level in metres) ofthe drill hole collar <br> - dip and azimuth of the hole <br> - down hole length and interception depth <br> - hole length <br> - If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. |
| :---: | :---: |
| Data aggregation methods | - In reporting Exploration Results, weighting averaging techniques, maximumand/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. <br> - Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. <br> - The assumptions used for any reporting of metal equivalent values should be clearly stated. |
| Relationship between mineralisation widths and intercept lengths | - These relationships are particularly important in the reporting of Exploration Results. <br> - If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. <br> - If it is not known and only the down hole lengths are reported, there shouldbe a clear statement to this effect (e.g. 'down hole length, true width not known'). |
| Diagrams | - Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and sectional views. |
| Balanced reporting | - Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be patito avoid misleading reporting of Exploration Results. |
| Other substantive exploration data | - Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. |
| Further work | - The nature and scale of planned further work (eg tests for lateral extensionsor depth extensions or large-scale step-out drilling). <br> - Diagrams clearly highlighting the areas of possible extensions, including the <br> - main geological interpretations and future drilling areas, provided this information is not commercially sensitive. |

- 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:
asing and northing of the drill hole collar
- elevation or RL (Reduced Level - elevation above sea level in metres) ofthe drill hole collar
- dip and azimuth of the hole
- down hole length and interception depth
ole length
exclusion does not from the understing of the report the Competent Person explain why this is the case
- In reporting Exploration Results, weighting averaging techniques, maximumand/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.
low aradgregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregat
examples of such aggregations should be shown in detail.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.
- These relationships are particularly important in the reporting of Exploration Results.

If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.
to this ffe

- 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 sectional views.

Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be palto avoid misleading reporting of Exploration Results.

- 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 and rock characteristics; potential deleterious or contaminating substances.
- large-scale step-out drilling).
- main geological interpretations and future drilling areas, provided this information is not commercially sensitive.
- Strongly anomalous assay results are shown in figure2 and 3 and all relevant REEs are tabulated within the body of the report.
- Drillhole information including collar and survey are tabulated in Table 4 of the body of the ASX Announcement.
- Anomalous REE intercepts are summarised in a table within the body of the report.
- A lower cut off of 500ppm TREO was used for data aggregation of significant intervals with a maximum of 4 meters on internal dilution and no top-cuts were applied
- Significant intervals were tabulated for reporting. All individual samples were included in length weighted averaging over the entire tabulated range.
- Assay results of REE are reported in ppm and the conversion of elemental analysis (REE parts per million) to stoichiometric oxide (REO parts per million) was undertaken using stoichiometric oxide conversion factors.
- The AC drilling intercepts are reported as downhole (vertical) widths.
- The mineralisation is interpreted to be horizontal, flat lying within the regolith profile. No solid information is known or available about mineralisation true widths at the Bullseye Targets at this early stage of exploration.
- The pertinent maps for this stage of Project are included in the release.
- All drillhole assay results are summarised in tables in the report.
- All drillhole sample coordinates are in MGA94 Z50 and AHD.
- All assay results for this are presented in Table 2.
- Anomalous AC drilling results are fully reported in Table 1 for those holes sampled.
- All new and meaningful material exploration data has been reported.
- Mineralogy and further analysis of additional samples is progressing and will be reported when received
- Further drilling is being planned.


[^0]:    The information in this section that relates to exploration results was first released by the Company on 19 June 2019, 25 November 2019, 3 December 2019, 14 April 2020, 20 May 2020, 26 June 2020, 6 July 2020, 9 August 2021, 8 November 2021. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcement

