# ASX Announcement

**27 February 2024**

ASX: OD6

# Excellent Metallurgical Recoveries Continue at Splinter Rock Project

OD6 Metals Limited (**OD6** or the **Company**) is pleased to announce that high metallurgical recoveries continue to be achieved from samples tested at the Australian Nuclear Science Organisation (**ANSTO**).

**Highlights:**

- **Achieved excellent metallurgical recoveries**, up to 90%, of Magnet Rare Earth Elements (**MagREE**) in multiple Prospect areas, across 60 new samples
- **Average 62% MagREE recovery** at 25g/l HCl (excluding basin edges and carbonaceous shales)
  - Centre Prospect: **40% to 90% recovery of MagREE (average 60%)**
  - Flanker Prospects: **41% and 62% recovery of MagREE (average 53%)**
  - Prop Prospect: **30% to 84% recovery of MagREE (average 70%)**
  - Scrum Prospect: **40% to 89% recovery of MagREE (average 65%)**
- Importantly **recoveries for all magnet rare earth oxides (MagREO) inclusive of Nd, Pr, Dy, Tb are similar**. This is the key to overall project economics for any clay hosted rare earth project.
- **Inside Centre** continues to demonstrate excellent results with an **average recovery of 64% MagREE**.
- **When combined with high grades, low stripping ratios, low acid consumption and substantial tonnages, the recoveries provide considerable confidence in the key economic drivers**
- Enhanced understanding of specific areas of the expansive clay basins that offer the best recovery, enabling prioritisation of areas for economic studies (**geo-metallurgical exploration).**
- Further **metallurgical leaching and processing optimisation work underway**
- All assays contained in this ASX announcement are based on the 4-Acid soluble digestion method, aligning with the reporting of geological drill assays and the Mineral Resource Estimate.

**Brett Hazelden, Managing Director, commented:**

*"The outstanding results from our metallurgical leaching studies continue to affirm the Splinter Rock project as Australia's premier clay-hosted rare earth deposit. With consistent recoveries averaging over 60% across multiple prospects, and notably high recoveries observed for each of the fifteen rare earth elements, our confidence in the project's potential remains high.*

*The Inside Centre area within the Centre Prospect continues to shine, boasting dimensions of approximately 2km in length by 1km in width and thicknesses of up to 69 meters. Grades ranging between 1,400ppm to 2,200ppm TREO further underscore the project's value proposition, complemented by leach recoveries averaging 64%. These metrics align closely with the essential value drivers we believe are crucial for the economic viability of clay-hosted rare earth projects.*

*MagREE (Magnet Rare Earths) = Nd + Pr + Tb + Dy)*
*MagREO (Magnet Rare Earth Oxide) = $Nd_2O_3$ + $Pr_6O_{11}$ + $Tb_4O_7$ + $Dy_2O_3$*
*TREO (Total Rare Earth Oxide) = $La_2O_3$ + $CeO_2$ + $Pr_6O_{11}$ + $Nd_2O_3$ + $Sm_2O_3$ + $Eu_2O_3$ + $Gd_2O_3$ + $Tb_4O_7$ + $Dy_2O_3$ + $Ho_2O_3$ + $Er_2O_3$ + $Tm_2O_3$ + $Yb_2O_3$ + $Lu_2O_3$ + $Y_2O_3$.*

*Of particular significance is the remarkable performance across all four Magnetic Rare earth elements, (Nd, Pr, Dy, and Tb), indicating a diversified resource base that is not reliant on just one or two elements. This diversification is a key factor for ensuring the economic sustainability of the project and sets Splinter Rock apart as a highly promising venture in the rare earth sector.*

**Dr Darren Holden, Chair, also commented:**

*"Two years ago we began the task of positioning OD6 at the forefront of research into geo-metallurgical exploration for Australian clay REE deposits. Our extensive REE-bearing clay basins span hundreds of square kilometres, providing us with the ability to select basins based on superior grade, thickness and recovery potential. Through ongoing collaborations with CSIRO, Murdoch University and ANSTO, we have made substantial progress in comprehending basin composition, regolith characteristics, REE mineralogy and metallurgical recovery potential.*

*The board extends its congratulation the OD6 team and our esteemed research partners for achieving this significant milestone in metallurgical understanding. This progress serves as a strong indication that our research and exploration efforts are positioning OD6 as a frontrunner for the future development of clay REE in Australia."*

## Metallurgical Sample Selection

A total of 60 samples were selected from a wide variety of clays, locations and depths to further develop a geo-metallurgical understanding of recovery across the various regolith types at our four large prospects at Splinter Rock (Prop, Centre, Scrum and Flanker).

Samples were chosen based on differing geographic locations, REE grades, colours, chemical compositions, AEM conductivity, proximity to granite, basin position (including paleo valley/channel positions) and inferred geological genesis.

## Leach Conditions

OD6 and ANSTO have developed a project specific bottle roll test procedure utilising a 25 g/L hydrochloric acid solution, nominally maintained at 30°C and ambient pressure, with a 4 wt% solids density over a 24-hour period. Recoveries are then calculated based on the difference between the assayed solid head and solid residue using a 4-acid digestion method.

This procedure was developed and benchmarked against previous tests to achieve results equivalent to diagnostic leach tests using a 25 g/L hydrochloric acid, at notionally ambient conditions and pressures, over a 6-hour period. The leach conditions were selected based on previously announced works for consistency (refer ASX announcements, 7 November 2023 and 3 April 2023). Further optimisation works will be undertaken in future test work programs.

The bottle roll method is devised to be an inexpensive and fast technique for determining the leachability of samples. Results of the test work are presented in Table 1 to 4 and Figures 3 and 6, with corresponding drill hole locations outlined in Figures 1, and 2. Test work results should be interpreted in the context of geological setting, selection of known non-clay samples to identify boundary limits, and OD6's objectives to test various clay types to identify areas of favourable geology and metallurgy whilst delineating the extent of these areas.

## Assay Method

The Splinter Rock clay hosted prospect areas are characterised by a combination of ionically adsorbed, acid-soluble and refractory rare earth elements (**REEs**). Our chosen assay method (4-acid digestion) does not report the refractory rare earth component, aiming to eliminate the variable grade proportion of the refractory material, which could introduce modelling errors in the future.

Work conducted by OD6 continues to demonstrate that utilising the alternative Lithium Borate Fusion Digest method can increase the head grade by up to 30% compared to the 4-acid assay method. However, it is important to note that this extra grade is highly unlikely to be recoverable in any proposed clay hosted rare earth process flowsheet.

All assays contained in this ASX announcement are based on the 4-acid soluble digestion method, rather than the ALS Lithium Borate Fusion Digest method, aligning with OD6's reporting of geological drill assays and the Mineral Resource Estimate.

It should be acknowledged that future potential commercial production of REE is significantly improved through successful leaching of both ionic and acid-soluble REEs.

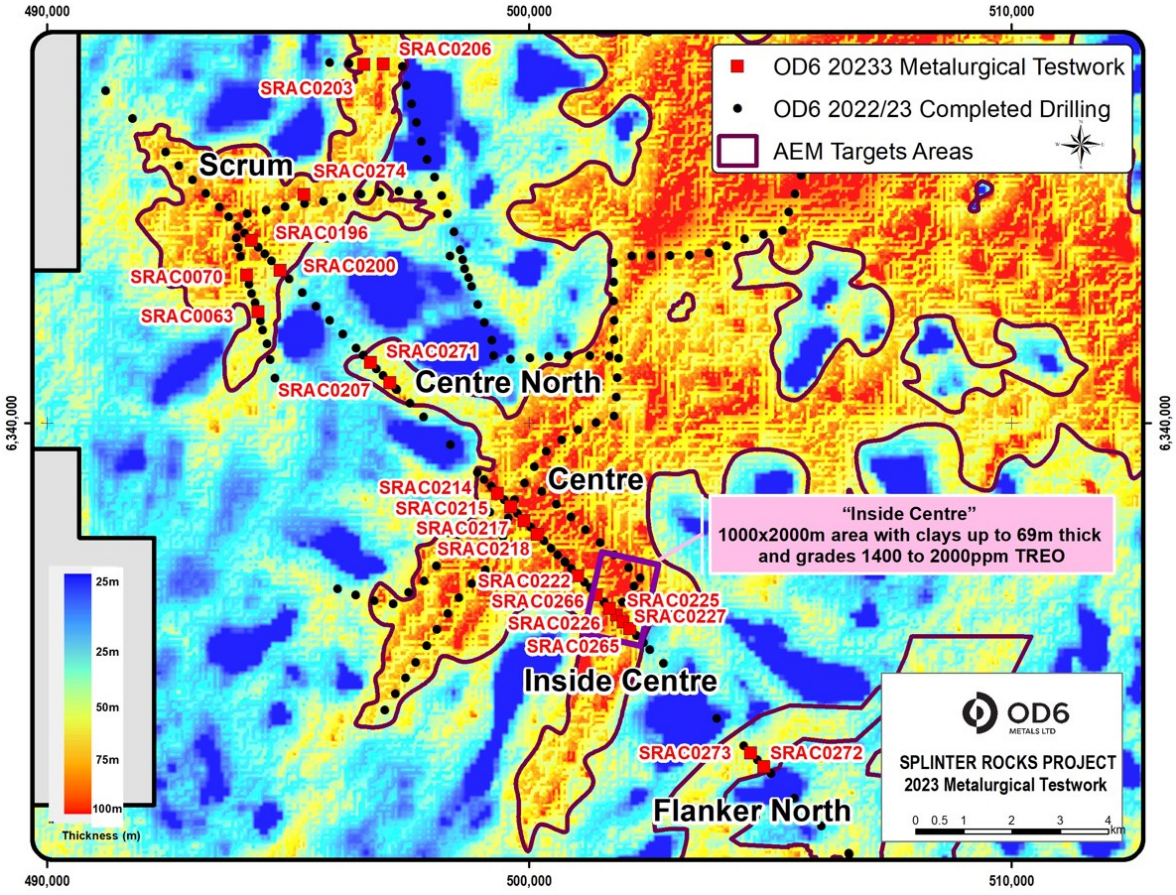



*Figure 1: Splinter Rock Scrum and Centre metallurgical sample drill hole locations on AEM model clay thickness*

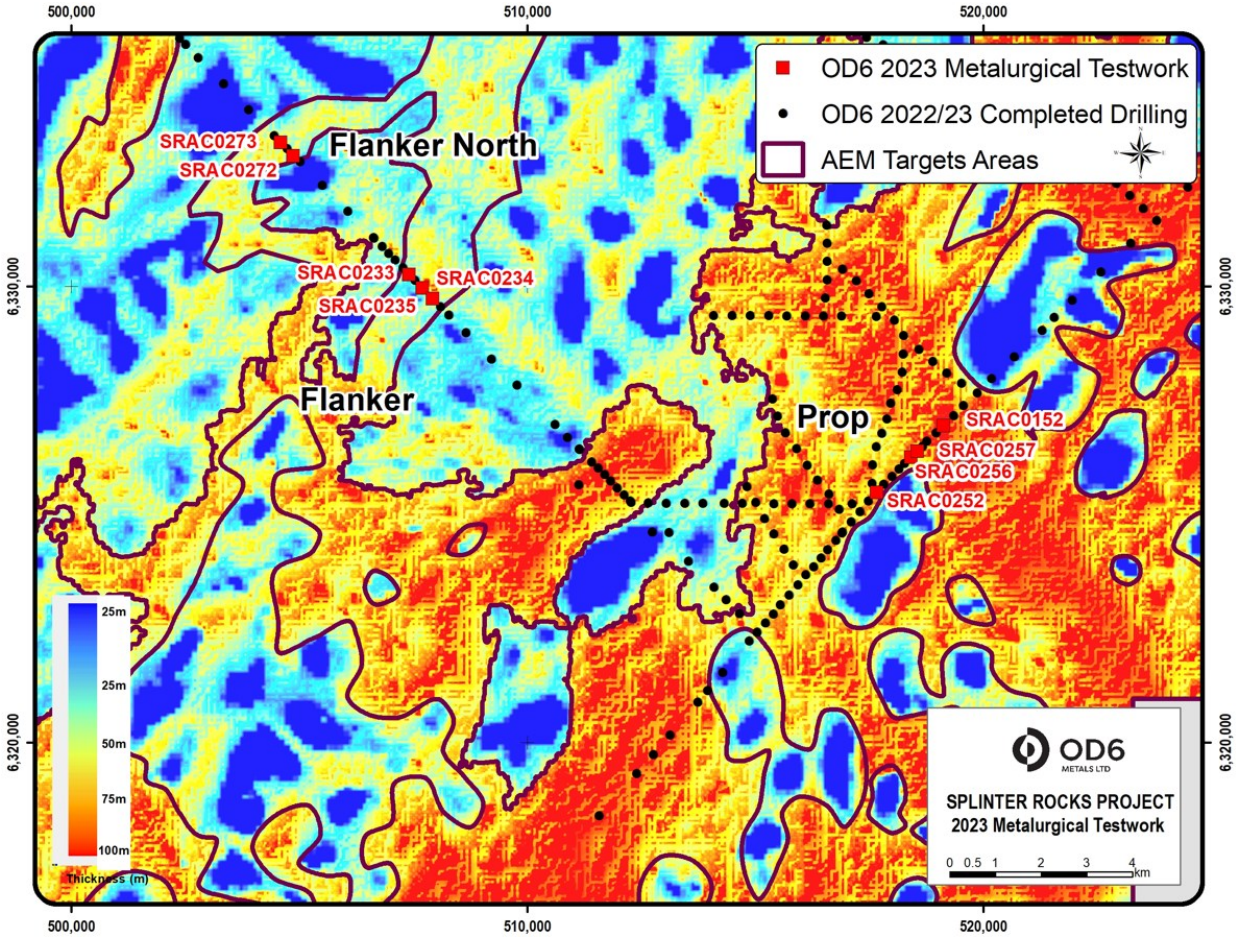



*Figure 2: Splinter Rock Prop and Flanker metallurgical sample drill hole locations on AEM Model clay thickness*

## Centre Prospect Results

Centre Prospect results are presented in Table 1 and Figures 3. These results are based on three geological locations, each with its only clay setting and granite basin boundaries. The Centre Prospect is a large clay basin located within an elevated tableland, featuring multiple feeder channels and Booanya granite to the north.

Based on the recovery results, the following observations can be made:

**Inside Centre**

- Is a significant feeder channel heading northwest into the main Centre Basin
- MagRE Recoveries (extractions) across all four MagRE elements average between 41% and 77%.
- Other rare earth elements are recovered in similar quantities, with Ce showing a lower variation and La showing a higher variation.
- Areas on the margin of the clay basin have lower recovery, likely due to the transition between clay and saprock due to weathering.
- No carbonaceous shales are found in this channel

**Centre North**

- Is a narrow channel located to the northwest of the main Centre Basin
- MagRE Recoveries (extractions) across all four MagRE elements average between 50% and 70%.
- No carbonaceous shales are found in this channel

**Centre**

- Is a large Clay Basin covering a vast area
- MagRE Recoveries (extractions) across all four MagRE elements are more variable, averaging between 40% and 90%.
- Areas on the margin of clay basin have lower recovery, likely due to the transition between clay and saprock due to weathering.
- A carbonaceous shale (black clay) located in parts of the basin is likely the remnants of a historic estuary. Recoveries and grades of rare earth located in this carbonaceous material are generally lower and have a corresponding increase in sulphur levels.
- Below the carbonaceous shales recoveries and grades generally increase significantly.

*Table 1: Centre Prospect MagRE acid leach recovery for various drill hole locations, intercepts and sample types*

| Composite ID | | Head Assay | | % MagRE Recovery | | | | | Sample Selection location, rock type, colour |
|---|---|---|---|---|---|---|---|---|---|
| | | TREO | MagREO | Nd | Pr | Tb | Dy | MagRE | |
| | | ppm | ppm | % | % | % | % | % | |
| Inside Centre | SRAC0225 21-33m | 1,462 | 268 | 64 | 62 | 52 | 52 | **63** | Clay Channel (grey clay) |
| | SRAC0225 33-51m | 1,525 | 370 | 77 | 76 | 69 | 68 | **77** | |
| | SRAC0225 51-86m | 1,426 | 326 | 72 | 70 | 65 | 59 | **71** | |
| | SRAC0226 21-36m | 1,082 | 225 | 62 | 63 | 58 | 52 | **62** | Clay Channel (grey, brown clay) |
| | SRAC0226 36-81m | 1,526 | 325 | 57 | 59 | 56 | 50 | **57** | |
| | SRAC0227 24-57m | 1,825 | 371 | 53 | 52 | 42 | 41 | **52** | Clay Channel (grey, brown clay) |
| | SRAC0265 21-45m | 2,045 | 519 | 44 | 41 | 41 | 41 | **43** | Clay Channel Edge (grey, brown clay) |
| | SRAC0266 21-45m | 987 | 219 | 72 | 71 | 58 | 57 | **71** | Clay Channel (grey, brown clay) |
| | SRAC0266 45-58m | 1,409 | 306 | 62 | 61 | 48 | 47 | **61** | |
| Centre North | SRAC0207 24-36m | 2,119 | 444 | 55 | 54 | 64 | 62 | **55** | Clay Channel (brown clay) |
| | SRAC0207 36-50m | 778 | 149 | 50 | 47 | 62 | 60 | **50** | |
| | SRAC0271 21-30m | 2,888 | 1028 | 51 | 47 | 56 | 58 | **51** | Clay Channel (brown, grey clay) |
| | SRAC0271 30-45m | 1,516 | 413 | 60 | 56 | 67 | 70 | **60** | |
| Centre | SRAC0214 18-30m | 1,267 | 295 | 17 | 16 | 10 | 14 | **16** | Basin Edge (grey saprock) |
| | SRAC0215 21-42m | 1,167 | 249 | 21 | 19 | 30 | 27 | **21** | Clay Basin Edge (grey, brown clay) |
| | SRAC0215 42-55m | 885 | 212 | 55 | 54 | 61 | 59 | **55** | |
| | SRAC0217 21-33m | 579 | 89 | 59 | 58 | 54 | 44 | **58** | Clay Basin (grey clay) |
| | SRAC0217 33-42m | 922 | 119 | **Sample Error** | | | | | |
| | SRAC0217 42-57m | 2,403 | 755 | 90 | 88 | 91 | 90 | **90** | |
| | SRAC0218 21-30m | 660 | 128 | 26 | 26 | 20 | 19 | **25** | Carbonaceous Shale |
| | SRAC0218 30-42m | 1,670 | 362 | 32 | 31 | 24 | 25 | **32** | |
| | SRAC0218 42-57m | 2,370 | 457 | 45 | 39 | 46 | 45 | **44** | Clay Basin (grey clay) |
| | SRAC0218 57-76m | 2,053 | 477 | 60 | 57 | 55 | 55 | **60** | |
| | SRAC0222 21-30m | 468 | 98 | 35 | 35 | 21 | 20 | **34** | Clay Basin Edge (grey, brown clay) |
| | SRAC0222 30-41m | 1,574 | 298 | 32 | 27 | 27 | 28 | **30** | |

*Note: There will be some variation between original head grade total assay and the sum of residual solid and liquor assays which is not accounted for. Recoveries only reflect initial rare earth leaching, with further losses expected in precipitation, impurity removal, purification and drying.*

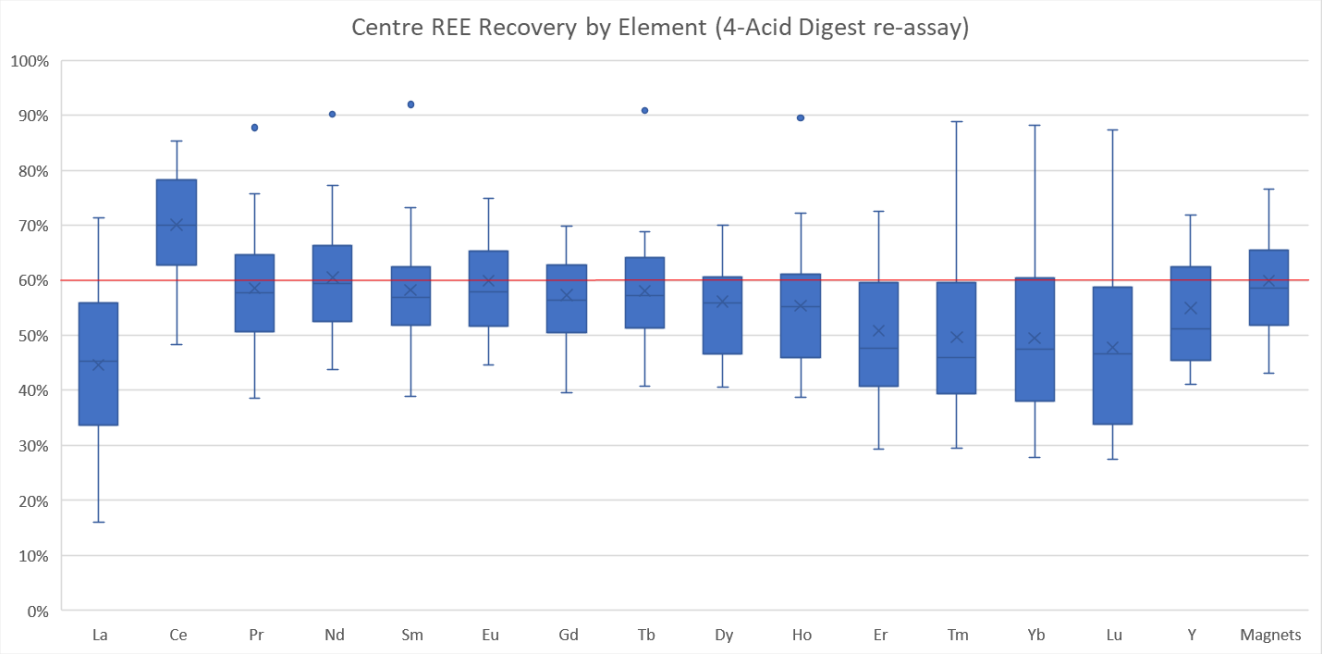



***Figure 3: Centre Prospect REE Recovery by Element (>40% MagREO recovery)***

## Flanker Prospect Results

Flanker Prospect results are presented in Table 2 and Figures 4. These results are based on two geological locations, each with its only clay setting and granite basin boundaries. The Flanker clay basin sits atop a magnetic high on the Booanya granite is likely composed of some transported clays, potentially related to a localised saprolite granite profile.

Based on the recovery results, the following observations can be made:

**Flanker North**

- Is a channel located to the north of the main Flanker Basin
- MagRE Recoveries (extractions) across all four MagRE elements average between 45% and 60%.
- Other rare earth elements are recovered in similar quantities with La showing a lower recovery.
- No carbonaceous shales are found in this channel

**Flanker**

- Is a diverse prospect comprising shallow basins and multiple channels surrounding granite outcrops.
- MagRE Recoveries (extractions) across all four MagRE elements average between 41% and 62%.
- Areas on the margin between the granites and clays see a sharp drop off in recovery.
- No carbonaceous shales are found in this channel

*Table 2: Flanker Prospect MagRE acid leach recovery for various drill hole locations, intercepts and sample types*

| Composite ID | | Head Assay | | % MagRE Recovery | | | | | Sample Selection location, rock type, colour |
|---|---|---|---|---|---|---|---|---|---|
| | | TREO | MagREO | Nd | Pr | Tb | Dy | MagRE | |
| | | ppm | ppm | % | % | % | % | % | |
| Flanker North | SRAC0272 18-27m | 2,968 | 729 | 54 | 51 | 45 | 49 | **53** | Clay Channel (brown, grey clay) |
| | SRAC0272 27-33m | 657 | 145 | 60 | 58 | 59 | 59 | **60** | |
| | SRAC0273 21-36m | 2,075 | 597 | 58 | 56 | 57 | 58 | **58** | Clay Channel (brown, grey clay) |
| | SRAC0273 36-39m | 2,236 | 568 | 45 | 45 | 46 | 50 | **46** | |
| Flanker | SRAC0233 09-21m | 796 | 180 | 11 | 14 | 21 | 16 | **12** | Granite Channel (brown saprock) |
| | SRAC0233 21-41m | 1,243 | 281 | 2 | 2 | 20 | 14 | **3** | |
| | SRAC0234 06-15m | 887 | 227 | -3 | -2 | 11 | 8 | **-2** | Granite Channel (white, brown green clay) |
| | SRAC0234 15-27m | 1,068 | 257 | 21 | 24 | 30 | 23 | **22** | |
| | SRAC0234 27-38m | 1,260 | 283 | 41 | 42 | 48 | 43 | **41** | |
| | SRAC0235 15-33m | 1,184 | 261 | 19 | 20 | 32 | 30 | **20** | Clay Channel (brown, grey clay) |
| | SRAC0235 33-42m | 833 | 134 | 63 | 60 | 65 | 60 | **62** | |
| | SRAC0235 42-54m | 1,351 | 298 | 43 | 41 | 52 | 48 | **43** | |

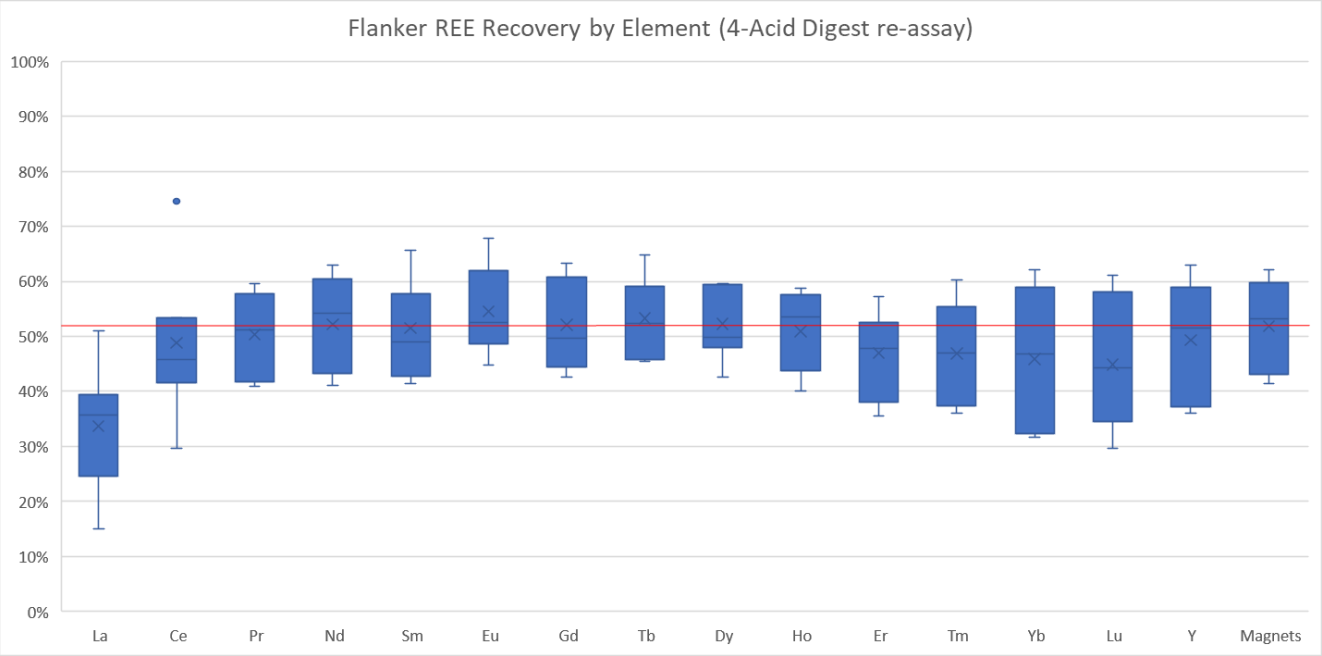



***Figure 4: Flanker Prospect REE Recovery by** Element (>40% **MagREO recovery)***

## Prop Prospect Results

Prop Prospect results are presented in Table 3 and Figures 5. The Prop Prospect located at the lowest elevation at Splinter Rock and is surrounded by Booanya granite to the north and south, is interpreted to be a paleo-valley filled with clay, featuring multiple feeder channels.

Based on the recovery results it can be observed that:

- MagRE Recoveries (extractions) across all four MagRE elements are more variable, averaging between 30% and 84%.
- Areas on the margin of clay basin have lower recovery, most likely due to the transition between clay and saprock caused by weathering.
- Other rare earth elements are recovered in similar quantities with most elements exhibiting a broader range of recoveries
- Some black carbonaceous shales (black clay) have been located in parts of the basin and are likely remnants of a historic estuarine river. Recoveries and grades of rare earth located in this carbonaceous material are generally lower and have a corresponding increase in sulphur levels.

***Table 3: Prop Prospect MagRE acid leach recovery for various drill hole locations, intercepts and sample types***

| Composite ID | | Head Assay | | % MagRE Recovery | | | | | Sample Selection location, rock type, colour |
|---|---|---|---|---|---|---|---|---|---|
| | | TREO | MagREO | Nd | Pr | Tb | Dy | MagRE | |
| | | ppm | ppm | % | % | % | % | % | |
| Prop | SRAC0152 03-21m | 1,101 | 262 | 85 | 84 | 77 | 69 | **83** | Paleo Channel (green, brown clay) |
| | SRAC0252 30-45m | 1,165 | 159 | 84 | 84 | 74 | 71 | **84** | Clay Basin Edge (black, grey, brown clay) |
| | SRAC0252 57-72m | 1,014 | 117 | 36 | 36 | 19 | 13 | **35** | |
| | SRAC0256 30-39m | 1,665 | 279 | 30 | 30 | 16 | 19 | **30** | Clay Basin Edge (black, brown clay) |
| | SRAC0256 39-57m | 783 | 150 | 32 | 33 | 21 | 23 | **32** | |
| | SRAC0257 18-36m | 776 | 173 | 30 | 27 | 20 | 26 | **29** | Clay Basin Edge (black, grey clay) |
| | SRAC0257 36-50m | 1,354 | 326 | 56 | 53 | 59 | 59 | **55** | |

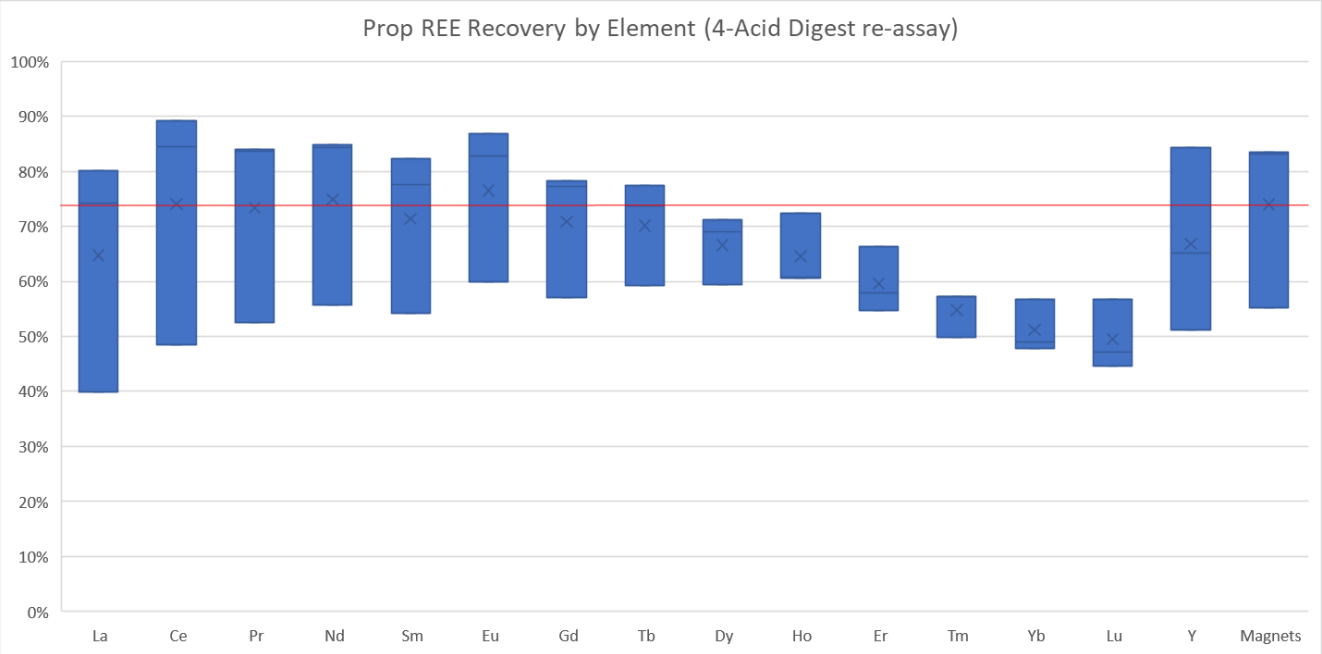



***Figure 5: Prop Prospect REE Recovery by Element (>40% MagREO recovery)***

## Scrum Prospect Results

Scrum Prospect results are presented in Table 4 and Figures 6. The Scrum Prospect is characterised by a magnetic dipole, with the northern area coinciding with a magnetic high in Booanya granite grading to a magnetic low in the south. It has multiple feeder channels predominantly from the south and north.

Based on the recovery results, the following observations can be made:

- MagRE Recoveries (extractions) across all four MagRE elements are more variable averaging between 40% and 89% when excluding the carbonaceous shale zones.
- Areas on the margin of clay basin have lower recovery, most likely due to the transition between clay and saprock due to weathering.
- More broadly the other rare earth elements are recovered in similar quantities, with most elements exhibiting a range of recoveries
- A carbonaceous shale (black clay) located in parts of the basis and is most likely the remnants of a historic estuary. Recoveries and grades of rare earth located in this carbonaceous material are generally lower and have a corresponding increase in sulphur levels.
- Below the carbonaceous shales recoveries and grades generally increase.

*Table 4: Scrum Prospect MagRE acid leach recovery for various drill hole locations, intercepts and sample types*

| Composite ID | | Head Assay | | % MagRE Recovery | | | | | Sample Selection location, rock type, colour |
|---|---|---|---|---|---|---|---|---|---|
| | | TREO | MagREO | Nd | Pr | Tb | Dy | MagRE | |
| | | ppm | ppm | % | % | % | % | % | |
| Scrum | SRAC0063 30-48m | 1,100 | 225 | 63 | 62 | 68 | 64 | **63** | Clay Channel (grey clay) |
| | SRAC0063 48-60m | 527 | 125 | 78 | 77 | 72 | 64 | **78** | |
| | SRAC0070 39-63m | 968 | 263 | 58 | 57 | 50 | 42 | **57** | Clay Channel (grey clay) |
| | SRAC0070 63-96m | 679 | 167 | 75 | 74 | 67 | 62 | **74** | |
| | SRAC0196 33-51m | 1,073 | 269 | 14 | 14 | 22 | 20 | **14** | Carbonaceous Shale |
| | SRAC0196 51-60m | 1,019 | 241 | 53 | 57 | 56 | 57 | **54** | Clay Basin (grey clay) |
| | SRAC0200 27-36m | 1,597 | 321 | 12 | 7 | -2 | 5 | **11** | Carbonaceous Shale |
| | SRAC0200 36-52m | 1,195 | 253 | 22 | 21 | 12 | 19 | **22** | Clay Basin Edge (grey clay) |
| | SRAC0203 33-39m | 1,094 | 251 | 19 | 19 | 9 | 15 | **19** | Carbonaceous Shale |
| | SRAC0203 39-51m | 1,498 | 355 | 13 | 8 | -2 | 5 | **11** | |
| | SRAC0203 51-58m | 1,114 | 278 | 40 | 37 | 34 | 36 | **39** | Clay Channel (grey clay) |
| | SRAC0206 30-51m | 645 | 156 | 28 | 27 | 42 | 37 | **29** | Carbonaceous Shale |
| | SRAC0206 51-60m | 809 | 218 | 74 | 69 | 79 | 75 | **73** | Clay Channel (grey clay) |
| | SRAC0274 18-33m | 653 | 170 | 40 | 32 | 39 | 44 | **39** | Carbonaceous Shale |
| | SRAC0274 33-51m | 567 | 124 | 73 | 74 | 57 | 52 | **72** | Clay Channel (grey, brown clay) |
| | SRAC0274 51-78m | 467 | 149 | 89 | 90 | 82 | 77 | **89** | |

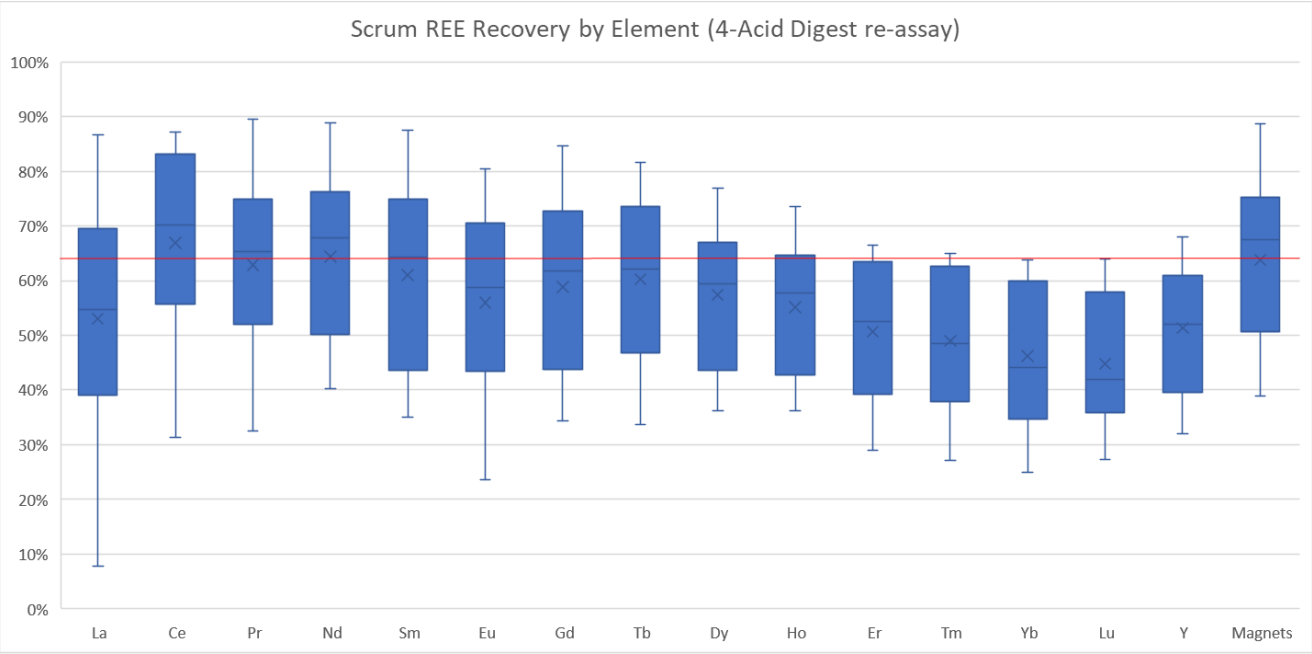



*Figure 6: Scrum Prospect REE Recovery by Element (>40% MagREO recovery)*

## Forward Works Program

- **Incorporation of Results into Mineral Resource Estimate:** Evaluate and potentially upgrade the Mineral Resource Estimate based on the latest results.
- **Leach Performance Review:** Review the leach performance of upgraded fines fractions post-screening at 75 µm:
- **Sighter Bottle Roll Tests:** Conduct sighter bottle roll tests using selected Phase 3 drill samples.
- **Bench Scale Tests:** Perform bench scale tests to determine preferred slurry densities and further optimize leach conditions.
- **Slurry Leach Tests**: Conduct slurry leach tests to evaluate slurry handling, filtration, and washing processes.
- **Impurity Removal Trials:** Conduct impurity removal trials under various pH conditions, temperatures, and with different reagents.
- **Assessment of Resin Use:** Evaluate the potential use of resins in both pulp and liquid phases to assist in impurity removal.
- **Ion Exchange Assessment:** Assess ion exchange processes on "leach" liquor and investigate selective elution of REE versus impurities such as Al and Fe.
- **Nanofiltration Evaluation:** Evaluate nanofiltration processes to produce a retentate with increased REE concentration and a permeate containing clean acid for recycling.
- **Mixed Rare Earth Precipitation:** Investigate mixed rare earth precipitation methods, including carbonates and hydroxides.
- **Process Modelling and Techno-Economic Comparison:** Develop process models and conduct techno-economic comparisons of various flowsheet options.
- **Mini Pilot Scale Testing:** Conduct mini pilot scale testing using composited bulk samples to validate findings on a smaller scale.
- **Conversion of Rare Earth Carbonate/Hydroxide:** Apply process models to assess options for converting mixed rare earth carbonate/hydroxide in a downstream refinery to multiple potential rare earth oxides.

## Competent Persons Statement

Information in this report relating to Exploration Results is based on information reviewed by Mr Jeremy Peters who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Chartered Professional Geologist and Mining Engineer of that organisation. Mr Peters is a Director of Burnt Shirt Pty Ltd, consulting to OD6 and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Peters consents to the inclusion of the data in the form and context in which it appears.

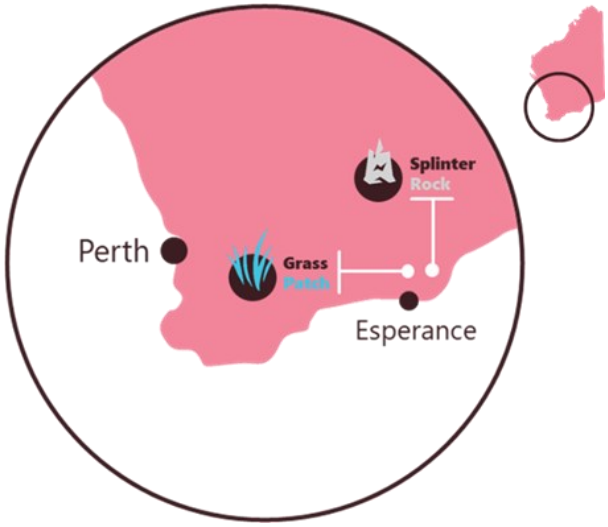
The information in this report relating to the Mineral Resource estimate for the Splinter Rock Project is extracted from the Company's ASX announcement dated 18 July 2023. OD6 confirms that it is not aware of any new information or data that materially affects the information included in the original announcement and that all material assumptions and technical parameters underpinning the Mineral Resource estimate continue to apply.

## Forward Looking Statements

Certain information in this document refers to the intentions of OD6 Metals, however these are not intended to be forecasts, forward looking statements, or statements about the future matters for the purposes of the Corporations Act or any other applicable law. Statements regarding plans with respect to OD6 Metals projects are forward looking statements and can generally be identified by the use of words such as 'project', 'foresee', 'plan', 'expect', 'aim', 'intend', 'anticipate', 'believe', 'estimate', 'may', 'should', 'will' or similar expressions. There can be no assurance that the OD6 Metals plans for its projects will proceed as expected and there can be no assurance of future events which are subject to risk, uncertainties and other actions that may cause OD6 Metals actual results, performance, or achievements to differ from those referred to in this document. While the information contained in this document has been prepared in good faith, there can be given no assurance or guarantee that the occurrence of these events referred to in the document will occur as contemplated. Accordingly, to the maximum extent permitted by law, OD6 Metals and any of its affiliates and their directors, officers, employees, agents and advisors disclaim any liability whether direct or indirect, express or limited, contractual, tortuous, statutory or otherwise, in respect of, the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence).

**This announcement has been authorised for release by the Board of OD6 Metals Limited**

## About OD6 Metals




OD6 Metals is an Australian public company pursuing exploration and development opportunities within the critical mineral sector. The Company has successfully identified clay hosted rare earths at its 100% owned Splinter Rock and Grass Patch Projects, which are located in the Esperance-Goldfields region of Western Australia - about 30 to 150km northeast of the major port and town of Esperance.

Drilling and geological analysis at its flagship Splinter Rock has shown widespread, thick, high-grade clay hosted REE deposits that extend over hundreds of square kilometres. Metallurgical testing using hydrochloric acid to leach the rare earths have resulted in positive REE recoveries with optimisation ongoing.

The Company aims to delineate and define economic resources and reserves of Rare Earth Elements (REE), in particular Neodymium (Nd), Praseodymium (Pr), Dysprosium (Dy) and Terbium (Tb), which can be developed into a future revenue generating mine. Clay REE deposits are currently economically extracted in China, which is the dominant world producer of REEs.

REE are becoming increasingly important in the global economy, with uses including advanced electronics and permanent magnets in electric motors. As an example, a neodymium magnet used in a wind turbine or electric vehicle motor is 18 times stronger than a standard ferrite magnet significantly increasing energy use efficiency.

As part of the exploration process the Company has entered into heritage agreements with Esperance Tjaltrjraak Native Title Aboriginal Corporation and the Ngadju Native Title Aboriginal Corporation that serves to both enable exploration and protect important cultural sites on Country.

## Corporate Directory

| | |
|---|---|
| Managing Director | Mr Brett Hazelden |
| Non-Executive Chairman | Dr Darren Holden |
| Non-Executive Director | Mr Piers Lewis |
| Non-Executive Director | Dr Mitch Loan |
| Financial Controller/ Joint Company Secretary | Mr Troy Cavanagh |
| Joint Company Secretary | Mr Joel Ives |
| Exploration Manager | Tim Jones |

## Contact

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## Metallurgical Drill Hole Location Details

| Hole ID | Type | Easting | Northing | RL (m) | Dip (degrees) | End of Hole (m) |
|---|---|---|---|---|---|---|
| SRAC0063 | Aircore | 494385 | 6342319 | 220 | -90 | 60 |
| SRAC0070 | Aircore | 494143 | 6343077 | 234 | -90 | 96 |
| SRAC0152 | Aircore | 519126 | 6326958 | 145 | -90 | 57 |
| SRAC0196 | Aircore | 494242 | 6343796 | 233 | -90 | 64 |
| SRAC0200 | Aircore | 494845 | 6343179 | 224 | -90 | 52 |
| SRAC0203 | Aircore | 496578 | 6347447 | 231 | -90 | 58 |
| SRAC0206 | Aircore | 496977 | 6347455 | 224 | -90 | 60 |
| SRAC0207 | Aircore | 497116 | 6340842 | 227 | -90 | 50 |
| SRAC0214 | Aircore | 499348 | 6338551 | 205 | -90 | 39 |
| SRAC0215 | Aircore | 499622 | 6338270 | 204 | -90 | 55 |
| SRAC0217 | Aircore | 499898 | 6337984 | 207 | -90 | 57 |
| SRAC0218 | Aircore | 500172 | 6337697 | 207 | -90 | 76 |
| SRAC0222 | Aircore | 501017 | 6336840 | 206 | -90 | 41 |
| SRAC0225 | Aircore | 501815 | 6336021 | 204 | -90 | 86 |
| SRAC0226 | Aircore | 501953 | 6335879 | 204 | -90 | 81 |
| SRAC0227 | Aircore | 502093 | 6335738 | 205 | -90 | 93 |
| SRAC0233 | Aircore | 507414 | 6330272 | 174 | -90 | 41 |
| SRAC0234 | Aircore | 507702 | 6329972 | 177 | -90 | 38 |
| SRAC0235 | Aircore | 507933 | 6329736 | 178 | -90 | 55 |
| SRAC0252 | Aircore | 517664 | 6325490 | 159 | -90 | 74 |
| SRAC0256 | Aircore | 518420 | 6326266 | 149 | -90 | 62 |
| SRAC0257 | Aircore | 518558 | 6326401 | 147 | -90 | 50 |
| SRAC0265 | Aircore | 501677 | 6336161 | 204 | -90 | 45 |
| SRAC0266 | Aircore | 501399 | 6336445 | 205 | -90 | 58 |
| SRAC0271 | Aircore | 496711 | 6341260 | 228 | -90 | 47 |
| SRAC0272 | Aircore | 504874 | 6332873 | 196 | -90 | 42 |
| SRAC0273 | Aircore | 504595 | 6333162 | 197 | -90 | 39 |
| SRAC0274 | Aircore | 495333 | 6344753 | 215 | -90 | 78 |

## JORC 2012 – Table1: Splinter Rock

### Section 1 Sampling Techniques and Data

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Sampling techniques* | • *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | • Geochemical sampling was undertaken by sampling of metre interval samples returned from the cyclone of a conventional air core drilling rig.<br>• Certified reference samples, duplicates and blank samples were inserted into the sample stream such as to represent approximately 5% of the samples submitted to the laboratory for analysis<br>• Two composite samples were collected over three metre intervals – the first (the A sample) being submitted for laboratory analysis and the second (the B sample) being retained as a reference. A sample from each metre was collected and stored in a chip tray for logging and x-ray diffraction analysis |
| *Drilling techniques* | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • Air core drilling was completed by hammer and blade industry standard drilling techniques<br>• Aircore is considered to be an appropriate drilling technique for saprolite clay<br>• Drilling used blade bits of 87mmØ with 3m length drill rods to blade refusal. |
| *Drill sample recovery* | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | • Air core recoveries were not recorded but are not considered to be materially biased, given the nature of the geology and samples.<br>• The assay data will be analysed against control samples and historical assays for any indications of bias<br>• The Competent Person considers that due to the nature of the drilling and geology, sample bias is unlikely to result from poor recovery. |
| *Logging* | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • All chips were logged qualitatively and quantitatively.<br>• A sample from each metre was collected and stored in a chip tray for logging<br>• Geological logs recorded lithology, colour and weathering.<br>• The Competent Person considers that the logging protocols are sufficient to support estimation of a Mineral Resource. |
| *Sub-sampling techniques and sample preparation* | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • A composite sample of ~ 3kg for analysis was taken using a scoop from each metre pile to subsample 1 to 1.5kg sample. This was then dispatched to the laboratory.<br>• A second composite sample was similarly taken and stored on site as a reference<br>• Air core samples were a mix of wet and dry<br>• Certified reference samples, duplicates and blank samples were inserted into the sample stream such as to represent approximately 5% of the samples submitted to the laboratory for analysis<br>• The Competent Person considers to be appropriate the measures taken to demonstrate that sample protocols were appropriate and unbiased. |

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Quality of assay data and laboratory tests</td><td>• 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</td><td>• “A Samples” were submitted for chemical analysis using industry standard sample preparation and analytical techniques including:<br>  • Riffle split all “A samples” to 50:50 bagging one half as a coarse reject for storage<br>  • Pulverise the balance of the material via LM-5<br>  • Generate a standard 300g master pulp packet<br>  • Bag the balance as a bulk pulp master for storage<br>• Multi-Element Ultra Trace method ME-MS61r for exploration in soils or sediments. 4-Acid digest on 0.25g sample analysed via ICP-MS and ICP-AES. REEs included.</td></tr>
<tr><td>Verification of sampling and assaying</td><td>• 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.</td><td>• Certified reference samples, duplicates and blank samples were inserted into the sample stream such as to represent approximately 5% of the samples submitted to the laboratory for analysis<br>• No holes were twinned (duplicated).<br>• Data stored in a database, with auto-validation of logging data,<br>• Multielement results (REE) are converted to stoichiometric oxide (REO) using element-to-stoichiometric conversion factors.<br><table><tr><th>Element ppm</th><th>Conversion Factor</th><th>Oxide Form</th></tr><tr><td>Ce</td><td>1.1713</td><td>$CeO_2$</td></tr><tr><td>Dy</td><td>1.1477</td><td>$Dy_2O_3$</td></tr><tr><td>Er</td><td>1.1435</td><td>$Er_2O_3$</td></tr><tr><td>Eu</td><td>1.1579</td><td>$Eu_2O_3$</td></tr><tr><td>Gd</td><td>1.1526</td><td>$Gd_2O_3$</td></tr><tr><td>Ho</td><td>1.1455</td><td>$Ho_2O_3$</td></tr><tr><td>La</td><td>1.1728</td><td>$La_2O_3$</td></tr><tr><td>Lu</td><td>1.1371</td><td>$Lu_2O_3$</td></tr><tr><td>Nd</td><td>1.1664</td><td>$Nd_2O_3$</td></tr><tr><td>Pr</td><td>1.1703</td><td>$Pr_6O_{11}$</td></tr><tr><td>Sm</td><td>1.1596</td><td>$Sm_2O_3$</td></tr><tr><td>Tb</td><td>1.1510</td><td>$Tb_4O_7$</td></tr><tr><td>Tm</td><td>1.1421</td><td>$Tm_2O_3$</td></tr><tr><td>Y</td><td>1.2699</td><td>$Y_2O_3$</td></tr><tr><td>Yb</td><td>1.1387</td><td>$Yb_2O_3$</td></tr></table>• 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) = $La_2O_3$ + $CeO_2$ + $Pr_6O_{11}$ + $Nd_2O_3$ + $Sm_2O_3$ + $Eu_2O_3$ + $Gd_2O_3$ + $Tb_4O_7$ + $Dy_2O_3$ + $Ho_2O_3$ + $Er_2O_3$ + $Tm_2O_3$ + $Yb_2O_3$ + $Lu_2O_3$ + $Y_2O_3$.<br>Note that $Y_2O_3$ is included in the TREO calculation.</td></tr>
<tr><td>Location of data points</td><td>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.<br>• Specification of the grid system used.<br>• Quality and adequacy of topographic control.</td><td>• Drill hole collars were located using a handheld GPS to +/-5m accuracy<br>• Grid system was MGA 94 Zone 51<br>• Downhole survey was not undertaken, the holes being vertical<br>• No topography control was used, given the relatively flat topography</td></tr>
<tr><td>Data spacing and distribution</td><td>• 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.</td><td>• Drilling intervals were closed to approximately 200m centres where historic drilling returned elevated REE assays<br>• Downhole samples were taken on 1m intervals<br>• This drilling indicated excellent continuity, particularly when supported by the results of the Tempest Airborne Aeromagnetic Survey, which was used to define basin limits.<br>• Tempest Airborne Electromagnetic Survey (AEM), undertaken by Xcalibur Multiphysics</td></tr>
</table>

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Data collected using the TEMPEST EM system (50Hz) using fixed wing aircraft.<br>• Nominal flight height of 120 m above ground level.<br>• GPS cycle rate of 1 second, accuracy 0.5m<br>• Altimeter accuracy of 0.05m<br>• Flight line spacing 400 to 800m.<br>• Conductivity measurements and sampling interval at approximately 11 to 12 metres along line.<br>• This data when combined with further drilling will be utilised to guide future mineral resource estimation |
| *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.* | • Drillholes were vertical and approximately perpendicular to mineralisation hosted in flat lying clay-beds<br>• This orientation is not considered by the Competent Person to have introduced material sampling bias.<br>• For AEM data: Flight lines are North West- South East: drainage and regolith patterns show a regional slope down from NW to SE, whereas geological structure is dominantly NE-SW.<br>• The thickness of regolith presented in the cross-sections is based on geophysical inversion modelling conducted by the CSIRO. This inversion modelling used Monte Carlo simulation known as RJMCMC regression based on Bodin and Sambridge (2009) https://doi.org/10.1111/j.1365-246X.2009.04226.x & Minsley (2011) https://doi.org/10.1111/j.1365-246X.2011.05165.x with modifying parameters by CSIRO. refer ASX Announcement 5 October 2022<br>• The RJMCMC method uses a comparison method to estimate the conductivity. |
| *Sample security* | • *The measures taken to ensure sample security.* | • Samples were taken and dispatched by road freight direct to the analytical laboratory |
| *Audits or reviews* | • *The results of any audits or reviews of sampling techniques and data.* | • The Independent Competent Person reviewed the sampling techniques and data collection. The Independent Competent Person has previously completed a site visit during drilling to verify sampling techniques and data collection. |

## Section 2 Reporting of Exploration Results

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

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Mineral tenement and land tenure status* | • *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*<br>• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.* | • The Splinter Rock Project is held by Odette Six Pty Ltd which is a 100% owned subsidiary of OD6 Metals Ltd.<br>• Granted exploration Licences include E63/2115, E69/3904, E69/3905, E69/3907, E69/3893, E69/3894.<br>• The ELs predominantly overly vacant crown land with a small portion of freehold agricultural land used for crop and livestock farming to the south.<br>• The Company has Native Title Land Access agreements with Ngadju Native Title Aboriginal Corporate and Esperance Tjaltjraak Native Title Aboriginal Corporation. The tenements are in good standing with no known impediments outside the usual course of exploration licenses. |
| *Exploration done by other parties* | • *Acknowledgment and appraisal of exploration by other parties.* | • An Independent Geological Report was completed by of Sahara Natural Resources and included in the Company's Prospectus dated 10 May 2022.<br>• Historic exploration for REE's was conducted by Salazar Gold Pty Ltd<br>• The historical data has been assessed and is considered of good quality |
| *Geology* | • *Deposit type, geological setting and style of mineralisation.* | • The rare earth mineralisation at the Splinter Rock project occurs in the weathered profile (in-situ regolith clays) adjacent to and above Booanya Granite of the East Nornalup Zone of the Albany-Fraser Orogen.<br>• The Booanya granites are enriched in REEs. Factors such as groundwater dispersion and paleo-weathering environments may mobilise REEs away from the granite sources. |
| *Drill hole Information* | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>  ○ *easting and northing of the drill hole collar*<br>  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>  ○ *dip and azimuth of the hole*<br>  ○ *down hole length and interception depth*<br>  ○ *hole length.*<br>• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | • All drill results are reported to the ASX in line with ASIC requirements.<br>• A summary of material drill hole information ins included in the Drill Hole Data table included below.<br>• No material has been excluded.<br>• Some results occur outside the mineralised area of interest and have been excluded as not being of material interest.<br>• Internal waste results have been included in the mineralised intercepts.<br>• Mineralised intersections have been publicly reported by OD6 in accordance with the JORC Code and ASX Listing Rules and are not repeated here.<br>• The Competent Person observes consistent broad intersections of REEs and is satisfied that the drilling information supports this interpretation. |
| *Data aggregation methods* | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br>• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • No cutting of grades has been engaged in<br>• Data has been aggregated according to downhole intercept length above the cut-off grade and internal sub-grade material has been included.<br>• A lower cut-off grade of 300ppm TREO has been applied. OD6 considers this to be an appropriate cut-off grade for exploration data in a clay-hosted REE project<br>• A 1,000ppm cut off grade has been applied to the Mineral Resource<br>• Multielement results (REE) are converted to stoichiometric oxide (REO) using element-to-stoichiometric conversion factors.<br>• These stoichiometric conversion factors are stated in the 'verification of sampling and assaying' table above and can be referenced in appropriate |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | publicly available technical data. |
| *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 should be a clear statement to this effect (eg 'down hole length, true width not known').* | • Drillholes drilled vertical and orthogonal to generally flat to shallow dipping clay mineralisation.<br>• Drilled width is approximately true width. |
| *Diagrams* | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | • Diagrams are included at relevant sections in this Report<br>• Drilling is presented in long-section and cross section as appropriate. |
| *Balanced reporting* | • *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | • Electromagnetic data processing presented in this release is across all tenure at Splinter Rock. Further work on the remainder of the project is underway<br>• Mineralisation has been reported at a variety of cut-off grades |
| *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.* | • All material data available is reported.<br>• There have been various photogrammetric and geophysical surveys at Splinter Rock at various times that have contributed to understanding of the geology of the deposit. The Competent Person considers these to have been undertaken in an appropriate manner.<br>• All material data available is reported for test work conducted on bottle roll acid leaching of rare earths. ANSTO conducted hydrochloric acid leaching tests with samples undergoing a bottle roll at 25g/L hydrlochloric acid concentration, 30'C temperature, ambient pressure and 4 wt% solids for 24 hours.<br>• As mentioned in the report, the recoverability of rare earths are indicative only and do not currently account for additional losses that may occur during downstream processing.<br>• The metallurgical samples that have been provided to the laboratory for leaching assessment are detailed within this report. |
| *Further work* | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Mineralisation is open perpendicular to the drill traverses. The Competent Person recommends that OD6 drill traverses in this direction.<br>• Further work will include additional air core drilling, core drilling (e.g sonic or push-tube drilling, mineralogy, metallurgical test work and study work. Further work will include additional air core drilling, core drilling (e.g sonic or push-tube drilling, mineralogy, metallurgical testwork and study work<br>• Further Metallurgical work is detailed within this report. |