ASX Announcement

2 September 2025

ASX: OD6

MAJOR FLOWSHEET IMPROVEMENTS AT SPLINTER ROCK RARE EARTH PROJECT

CPC Engineering confirms the inclusion of a Chlor-Alkali Facility (CAF) as a key development, delivering operating cost savings and strengthening projects economics

Highlights:

- **Chlor-Alkali Facility (CAF) confirmed as a cost-reduction measure**, producing key reagents onsite and materially lowering operating costs
- **Onsite production of Hydrochloric Acid (HCl) and Sodium Hydroxide (NaOH)** eliminates expensive transport of liquid reagents from Perth (~800km) reducing environmental footprint
- **Abundant and low-cost solar sea salt (NaCl),** extensively produced in Western Australia, provides the primary feedstock alongside water and energy
- **Expected to improve financial metrics** through lower reagent costs and reduced logistics
- **High-quality Mixed Rare Earth Hydroxide (MREH ~59% TREO)** already demonstrated using onsite NaOH as a precipitation agent
- **CAF enables potential selective production of Nd, Pr, Dy, Tb oxides** via a chloride-based Solvent Extraction (SX) process
- **Strategic partnerships with ANSTO and CPC Engineering** continue to guide the Optioneering Study toward selection of the optimal development pathway
- **Drill campaign** commencing shortly to supply additional material for ANSTO testwork

Managing Director Brett Hazelden, commented:

"The study conducted, in collaboration with CPC Engineering, confirms that the use of a Chlor-Alkali Facility (CAF) to produce our reagent needs onsite will add substantial value at Splinter Rock. The modest capital cost is strongly outweighed by the substantial savings in operating costs, driving a significant uplift in project economics.

Importantly, having a CAF on site not only reduces operating costs but also unlocks strategic flexibility, providing the two critical reagents required for a chloride-based Solvent Extraction process capable of selectively producing Nd, Pr, Dy and Tb oxides. This outcome would enable 100% payability for those high-value products.

The Optioneering process is well advanced, benchmarking multiple technically viable flowsheets to determine the optimal economic, scalable, and sustainable development path forward."

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.

OD6 Metals Limited (OD6 or the Company) is pleased to report the first outcomes of the CPC Optioneering Study which is assessing the metallurgical testwork outcomes conducted by the Australian Nuclear Science and Technology Organisation (ANSTO). The work is evaluating the multiple technically viable flowsheets, to enable the techno economic assessment of each flowsheet. This study will identify a preferred flowsheet based on cost, recovery, scalability, and product quality for the Splinter Rock Rare Earth Project.

What is a Chlor-Alkali Facility?

A Chlor-Alkali Facility (CAF) is a plant that produces two essential chemicals, **Hydrochloric Acid (HCl) and Sodium Hydroxide (NaOH), from Salt (NaCl) and Water**:

How It Works

The Chlor-Alkali process relies on **electrolysis,** splitting salt (NaCl) dissolved in water into its components.

In short, an electric current passes through the salt brine to produce hydrogen, chlorine and sodium hydroxide.

The hydrogen and chlorine can then be combined into hydrochloric acid.

The equations to create sodium hydroxide (**NaOH**) and hydrochloric acid (**HCl**) are:

$$2H_2O_{(l)} + 2NaCl_{(aq)} \longrightarrow H_{2(g)} + Cl_{2(g)} + 2NaOH_{(aq)}$$

$$H_{2(g)} + Cl_{2(g)} \longrightarrow 2HCl_{(g)}$$

Figure 1: Example of two BICHLOR™ Electrolysers utilised to produce $H_{2(g)} + Cl_{2(g)} + 2NaOH_{(aq)}$

Strategic Importance for Splinter Rock

HCl and NaOH are essential reagents used by OD6:

1. **Heap Leaching with HCl extracts rare earths into solution** (refer ASX 16 October 2024)
2. Importantly over 80% of HCl can recycled using NanoFiltration (refer ASX 4 August 2025)
3. **NaOH is utilised in impurity removal and precipitation**
4. NaOH is also use to precipitate a **Mixed Rare Earth Hydroxide (MREH)** (refer ASX 13 August 2025).

By producing these reagents onsite, OD6 avoids costly liquid transport, secures supply reliability, and reduces environmental footprint.

Technical Review

CPC Engineering (**CPC**) and OD6 have undertaken a technical and cost review of reagent requirements and the most cost effective source for the Splinter Rock Rare Earth Project located Northwest of Esperance in Western Australia.

The two Main reagent souring options for the project include:

- **Purchasing liquid HCl and NaOH from Kwinana (~800km away)**. This has been determined to not be financially viable due to significant transport volumes and costs.
- **Importing solar sea salt (NaCl) and converting it to HCl and NaOH in a CAF**. Salt is abundantly produced in WA's northwest and would be shipped to Esperance Port, then trucked ~150km to site. This has been determined to be a far more cost-effective solution.

Indicative vendor provided information utilising a BICHLOR™ Electrolyser confirms:

- Modest capital cost (~A$6M per electrolyser unit).
- Single unit capacity sufficient to treat up to 5–6Mtpa of clay ore.
- Up to 62ktpa HCl and 69ktpa NaOH production capacity.
- Power consumption ~1,990kWh/te NaOH (major cost input).

OD6 is investigating powering the CAF via a hybrid renewable energy system (solar, wind, storage, plus backup gas/diesel generation).

ANSTO Metallurgical Outcomes to Date

As part of its advanced metallurgical program, OD6 and ANSTO has successfully demonstrated a **multi-stage processing pathway** (Figure 2) that efficiently extracts and purifies rare earth elements from Splinter Rock's clay-hosted deposits. The flowsheet consists of:

1. **Heap Leaching** – Simple, low-acid usage leaching of rare earth-bearing clays to generate enriched leachate solution (refer ASX 16 October 2024)
2. **Nanofiltration (NF)** – Recycling of Acid, concentration of REEs and reduction of liquid volume produced downstream (refer ASX 4 August 2025)

3. **Ion Exchange (IX)** – Concentration of rare earth elements and enhanced removal of iron (Fe) and aluminium (Al) reducing downstream processing risk (refer ASX 7 August 2025)
4. **Impurity Removal (IR)** – Final removal of residual deleterious elements (e.g. Al, Ca, Fe, U, Th, P) to meet high product quality and low impurity specifications.
5. **Product Precipitation** – Recovery of high-grade Mixed Rare Earth Carbonate (MREC) or Hydroxide (MREH) from purified solution (refer ASX 13 August 2025)

The final MREC/MREH products contain elevated concentrations of **Nd, Pr, Dy and Tb**, collectively representing a **high-value magnetic rare earth mix** highly sought after in permanent magnet supply chains. **Benchmark payability for MREC and MREH typically ranges between 70–85% of REO basket value**.

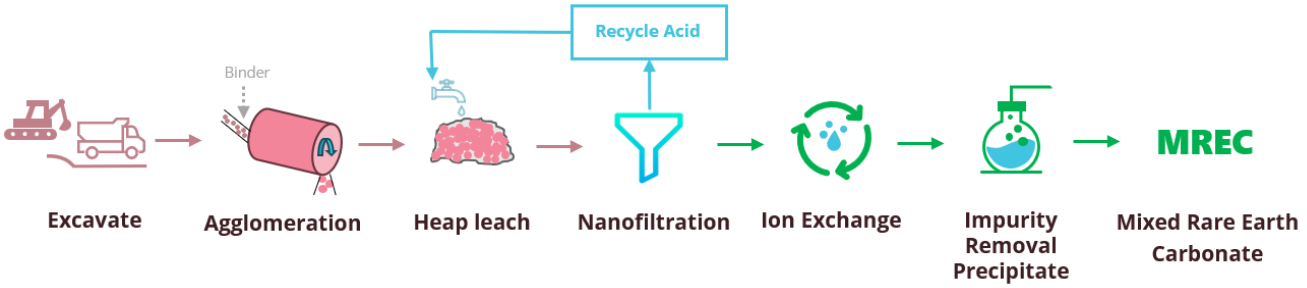

Figure 2: Indicative processing steps including Heap Leach, Nanofiltration plus Ion Exchange &Impurity Removal

Selective Nd, Pr, Tb and Dy Oxide Production Potential

Whilst initial development at Splinter Rock targets MREC or MREH, the onsite CAF positions OD6 for potential future production of individual oxides (Nd, Pr, Dy, Tb) through a chloride-based SX process. Discussions with ANSTO are ongoing as part of the Optioneering Study.

Next Steps

Optioneering Study: CPC Engineering (CPC) and ANSTO are continuing to review the testwork performed over the last 9 months as part of an Optioneering Study. The study is evaluating the multiple technically viable flowsheets, to enable the techno economic assessment of each flowsheet. This study will identify a preferred flowsheet based on cost, recovery, scalability, and product quality.

Engagement with potential offtake partners: to assess commercial payability options for MREC and MREH products.

Engagement with government and potential financing partners: OD6 has and continues to engage government and potential financing organisations. This is anticipated to be a continuous process over the development cycle.

Testwork Drill Campaign: OD6 is currently engaging drilling contracts to commence in September to undertake twin holed diamond core material of the original 6 holes. Six HQ or PQ drill holes (63 to 85mm core) will be drilled to provide 1.5 to 2.5 tonne of REE bearing material for testwork to be conducted ant ANSTO.

ANSTO Testwork Scale Up: Heap Leach and Impurity Removal testwork would be scaled up by utilising twin holed diamond core material of the original 6 holes. Bulk testing 1 tonne of REE bearing material, which can be utilised to conduct multiple optimisation and validation tests findings from the current reported testwork. This volume would also produce ~1kg of MREC which would enable multiple samples to be produced for testing and offtake discussions.

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).

No new information

Except where explicitly stated, this announcement contains references to prior exploration results, all of which have been cross-referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements.

The information in this report relating to the Mineral Resource estimate for the Splinter Rock Project is extracted from the Company's ASX announcements dated 18 July 2024. 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

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 minerals sector, namely rare earths and copper.

Rare Earth Elements

OD6 Metals has successfully identified clay hosted rare earths at its 100% owned **Splinter Rock Project** which is located in the Esperance-Goldfields region of Western Australia.

The Company released a Mineral Resource Estimate (MRE) for Splinter Rock in May 2024, confirming that the project hosts one of the largest and highest-grade clay-hosted rare earths deposits in Australia with an Indicated Resource of 119Mt @ 1,632ppm TREO and an Inferred Resource of 563Mt @ 1,275ppm TREO with an overall ratio of ~23% high-value Magnetic Rare Earths (MagREE).

OD6 Metals believes that Splinter Rock has all the hallmarks of a world class rare earths project with a conceptual heap leach development which utilises the large and high-grade Splinter Rock resource to support a long-life REE operation.

Copper

The Company is advancing the **Gulf Creek Copper-Zinc VMS Project** located near the town of Barraba in NSW, Australia.

Gulf Creek was mined at around the turn of the 20th century and was once regarded as the highest grade copper mine (2% to 6.5% Cu) in NSW until its closure due to weak copper prices in 1912. Very little exploration has occurred at the project in over 100 years, with OD6 aiming to apply modern day exploration technologies.

The 2025 maiden drilling program successfully defined high grade copper below the historical mine plus confirmed the strong relationship between magnetism and massive sulphide mineralisation. Geophysical modelling has identified multiple, high priority and untested targets ready for drilling providing over >3km of untested strike in the immediate mine-stratigraphy, and over >10km across the tenement.

Corporate Directory

Managing Director	Mr Brett Hazelden
Non-Executive Chairman	Mr Piers Lewis
Non-Executive Director	Dr Mitch Loan
Financial Controller/ Joint Company Secretary	Mr Troy Cavanagh
Joint Company Secretary	Mr Joel Ives

Contact

OD6 Metals Ltd
ACN 654 839 602
www.od6metals.com.au
Mail to: info@od6metals.com.au
Phone: +61 8 6189 8515
Level 1, 1 Alvan Street, Subiaco, WA 6008

Investor Relations

Lucas Robinson
Corporate Storytime
lucas@corporatestorytime.com
Phone: +61 408 228 889