

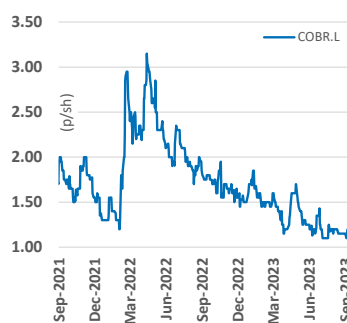
12th September 2023

Sector: Mining

Gold, Rare Earth Elements (REE) and Copper

Market data

Markets	LSE Main Market
Ticker	COBR
Price (p/sh)	1.25
12m High (p/sh)	1.95
12m Low (p/sh)	1.10
Ordinary shares (m)	515.2
Mkt Cap (£m)	6.4



Source: Alpha

Description

Cobra is defining a multi-mineral resource at the Wudinna Project in South Australia's prolific Gawler Craton. The focus is shallow gold and rare earth element mineralisation. Cobra is also advancing a pipeline of IOCG targets.
www.cobraplc.com

Board & key management

Chairman	Greg Hancock
CEO	Rupert Verco
NED	Dan Maling
NED	David Clarke
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Cobra Resources plc

Boland prospect moves front and centre

Metallurgical testwork on samples from Cobra's Boland prospect confirm that mineralisation is the much sought after ionic adsorption style of rare earth clay. Furthermore, the samples have proven to be easily leachable in a short space of time under ambient temperatures and a weakly acidic lixiviant. The result is high recoveries of the higher value MREOs (magnet rare earths) and HREOs (heavy rare earths) but with low acid consumption which is highly encouraging from a potential operating cost point of view. Cobra believes the district-scale palaeo-channel setting at Boland is amenable to in-situ leach mining which offers a plethora of economic, development and environmental advantages.

- ▶ **Ionic adsorption confirmed.** Testwork on samples from Cobra's newly discovered Boland prospect (RNS 20-6-2023) confirms that the clay REE mineralisation is of the highly prized ionic adsorption style. The implications of this cannot be understated, not least because ionic clay deposits are a superior source of highly desirable HREOs and most importantly; MREOs, essential for the manufacture of permanent magnets for EVs/wind turbines and forecast to contribute 99% of REE market value by the end of the decade. MREOs are therefore critical to net zero carbon targets and the green energy transition with new western world (non-China) sources of critical REEs required to meet increasingly stringent legislation and industry targets on security and supply chains.
- ▶ **Why these results are so good.** The metallurgical testwork on samples from Boland indicate high recoveries of the sought-after HREOs and MREOs, and lower recoveries of the low value LREOs. Not all clay REE deposits are comparable and deposit grade is not the most important factor. Rather, the economic viability of clay-hosted REEs is dependent on mining/extraction and processing factors which are in turn related to mineralogy and REE mobility, in much the same way that refractory gold ores require more costly processing techniques to liberate the gold. In this regard, the high recoveries seen in this testwork were achieved: 1. Within a short time (30mins), 2. At ambient temperatures (22°C), 3. Using on a weak acid (pH 4) with comparable acidity to orange juice, 4. With low acid reagent consumption and 5. With low rates of dissolution of gangue/impurity elements.
- ▶ **Further increases likely.** Further increases in REE recovery were demonstrated through increased leach time (6hrs) and a slight increase in acidity (pH3) with maximum extractions of 58% MREOs and 65% HREOs which places Boland recoveries among some of the highest in the entire ionic clay sector. The factors listed in the previous bullet are critical because processing cost increases substantially as the acidity of the leaching solution increases (lower pH). Paramount also is the low acid consumption demonstrated here with acid reagent cost being a major driver of processing economics. Similarly, achieving these high recoveries at a high pH (low acidity) also means minimal dissolution of gangue minerals and impurities such as Al, Ca, Fe, Th and U which avoids further costly processing steps for impurity removal.
- ▶ **ISR potential.** Where Cobra's Boland prospect really stands out is the combination of the above factors in combination with ISR potential. In-situ recovery is a low-cost extraction technique that negates the need for open pit mining by recovering target minerals from in-situ ore by a series of injection and extraction wells. In addition to bringing significant cost benefits, ISR has a much lower environmental impact than mining and can be integrated with existing land-use including agriculture and conservation. South Australia is the leader here with ISR uranium projects in production and the practice actively endorsed. This sets Cobra well ahead of peers in our view as even other projects that have ionic adsorption credentials typically do not have ISR potential which can positively impact capex/opex and speed up development timelines.
- ▶ **Expanded land package.** On the back of this game-changing strategic progress, Cobra has submitted two further tenement applications adding 1,512km² of palaeo-channel geology, highly prospective for additional ionic REEs with ISL potential, making Cobra the dominant landholder in the emerging worldclass Narlabay palaeo-channel.
- ▶ **Next steps** Cobra plans to rapidly advance Boland with an aggressive exploration plan including further drilling to support a maiden MRE and to investigate regional potential, installation of monitoring wells to inform pilot ISR testing, and further metallurgical testwork.

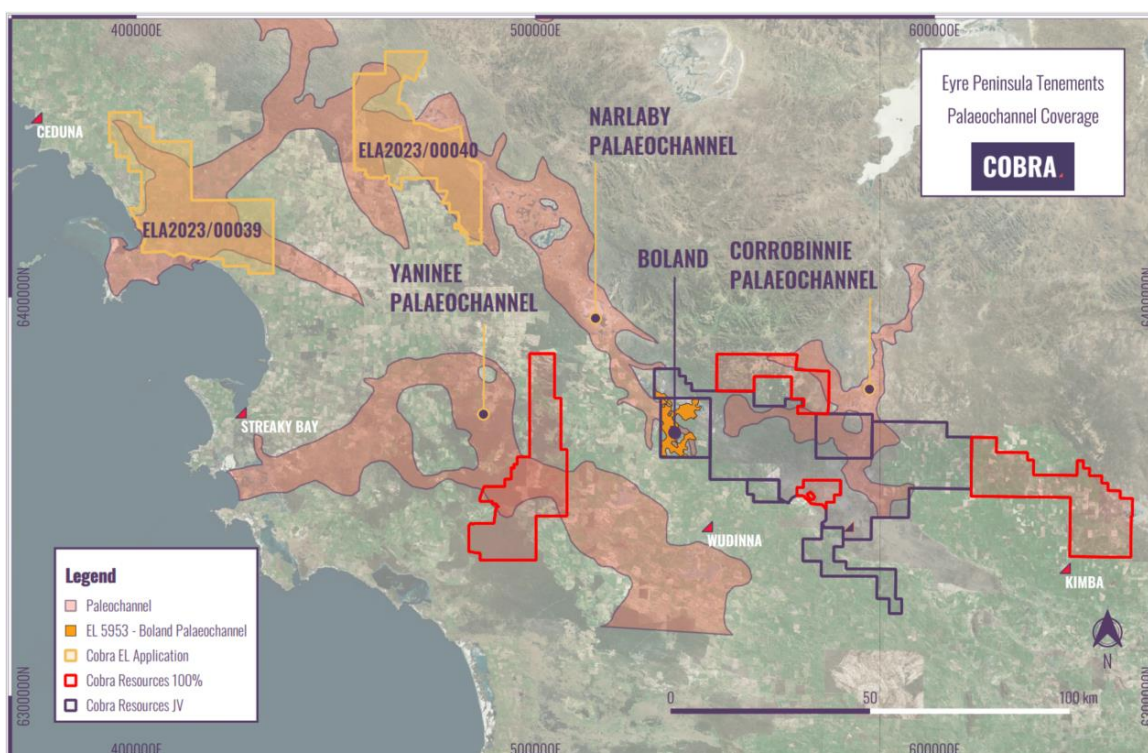
This is a pivotal moment for Cobra with REE mineralisation at Boland displaying not only excellent ionic adsorption characteristics and high recoveries of MREOs, but also unique potential to employ game-changing in-situ recovery techniques. The combination of these factors and the completely unconstrained scale and expansion potential of Boland should see Cobra become a leading REE development company with an essentially unrivalled commercial western world opportunity.

Background to the Boland discovery

Successful "proof-of-concept" to confirm the mobilisation of REEs from enriched saprolites to the younger clays hosted within the palaeo-channel system.

- ▶ **Discovery.** In April 2023, Cobra undertook a 95-hole (3,950m) AC (aircore) drill programme at the Wudinna project, a wide-reaching drill plan covering multiple prospects including the previously untested Boland prospect. The latter holes in this programme were designed to test for the potential of palaeo-channel clays at Boland.
- ▶ **Key results.** On 20th June, Cobra reported exceptional drill results confirming a major scalable discovery at Boland. The results demonstrated that rare earth mineralisation at Boland is more prominent along the eastern margin of the tested area where paleo-channel clays are in contact with granitic saprolite. 17 holes were drilled across a broad area representing ~12 km², and drilling produced multiple intersections where smectite clays hosted within palaeo-channel sands and basal clays (in contact with saprolite) are enriched in HREOs. The best intersection left no doubt that Boland can now be called a new discovery:
 - ▶ **Hole CBAC0164** returned 3m at 942 ppm TREO (22% MREO) from 15m, 3m at 1,333 ppm TREO (13% MREO) from 30m, and 42m at 2,189 ppm TREO (25% MREO) from 36m equating to a combined 48m intersection at over 2,000ppm TREO.
- ▶ **Only a small area tested.** Drilling to date has only tested 1.5km of the prospective >30km palaeo-channel zone at Boland which suggests excellent potential to scale up the discovery with further drilling. Cobra has also made two further two tenement applications (Figure 1) to add a further 1,512km² of prospective palaeo-channel geology making Cobra the dominant holder of palaeo-channel ground in the region.
- ▶ **Met testwork.** 17 representative 3m composite samples from Boland were submitted to ANSTO (Australian Nuclear Science and Technology Organisation) for desorption metallurgical testing. ANSTO is a world leader in REE metallurgy and the development in REE metallurgical flowsheets. Samples are characterised by three geological domains:
 1. Smectite playa clays (five samples)
 2. Contacting palaeo-channel saprolite (five samples)
 3. Underlying saprolite (seven samples)

Figure 1 - Locality plan highlighting Boland and new exploration tenement applications (in yellow) on the Narlaby palaeo-channel



Source: Cobra Resources plc

Metallurgical results confirm Cobra’s theory

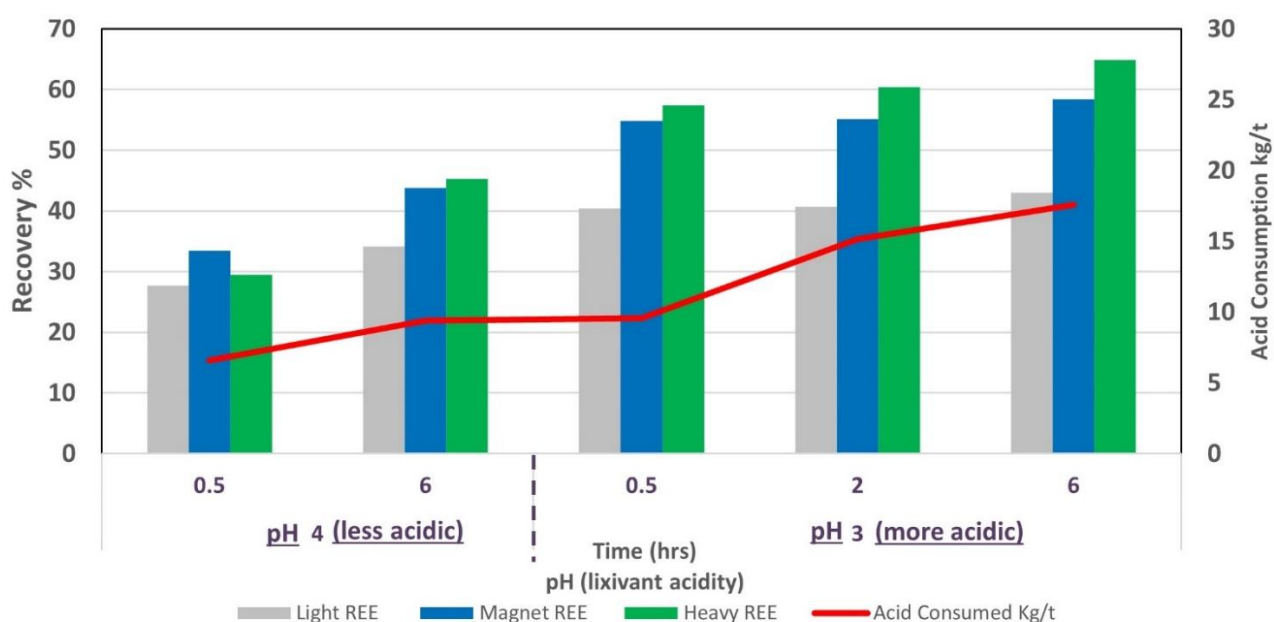
- ▶ **The testwork.** Desorption leach testwork showed rapid recoveries by desorption of REEs using 0.5 mol ammonium sulphate as a lixiviant, at ambient temperatures and weak acidic conditions. The testwork was run at various acidities (pH) and durations:
 - pH4 at 30 mins and 6 hours (higher pH = lower acidity)
 - pH3 at 30 mins, 2 hours and 6 hours (lower pH = higher acidity)
- ▶ **The highest recoveries** are observed from domain 1 (playa clays hosted within the palaeo-channel) and domain 2 (contacting palaeo-channel saprolite), where mineralisation is interpreted to ionically bind to smectite clays at the contact with channel sands, where ionic adsorption is driven by discrete changes in acidity/alkalinity.
- ▶ **Increased recovery potential.** Increases in REE recovery were achieved by increasing the leach time to six hours and lowering the acidity to pH3. Within the palaeo-channel (domain 1), maximum recoveries at pH3 and 6 hours duration are **58% for MREOs and 65% for HREOs**. Cobra considers these results as highly encouraging with scope for increased recoveries with optimised sample compositing and increased understanding of REE clay adsorption distribution and mineralogy. Pleasingly, samples of saprolite in contact with the palaeo-channel (Domain 2) exhibit low-moderate extractions under desorption conditions.
- ▶ **Low acid consumption.** The results demonstrate low acid consumption, averaging 6-30 kg/t), an important characteristic of ionic clay hosted rare earths and a key driver of processing economics.
- ▶ **Low dissolution of impurities.** Another advantage of achieving target recoveries at a low acidity (higher pH) is that the lixiviant reagent mix is less aggressive, resulting in low dissolution of gangue minerals and other impurities including cerium, aluminium, calcium and iron. Additionally, the dissolution of radioactive elements uranium and thorium is low. Although cerium (Ce) is a rare earth element, it has a very low value in comparison to other REEs and is effectively a waste product in many cases or it adds to the processing cost.

Mineralisation confirmed as highly sought-after ionic adsorption style

See page 6 for further explanation

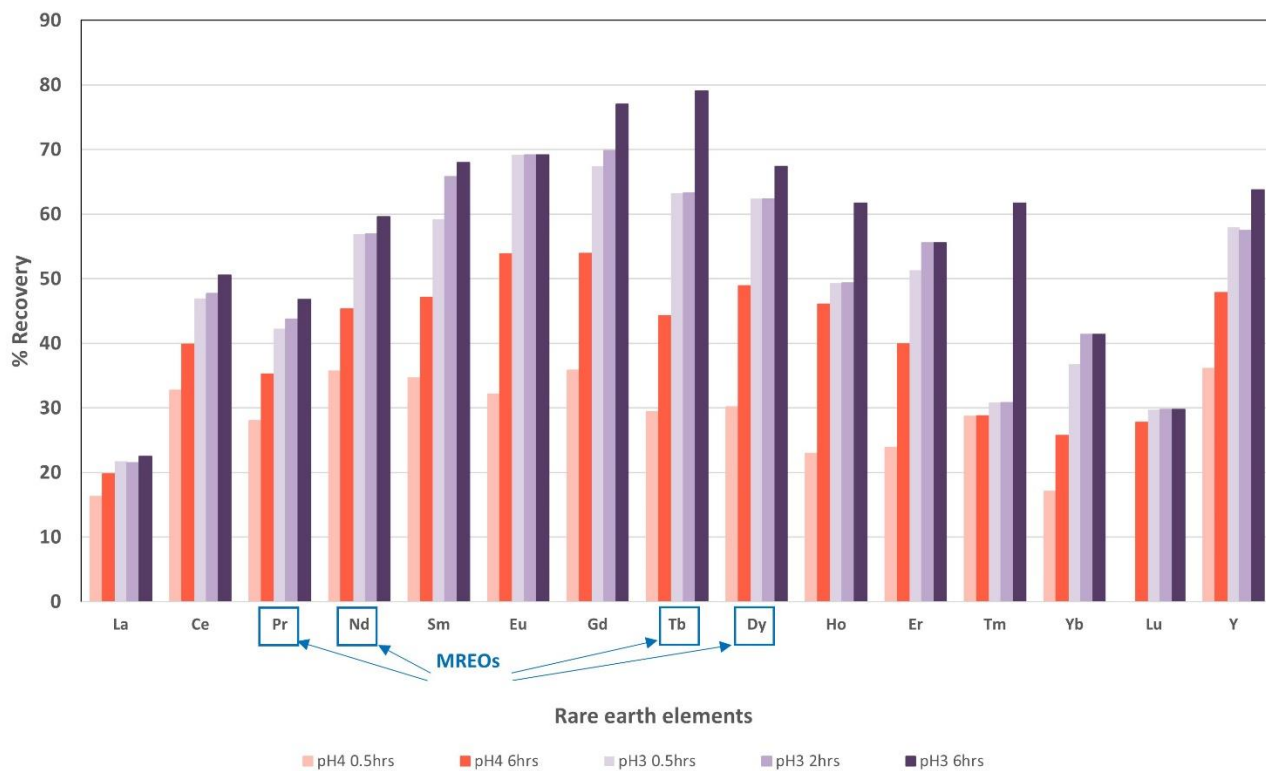
Figure 2 - Composite LAM9170 exhibits high recoveries of MREOs and HREOs under desorption conditions

Recovery increases as a function of both residence time (in hours) and as acidity increases (at a lower pH). Acid consumption (red line) also is greater at longer residence time and increased acidity



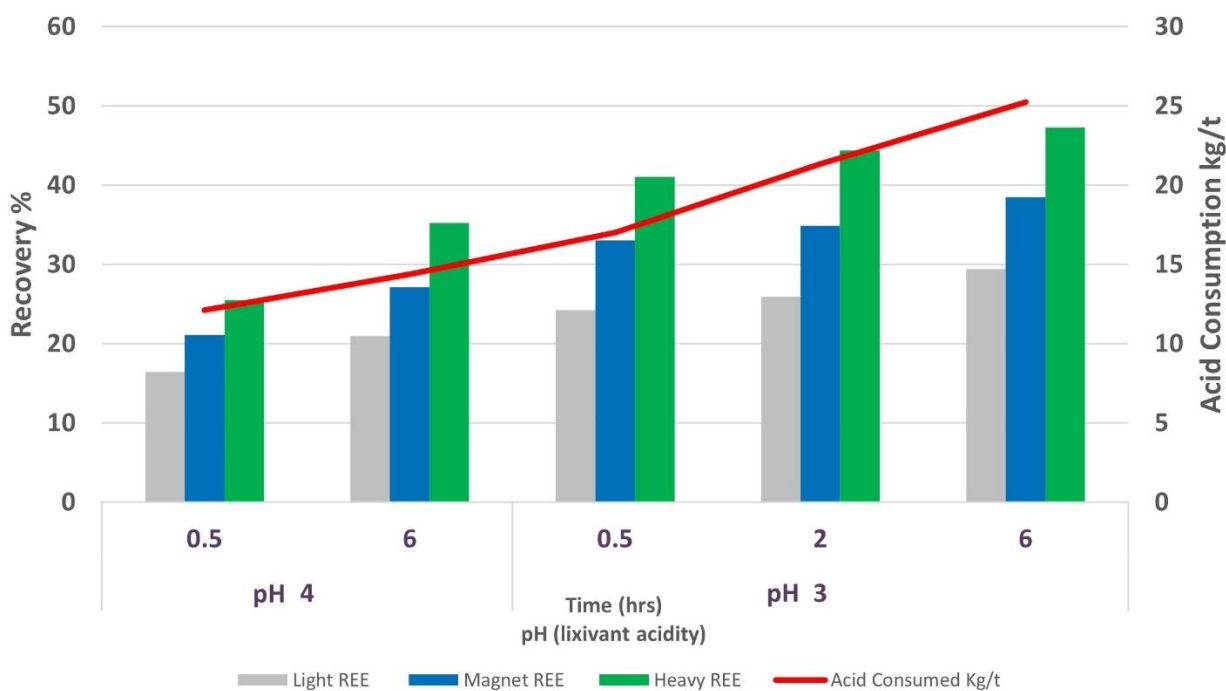
Source: Cobra Resources plc, adapted by Shard Capital

Figure 3 - Individual REE recoveries from LAM9170 composite under tested desorption conditions



Source: Cobra Resources plc, adapted by Shard Capital

Figure 4 - Composite LAM9170 exhibits high recoveries of MREOs and HREOs under desorption conditions



Source: Cobra Resources plc, adapted by Shard Capital

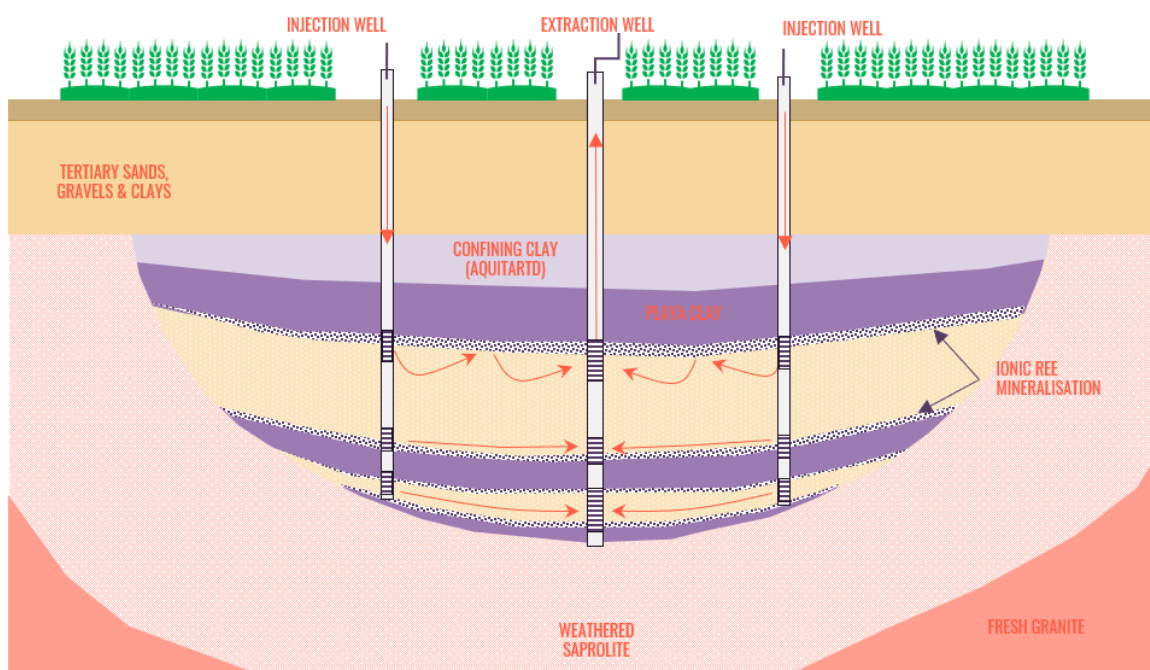
In-situ recovery could unlock potential of Boland

Cobra anticipates that ISR mining could be integrated with current land-uses considerate and adaptable to farming, conservation and indigenous heritage.

ISR has a significantly lower energy requirement and produces just 17%-32% greenhouse gas emissions vs conventional mining¹

- ▶ **Established technology.** In-situ recovery mining (ISR) or in-situ leach (ISL) as it is sometimes known is a tried and tested recovery technology that Cobra believes could be suitable for the Boland prospect. ISR was developed in the 1970s for recovering uranium from sandstone type deposits and now accounts for around 60% of world uranium production.
- ▶ **South Australia is the premier jurisdiction for ISR.** Australia’s ISR best practice guide and indeed global best practice in ISR, draws extensively on guidelines and regulatory practices from South Australia where the South Australian Government has been regulating ISR operations since the late 1990s. Uranium ISR operations include Beverley, Four Mile and Honeymoon, with the latter being put back into production by Boss Energy (ASX: BOE, Mkt cap A\$1.4bn). Whilst ISR is only used for uranium at present in Australia, interest in its application for other commodities is growing. The location of Cobra’s projects in South Australia is a big advantage for the company in terms of permitting and the ability to use ISR. In Western Australia, ISR options for any rare earth peers are limited given that the WA State government has implemented a “no uranium” condition on future mine leases which pose a challenge for an ISR operation that could recover uranium as an impurity.
- ▶ **The technique.** ISR involves the circulation of fluid in the subsurface in a permeable aquifer setting as opposed to the movement of rock. This is achieved by employing a wellfield design; with injection wells and production (extraction wells) progressively established over the resource area (Fig 5). The groundwater is fortified with a complexing agent, typically an acid or alkali by pumping into the target horizons via injection wells. The fluids circulate and dissolve the target minerals, with the resulting pregnant solution returned to the surface via extraction wells. Once ore extraction is complete, aquifers are returned to their natural chemistry by neutralising mining solutions.
- ▶ **ESG & cost benefits:** ISR does not involve the movement of rock so there is very little surface disturbance, no mining, no tailings dams nor generation of noise, dust or vibration that can be associated with open cut or underground mining. **This can result in lower capital costs, lower operating costs and a faster development timeline.**

Figure 5 - Conceptual ISR process for REE extraction at Boland



Source: Cobra Resources plc

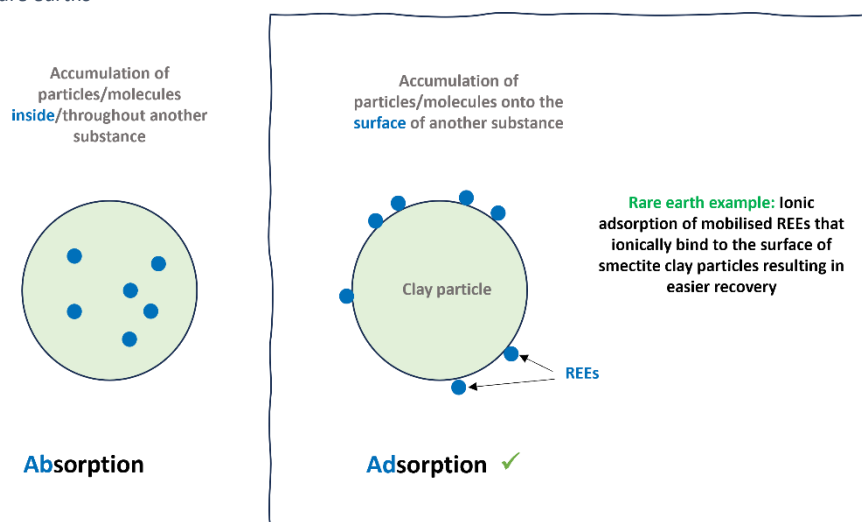
¹ Boss Energy 3/8/2022

What does all this mean?

- ▶ **Ionic clay adsorption** REE mineralisation is the industry preferred style of rare earth mineralisation owing to its ability to be desorbed from clay particles under relatively benign acidities, with superior ratios of high-value REEs. In general, weaker acids (higher pH) are more cost effective to produce, less environmentally harmful and operationally safer to manage. As a consequence of the desorption process, extractions occur quickly (minutes to hours) and at ambient temperatures making REE recovery most economically competitive.
- ▶ **The recognition of ionic adsorption is critical.** The metallurgical testwork has confirmed that the clay REE mineralisation is of the highly prized ionic **adsorption** style. But what does this mean exactly? To understand, it is useful to step back and define the term “**adsorption**”. Adsorption is the accumulation of particles/molecules/atoms onto the surface of another substance. It is a “surface phenomenon” and a completely different concept to the more commonly recognised term, **absorption**. See fig 6 below.

Clearly, rare earth elements would be more challenging to recover cost effectively if they are not easily accessible by leaching solutions as is the case with true adsorption deposits. In much the same way that refractory gold deposits require more complex and costly processing techniques with gold particles “locked” inside sulphide minerals for example.

Figure 6 – Why “**adsorption**” is so important – facilitates simpler, quicker and less costly recovery of rare earths



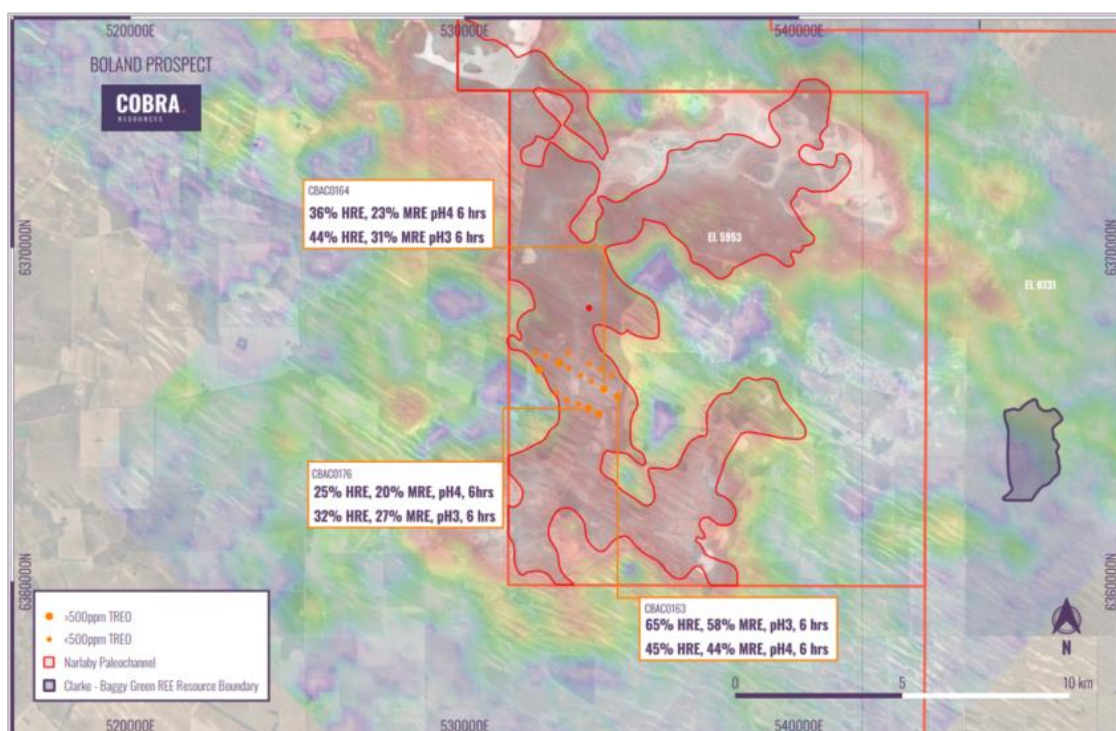
Source: Shard Capital

- ▶ **We need clay hosted and ionic adsorption.** This extra detail of mineral occurrence is over and above the general differences between clay REE deposits and hard rock REE deposits (see page 10) where clay deposits tend to have a much more attractive mineral assemblage of HREOs and MREOs than hard rock deposits. Thus, we also see a differentiation between clay REE deposits; those showing characteristics of ionic adsorption and those that do not. Consequently, the actual resource grade of clay deposits should not be the defining factor, rather it is the chemical nature of the mineral occurrence that affects recovery potential and therefore economics. Ionic adsorption promotes less complex processing and lower reagent costs amongst other benefits.
- ▶ **The cherry on top** for Cobra is that the geology and palaeo-channel setting of the Boland prospect appears to support potential for an ISR scenario. This is facilitated by the interbedded nature of mineralised clays and permeable sand layers. In addition to providing high recoveries and lower operating costs, the implementation of ISR could significantly shorten the development versus the other alternative of establishing an open pit mine. Permitting should be less onerous and quicker for ISR given the minimal disturbance.

- ▶ **Potential for world-class scale.** In addition to the ionic adsorption and excellent metallurgical recovery properties discussed, the reason that we view Boland as a game-changing discovery for Cobra is scale. Now that the company has proved the concept of palaeo-channel prospectivity, there remains an exceptionally large area to apply this cutting edge geological model. Over 430km² of untested palaeo-channel has been defined over the existing Wudinna Project tenements and Cobra has applied to add a further 1,512 km² of prospective palaeo-channel geology making Cobra the dominant holder of palaeo-channel ground in the region. The shallow nature of mineralisation (in the overburden) and the application of this geological model means that Cobra could potentially define a rare earth resource of global significance at a low exploration cost and expedited timeline.
- ▶ **Technical understanding.** Since the prospectivity of REEs at the Wudinna Project was identified in late 2021, the Company has taken a technical approach in understanding the enrichment, mobility, and mineralogy of REE occurrences within clay saprolite and tertiary and quaternary aged clays across the Company's 3,261 km² land tenure in the Gawler Craton. It is this technical understanding that is giving Cobra a head-start versus peers in our view. This is essential to guide the exploration process and help vector into mineralisation and mineralisation of the right type.
- ▶ **Smart exploration.** Work by Rupert Verco (CEO) and Robert Blythman (Exploration manager) have made groundbreaking progress in understanding not only the mechanical breakdown of the primary REE source rocks and mobility of REEs in the supergene environment but also in investigating what the catalysts for ionic adsorption are and how that affects the exploration strategy. This work has already determined that the adsorption potential of the clays is maximised at certain pH ranges. In a similar vein to petroleum geology, the rare earth occurrence on Cobra's tenements can also be viewed using the genetic model of source, mobilisation, transport and trap. Thus, this work is helping to pinpoint areas that may have higher grades, but also possess ionic adsorption characteristics.

Figure 7 - Overview of AC drilling results and metallurgical recoveries at the Boland prospect – maximum extractions of 58% MREO and 65% HREO

Recoveries of MREO and HREO compare well to peers such as Dev Ex (Mkt Cap A\$124m) and AR3 (Mkt Cap A\$40m) and Abx (A\$21m) which we will explore further in subsequent notes.



Source: Cobra Resources plc

Next steps:

Cobra will now aim to capitalise on the significance of these results from the Boland prospect and commence a scope of work that includes:

- ▶ **Mineralogical and in-situ recovery studies** – drilling of 3-5 core holes to:
 - Determine the distribution of REEs within clay bands
 - Identify parameters for future insitu recovery testing
 - Define appropriate future composite sample lengths
 - Enable advancement of metallurgical testing to ultimately produce a REE carbonate for commercial marketing
- ▶ **Monitoring well installation** – to enable baseline monitoring and analysis of aquifers
- ▶ **Resource drilling** – AC drilling aimed at expanding the footprint of Ionic REE mineralisation at the Boland prospect
- ▶ **Maiden Boland Mineral Resource Estimate**
- ▶ **Regional palaeo-channel testing** – AC drilling testing the concept within the Corrobinnie palaeo-channel at the Wudinna Project
- ▶ **Sample re-analysis and maiden AC drilling** to test palaeo-channel targets on other 100% owned Cobra tenements
- ▶ **Further metallurgical testing** to optimise recoveries and test further zones of mineralisation

Appendix: Further information on clay REEs

Ion (ionic) adsorption clay is the target

In the process of exploring for gold at Wudinna, Cobra has identified what is starting to look like a significant ionic adsorption clay REE occurrence.

Ionic adsorption clays (“IAC”) or simply ionic clays are residual clay deposits formed from the weathering of REE-enriched granites. They occur extensively in southern China, but new deposits are starting to be discovered, notably in Australia. The REE-rich weathered clay zones tend to range from 5m to greater than 30m in thickness, but with a high degree of local variability. Due to the tropical weathering requirement, IAC deposits tend to occur in the 20°-30° latitude north and south of the equator. The REEs are released from various mineral phases into the weathering profile during clay formation and can be adsorbed to the surface of clay minerals, usually kaolinite or halloysite, by processes including meteoric water leaching and in migration. Thus, the concentration of REEs within these deposits is dominantly a supergene process.

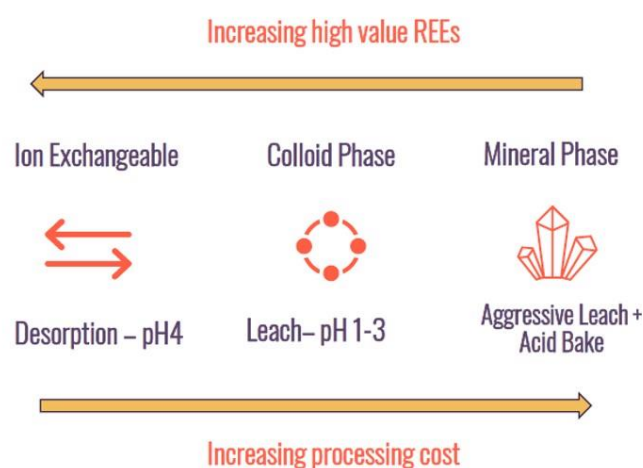
A specific set of conditions required. In addition to the prerequisite of REEs being present in the source rock (favourable protolith required) in sufficient quantities to generate a deposit with sufficient grade, there are several other factors that control whether or not an IAC deposit is formed in the first place and whether it has the required attributes to potentially be economic. Critically, the processing and recovery potential of REEs depends on where the REEs occur within the clay deposit, thus an IAC is a distinct type of clay deposit – not all clay deposits are equal!

REEs occur in ion adsorption clays in three different phases and each phase requires a different processing solution to recover the REEs. Ion exchangeable and colloidal phases are preferable for economic recovery as REEs occurring in the mineral phase require aggressive and costly processing techniques to liberate and recover.

Figure 8 - The occurrence of REE in specific phases has a big impact on metallurgy and processing

METALLURGICAL FOUNDATION

- ▷ Recoveries increase with a reduction in pH and with increasing leach period
- ▷ MREO recoveries up to 34.7%, pH1 (H₂SO₄) (to lithium borate fusion assays)
- ▷ Increased focus on environmental and lithological conditions supportive of ionic adsorption
- ▷ Company committed to defining low-cost and environmentally considerate extraction methods



Understanding REE phases and mobility is the key to defining economic metallurgy

Source: Cobra Resources plc

Key attributes of IAC REE deposits (vs hard rock)

IAC (clay) deposits present a different commercial opportunity to hard rock deposits, with several key advantages (and some disadvantages) as detailed below:

IACs lower grade but significant mining & processing (capex and opex) advantages

MREO = Nd, Pr, Dy, Tb

Low Opex, Low Capex. IACs could offer a low start-up capital cost and low ongoing operating costs. Clay operations may also provide more flexibility in terms of modular development and scalability.

In-situ leach may also be an option.

- ▶ **Lower grade.** Clay deposits typically have a significantly lower grade than hard rock REE deposits. IAC grades range from the 500-3,500ppm TREO (0.05% to 0.35%) whereas hard rock deposit (carbonatites, alkaline/peralkaline, skarn/IOCG) grades are typically greater than 1,000ppm TREO (0.1%) and in some cases greater than 50,000ppm (5%). Nevertheless, the grades between the two deposit types have limited comparability in an economic sense due to the large variance in mining and processing costs. REEs can be produced commercially from IAC deposits with a lower REE grade relative to hard rock deposits.
- ▶ **High value assemblage IACs - the main source of Heavy Rare Earths.** IAC deposits tend to contain both HREOs and LREOs and have elevated HREO+CREO ratios relative to the overall TREO content. CREOs are critical rare earth oxides, namely Nd, Dy, Eu, Y and Tb, defined as critical by the US Department of Energy based on their use in clean energy and due to supply risk. As such, IACs tend to have an attractive mineral assemblage which lends itself to a high proportion of MREO's (Nd, Pr, Dy, Tb) and a typically higher basket price. The % of magnet rare earths in IACs is typically 23%-35% which can compare favourably with some types of hard rock deposit. MREO's already contribute around 95% of REE market value and this is projected to grow to 99% by 2031 according to *Adamas Intelligence* forecasts.
- ▶ **Hard rock tends to be LREE enriched.** In contrast, hard rock deposits tend to be composed predominantly of LREEs which means although they contain Nd and Pr (LREE), they tend to contain much less Tb and Dy (HREE). Hard rock deposits also have a much higher proportion of Ce and La, low value REEs and effectively waste products (c.\$1.5/kg price). Total Ce and La in hard rock deposits can be >65%.
- ▶ **Exploration considerations.** IAC exploration is a lower cost process than hard rock, amenable to the use of low cost shallow aircore drilling. This also helps to expedite the exploration timeframe. Hard rock deposits require more use of costly and time-consuming diamond drilling.
- ▶ **Mining considerations.** Due to their shallow nature, IACs are amenable to surface bulk mining techniques. As a result of being clay and softer weathered horizons, blasting is not typically required. As IACs tend to form within the first 30m of the subsurface, mining strip ratios are low. This translates to a lower cost for both mining and rehabilitation. In most cases mining and ongoing rehabilitation is a simultaneous process. In contrast, hard rock mining may require more expensive mining techniques to selectively mine and maintain grade control. Hard rock deposits would also require blasting. ISL (in-situ leach), a less invasive extraction method may also be an option with IACs.
- ▶ **Processing / refining considerations.** IACs are amenable to much simpler processing techniques. They do not require the costly crushing and grinding at the comminution stage because the REEs have already been substantially liberated during the weathering phase. IACs are also amenable to much simpler metallurgical processing flowsheets utilising acid leach at ambient temperature and low pressure and other methods such as ion-exchange leaching. In contrast, after crushing and grinding, hard rock ore usually requires a complex and higher cost flow sheet that may include flotation in order to produce a concentrate. Whilst IACs can produce a high-grade, high payability, feedstock product suitable for direct input to REE separation plants, a hard rock REE mineral concentrate may require further metallurgical, hydrometallurgical or pyro metallurgical processes. This may include high-temperature concentrate "cracking" before intensive leaching, otherwise a lower intrinsic value concentrate must be sold.
- ▶ **Lower carbon footprint and environmental impact.** IACs have a distinct environmental advantage over hard rock deposits in that they contain very low levels of radioactive elements such as uranium or other radionuclides. Hardrock deposits tend to contain higher levels of radioactive elements and other impurities which effectively become concentrated in the tailings during the processing stages. This makes tailings disposal complex and more costly to mitigate environmental issues. The carbon footprint of IAC mining and processing is also much lower due to lower power, transport, reagent costs etc.

REE value drivers

The technical, development and commercial considerations required to support the successful development of a rare earth project are naturally more complex than a straightforward precious or base metal project. There are several key factors that must align to drive REE value and determine whether a project can actually be brought into production. We believe that Cobra ticks all the boxes to support future development potential:

- ▶ **Jurisdiction.** Fairly obvious, but locality can be crucial on a number of fronts including permitting, government and regional legislative framework and governance. At the ground level, access to infrastructure is also critical including access to roads, power, water etc and the infrastructure to support logistics. Given the generally restricted latitude occurrence of ionic clay deposits, the 20-30° north and south of the equator translates to large swaths of Africa, Central and South America, and China/Asia. As such, Australia stands out from the crowd as a favourable and low risk jurisdiction. It's no good pursuing an asset that can't be permitted into production. Australia's mining legislation supports assets being developed on the basis of the highest international standards.
- ▶ **ESG considerations.** As with all minerals, but especially those with applications in electric vehicles, the focus on environmental, social and governance criteria will continue to grow. ESG initiatives to promote responsible production and certification for end products will require that companies adhere to a wide range of principals from biodiversity and human rights to rehabilitation and pollution. The entire supply chain is coming under increased scrutiny and given the lack of non-Chinese supply, only those REE projects with superior ESG credentials are likely to get the green light for development. Cobra already has a distinct advantage in this regard and released a comprehensive Sustainability plan in 2022 to develop an industry-leading approach to ESG.
- ▶ **Resource / mineral assemblage.** Beyond resource size and scalability to justify the initial capex spend, the nature of the deposit is crucial. REE deposits can be highly variable and the potentially achievable revenue is based on the mineral assemblage of the deposit. Specifically, the relative proportions of LREEs, HREEs and magnet REEs which determine the basket price of the end product. IAC deposits tend to have a higher HREE component and favourable proportion of magnet REEs. The dominant and growing position of permanent magnets in REE market value means that IAC deposits could be favoured over hard rock development opportunities.
- ▶ **Financing challenges.** Despite the structural shortage of key rare earth minerals, financing remains a major hurdle. Unlike gold, copper and other metals, rare earth concentrates are all different. Consequently, securing an off-take agreement can be essential to unlock project financing. If exploration and development continue to be successful, Cobra should be well placed, in our view, especially with a complementary gold resource that could widen the potential field of financing options. REE and gold mineralisation at Wudinna is located at relatively shallow depth and the presence of the two mineralisation types may offer development synergies.
- ▶ **Technical considerations.** Everything has to fall into place from a technical perspective in order for a project to have development potential. This includes the technical expertise to support ore characterisation and metallurgy to drive the optimal process flowsheet. A full understanding of the mineralisation and occurrence of REEs in various phases is required to design a process with robust recovery outcomes. Cobra has already undertaken a great deal of research in this regard. [We believe that Cobra is one of the leading companies that is at the forefront of developing the understanding that REE mineral phases and chemical mobility are the keys to defining economic metallurgy.](#)

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