

# **AIRCORE DRILLING RESULTS**

JUNE 2023



## **ADVANCING EXPLORATION BASED ON RESULTS**

#### **ADOPTIVE THINKING DRIVING EXPLORATION FOR IONIC REEs**



**MINERALOGY** 

Primary source enrichment Secondary phases Clay occurrences



### **MOBILITY** Primary mineral phase breakdown

Transportation mechanisms



#### **ADSORPTION**

Exodermic conditions that promote physisorption Geological and environmental conditions to retain Ion Adsorption REEs

#### FROM SAPROLITE



**TO THIS** 

# A SUSTAINABLE APPROACH TO SOURCING CRITICAL MINERALS



#### **GOLD & RARE EARTHS**

Cobra's focus is on growing resources and exploring for commodities required to advance the scaling of green mobility, renewable energy infrastructure and the overall carbon-neutral transition



#### **ENVIRONMENTAL & INTERGRATED SOURCING OF RARE EARTHS**

Cobra is defining rare earth resources above and proximal to gold mineralisation which not only improves project economics but provides an environmentally considerate source of critical minerals





Cobra is conscious of its impact on the environment and is committed to progressive rehabilitation and low-impact techniques. The 2022-2023 Sustainability Plan aligns Cobra with global investor and OEM ESG assurance expectations. Advanced exploration is focused on defining ionic rare earths within a geological terrain suitable for low-impact in situ leach mining that could be integrated within land use



#### **COMMUNITY & STAKEHOLDER RELATIONSHIPS**

Cobra has developed ongoing respectful and productive relationships with stakeholders and traditional owners of the land on which it works



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## **ECONOMIC REALITY OF CLAY-HOSTED REEs**

### **METALLURGICAL CHALLENGE FOR CLAY-HOSTED REEs**

- The nature of true ionic REE mineralisation enables recovery via ion exchange rather than acid leach
- Economics of clay-hosted REEs are more dependent on low mining and processing cost as a consequence of mineralogy rather than grade
- ▷ Industry considerations:
  - Identify viable metallurgical solutions
  - Low-cost alternates (processing or mining by-products)
  - Adjust exploration models to discover ionic REE mineralisation
- Based on this, our exploration approach has prioritised Clarke/ Baggy Green resource growth and Boland ionic REE targeting



Cost of reagent based on 0.5M H2SO4 at \$US 207 p/t - does not consider the variability of acid consuming ores
Recoverable value of REEs at a theoretical grade of 1000 ppm, magnet REOs equating to 28% of the TREO



## **A PALAEO-CHANNEL REE EXPLORATION MODEL**

#### **AN ALTERNATE GEOLOGICAL MODEL FOR IONIC REEs**

- Strongly reduced and sulphidic clays and channel sands, lignite and clay interbeds within a significant palaeo-drainage system
- Calculated (normalised) pyrite estimates of 3-5% within reduced playa clays
- Vertically defined REDOX boundaries
- Over 65 km<sup>2</sup> of prospective and untested Narlaby palaeo-channel
- The Corrobinnie palaeo-channel is regionally significant, occurs on Cobra's ELs and remains untested
- The defined REE occurrences within playa clays and proximal saprolite supports REE mobility and clay adsorption



## **BOLAND DRILLING – THE RIGHT CONDITIONS FOR IONIC REES**



## **BOLAND RESULTS**

#### **RESULTS CONFIRM MODEL FOR PALAEO-CHANNEL HOSTED IONIC REEs**

- CBAC0164 intervals:
  - 3m at 942 ppm TREO 24% MREO, 16% HREO from 18m
  - Sm at 1,333 ppm TREO 13% MREO, 3% HREO (depleted) from 30m
  - ▷ 42m at 2,189 ppm TREO 27% MREO, 6% HREO (depleted) in saprolite
- CBAC0163 intersections:
  - 3m at 550 ppm TREO 22% MREO, 13% HREO from 15m
  - Sm at 618 ppm TREO 22% MREO, 18% HREO from 21m
  - 12m at 1,191 ppm TREO 25% MREO, 6% HREO from 36m (depleted)
- CBAC0163 intersected 22m at 948 ppm TREO 19% MREO from 42m
- ▷ CBAC0168: 12m at 948 ppm TREO (19% MREO) from 42m
- CBAC0176: 3m at 429 ppm TREO (23% MREO) from 27m, and 3m at 661 ppm TREO (19% MREO) from 48m and 3m at 1,984 ppm TREO (22% MREO) from 54m
- Drilling has intersected the edge of the mineralised system
- Samples sent to ANSTO (NSW) for metallurgical confirmation of desorption potential



## **GEOLOGICAL SETTING AMENABLE TO LOW-COST MINING**

#### **PALAEO-CHANNELS ENABLE INSITU LEACH MINING**

- Insitu leach mining is an established technique among South Australia's uranium producers which is low in environmental impact and requires lower capital and operating costs than load and haul, hard rock mining
- Ionic REE mineralisation would complement insitu leaching owing to its fast rate of desorption and its ability to be integrated into current land use
- Mineralisation is most prominent on channel boundaries. A further >30 km of channel boundary





## **RESOURCE EXTENSION RESULTS**

#### **HIGH-GRADE RESOURCE EXPANSION INTERSECTIONS**

Signature Intersections:

- CBAC0130 10m at 2,349 ppm TREO, 23% MREO from 21m including 3m at 5,382 ppm TREO, MREO 23%
- CBAC0179: 18m at 2,854 ppm TREO from 36m where the MREO equates to 24%, including: 6m at 5,066 ppm TREO from 39m where the MREO equates to 25%
- CBRC0081 15m at 1,557 ppm TREO, MREO 17% from 33m
- CBAC0133 15m at 1,040 ppm TREO, 22% MREO from 24m

- REE mineralisation occurs in the right locations
- REE footprint expanded from 4 km<sup>2</sup> to 6 km<sup>2</sup>





Advancing work scopes in alignment with its strategic advancement of expanding dual gold and rare earth resources:

#### **METALLURGY**

- Select samples submitted to ANSTO for desorption and simple leach testing to confirm ionic mineralisation and leachability of mineralisation from the Boland prospect
- Select samples from the Baggy Green and Thompson prospects submitted for simple leach testing to inform expansion strategies at both targets
- > Optimisation studies focusing on beneficiation and recovery optimisation from resource extension samples

#### **RESOURCE UPDATES**

- Update the 211,000 Oz 2019 Gold MRE to incorporate over 10,000m of resource expansion drilling as well as over 700m of defined mineralised gold strike at the Clarke prospect
- ▷ Update the 20.9 Mt at 658 ppm TREO REE MRE which overlies gold mineralisation to incorporate results from 2023 expansion drilling

#### **FURTHER DRILLING**

▷ Will be planned on the results of the above



# COBRA

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## **WUDINNA PROJĘCT - JORC (2012) MINERAL RESOURCES**

## **2019 RESOURCE ESTIMATE**

\*Not inclusive of exploration results reported in 2020, 2021, 2022 and 2023

DEPOSIT	CLASSIFICATION	TONNES	GRADE (g/t Au)	GOLD OZ
Barns	Indicated	410,000	1.4	18,000
Barns	Inferred	1,710,000	1.5	86,000
White Tank	Inferred	280,000	1.4	13,000
Baggy Green	Inferred	2,030,000	1.4	94,000
Total		4,430,000	1.5	211,000

Table shows complete MRE for the Wudinna Project

Under the terms of the Wudinna Agreement, Cobra Resources has to date achieved 75% ownership of the Wudinna Project (Andromeda Metals 25%) Refer to the Company Prospectus 2020 for full detail concerning MRE

#### **2023 REE CLARKE & BAGGY GREEN RESOURCE ESTIMATE**

PROSPECT &	TONNES	TREO	MREO	LREO	HREO	Pr <sub>6</sub> O <sub>11</sub>	Nd <sub>2</sub> O <sub>3</sub>	Dy <sub>2</sub> O <sub>3</sub>	Tb <sub>4</sub> O <sub>7</sub>
CATEGORY	Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
CLARKE	14.1	685	166	544	141	32.5	116.2	14.7	2.6
BAGGY GREEN	6.8	597	132	453	144	25.7	89.8	14.0	2.3
TOTAL INFERRED	20.9	658	155	516	143	30.4	108.0	14.5	2.5

#### **2023 REE THOMPSON EXPLORATION TARGET**

PROSPECT	Tonnes	TREO	MREO	LREO	HREO	$Pr_6O_{11}$	Nd <sub>2</sub> O <sub>3</sub>	Dy <sub>2</sub> O <sub>3</sub>	Tb <sub>4</sub> O <sub>7</sub>
	Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
THOMPSON EXPLORATION	81 - 233	640 -	168 -	550 -	97 - 140	32 - 42	124 -	10 - 15	2 - 3
TARGET		856	234	717			174		

## **COMPETENT PERSON'S STATEMENTS**

The information relating to Exploration Results and Mineral Resources in this presentation is extracted from the Company's Prospectus dated 26 October 2022 (Prospectus) and Cobra LSE announcements as cross-referenced in the body of this presentation. A copy of the Prospectus is available for download at www.cobraplc.com. The Company confirms that it is not aware of any new information or data that materially affects the Exploration Results and Mineral Resource information included in the Prospectus and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the Prospectus continue to apply and have not materially changed. The Company confirms that the form and context in which the applicable Competent Persons' findings are presented have not been materially modified from the Prospectus.

#### **COMPETENT PERSON STATEMENT – RESOURCE ESTIMATION**

The information in this presentation that relates to the Estimation and Reporting of Mineral Resources has been compiled by Mrs Christine Standing BSc Hons (Geology), MSc (Min Econs), MAusIMM, MAIG. Mrs Standing is a full-time employee of Optiro Pty Ltd and has acted as an independent consultant on the Mineral Resource Estimates for the Barns, Baggy Green and White Tank Deposits. Mrs Standing is a Member of the Australian Institute of Geoscientists and the Australian Institute of Mining and Metallurgy and has sufficient experience with the style of mineralisation, deposit type under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code). Mrs Standing consents to the inclusion in this report of the contained technical information relating the Mineral Resource estimations in the form and context in which it appears.

#### **COMPETENT PERSON STATEMENT – REPORTING OF EXPLORATION RESULTS**

Information in this presentation have been complied and assessed by Mr Rupert Verco BSc Hons (Geology), a Fellow of the Australasian Institute of Mining and Metallurgy ("FAusIMM"). Mr Verco an employee of Cobra Resources Plc has more than 16 years relevant industry experience, which is relevant to the style of mineralisation, deposit type and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves (the "JORC" Code). This includes 12 years of Mining, Resource Estimation and Exploration.