

CEO Presentation at the Brisbane Mining Investor Conference

In accordance with the requirements of Listing Rule 3.1 we submit the attached material being presented at the Brisbane Mining Investor Conference by Dr Mark Cooksey, Managing Director and CEO.

ABx will be exhibiting Wednesday and Thursday 22-23 March 2023, at the Conference being held at the Royal on the Park Hotel 152 Alice Street, Brisbane City Queensland.

Dr Cooksey's presentation is at 4:15pm AEST (5:15 AEDT) on Wednesday 22 March and he looks forward to welcoming shareholders and investors throughout the conference.

Registration is free. Please copy and paste the following link into your internet browser:

<https://www.trybooking.com/events/990990/sessions/3572974/sections/1813297/tickets>

ASX Release authorised by Mark Cooksey, Managing Director and CEO.

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(ASX:ABX)

Brisbane Mining Investor Conference

Mark Cooksey
Managing Director and CEO

22 March 2023



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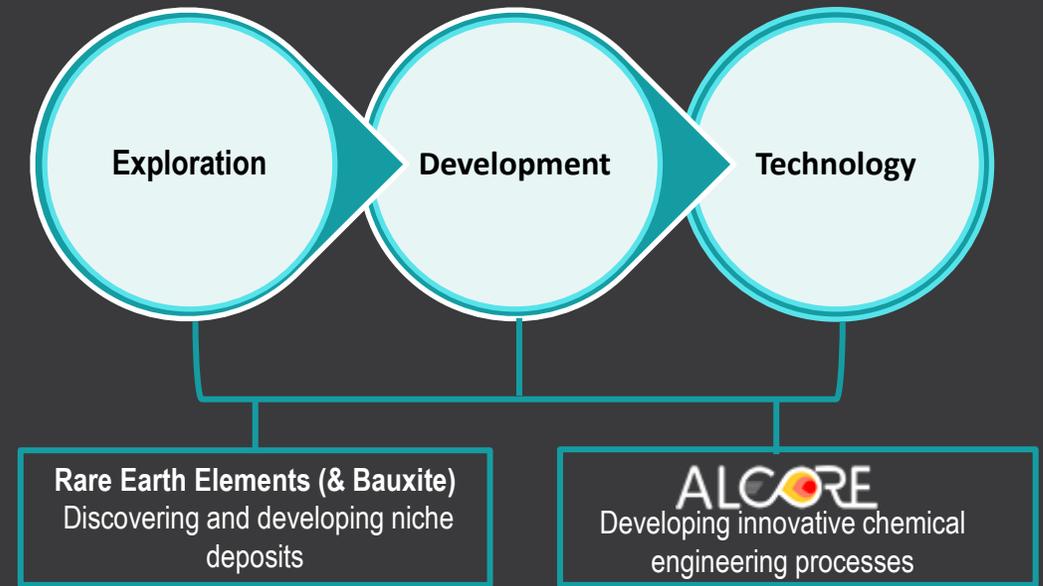
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Prices for aluminium fluoride (AlF₃) were sourced from Asian Metals, China Customs and verified by comparison with prices from Bloomberg. The price actually achieved will depend upon market conditions at the time of sale.

Delivering materials for a cleaner future

1. Creating an ionic adsorption clay rare earth project in northern Tasmania
2. Establishing a plant to produce hydrogen fluoride and aluminium fluoride from recycled industrial waste, to replace imports (ALCORE)
3. Mining and enhancing bauxite resources for the cement, aluminium and fertiliser industries



Board of Directors

Hon Paul Lennon AO (Chair)



- Premier of Tasmania 2004-2008
- Deputy Premier and Minister for Infrastructure, Energy & Resources 1998-2004
- Principal Paramul Pty Ltd 2009-

Dr Mark Cooksey (Managing Director and CEO)



- More than 20 years with Rio Tinto and CSIRO
- Worked closely with aluminium and other metal industries
- Significant experience in commercialising new technologies and processes
- PhD in Chemical & Materials Engineering

Ian Levy (Director)



- Previous CEO of ABx
- 30 years of senior management experience across multiple commodities, including WMC and Pancontinental Mining
- Previously CEO of Allegiance Mining, Chair of Dynasty Metals Australia, and Director of Gloucester Coal
- Member of JORC for 11 years (4 years as Vice Chairman) and Federal President, Australian Institute of Geoscientists

Ken Boundy (Non-Executive Director)



- 20 years leading companies and divisions in wine, food, building materials and tourism industries
- Chair and Non-Executive on 21 private and public boards
- Executive experience in corporate development, M&A and marketing

Corporate Overview

ASX code: **ABX**

Listed	Issued shares	Options	52-week range	Average daily volume (3 months)	Market cap (@\$0.12)	Cash @ 20 March 2023	Shareholders
24 Dec 2009 @ \$0.20	223.6m	78.8m	\$0.10- \$0.205	171,000	\$27m	\$4.3m	2,537

Major Shareholders	Shares	%
Shareholders Mutual Alliance	6.0 m	2.7
HSBC Custody Nominees	5.9 m	2.6
Justevian Pty Ltd	5.8 m	2.6
Yarraandoo Pty Ltd	5.6 m	2.5
Afron Pty Ltd	5.5 m	2.5
Top 20 shareholders	63.1 m	28.2
Remainder	160.5 m	71.8



Resources: **14 million tonnes rare earths and 130 million tonnes bauxite**

Segments



Ionic adsorption clay rare earth project in northern Tasmania



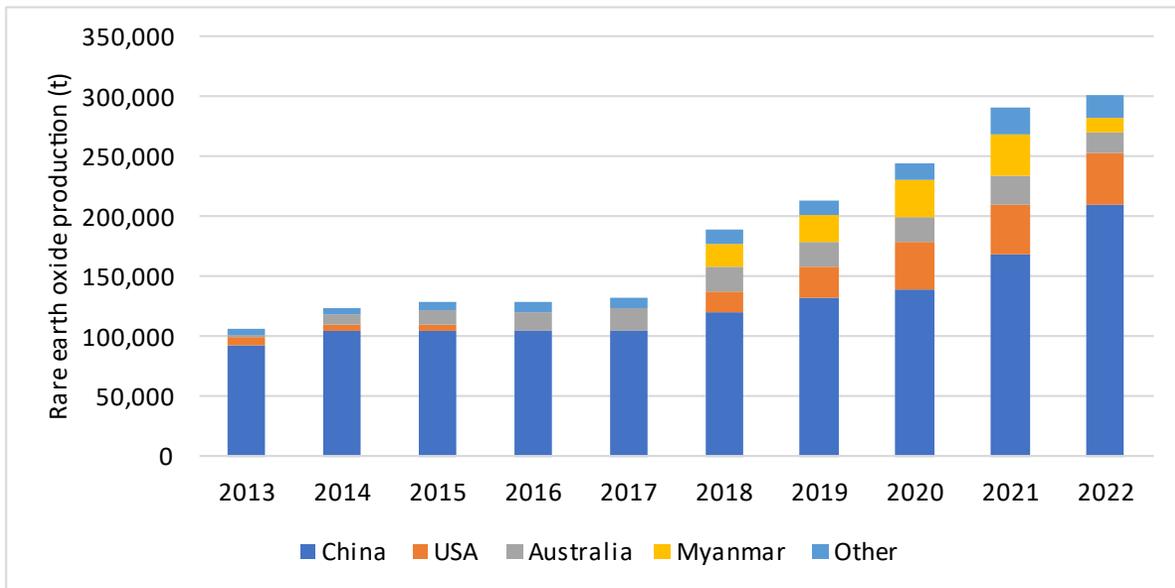
Production of hydrogen fluoride and aluminium fluoride from waste (ALCORE)



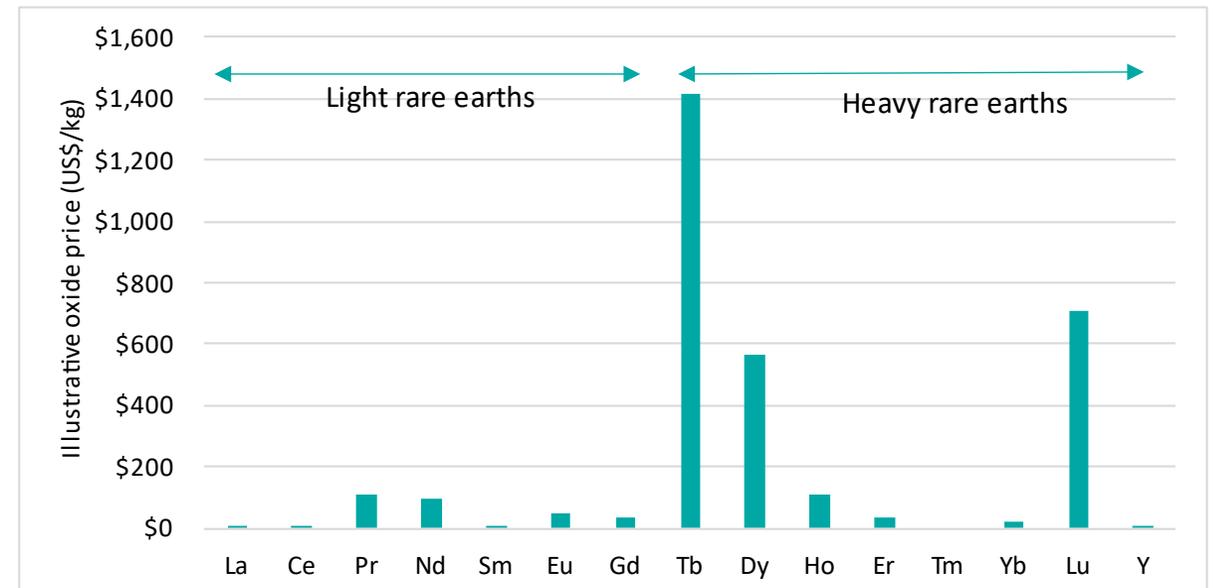
Bauxite operations in Queensland and Tasmania

Rare earth elements market

- 15+ rare earth elements (REEs) used in wide variety of applications, with demand growing rapidly
- China dominates rare earths markets
- Prices of different rare earths vary significantly because:
 - Proportions of supply do not match proportions of demand
 - Rare earths difficult to substitute



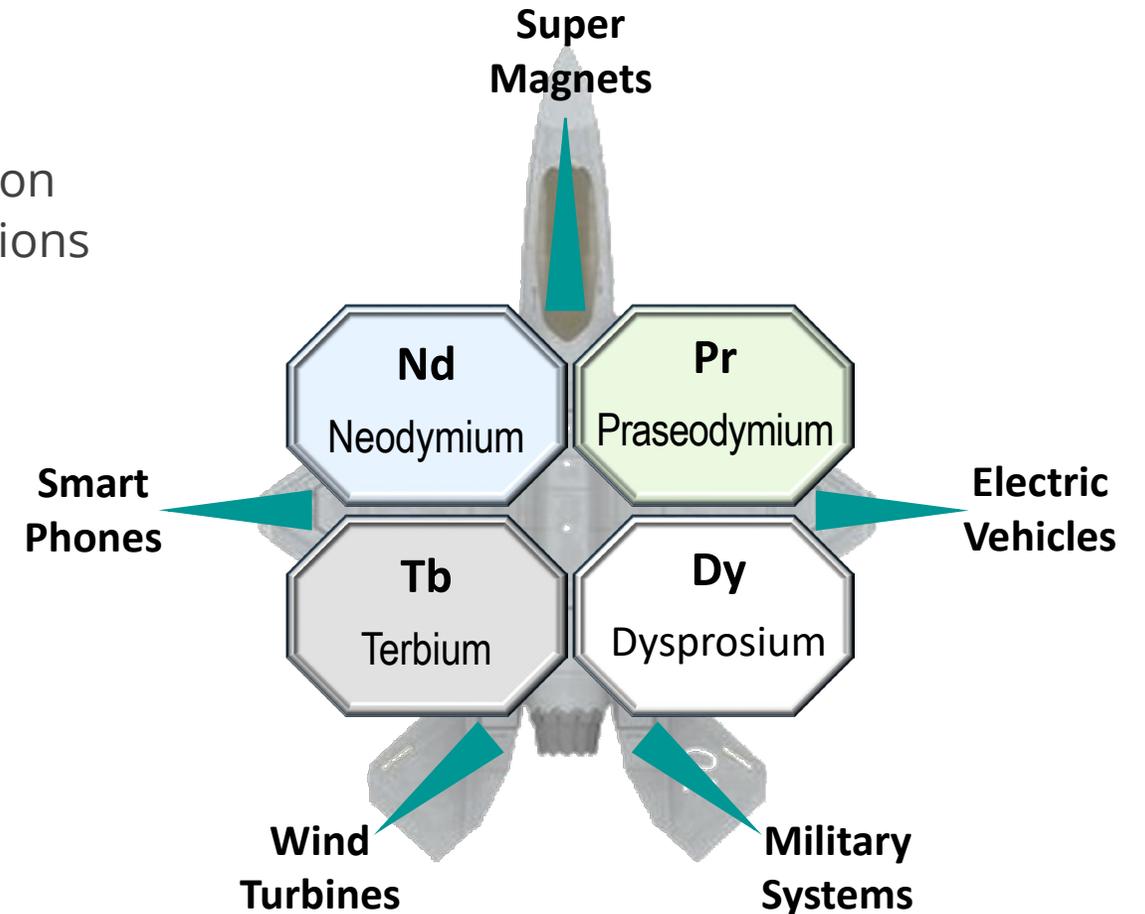
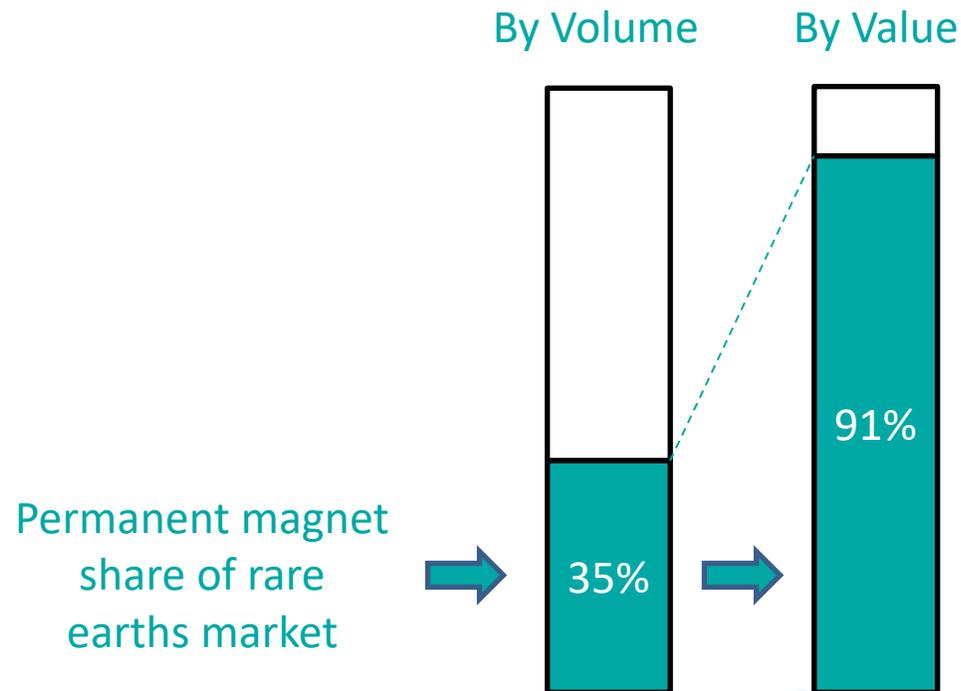
Source: USGS (excludes unregulated production in China)



Source: NI 43-101 Technical Report: Preliminary Economic Assessment for Penco Module Project, 2021

Permanent magnets

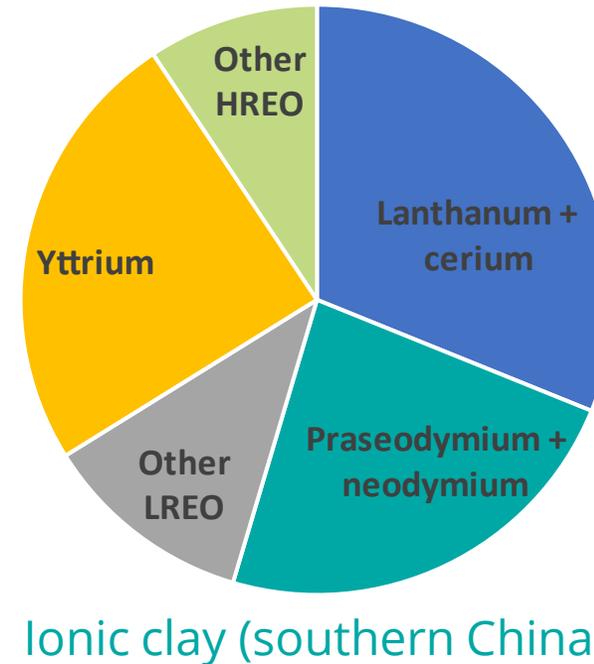
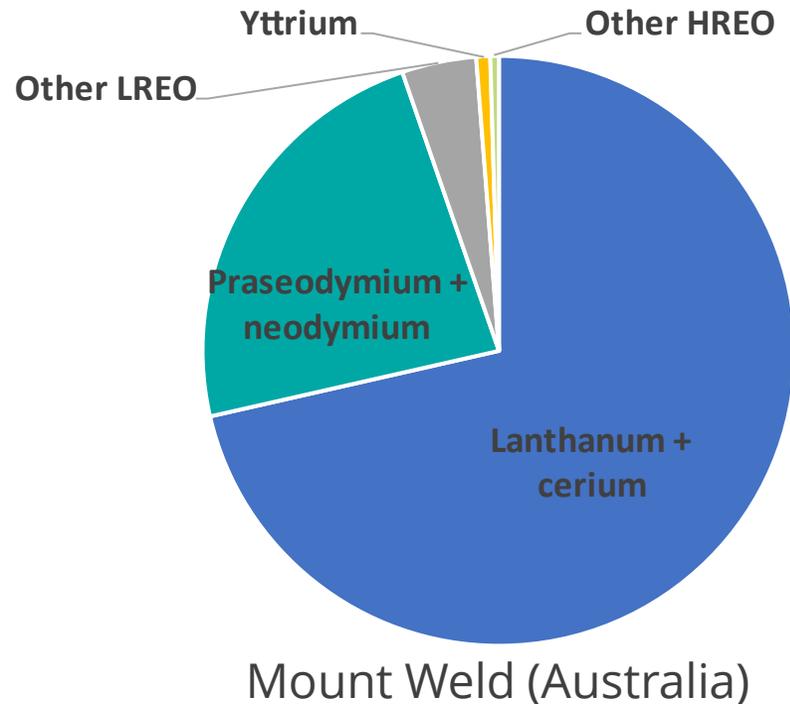
- Essential for electric vehicles and wind turbines
- Represent over 90% of value of rare earths consumption
- Forecast to grow faster than other rare earth applications



Source: Rare Earth Industry Association (<https://www.global-reia.org/about-rare-earth/>)

Ionic adsorption clay (IAC) rare earth deposits

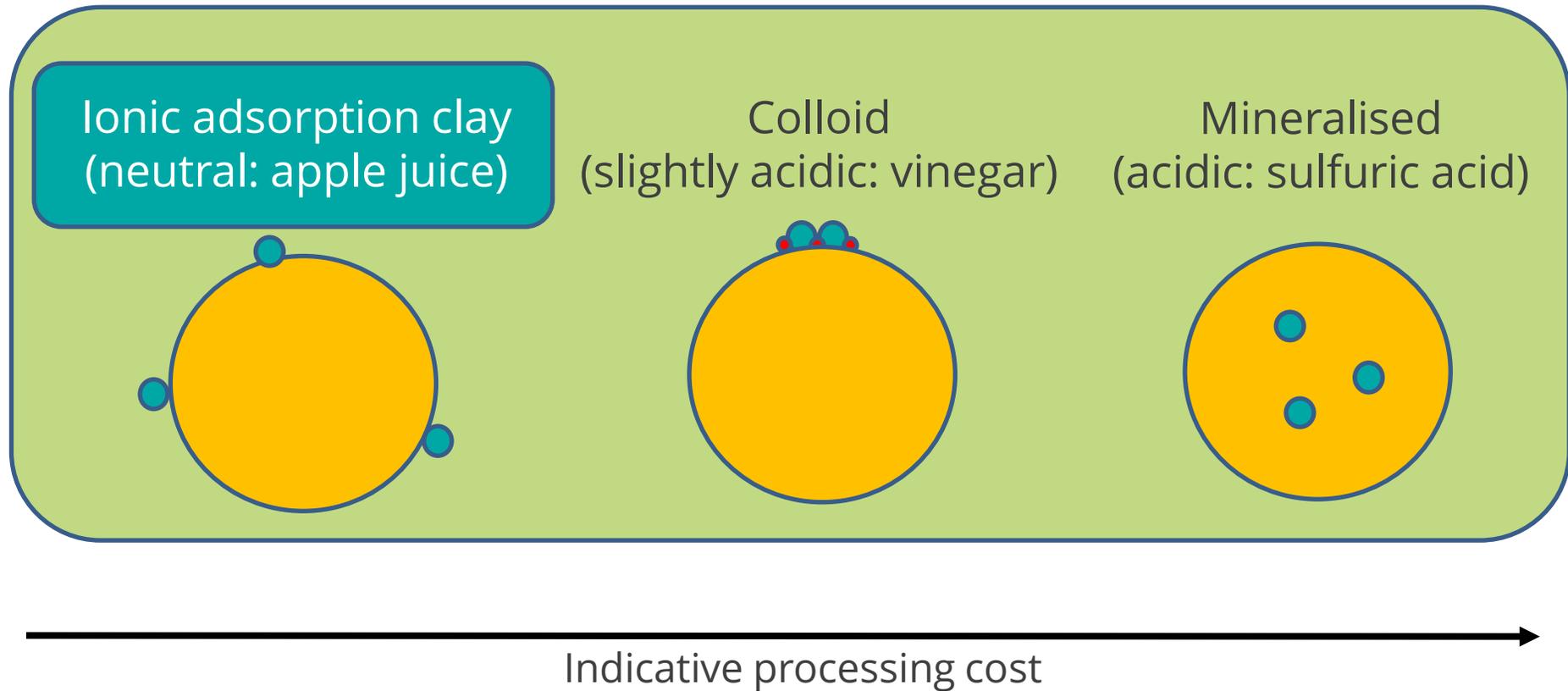
- Currently only mined in southern China
- Less complex processing: lower costs and shorter time to production
- Contain much higher proportion of higher value, heavy rare earths



Source: D.J. Packey and D. Kingsnorth, Resources Policy, 48(2016) 112-116.

Not all clays are created equal

Clay-hosted-REE



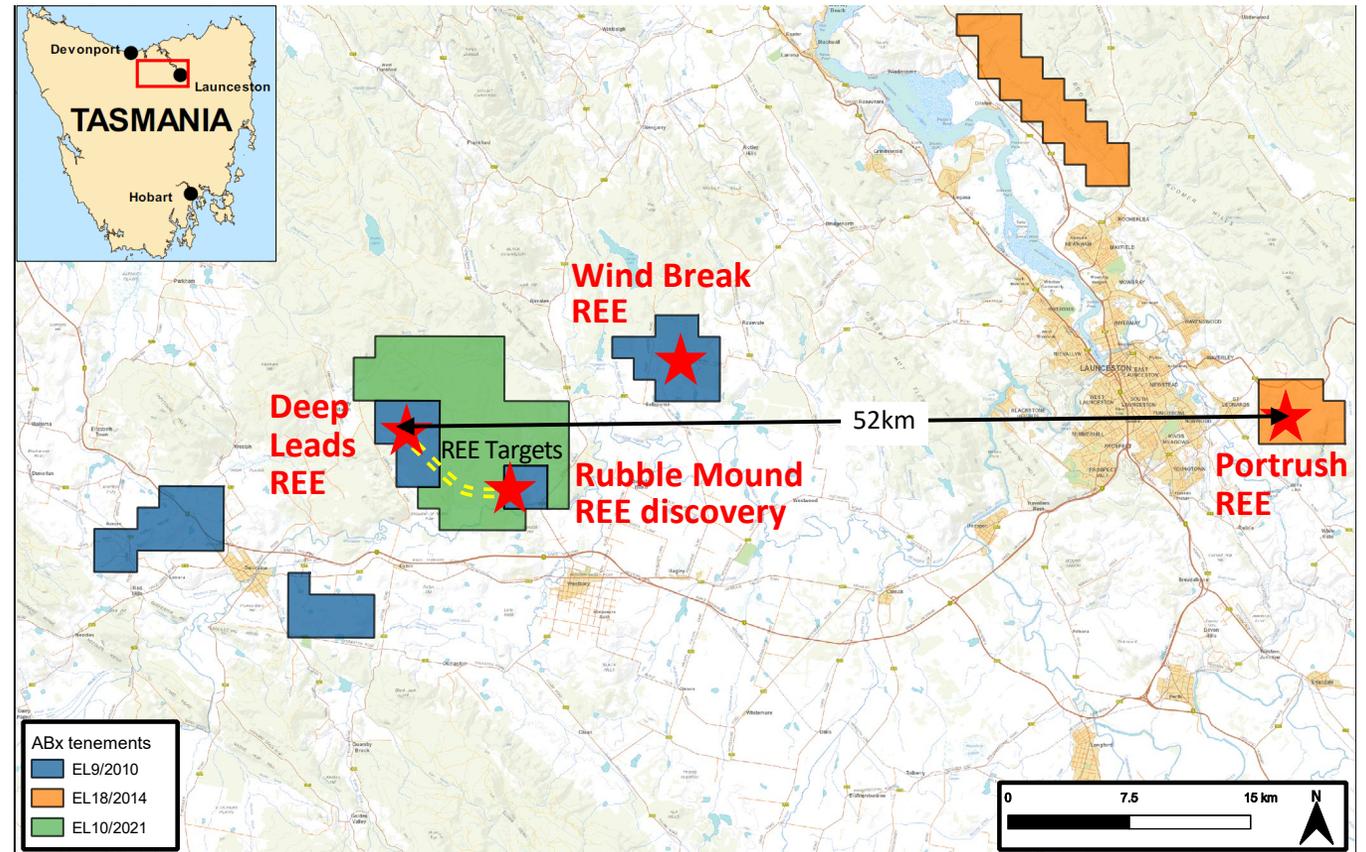
ABx rare earth discoveries in Tasmania

- ABx is the first company to discover rare earths in Tasmania
- Deep Leads and Rubble Mound have **highest reported extractions from any clay-hosted REE prospect in Australia:** they are ionic adsorption clays¹

- Four discoveries spanning 52 km ⁽²⁾
- Very low levels of radioactive elements (thorium and uranium)

¹ASX release 2 Feb 2023

²ASX release 16 March 2022



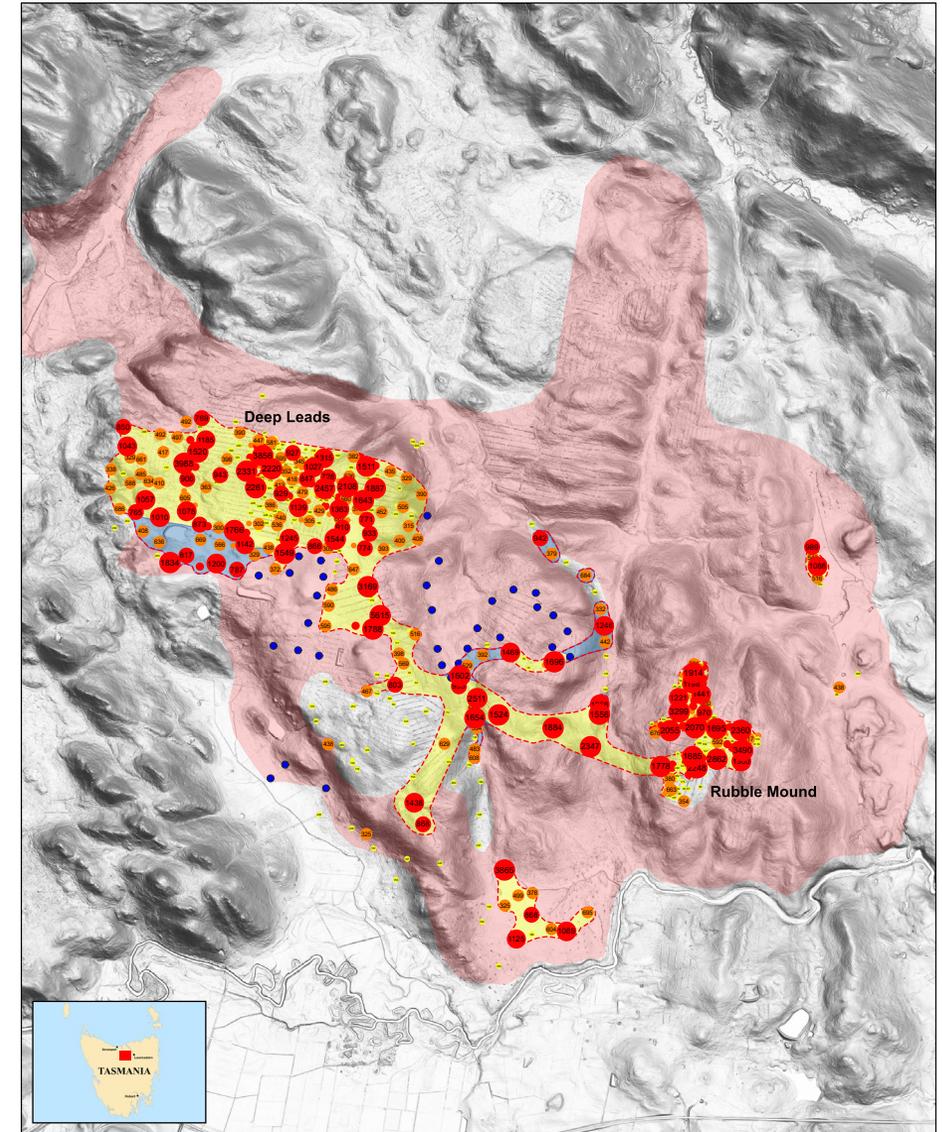
Maiden REE Resource Estimate

- Announced 20 March 2023³
- 350% increase since maiden estimate in November 2022⁴

Size	Cut-off (ppm TREO-CeO ₂)	Mean TREO (ppm)	Mean TREO-CeO ₂ (ppm)
13.9 Mt	250	705	507

Holes drilled	Metres drilled (m)	Metres assayed (m)	Thickness (m)
720	5,825	2,091	7.0

- Resource represented covers only 16% of total prospective area



ABx Group
Rare Earth Element Exploration

Rare Earth Element Exploration

- REE Mineralisation Zone
- REE Mineralisation Zone Extension
- Exploration Drilling Target
- New Drill Holes - Assays Pending

Total Rare Earth Oxide Grades (TREO)

- Greater than 700ppm
- Between 300 and 700ppm
- Less than 300ppm



³ASX release 20 March 2023

⁴ASX release 23 November 2022

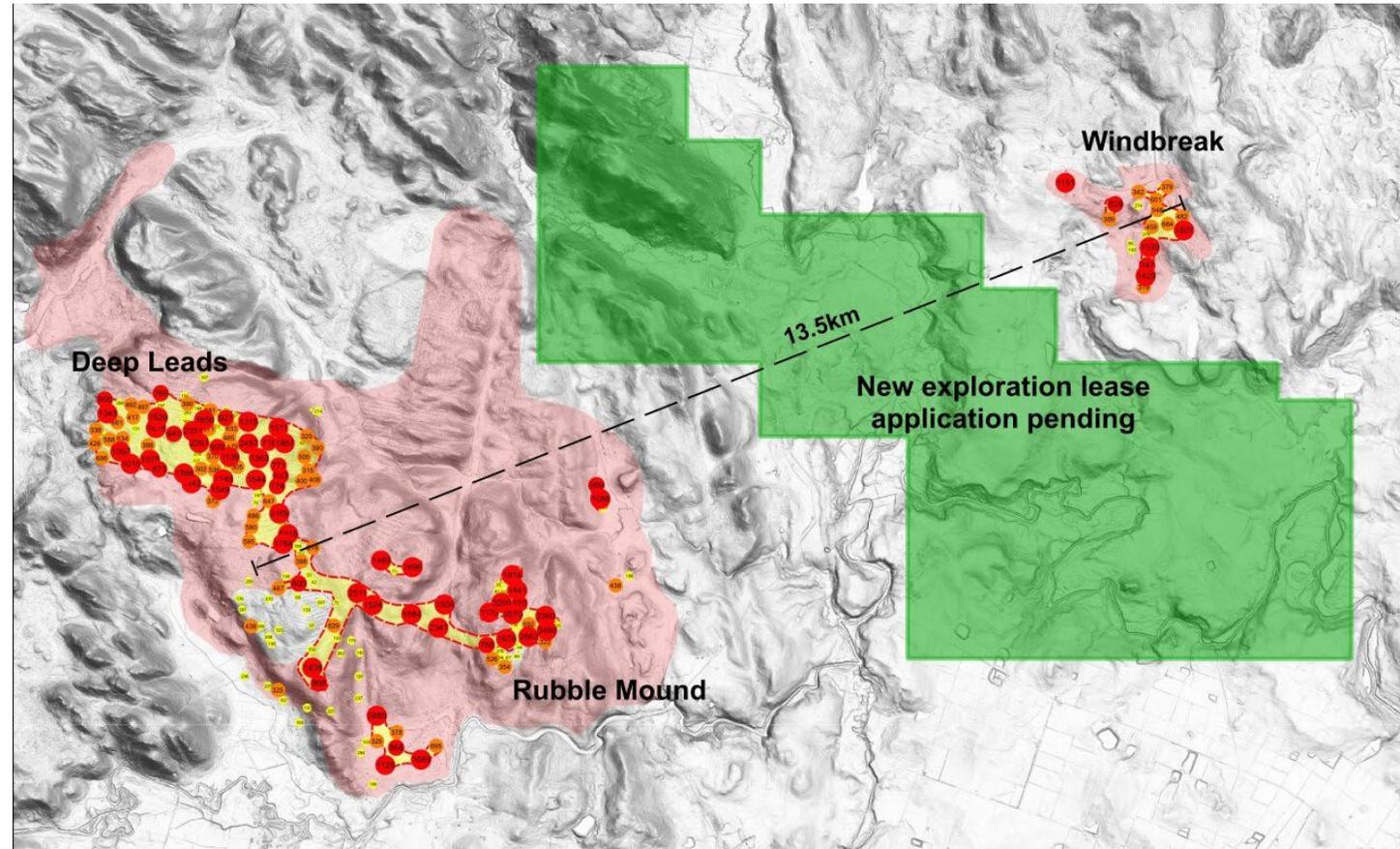
ABx rare earths strategy

Strategy

- Rapidly develop low-cost production of mixed rare earth carbonate
- Operate only where welcomed

2023 Plan

- Further investigations of processing steps and conditions
- Estimate CAPEX and OPEX
- Deepen engagement with potential customers
- Enhance ABx's exploration technology to find more rare earths
- Further drilling campaigns



Segments



Ionic adsorption clay rare earth project in northern Tasmania



Production of hydrogen fluoride and aluminium fluoride from waste (ALCORE)

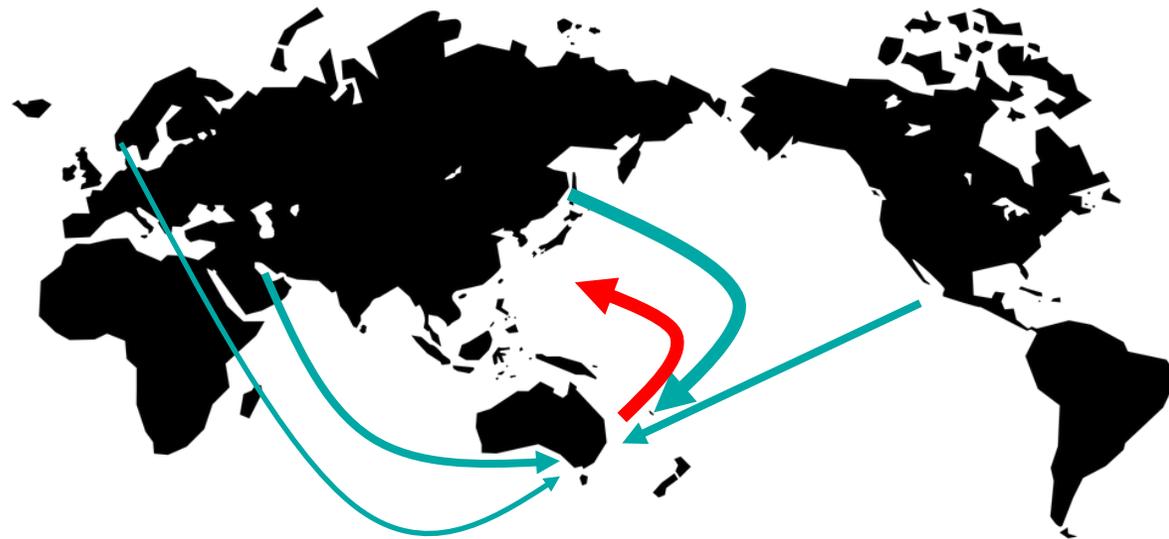


Bauxite operations in Queensland and Tasmania

Aluminium fluoride from aluminium smelter waste

Aluminium fluoride (AlF_3): essential for aluminium smelting

- 1.2 million tonnes produced globally per year worth US\$1.5 billion (US\$1,000-1,800 per tonne)
- 50% produced in China, mainly for Chinese smelters
- Australia imports 100% of requirements, mostly from China



→ Aluminium fluoride → Tapped bath

Current imports/exports

- Traditionally produced from high-cost aluminium hydroxide and fluorspar
- Achievable specification – product purity risk is low
- Mature market – dozens of customers globally

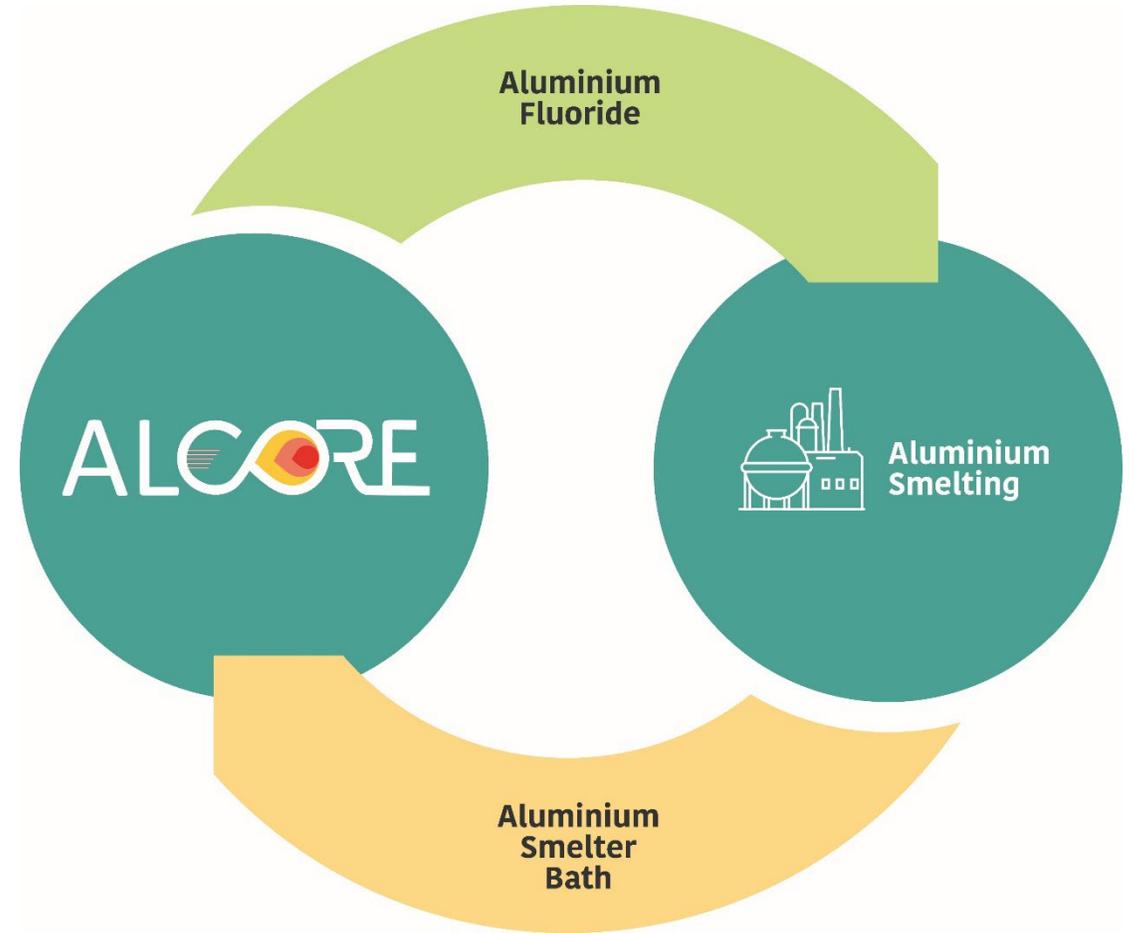
‘Tapped bath’: an aluminium smelter waste

- Fluorine is lost from smelter in ‘tapped bath’
- Only attractive market is new smelter construction; none in Australia
- Global market for tapped bath has moved into oversupply
- Tapped bath is a low-cost source of fluorine

ALCORE Process to produce aluminium fluoride

- Exemplary illustration of circular economy

- ABx's 83%-owned refining technology subsidiary
- Developing processes to produce aluminium fluoride using:
 - Fluorine from tapped bath (an aluminium smelter waste)
 - Aluminium from dross (an aluminium smelter waste) or bauxite



ALCORE Technical progress

- Critical processing steps have been demonstrated in laboratory
- Initial operating conditions for the pilot plant reactor have been selected⁵
- Engineering design for pilot plant reactor being finalised



Rotary kiln for recovery
of fluorine from
aluminium smelter bath

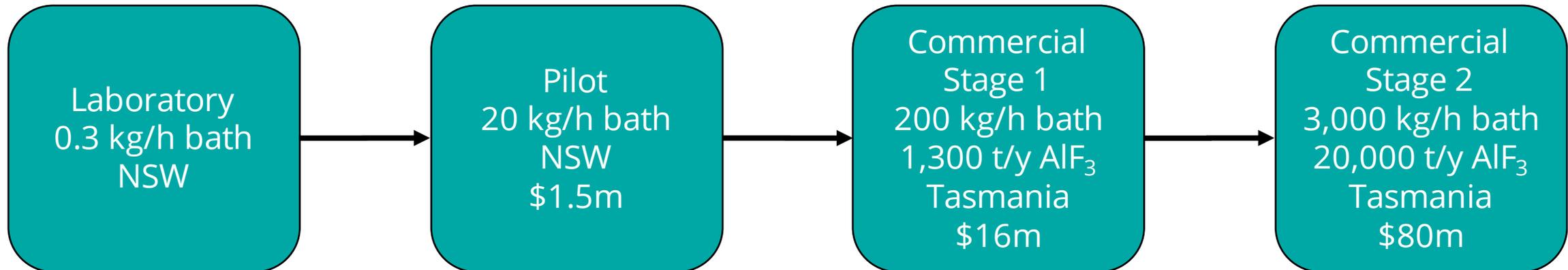


Oleum production plant



ALCORE Process scale-up

- Rigorous scale-up to reduce technical risk
- First aluminium fluoride plant planned for Bell Bay, Tasmania, near existing hydro-powered aluminium smelter. Planned production 20,000 t/y
- High potential for plants in other major aluminium smelting regions
- Potential expansion into other markets, including fluorine chemicals



← \$7.5m grant awarded⁶ and \$3.3m instalment received⁷ →

⁶ASX release 29 April 2022

⁷ASX release 18 Jan 2023



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