

Presentation – ABx’s ionic adsorption clay rare earth deposits in Tasmania

Australian Institute of Geoscientists – REE Seminar

In accordance with the requirements of Listing Rule 3.1 we submit the attached material being presented to the AIG REE Seminar by Ian Levy, Director on 21 March 2023 at Burswood On Swan, Perth.

Ian Levy has more than thirty years senior management experience with small to large mining companies, including WMC, Pancontinental Mining, Gympie Gold and CEO of Allegiance Mining, involving development of bauxite, gold, coal, base metals, nickel and industrial minerals projects from discovery to marketing. He was a founding Director of Gloucester Coal. He was a member of the Joint Ore Reserves Committee (JORC) for 11 years including 4 years as Vice Chairman and Federal President, Australian Institute of Geoscientists.

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

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ABx's ionic adsorption clay rare earth deposits in Tasmania

Ian Levy, Director

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Qualifying statements

Disclaimer Regarding Forward Looking Statements

This ASX announcement (Announcement) contains various forward-looking statements. All statements other than statements of historical fact are forward-looking statements. Forward-looking statements are inherently subject to uncertainties in that they may be affected by a variety of known and unknown risks, variables and factors which could cause actual values or results, performance, or achievements to differ materially from the expectations described in such forward-looking statements.

ABx does not give any assurance that the anticipated results, performance, or achievements expressed or implied in those forward-looking statements will be achieved.

General

The information in this report that relate to Exploration Information and Mineral Resources are based on information compiled by Ian Levy who is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Levy is a qualified geologist and a director of ABx Group Limited.

Mr Levy has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which they are undertaking 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. Mr Levy has consented in writing to the inclusion in this report of the Exploration Information in the form and context in which it appears.

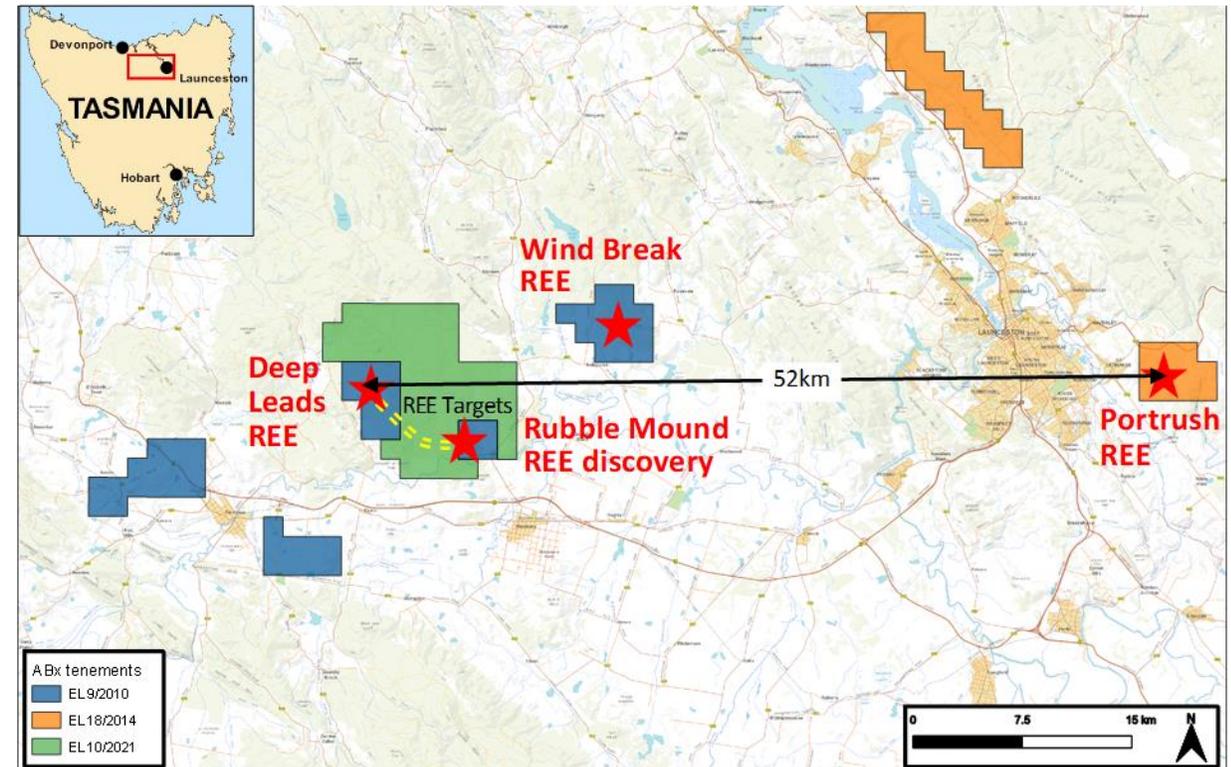
ABx rare earth discoveries in Tasmania

Ticks all boxes

- ❑ True ionic adsorption clay IAC REE deposits *
 - ❖ Rich in permanent magnet REEs
 - ❖ Can be developed quickly at low cost
- ❑ Shallow depth, typically 1 to 6m from surface
- ❑ Favourable land setting

Progress

- ❑ Deep Leads & Rubble Mound combined REE deposit
- ❑ Metallurgical testing confirmed IAC REE *
- ❑ 150 new drillholes in progress January to early April
- ❑ **Resources TRIPLED to 13.9M tonnes** – more to come



* *Not all clay-hosted rare earths are created equal. Only ionic adsorption clay REE deposits (IAC REE) achieve high extraction rates at low cost and are the most sought-after deposits, delivering extraction rates of 50% to 75% of REE using benign, low-cost processing.*

ABx is the first to discover true IAC REE in Tasmania. See ASX Announcement dated 31 May 2022.

ABx rare earth resources tripled to 13.9Mt See ASX release 20 March 2023

Resource Category	Million Tonnes	From (m)	To (m)	Thickness (m)	TREO avg ppm	TREO-CeO ₂ ppm	Perm Mag ppm	Permanent Magnet REOs				CeO ₂ ppm	Er ₂ O ₃ ppm	Eu ₂ O ₃ ppm	Gd ₂ O ₃ ppm	Ho ₂ O ₃ ppm	La ₂ O ₃ ppm	Lu ₂ O ₃ ppm	Sm ₂ O ₃ ppm	Tm ₂ O ₃ ppm	Yb ₂ O ₃ ppm	Y ₂ O ₃ ppm
								Nd ₂ O ₃ ppm	Pr ₆ O ₁₁ ppm	Tb ₄ O ₇ ppm	Dy ₂ O ₃ ppm											
Inferred	11.2	3.6	10.7	7.2	689	512	170	113	28	4.1	25	177	14	6.9	26	5.0	99	1.9	25	2.0	12	149
Indicated	2.7	4.8	11.2	6.4	772	490	174	116	30	4.2	24	283	13	7.8	26	4.5	101	1.6	27	1.8	11	123
Total	13.9	3.8	10.8	7.0	705	507	171	114	29	4.1	24	198	14	7.0	26	4.9	100	1.8	26	2.0	12	144

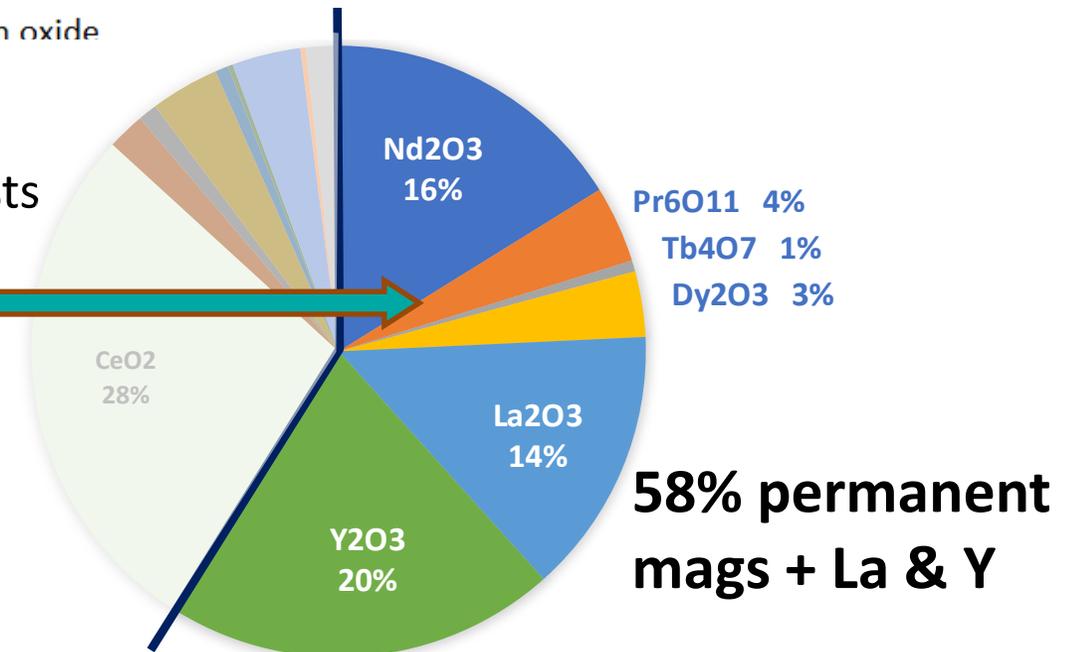
Parameters: Cut-off grade = 250ppm TREO-CeO₂ Minimum thickness = 2 metres Maximum extrapolation = 80 metres Density = 1.9 tonnes/cubic metre
 TREO = total rare earth elements as oxides. TREO-CeO₂ = TREO minus cerium oxide

720 holes, 5,825m drilled and 2,091m assayed

High extraction rates 30% to 83% in ANSTO desorption tests

GOOD MIX OF REE

- ❖ Permanent magnet REOs, La and Y = High Value REEs = 58% of the REE mix (relatively high)
- ❖ Non-radioactive: Free of Uranium & Thorium



Deep Leads–Rubble Mound

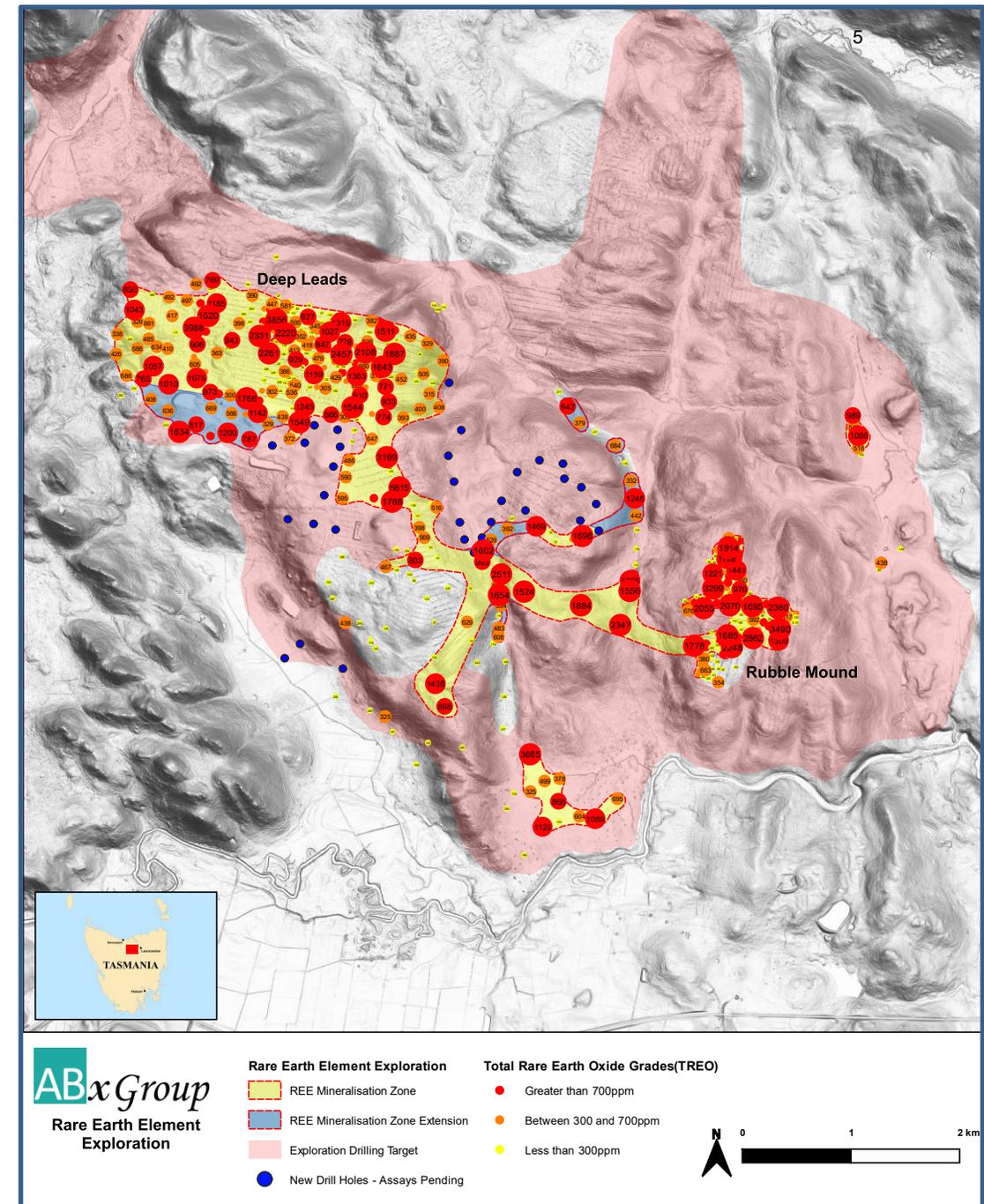
REE prospect is significantly enlarged

- REE extends 6.5km x 7km = 36.6km²

Thicker mineralisation identified

- Drill technique modified for difficult drilling
- Thick REE zones discovered 30m, 21m, 13m thick
- Economic assessment of thickened zones begun
- Overburden ranges from 0 - 6m, averaging 3.8m
- REE horizon averages 7.0m thick

= **low stripping ratio**

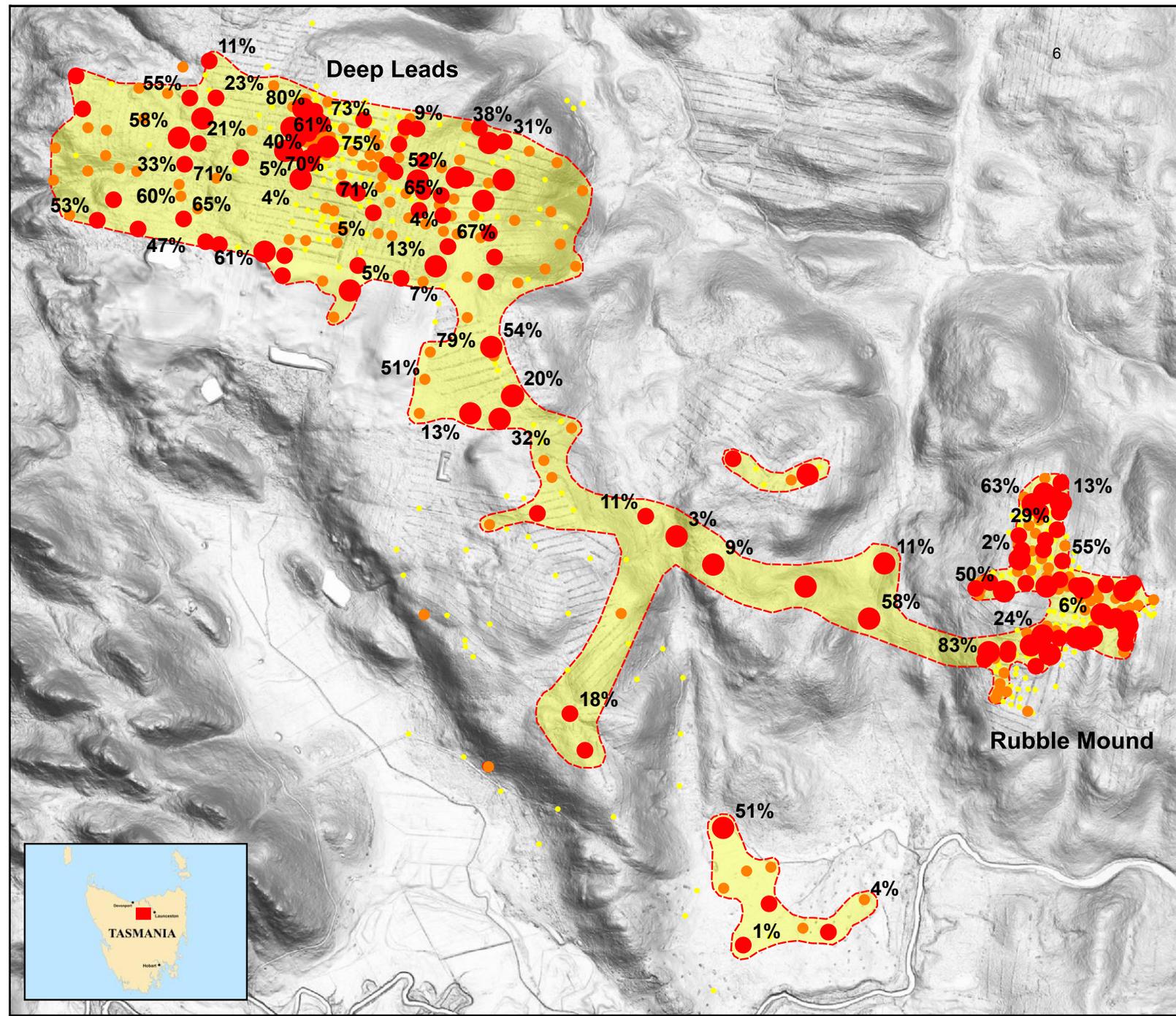


High extraction

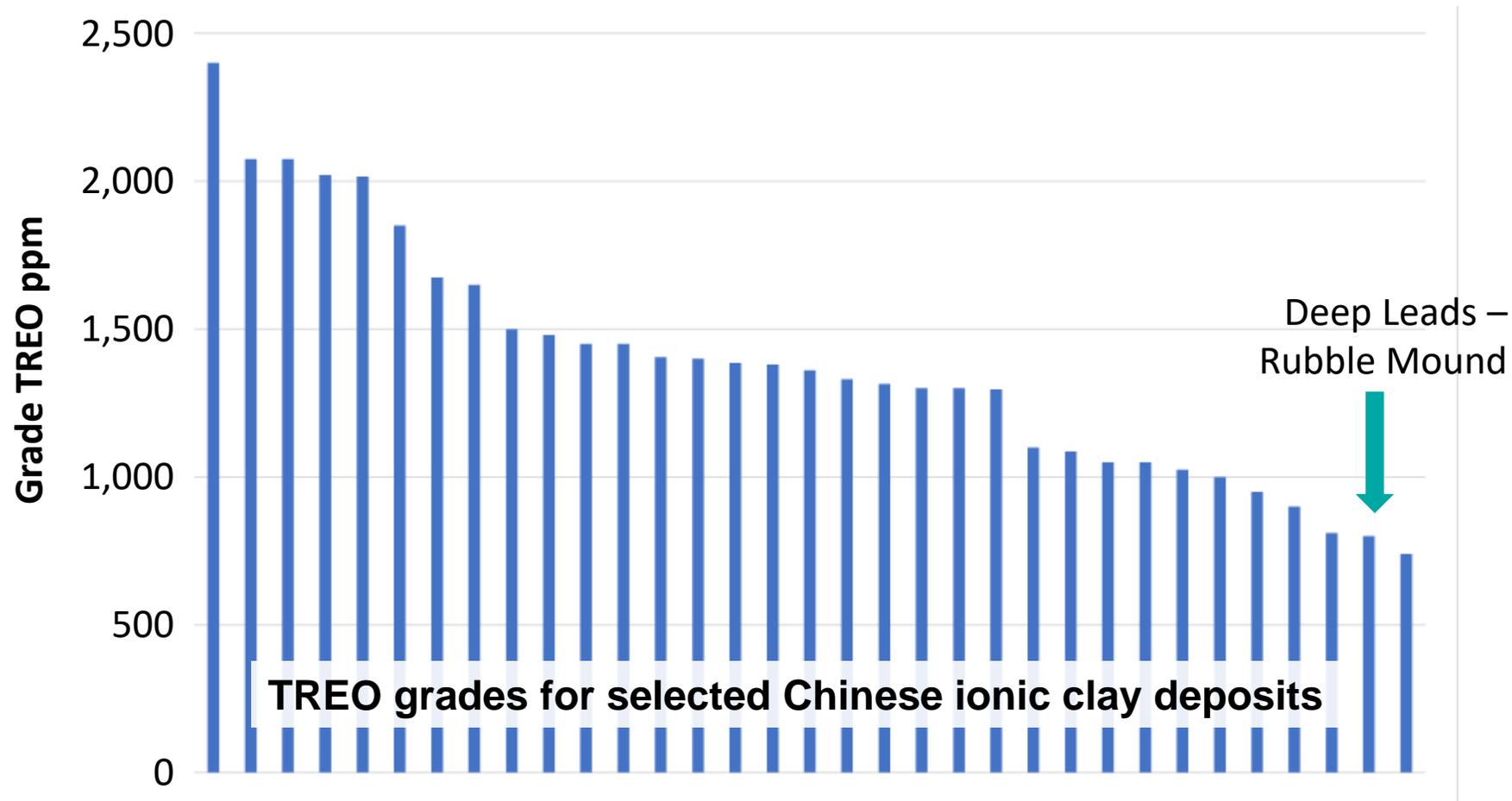
71 tests by ANSTO

- 70% of samples averaged **50% extraction**
- Clay-rich samples gave highest extractions 60-83%
- Gravels had low extractions
- CaO content reduces extraction rates
- Metallurgical tests to assess recovery vs concentrate grade economics

As good as best Chinese REE projects

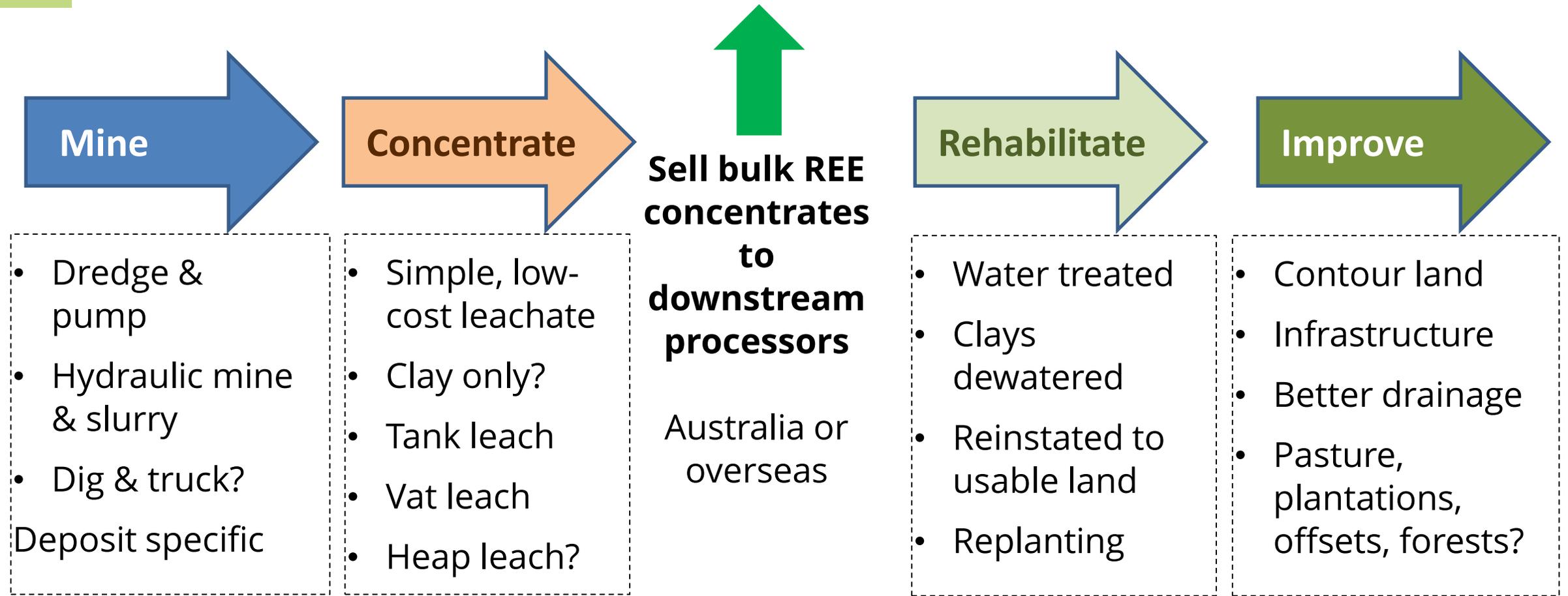


Compared to China's Deposits



Minimum size is typically ~**10 million tonnes** which is less than ABx's current resource. ABx will select higher grade zone(s) for economic assessment (increasing cut-off grade)

Deep Leads–Rubble Mound business concepts



Achieves 50% of the revenue for 25% of the costs

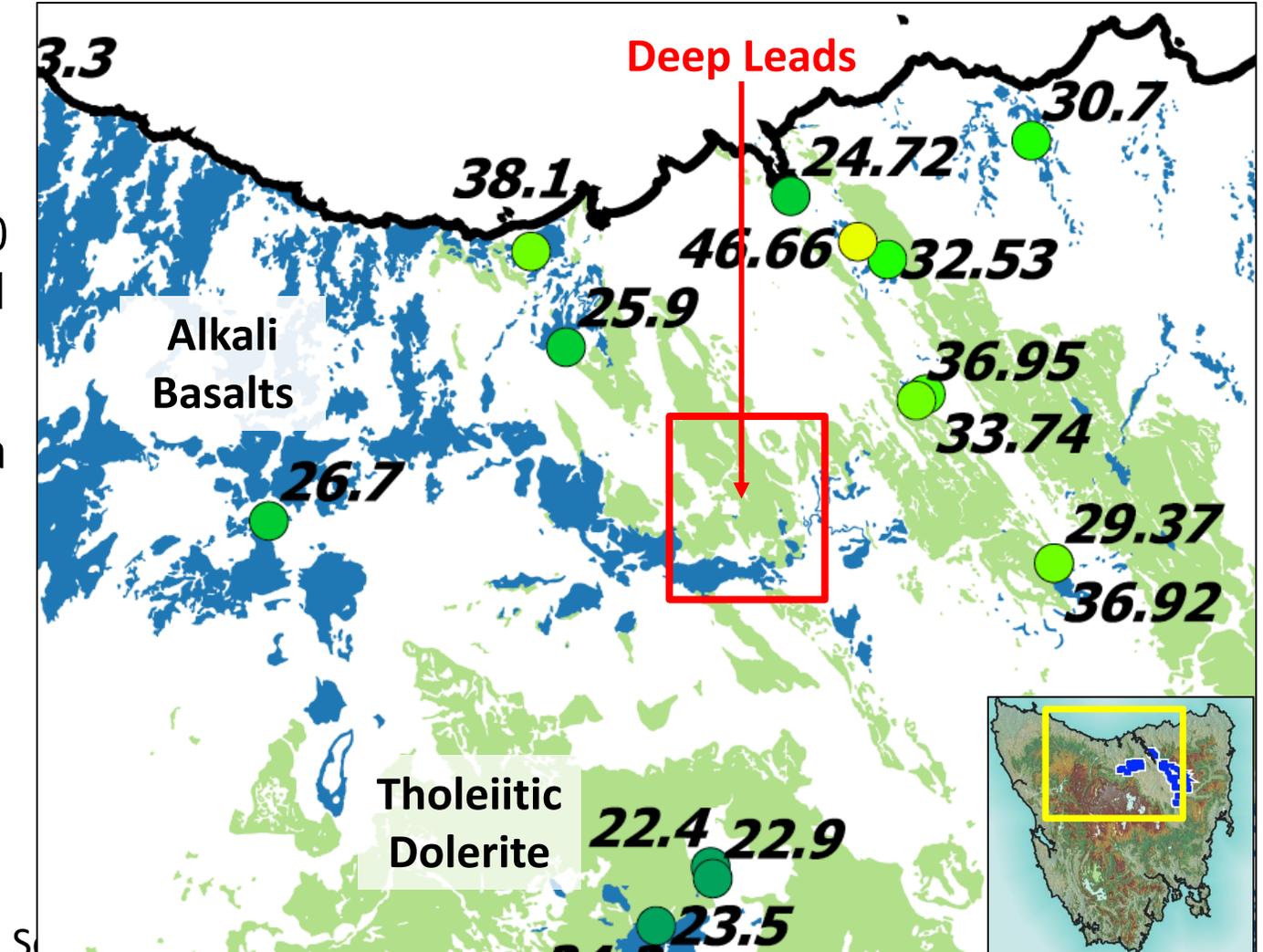
Fastest, lowest-cost start-up

Regional Geology

1. **Cenozoic erosion**, soils developed
2. **Alkali Basalts** filled rivers and gullies 20 to 30Ma. Heavily eroded and bauxitised in places.
3. **Tholeiitic dolerite sills** intruded 170Ma
"Ferrar large igneous province" in Tasmania, Antarctica, NZ & Sth Africa formed as Gondwana broke up
4. **Paleozoic** strata
5. **Precambrian** basement further west

Basalts & dolerite in northern Tasmania

Basalt ages in Ma

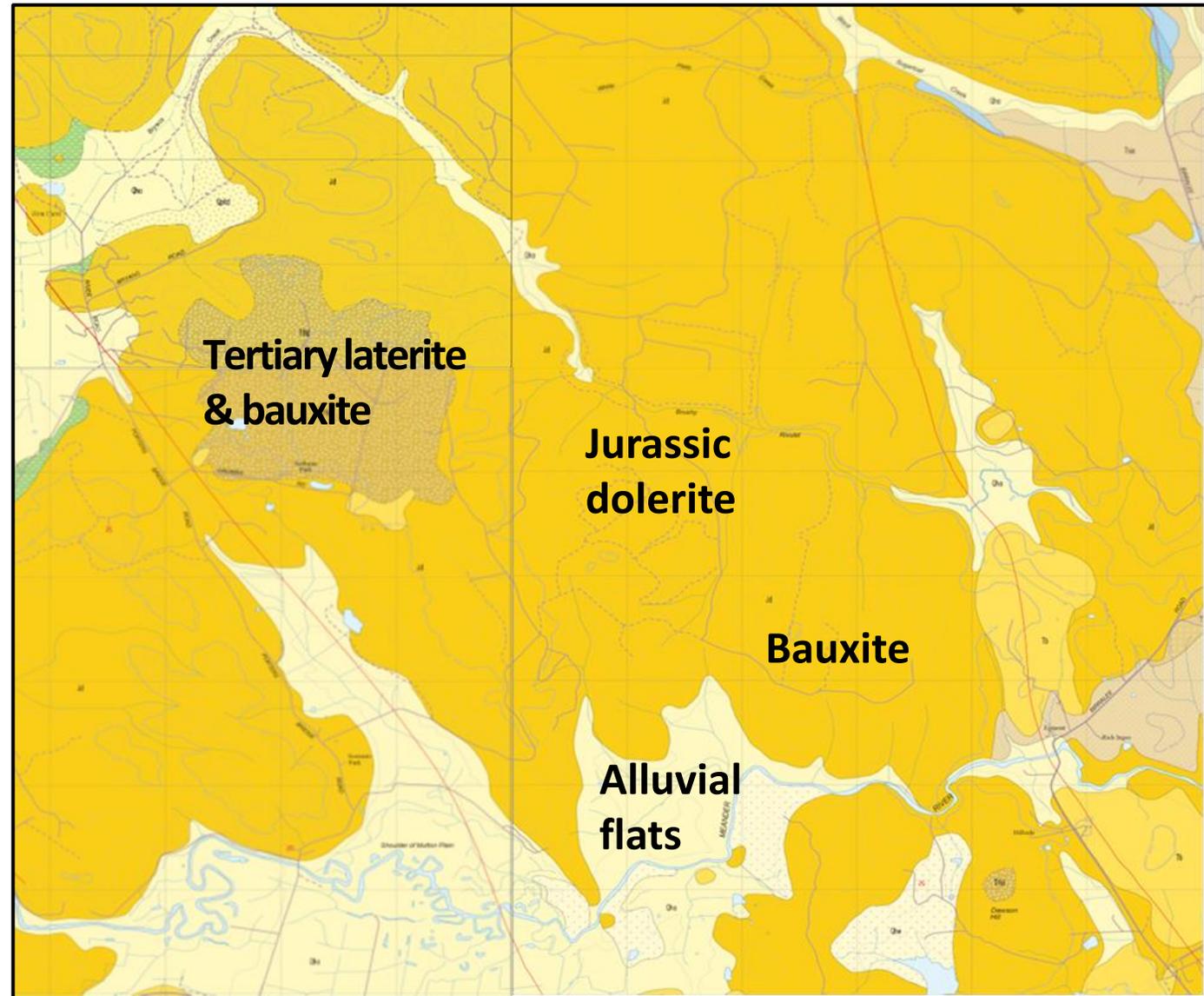


Deep Leads – Rubble Mound Geology

1. Shallow clay layer: Bauxite-laterite & clays with bauxite & dolerite grains
2. REE clay layer
3. River gravel layers in a few places
4. Weathered dolerite
5. Fresh dolerite - columnar jointed sills hundreds of metres thick

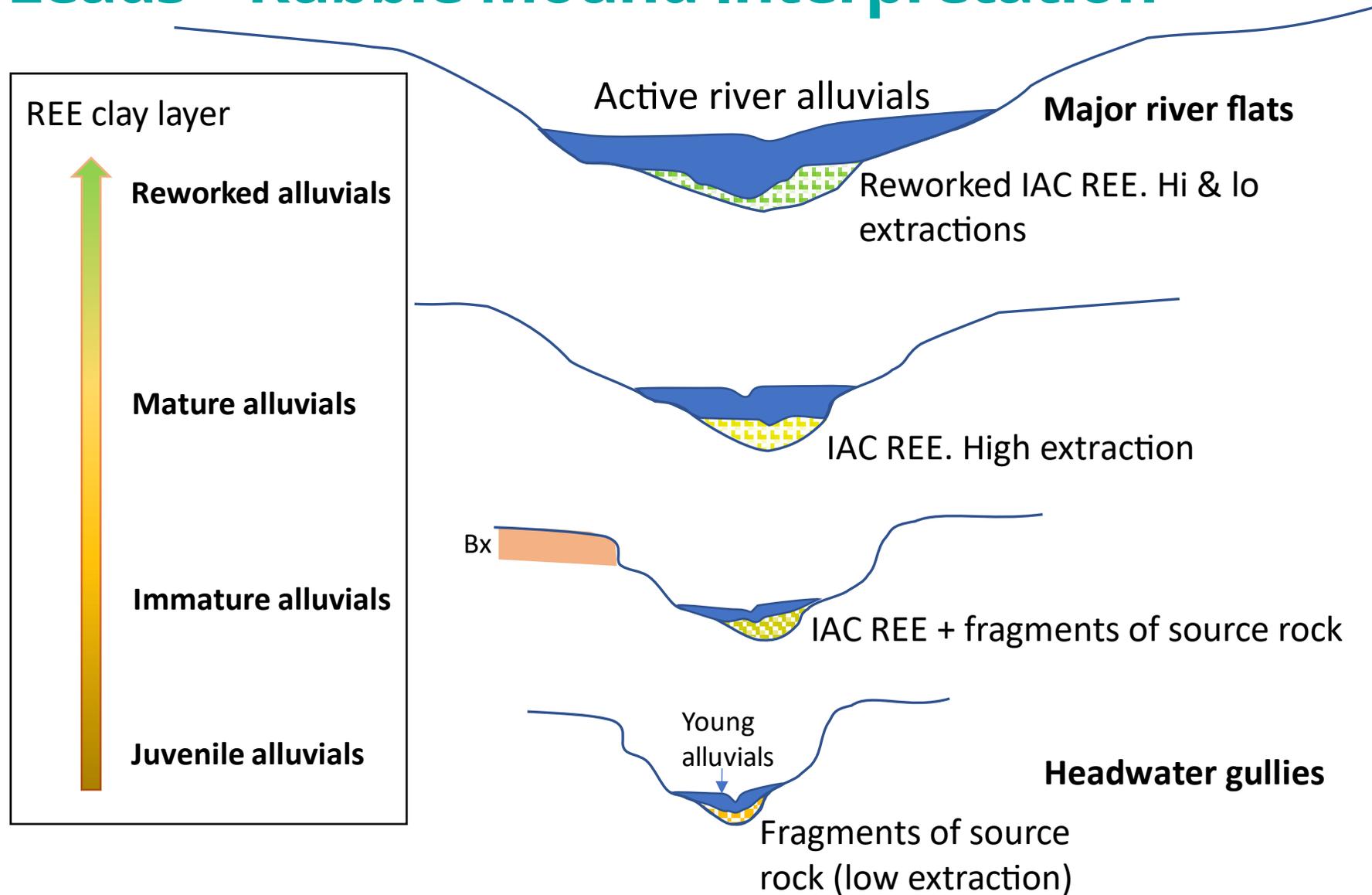
Note:

Remnant alkali basalt along the river valley has been largely eroded away



Source: MRT Tas geological map + ABx bauxite discoveries

Deep Leads – Rubble Mound Interpretation



Deep Leads – Rubble Mound drilling



Open land on recently harvested hardwood plantations and farmland.
Supportive landholders

Good access on highway and all-weather logging roads

ALL TOO EASY?



Deep Leads – Rubble Mound drilling challenges



Clay + high water flow = mud
 Mud + river gravel = clogged line
 Mud + gravel + hard dolerite = X#&!

We still managed to
 drill 37.5m of
 dry clay samples

