

ABx Rare Earth Resources Increase 70% to 89 Mt

Resource upgrade completed for ABx projects in northern Tasmania

Model estimate is 89 million tonnes averaging 844 ppm total rare earth oxides (TREO), from 29% of the mineralised outline

Resource contains remarkably high proportion of dysprosium + terbium, averaging 4.3% of TREO, and some blocks exceed 6%

ABx Group (ASX: ABX) ("ABx" or "the Company") and its consultants have completed an updated resource estimation of the Deep Leads – Rubble Mound and Wind Break rare earth resources located 45 km west of Launceston, Tasmania. The full resources report is attached.

The resource estimate of 89 million tonnes (Table 1) is a 70% increase in tonnes and 3% higher grade than the previous estimate¹. The cut-off grade used is US\$30/t contained rare earth oxide value, which similar to the previous cut-off grade of 350 ppm TREO-CeO₂. The resource has the highest proportion of dysprosium + terbium (4.3% of TREO) of any clay-hosted rare earths resource in Australia. The relative proportion of rare earth oxides in the resource estimate is shown in Figure 1.

The resource model is based on 3,843 REE assays from 895 drillholes and covers 29% of the identified mineralised outline, and includes the Wind Break deposit for the first time. The resource model highlights four high grade zones that warrant follow-up for economic and metallurgical assessments (Figure 2).

The exploration potential is expanding significantly as ABx refines its exploration technology.

Table 1: Mineral resources at Deep Leads – Rubble Mound – Wind Break (US\$30/t ~350 ppm cut-off grade)

Resources at Deep Leads-Rubble Mound & Wind Break @ US\$30/t cog								Permanent Magnet REOs				Key Ratios	
Resource Category	Million Tonnes	Avg depth (m)	Avg base (m)	Avg thickness (m)	TREO ppm	TREO-CeO ₂ ppm	Perm Mag ppm	Nd ₂ O ₃ ppm	Pr ₆ O ₁₁ ppm	Tb ₄ O ₇ ppm	Dy ₂ O ₃ ppm	PermMag TREO %	Tb+Dy TREO %
Inferred	41.4	4.2	12.3	8.0	811	629	212	141	36	5.0	30	26%	4.3%
Indicated	41.6	4.2	11.8	7.7	856	656	225	150	38	5.2	31	26%	4.2%
Measured	5.6	4.1	11.4	7.3	998	790	263	174	43	6.6	39	26%	4.6%
Totals	89	4.2	12.0	7.8	844	652	221	147	37	5.2	31	26%	4.3%

Other Rare Earth oxides												Low radioactivity	
Resource Category	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	ThO ppm	U ₃ O ₈ ppm
Inferred	182	17	8.3	31	6.0	124	2.2	31	2.4	15	180	6.6	1.8
Indicated	200	18	9.0	33	6.2	131	2.3	34	2.5	15	181	6.4	1.8
Measured	209	22	11.3	41	7.8	150	2.8	40	3.0	19	229	6.2	1.7
Totals	192	18	8.8	33	6.2	129	2.3	33	2.5	15	183	6.5	1.8

Parameters: Note 1 ppm = 1 gram/t. Block cut-off grade (cog) = US\$30/t (~350ppm TREO-CeO₂) Min thickness = 2 metres Density = 1.9 t/metre³
Search ellipse = 120 x 150m (Meas & Ind), 250 x 250m (Inf). TREO = total rare earth elements as oxides. TREO-CeO₂ = TREO minus cerium oxide.

¹ ASX announcement, 20 November 2023

ABx Group Managing Director and CEO Mark Cooksey commented:

"This 70% expansion of our rare earths resource arises from 400 new drillholes and expansion of our mineralised outline by ABx's proprietary exploration technology. This campaign has enhanced the higher-grade zones that are our top candidates for production studies.

"Because ABx is beginning economic studies, we have introduced a cut-off grade based on the gross value of contained rare earth oxides that allows us to easily vary the in-situ gross dollar value of resource estimates in the higher-grade zones.

"ABx's resource is exceptionally enriched in permanent magnet rare earths, especially dysprosium and terbium, which have the highest global supply risk and are almost exclusively produced from ionic adsorption clay rare earth deposits in China and Myanmar.

"ABx is focused on creating a rare earths project that can address looming supply shortages of these critical minerals."

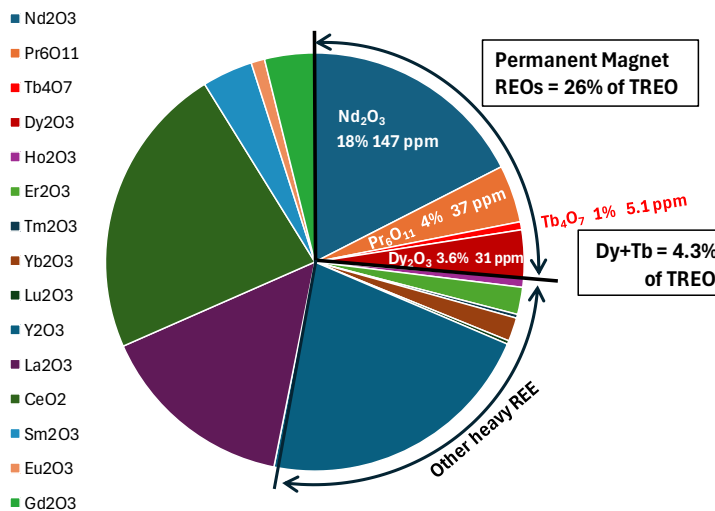


Figure 1: Relative proportion of rare earth oxides in resource estimate

The map of the resource model results (Figure 2) shows 'REE Accumulation' for each resource block, which is the grade (TREO) x thickness (metres). The four main high-grade rare-earth zones identified by this resource model are (1) Deep Leads, (2) Rubble Mound, (3) Alluvial Flats and (4) Leech Scrub, which is the company's newest prospect area.

Location and Infrastructure

ABx's rare earth deposits are located in accessible pine plantations near highways, rail lines, airports, international shipping ports, grid hydropower and cities with major engineering capabilities and heavy industries (Figure 3).

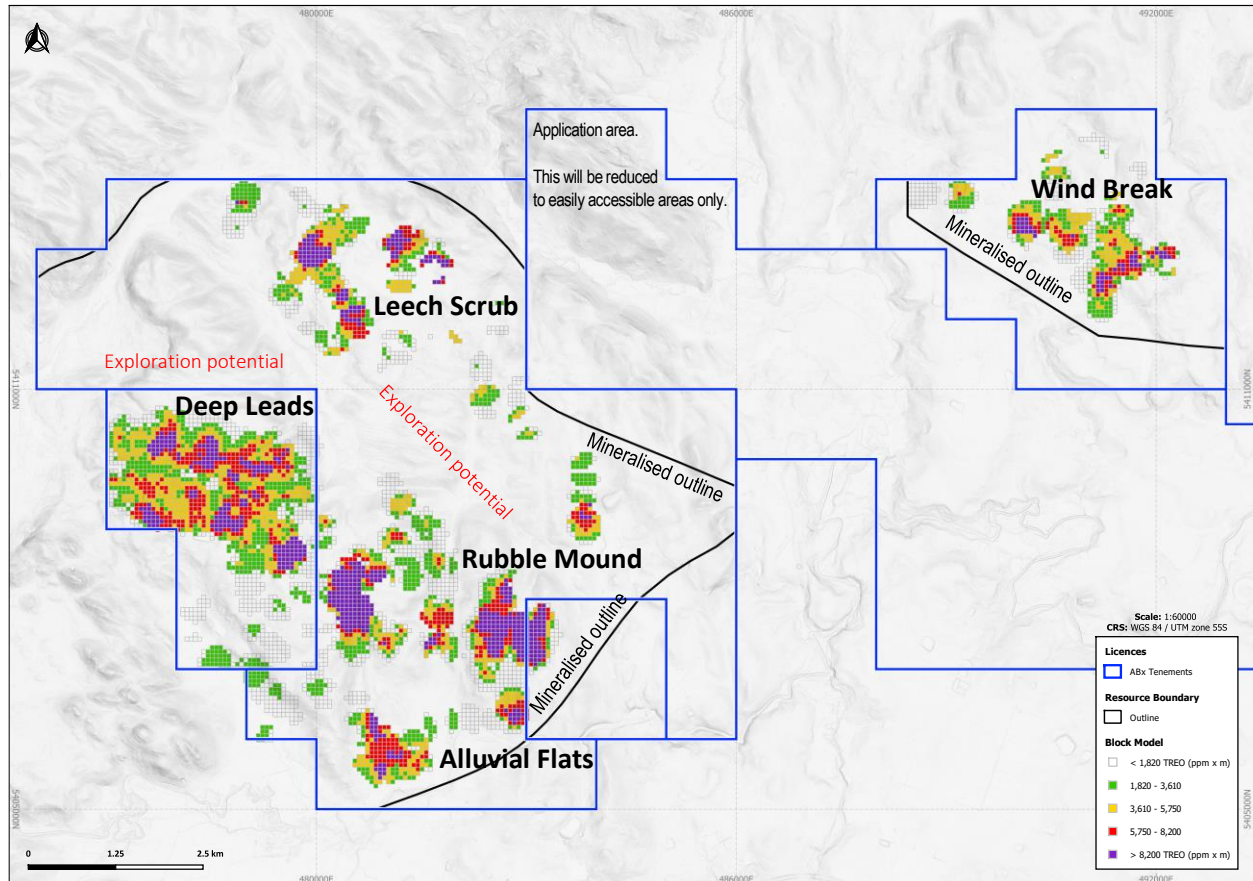


Figure 2: Map of block model showing the zones of high REE enrichment as the purple, red and orange blocks

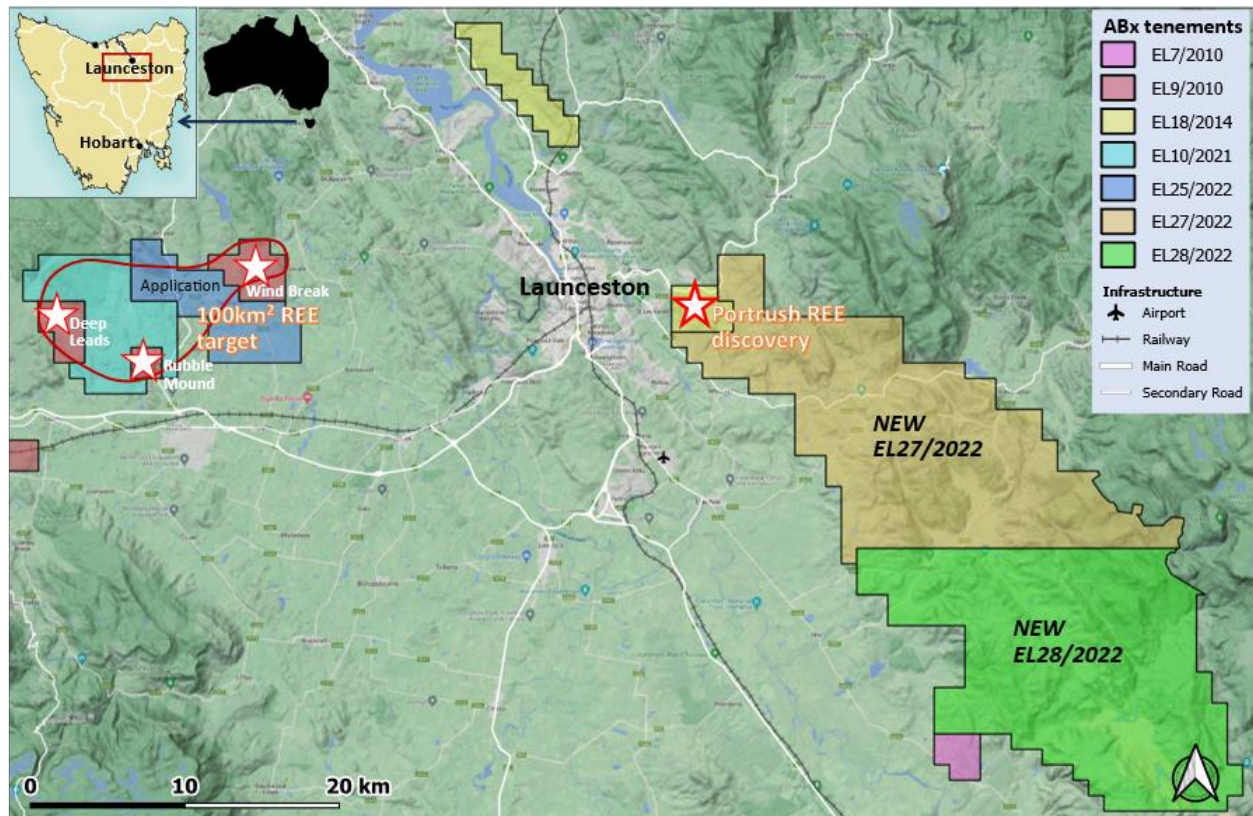


Figure 3: ABx exploration projects in northern Tasmania

Table 2 - Summary of resource estimation information in accordance with LR 5.8.1

Geology and geological interpretation	REE mineralisation occurs in clay layers that overlie a Jurassic age dolerite basement in a district with some residual weathered Tertiary age alkali basalt. Jurassic age tholeiitic dolerite and Tertiary age bauxite-laterite are the main bedrock geological units. Paleochannels host thicker clay zones which host the rare earth element mineralisation.
Sampling and sub-sampling techniques	Sampling was at 1 metre intervals. Subsampling for assaying is by quartering the clay samples twice and each time, mixing diagonally opposite quarters. Assay results from resampling correspond satisfactorily.
Drilling techniques	RC aircore and push-tube coring used.
Criteria used for classification, including drill and data spacing and distribution.	Indicated Resources are those blocks with grades above the cut-off grade that were estimated based on a minimum 4 samples within 120 metres.
Sample analytical method	Inferred Resources are those blocks with grades above the cut-off grade that were estimated based on a minimum 4 samples within 250 metres.
Estimation methodology	Assay samples are analysed by standard NATA-approved induction coupled plasma analytical methods for rare earth elements at ALS labs in Brisbane (method ME-MS81) and LabWest in Perth (method MMA04). Interlab comparisons proved satisfactory.
Cut-off grade	The centroid of each 1 metre sample is accurately located in Easting, Northing and the RL coordinates are derived from 1m LiDAR data.
Mining and metallurgical methods and parameters, and other modifying factors	Because the clay horizon drapes the topography, estimation is by two runs of horizontal circular search ellipses. The first search ellipse is 120 x150 metres horizontally and 2 metres vertically to define Indicated Resources. The second search ellipse is at 250 x 250 metres to estimate Inferred Resources.

The complete resource report with required data and JORC Appendix 1 information is attached.

This announcement is approved for release by the board of directors.

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About ABx Group Limited

ABx Group (ABx) is a uniquely positioned, high-tech Australian company delivering materials for a cleaner future.

The two current areas of focus are:

- Creation of an ionic adsorption clay rare earth project in northern Tasmania
- Establishment of a plant to produce hydrogen fluoride and aluminium fluoride from recycled industrial waste, to replace imports (ALCORE)

There is also a legacy business:

- Mining and enhancing bauxite resources for cement, aluminium and fertiliser production

ABx endorses best practices on agricultural land, strives to leave land and environment better than we find it. We only operate where welcomed.

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.

Competent Persons Statement

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 he is 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.

* * *

THE RESOURCE REPORT FOLLOWS

Mineral Resources at Deep Leads-Rubble Mound-Wind Break REE Deposits

Executive summary

The JORC-compliant resource estimated for the Deep Leads-Rubble Mound and Wind Break rare earth element (REE) deposits has increased by 70% to 89 million tonnes at a cut-off grade (cog) of US\$30/tonne (equal to 350ppm TREO-CeO₂) as shown in Table 1. (Note that 1 ppm = 1 gram per tonne).

Table 1: Resource Estimates

Resources at Deep Leads-Rubble Mound & Wind Break @ US\$30/t cog								Permanent Magnet REOs				Key Ratios	
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 Search ellipse = 120 x 150m (Meas & Ind), 250 x 250m (Inf). TREO = total rare earth elements as oxides. TREO-CeO₂ = TREO minus cerium oxide.

Resource increase: This resource estimate is 70% larger tonnes and 3% to 4% higher grade than the previous estimate in November 2023¹ due to expanded drill coverage and has some resources in measured category.

Ionic Clay REE: This is a confirmed ionic adsorption clay REE deposit (IAC REE) with high extraction rates of REE from clays under benign leach conditions around pH 4 which no other Australian deposit has achieved.

Dy+Tb Rich: Dysprosium + Terbium to TREO (Dy+Tb/TREO) of 4.3% is the highest in Australian clay-REE resources and high by world standards. Dy & Tb are the most valuable rare earth elements, being in critical short supply and mainly produced from IAC REE deposits in southern China and Myanmar - (Figure 1).

Potential for expansion: The estimates come from 29% of the mineralised outline defined by drillholes and 19% of the district REE exploration target area that has been identified by exploration to date - (Figure 2).

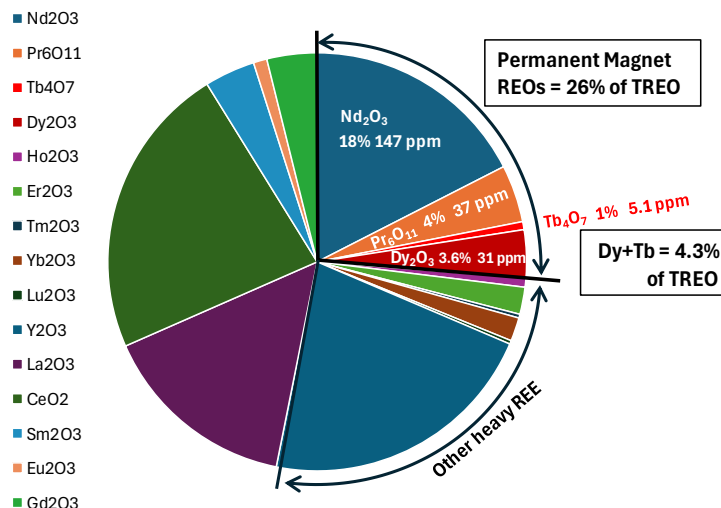


Figure 1: Pie chart showing the relative proportions of each rare earth element oxide

Notes:

The main revenue-earning Permanent Magnet REOs are high, being 26% of total rare earth oxides (TREO)

Critical REOs of Dy+Tb are, on average, 4.3% of TREO and has some areas exceeding 6% of TREO. This is the highest concentration ratio of Dy+Tb in Australian clay-hosted REE resources and high by world standards.

Uranium & Thorium grades are low (see Table 1) which is a preferred outcome because the REE concentrate will be saleable in all jurisdictions.

¹ See ASX announcement: ASX ABx 50Mt REE Resource Milestone 20 November 2023

Figure 2 below shows “REE Accumulation” for each resource block, which is the TREO grade x metres thickness (ppm x m) with the red & purple blocks exceeding 7,000ppm x m TREO. Note 1ppm = 1 gram/t.

The five main high grade REE zones identified by this resource model are shown in Figure 2 below as (1) Deep Leads, (2) Rubble Mound, (3) Alluvial Flats, (4) Leech Scrub and (5) Wind Break, which is the company’s newest prospect area.

The exploration potential is self-evident and will focus on higher grade areas for viability assessments.

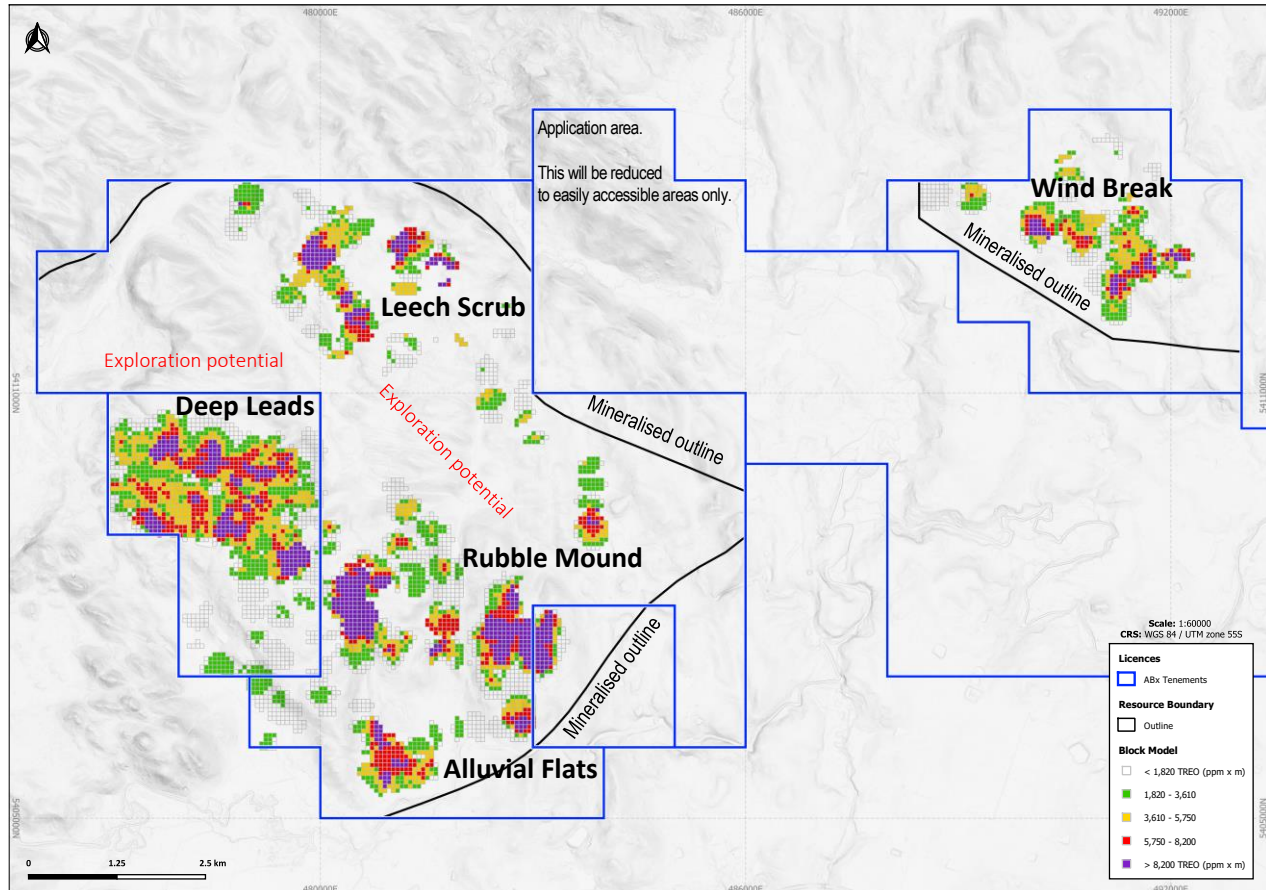


Figure 2: Map of block model showing the zones of high REE enrichment as the purple, red and orange coloured blocks.

This resource model is based on 3,843 metres assayed from 895 drillholes across the REE resource area:

Table 2: Holes drilled and the number of assays from the 895 drillholes assayed for REE and used in this resource estimate

Project	Tenement	Holes drilled	Metres drilled	Holes assayed	Metres assayed
Deep Leads	EL9/2010	486	3,977	388	1,522
Rubble Mound	EL10/2021	437	3,936	413	1,968
Wind Break	EL9/2010	154	1,829	94	353
Totals		1,077*	9,742	895*	3,843

* Note that 182 holes were not assayed for REE at all, mainly because they were old bauxite holes pre-2014.

Deposit significance: high Dy & Tb

ABx is expanding the size of its ionic clay-hosted Rare Earth Elements (IAC REE) resources in northern Tasmania. The resources are more enriched in the most important REE species, Dy and Tb, than any other Australian REE resource. Dy & Tb are in critical short supply.

Permanent Magnet Rare Earth Elements (PREE) Pr, Nd, Tb & Dy, are strategically important minerals for electronics, IT, communications, renewable energy-green transition technologies and military applications. Current supply is dominated by China. ABx’s deposits have similarities with the Chinese deposits but are uniquely Tasmanian in detail. ABx intends to exploit the special features of these unique deposits.

ABx's ionic adsorption clay REE deposit (IAC REE) has achieved high extraction rates of up to 88% of REE and averaging above 50% using benign, low-cost processing leaching at pH4, confirming it to be an IAC REE deposit which are rare and important. At present Dy & Tb is mainly (if not exclusively) sourced from IAC REE deposits in southern China and Myanmar.

Deposit Geology

This resource largely occurs in clays of variable thickness up to 40 metres overlaying Tasmanian dolerite, which is a stacked series of igneous sills, typically hundreds of metres thick but formed in layers.

Bedrock dolerite: The dolerite has intruded as hundred-metre-thick, columnar-jointed sills as part of the Ferrar Dolerite, which is the world's 5th-largest igneous magmatic event during the Jurassic geological era (190-180 Ma) when Australia was in the final stages of breaking away from Gondwana.

The dolerite is classified as a tholeiite, which is typically aluminium-rich, low potassium and commonly in ocean floor settings. However, the Tasmanian dolerite is enigmatic.

Tertiary basalts: The region also has 20 to 30Ma old alkali basalts (see Figure 3) but, in the resource area, these are only found as rare rubble rocks in creeks.

Bauxite-Laterite: Basalts and old plateaus of dolerite have been bauxitised or lateritised, probably during the Tertiary wet periods, most of which has been eroded away – see Figure 4.

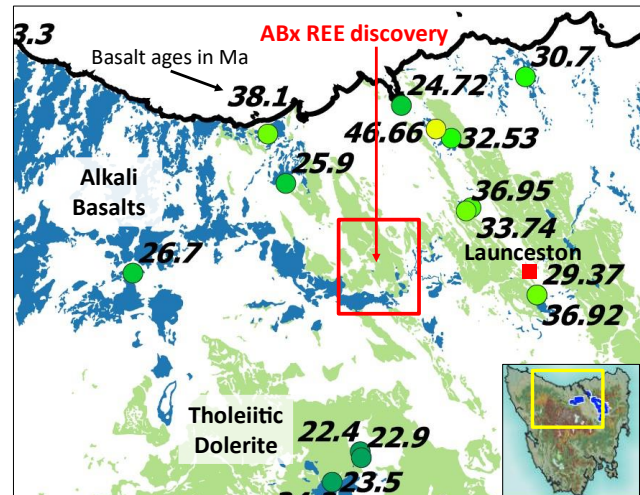


Figure 3: Dolerite and basalt in northern Tasmania.
Source: Mineral Resources Tasmania map

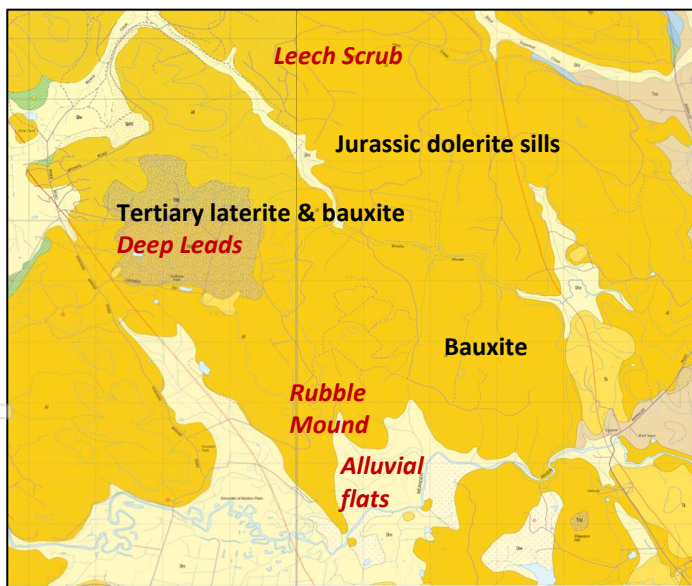


Figure 4 (left): Geological map and REE discovery areas
Source: Mineral Resources Tasmania maps & ABx mapping

Outcrop in the area is poor to moderate with occasional bars of bedrock dolerite rock. A lot of the area is strewn with dolerite boulders "floating" in heavy clay soils that have often been deeply ploughed for plantation forestry.

Undulations in bedrock topography are not always mirrored by the current surface topography, with some channels in the bedrock being totally concealed. Clay channels are often strongly mineralised.

Regional mineralisation includes other REE discoveries by ABx

The resource presented here arises from three of ABx's REE discovery areas in northern Tasmania, namely Deep Leads, Rubble Mound and Wind Break located 45km west of Launceston. ABx has a 4th REE project area at Portrush located east of Launceston and is expanding its tenement holdings significantly (see Figure 5 below) to capitalise on its exploration knowledge, exploration technology and first-mover advantages.

Area selection focusses on accessibility to the land, landholder support and geological settings. Since the inception of ABx in 2009, ABx's paramount company policy has been as follows:

ABx endorses best practices on agricultural land, strives to leave land and environment better than we find it.
We only operate where welcomed.

Economic Setting

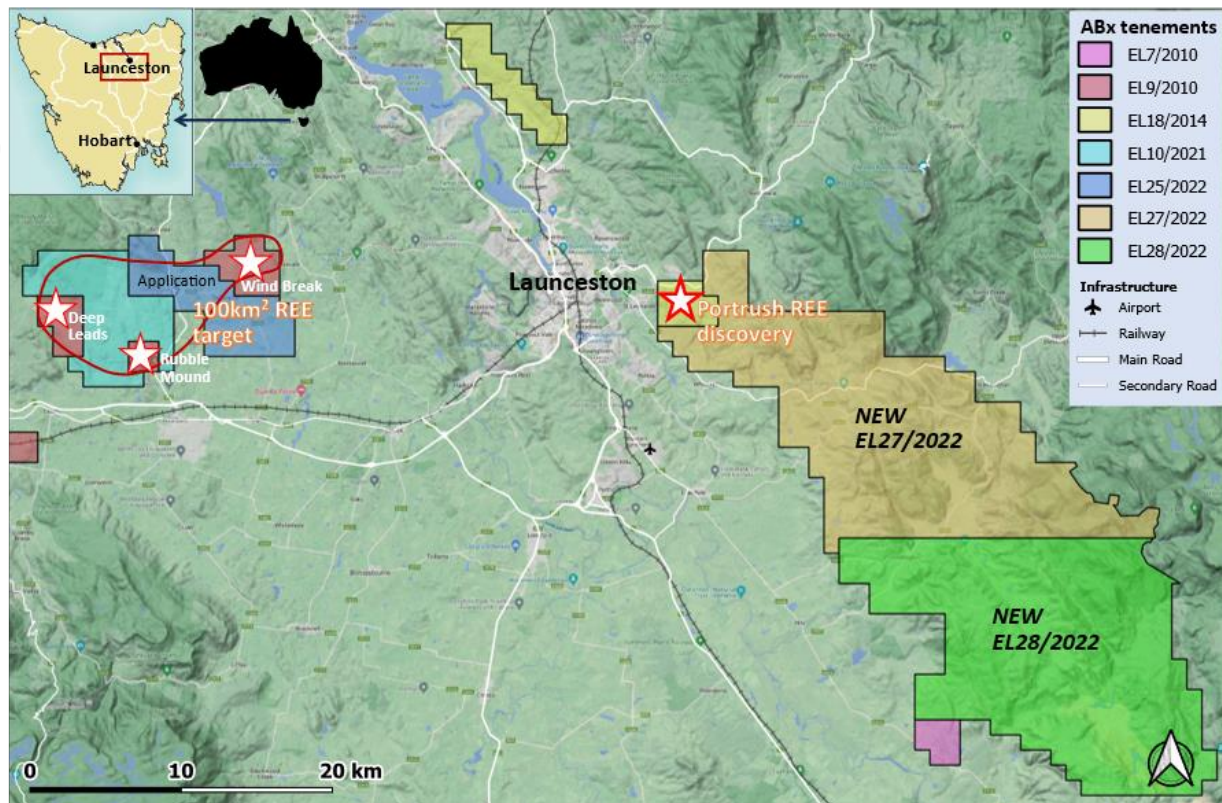


Figure 5: Location of ABx Exploration Projects in northern Tasmania

ABx's REE resources and exploration tenements are ideally located (see Figure 5) with regards:

1. **Transport:** major highways, rail, export ports and airport. Sealed roads to the project
2. **Electricity:** hydro and renewable power grid with lowest-quartile industrial electricity costs
3. **Water:** abundant town water, dam water, permanent rivers and groundwater
4. **Accessibility:** most of the resource is in freehold pine plantations and scrubland
5. **Housing:** modern towns and cities within 40 minutes' drive of the project area
6. **Industry:** heavy engineering in Launceston and Tasmania's large mining sector
7. **Workforce:** skilled workforces, with two major smelters in region
8. **Zoning:** plantation timber and 3 hard-rock quarries operate nearby

There are no known barriers to developing a project at this location, subject to the normal approval processes. ABx has operated in Tasmania since 2010 and is well known for its strict adherence to its paramount corporate policy to apply the best practices for land management and rehabilitation; to leave the land better than they found it and to only operate where welcomed.

Tenements

These resources occur on two Exploration Licence tenements, namely EL9/2010 Deloraine-Deep Leads with an area of 13,600 hectares (136km²) and EL10/2021 Brushy Rivulet-Rubble Mound with an area of 5,100 hectares (51km²). A third central tenement (see Figures 2 & 6) is still in the application stage and will be reduced in size to focus only on easily accessible areas with exploration potential.

Figure 6 below shows the tenement boundaries and an outline of the area that has been explored to date and found to have mineralisation with elevated REE grades. Only a small proportion of the mineralised area has been sufficiently drilled for resource estimation.

Drilling Techniques

Drilling was by 100mm diameter aircore reverse circulation holes and push-tube coring, using an RC Rig provided by Edrill Tasmania. In some locations, the holes must penetrate a mixture of clay, boulders and water, with the boulders being a mixture of weathered and very hard bedrock. This is a difficult, mixed drilling environment – see Figure 7 below.

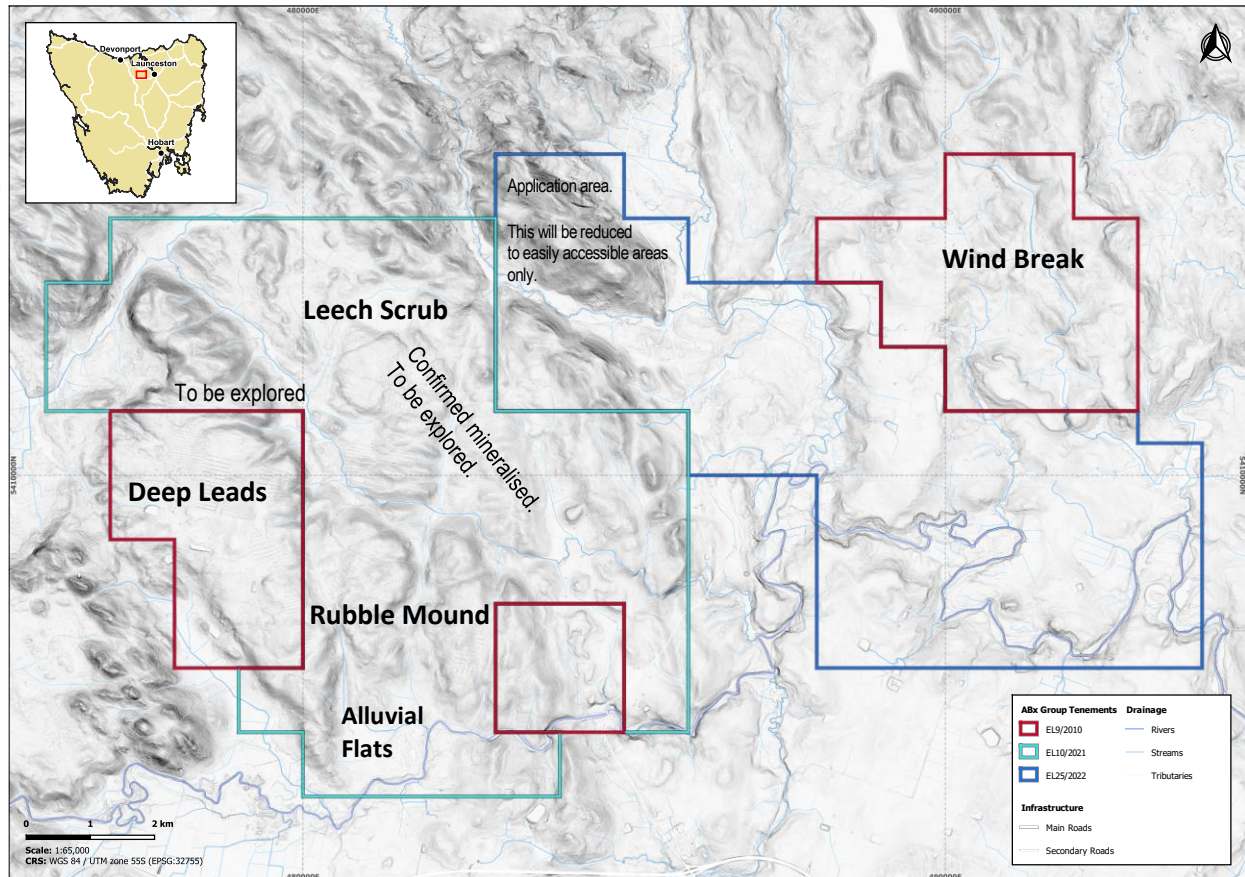


Figure 6: Tenements, topography and REE discoveries to date



Figure 7: Example of the mixed drilling environment of hard rock boulders, wet clays and bedrock

An aircore cutter bit is used to drill clays and, when hard rock is encountered, the drill string is withdrawn which often allows water to enter the hole, and a hammer bit is fitted.

In wet areas, the compressor has been operated at high pressure to keep the formation dry for efficient drilling. Tests have shown that the groundwater and fine suspended clays that are being repelled by the high drilling pressure is carrying REE which could lead to an underestimation of REE grade in some places.

Specialised clay coring equipment may be needed for infill drilling of potential mine areas for more detailed metallurgical and technical assessment.

Duplicate holes have not been drilled to date, but several new REE holes have been drilled near old bauxite holes with only moderate correspondence of REE grades, usually because the bauxite holes did not drill through the entire REE mineralised horizon. Five well-holes were drilled next to selected holes and the geological correspondence between holes was strong. However, grade correspondence could not be tested because the well holes were drilled with an oversized hammer to ream and flush-out the chips.

Sampling & Assaying

Sampling has been done at 1 metre intervals. Each sample is quartered 2 or 3 times to collect a 0.5kg subsample for assaying and the rest is stored at the ABx Research Lab in Western Junction near the Launceston Airport. Samples are geologically logged, photographed and samples placed in chip trays.

Assaying has been done by two commercial laboratories, ALS in Brisbane and LabWest in WA. The ALS analytical method is coded ME-MS81™ involving lithium borate fusion followed by acid dissolution and ICP-AES measurement (a proprietary method of inductively coupled plasma with atomic emission

spectroscopy). The LabWest method is coded MMA04, involving sample digestion in an HF-based acid mixture under high pressure and temperature in a microwave apparatus for determination of 61 elements including Rare-Earths by a combination of ICP-MS (inductively-coupled plasma and Mass Spectrometry) and ICP-OES (ICP and Optical Emission Spectrometry).

For comparison, 13 duplicate samples were also analysed using LabWest's AF02 method. Correlation was near-perfect, except for cerium (Ce) especially for samples with very high cerium values. Whilst this test was not definitive, the analytical methods were considered to be acceptable for resource estimation purposes.

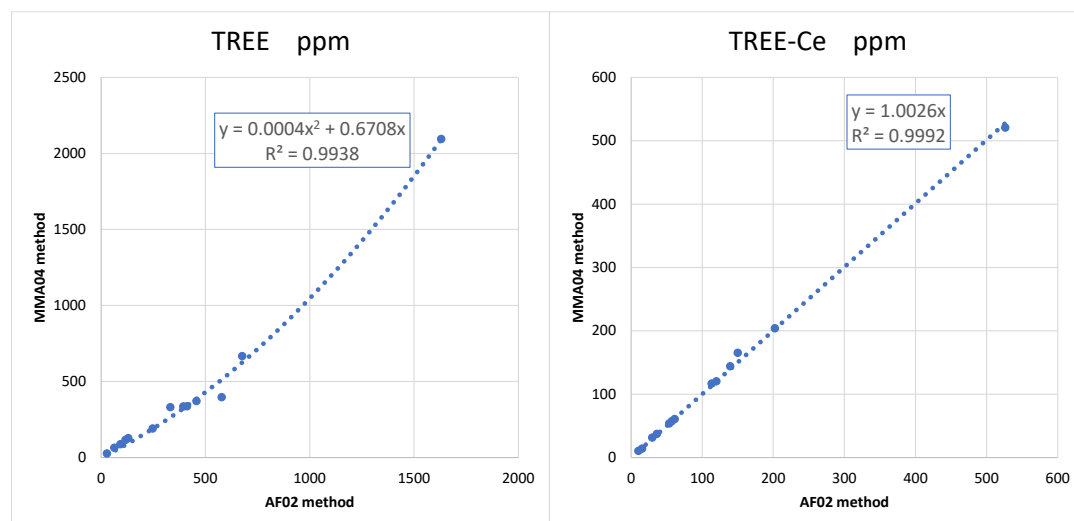


Figure 8: Graphs comparing values for total rare earths (TREE) and TREE-Ce for two different analytical methods.

Oxide conversion factors for converting the elemental values received from the laboratories to oxides were based on atomic weights and are as follows (rare earths highlighted in yellow):

Metal	Ag	Al	As	As	Ba	Be	Bi	Ca	Cd	Ce	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu
Oxide	Ag2O	Al2O3	As2O3	As2O5	BaO	BeO	Bi2O5	CaO	CdO	Ce2O3	CeO2	CoO	Cr2O3	Cs2O	CuO	Dy2O3	Er2O3	Eu2O3
Conversion	1.074	1.890	1.320	1.534	1.117	2.776	1.191	1.399	1.142	1.171	1.228	1.272	1.462	1.060	1.252	1.148	1.143	1.158
Metal	Fe	Fe	Ga	Gd	Ge	Hf	Hg	Ho	In	k	La	Li	Lu	Mg	Mn	Mn	Mo	Na
Oxide	FeO	Fe2O3	Ga2O3	Gd2O3	GeO2	HfO2	HgO	Ho2O3	In2O3	K2O	La2O3	Li2O	Lu2O3	MgO	MnO	MnO2	MoO3	Na2O
Conversion	1.287	1.430	1.344	1.153	1.441	1.179	1.080	1.146	1.209	1.205	1.173	2.153	1.137	1.658	1.291	1.583	1.500	1.348
Metal	Nb	Nd	Ni	P	Pb	Pb	Pr	Pr	Rb	Re	S	Sb	Sc	Se	Sm	Sn	Sr	Ta
Oxide	Nb2O5	Nd2O3	NiO	P2O5	PbO	PbO2	Pr2O3	Pr6O11	Rb2O	ReO	SO3	Sb2O5	Sc2O3	SeO3	Sm2O3	SnO2	SrO	Ta2O5
Conversion	1.431	1.166	1.273	2.292	1.077	1.154	1.170	1.208	1.094	1.086	2.497	1.328	1.534	1.608	1.160	1.270	1.183	1.221
Metal	Tb	Tb	Te	Th	Ti	Ti	Tm	U	U	U	V	W	Y	Yb	Zn	Zr		
Oxide	Tb2O3	Tb4O7	TeO3	ThO2	TiO2	Ti2O3	Tm2O3	UO2	UO3	U3O8	V2O5	WO3	Y2O3	Yb2O3	ZnO	ZrO2		
Conversion	1.151	1.176	1.376	1.138	1.668	1.117	1.142	1.134	1.202	1.179	1.785	1.261	1.270	1.139	1.245	1.351		

Table 3: Conversion factors applied to convert elemental values to oxides. Rare earths are highlighted in yellow.

Estimation Methodology

Consultants and the Competent Person agreed that block modelling interpolation is the most appropriate estimation method at this stage. The block model interpolation procedure comprised the following:

1. Validation of the digital data by reference to original assay certificates
2. Examination of selected cross sections to assess continuity of grades and geology
3. Using photos of sample chip trays to look for continuity of structure and clay layers
4. Elimination of old bauxite holes that were incompletely sampled and assayed
5. Elimination of old bauxite holes that stopped at depths too shallow to test the REE horizon
6. Replacement of old bauxite holes with more recent REE drillholes (an ongoing task)
7. Geostatistical analysis of assay data from holes that tested the REE horizon
8. Conversion of all drill hole collar heights to heights from the official LiDAR data. LiDAR stands for Light Detection and Ranging which uses a pulsed laser to accurately measure land surface heights
9. Provision of a final set of data suitable for block modelling

10. Drafting an outline of the area that has been explored and determined to be mineralised
11. Agreement on the model blocks to be 60m x 60m x 2m thick aligned with the true-north survey grid
12. Agreement on the search ellipses for Measured and Indicated Resources (120m x 150m) and Inferred Resources (250m x 250m) and the interpolation method (inverse distance squared – ID2)
13. Agreement that the minimum number of samples for a grade estimate is 3 for the entire model and a minimum of 4 samples for the outer limit of Inferred Resources
14. Gravimetric tests on samples of the heavy clays (SG 2.65 t/m³) and dolerite (SG 2.5 to 3.0 t/m³) that host the REE and selection of a general density factor of 1.9 dry tonnes per cubic metre in-situ
15. Conversion of LiDAR data to a precise model of the land surface to constrain blocks
16. Generation of the block model for the Mineral Resource estimation and
17. Sorting the block model estimates into Resource categories according to JORC definitions.

Table 4: Block modelling parameters applied

True north grid	Cell Dimensions	Origin	Number of Blocks	Measured & Indicated Resources Search Ellipse	Inferred Resources Search Ellipse
X Easting	60m	475000	300	120m oriented 230°	250m
Y Northing	60m	5405000	200	150m oriented 320°	250m
Z RL (LiDAR)	2m	322	81	2m	4m

Interpolation method: Inverse Distance Weighted (Squared)

Block Model 60m x 60m x 2m blocks on a grid oriented north-south

Maximum samples from 1 hole for grade estimate

2

Minimum number of samples within search ellipse

3

4 for Resources

Maximum number of samples for grade estimate

12

Resource modelling: Skandus Pty Ltd, Gems 4.11 software.

QGIS & LiDAR by Terra Geospatial UK

Proportion of mineralised area with grade estimates

Area of the mineralised outline:

64.54 km²

Area of blocks covering the mineralised outline:

65.4 km² incl. perimeter blocks with % recorded

Area of blocks with grade estimates:

18.37 km²

∴ Proportion of mineralised outline with grade estimates =

29% of the mineralised outline area

Comparing hole grades and block grades

The grade of each block, 60m x 60m x 2m is interpolated from assays within the search ellipses. A comparison between 2,255 block grades and averages of 1,537 drillhole grades within the blocks is a useful cross-check, previously described as “Jackstabbing” (Robinson & Levy 1995) (see Figure 9).

As normal, high-grade blocks are significantly lower grade than corresponding drillhole grades because block grades include grades from holes outside the block which are typically lower grade. Overall, the total average grades of blocks with drill assays in them and corresponding drillhole TREO grades are within 8% to 12% of each other with block grades being lower than corresponding drillhole grades.

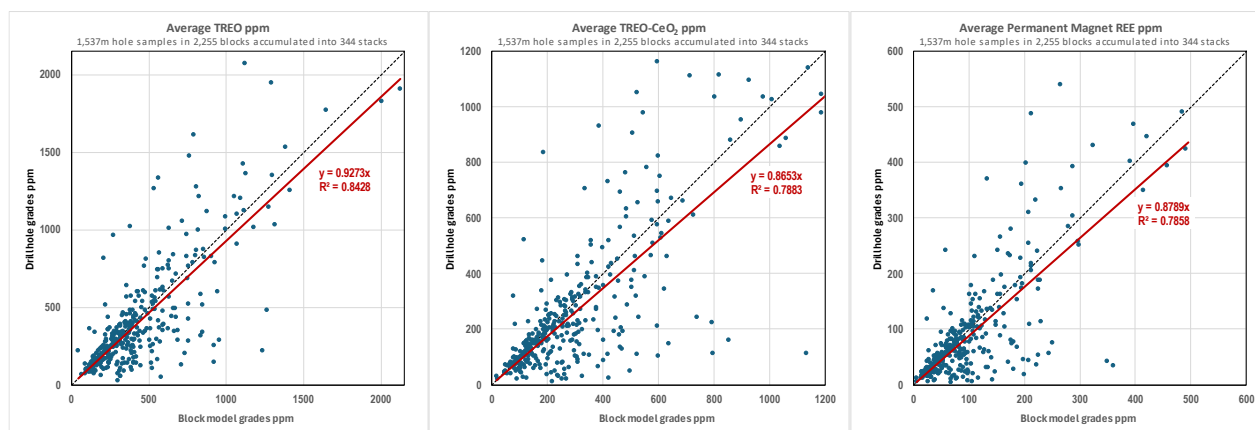


Figure 9: Graphs comparing 1,537 drillhole average grades with 2,255 blocks accumulated into 344 stacks

The block model REEBlocks_v1_10 is considered sufficient and satisfactory.

Selecting the optimum block Cut-Off Grade (cog)

The 15 REE Oxides in the deposits range in value from less than US\$1 per kg to over US\$2,000 per kg. Therefore, a “gross value in situ” aggregation has been created based on ABx’s published long-term base case REO prices as shown in Table 5 which also shows comparable published price lists for Rare Earth Oxides.

Rare Earth Oxide	Resource grade ppm	ABx base case prices ¹ US\$/kg	REE Value per tonne US\$/tonne	Prices used in announcements by other REE companies, Market Reports & Analysts			
				Price (US\$/kg) ²	Price (US\$/kg) ³	Price (US\$/kg) ⁴	Price (US\$/kg) ⁵
La ₂ O ₃	128.9	\$1	\$0.13	\$1.52	\$1.35	\$2.86	\$0.56
CeO ₂	192.2	\$1	\$0.19	\$1.58	\$1.40	\$2.01	\$0.97
Pr ₆ O ₁₁	37.5	\$128	\$4.79	\$169.00	\$104.50	\$106.19	\$56.72
Nd ₂ O ₃	147.5	\$134	\$19.76	\$182.50	\$106.00	\$97.34	\$56.84
Sm ₂ O ₃	32.9	\$4	\$0.13	\$5.20	\$2.55	\$2.45	\$2.11
Eu ₂ O ₃	8.8	\$30	\$0.26	\$31.50	\$28.50	\$49.35	\$27.38
Gd ₂ O ₃	32.7	\$69	\$2.25	\$112.50	\$58.50	\$37.16	\$27.22
Tb ₄ O ₇	5.2	\$2,046	\$10.68	\$2,340.00	\$1,830.00	\$1,415.92	\$897.31
Dy ₂ O ₃	31.0	\$382	\$11.85	\$480.00	\$323.00	\$566.37	\$282.92
Ho ₂ O ₃	6.2	\$179	\$1.11	\$305.00	\$102.00	\$111.50	\$69.95
Er ₂ O ₃	17.7	\$54	\$0.96	\$69.00	\$55.00	\$34.64	\$41.66
Tm ₂ O ₃	2.5	\$100	\$0.25	\$850.00	\$850.00	--	\$113.45
Yb ₂ O ₃	15.4	\$17	\$0.26	\$16.30	\$13.50	\$17.66	\$14.08
Lu ₂ O ₃	2.3	\$810	\$1.86	\$805.00	\$805.00	\$707.96	\$781.18
Y ₂ O ₃	183.2	\$12	\$2.20	\$16.10	\$9.20	\$7.39	\$6.12
TREO gross contained value US\$/t			\$56.69				

Sources 1. 2022 Adamas Intelligence: <https://www.adamasintel.com/>. Corporate Connect report for ABx. Also used in presentation by Iluka Resources Ltd ASX ILU 3-4 May 2023. See <https://iluka.com/media/rcbbrobg/macquarie-conference-presentation.pdf>
2. Argus Metal Prices <https://www.argusmedia.com/> (from Ionic Resources Ltd (ASX IXR) APAC Vegas Conference, 23 March 2022)
3. Argus Metal Prices <https://www.argusmedia.com/> for 29 Sep 2022 (from IXR, ASX release, 6 Oct 2022)
4. Alcara Resources Inc (TSX ARA) RNI 43-101 Report 2022, Table 1-1 and Table 14-40
5. Ginger International Trade & Investment Pte., Ltd. 19 April 2024. Shanghai spot prices - see <https://giti.sg/products/rare-earths>

Table 5: REO Prices used for cut-off grades

Note: ABx uses published market outlook prices and not spot prices which are volatile, as shown in the Shanghai daily spot price in the right-hand column.

The cut-off grade aggregation technique is designed to weight each REE Oxide by its price relative to the other REE Oxide prices.

The 4 permanent magnet REE Oxides, namely Neodymium (Nd₂O₃), Dysprosium (Dy₂O₃), Terbium (Tb₄O₇), and Praseodymium (Pr₆O₁₁) are the 4 main contributors to the REE Value per tonne used for cut-off grades.

The previous resource estimate applied a cut-off grade of 350ppm TREO-CeO₂. For this estimation, a block cut-off grade of US\$30/tonne REE Value is applied, and it closely approximates 350ppm TREO- CeO₂ that was used previously. REE Value in US\$/t is considered to be more useful for financial assessments and for research into depletion zones and accumulation zones which often occur in ionic clay REE deposits.

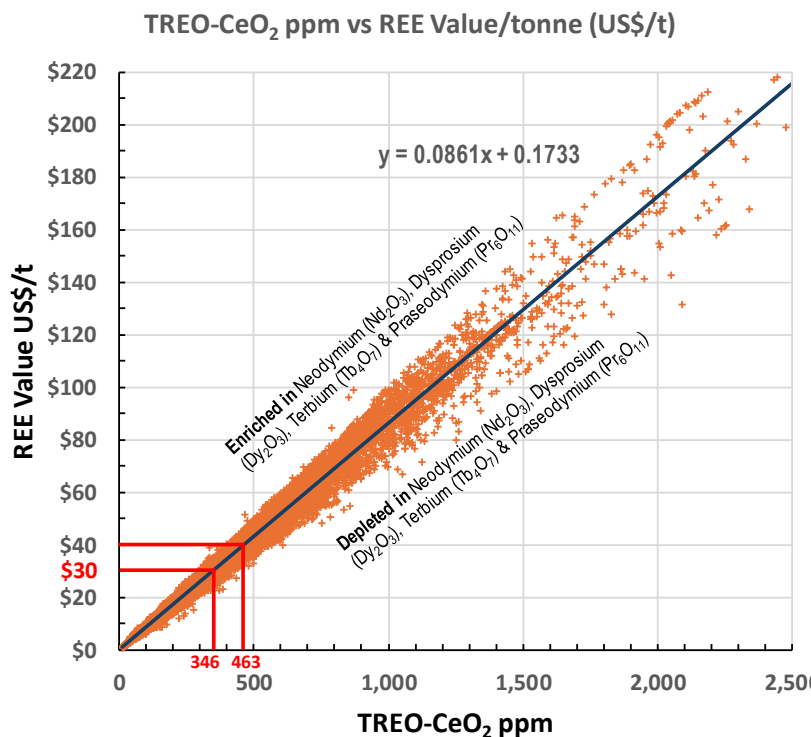


Figure 10: Plot of block grades of TREO-CeO₂ versus REE Value per tonne (US\$/t)

Note: The base-case cut-off grade used for this resource estimate is US\$30/tonne which is approximately equal to the previous cut-off grade of 350ppm TREO-CeO₂.

The cut-off grade for higher-grade zones used for this resources study is US\$40/tonne which is approximately equal to the previous high-grade cut-off grade of 450 ppm TREO-CeO₂ - see **red lines**.

“TREO-CeO₂” is the total of all rare earth oxide species except for cerium oxide, which is not targeted by ABx. CeO₂ is low value and can be undesirable in REE concentrates.

RESOURCE ESTIMATES

ABx is assessing the potential of these deposits for future commercial development and therefore, the resources are estimated at two different cut-off grades, called “Standard” and “Higher grade”.

Table 6: Standard grade resources at US\$30/tonne (~ 350ppm TREO-CeO₂) cut-off grade (cog) (Base Case)

Resources at Deep Leads-Rubble Mound & Wind Break @ US\$30/t cog								Permanent Magnet REOs				Key Ratios	
Resource Category	Million Tonnes	Avg depth (m)	Avg base (m)	Avg thickness (m)	TREO ppm	TREO-CeO ₂ ppm	Perm Mag ppm	Nd ₂ O ₃ ppm	Pr ₆ O ₁₁ ppm	Tb ₄ O ₇ ppm	Dy ₂ O ₃ ppm	PermMag TREO %	Tb+Dy TREO %
Inferred	41.4	4.2	12.3	8.0	811	629	212	141	36	5.0	30	26%	4.3%
Indicated	41.6	4.2	11.8	7.7	856	656	225	150	38	5.2	31	26%	4.2%
Measured	5.6	4.1	11.4	7.3	998	790	263	174	43	6.6	39	26%	4.6%
Totals	88.6	4.2	12.0	7.8	844	652	221	147	37	5.2	31	26%	4.3%

Other Rare Earth oxides

Low radioactivity

Resource Category	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	ThO ppm	U ₃ O ₈ ppm
Inferred	182	17	8.3	31	6.0	124	2.2	31	2.4	15	180	6.6	1.8
Indicated	200	18	9.0	33	6.2	131	2.3	34	2.5	15	181	6.4	1.8
Measured	209	22	11.3	41	7.8	150	2.8	40	3.0	19	229	6.2	1.7
Totals	192	18	8.8	33	6.2	129	2.3	33	2.5	15	183	6.5	1.8

Parameters: Note 1 ppm= 1 gram/t: Block cut-off grade (cog) = US\$30/t (~350ppm TREO-CeO₂) Min thickness = 2 metres Density = 1.9 t/metre³

Search ellipse = 120 x 150m (Meas & Ind), 250 x 250m (Inf). TREO = total rare earth elements as oxides. TREO-CeO₂ = TREO minus cerium oxide.

Notes:

1. The main revenue-earning Permanent Magnet REOs are high, being 26% of total rare earth oxides (TREO)
2. Critical REOs of Dy+Tb are, on average, 4.4% of TREO and has some areas exceeding 6% of TREO. This is the highest concentration ratio of Dy+Tb in Australia and are high by world standards.
3. Uranium & Thorium grades are very low which is preferred.

Table 7: Higher grade resources using US\$40/tonne (~450ppm TREO-CeO₂) cut-off grade (cog)

This higher-grade resource is significant and the higher-grade zones (see Figure 1) are being further tested for continuity by infill drilling and tested for metallurgical performance – see discussion following.

Resources at Deep Leads-Rubble Mound & Wind Break @ US\$40/t cog								Permanent Magnet REOs				Key Ratios	
Resource Category	Million Tonnes	Avg depth (m)	Avg base (m)	Avg thickness (m)	TREO ppm	TREO-CeO ₂ ppm	Perm Mag ppm	Nd ₂ O ₃ ppm	Pr ₆ O ₁₁ ppm	Tb ₄ O ₇ ppm	Dy ₂ O ₃ ppm	PermMag TREO %	Tb+Dy TREO %
Inferred	26.1	4.3	11.9	7.6	967	764	260	174	44	6.1	36	27%	4.3%
Indicated	26.4	4.4	11.4	7.1	1,026	807	280	188	48	6.4	38	27%	4.3%
Measured	3.9	4.0	10.9	6.9	1,189	964	321	212	52	8.1	48	27%	4.7%
Totals	56.4	4.3	11.6	7.3	1,010	798	274	183	47	6.4	38	27%	4.4%

Other Rare Earth oxides

Low radioactivity

Resource Category	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	ThO ppm	U ₃ O ₈ ppm
Inferred	203	21	10.3	38	7.2	152	2.7	39	2.8	18	214	6.3	1.8
Indicated	219	21	11.1	41	7.5	163	2.7	42	2.9	18	218	6.2	1.8
Measured	225	27	13.8	50	9.5	184	3.3	49	3.6	22	281	6.1	1.6
Totals	212	21	10.9	40	7.5	159	2.7	41	2.9	18	221	6.2	1.8

Parameters: Note 1 ppm= 1 gram/tonne: Block cut-off grade (cog) = US\$40/t (~450ppm TREO-CeO₂) Min thickness = 2 metres Density = 1.9 t/metre³

Search ellipse = 120 x 150m (Meas & Ind), 250 x 250m (Inf). TREO = total rare earth elements as oxides. TREO-CeO₂ = TREO minus cerium oxide.

GRADE-TONNAGE DISTRIBUTION

Table 7 above shows that there is potential for higher grades in some parts of the deposit. Figure 12 summarises the data for this block model at different cut-off grades.

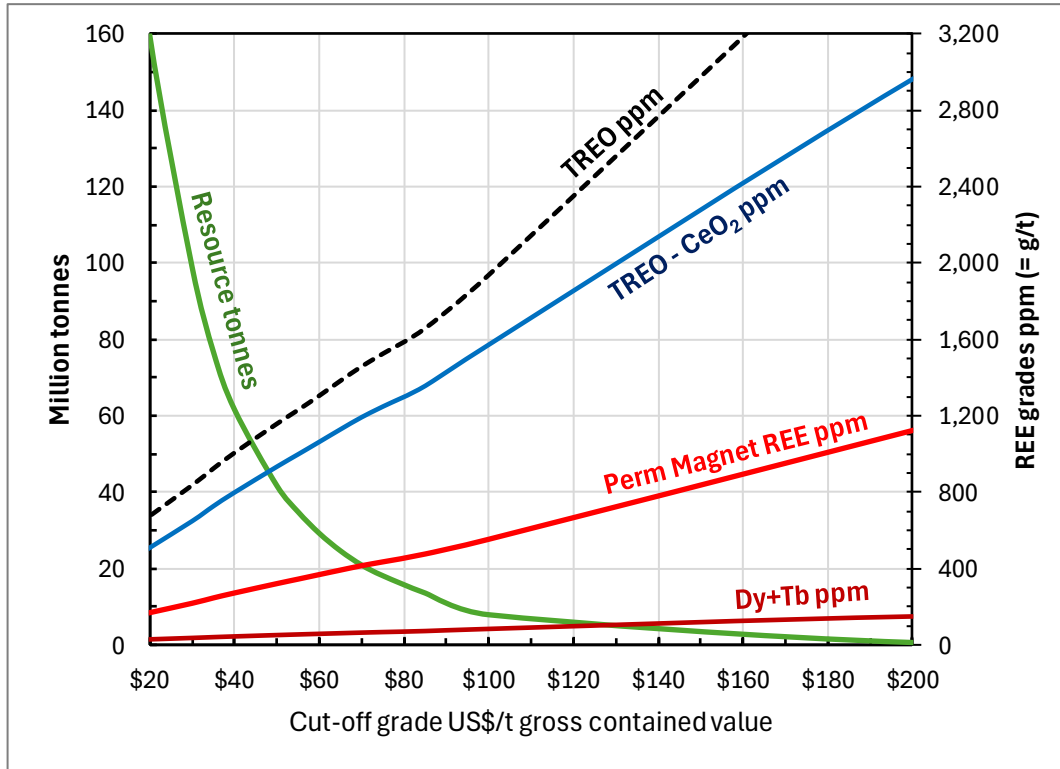


Figure 11: Grade-tonnage graph showing reduction in resource tonnages and increasing average resource grades as the cut-off grade is increased.

Significance of grade-tonnage: As ABx moves into an economic assessment of these REE resources, its focus is on the tonnages that are readily accessible as well as having attractive grades and feasible metallurgy:

1. TREO is important in that processing will probably recover all REE into a bulk concentrate
2. TREO-CeO₂ excludes cerium, which is not highly valuable
3. Permanent Magnet REE (Nd, Pr, Dy & Tb) are the most valuable REE
4. Dy & Tb are the most highly priced of all the REE species. They are in critically short-supply and are predominantly sourced from ionic adsorption clay REE deposits such as this one.

This is a widespread, broad-acre style of resource, extending across a diverse landscape and resource continuity becomes a key factor in future economic-engineering assessments. Drilling will be focussed on prospective areas.

One of the major benefits of this resource block model is that it maps the distribution of high-grade sections of the deposit – see Figure 2 on page 2 and Figure 12 next page.

DISTRIBUTION OF RESOURCES AND EXPLORATION POTENTIAL

Figure 12 below shows the “REE Accumulation” across the deposit. The units used are the thickness of the REE formation multiplied by the grade, so the units are expressed as REE ppm x metres (ppm x m). Note that 1ppm is the same unit as 1 gram per tonne (g/t) as used for other high-value metals.

This map shows where the REE mineralisation is most abundant (the purple, red and orange zones in Figure 12) and where it is weakest (the light green and grey zones), usually because of rock outcrop and thin clay but also caused by depletion during weathering.

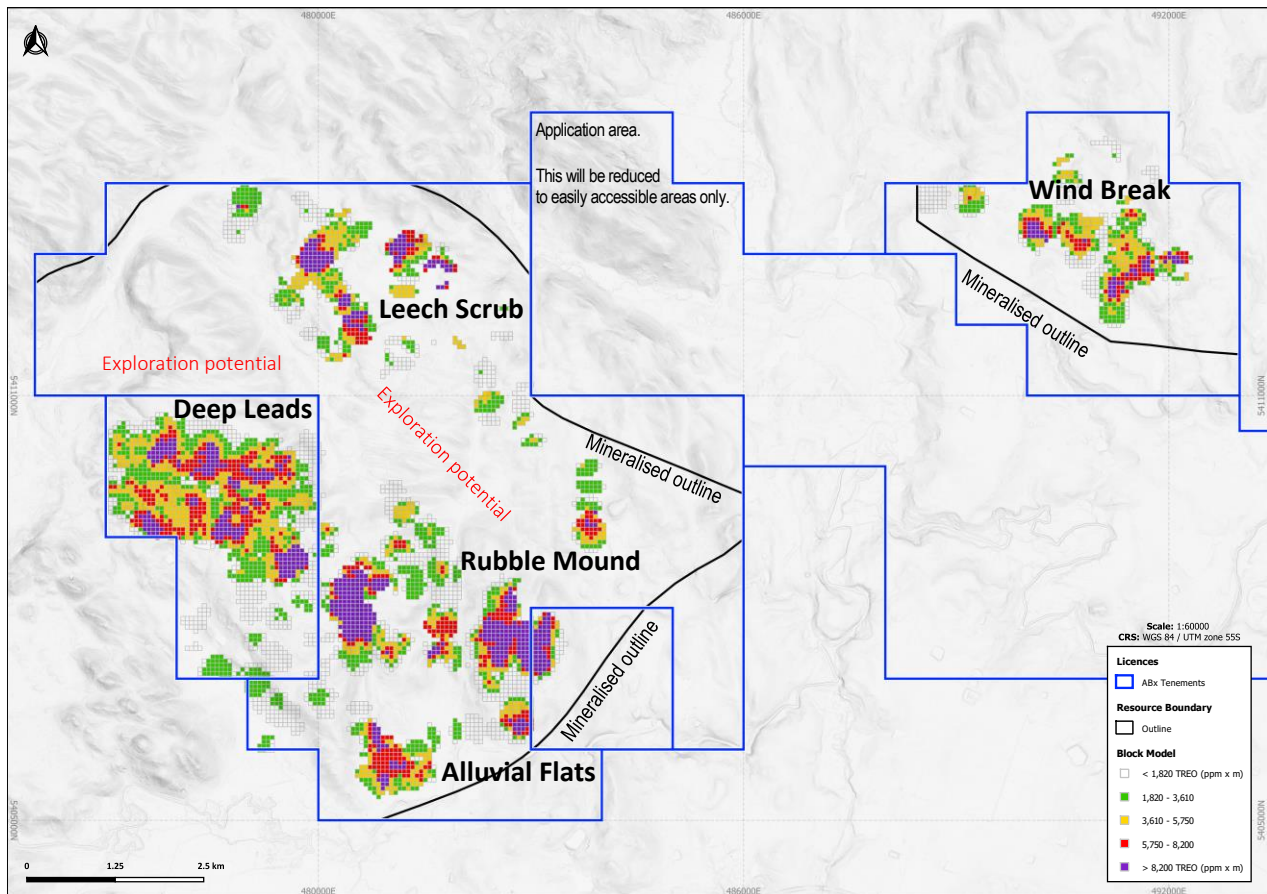


Figure 12: Map of REE accumulation across the area assessed to date and areas of exploration potential.

The resources block model covers 29% of the mineralised outline area which is the area where some form of exploration has identified evidence of REE mineralisation and will be further explored.

Patterns of mineralisation and their prospectivity

Channels of higher-grade and thicker REE-clay mineralisation are evident in this map:

1. **Deep Leads** appears to have two channels trending WNW. There is further potential for additional channels to the north which will be explored in due course.
2. **Rubble Mound** appears comprise two, possibly three mounds of thicker clay REE deposits but still has large areas with no drillhole information (white zones with no block outlines). It has the largest accumulation of REE in this district so far.
3. **Alluvial Flats** may be accumulation of REE shed from Rubble Mound. It is a mixture of clay-hosted REE and alluvial-hosted REE which may actually be detrital in nature.
4. **Wind Break** has NE and NW trending channels and has a central peat deposit in low-grade areas
5. **Leech Scrub** trends of mineralisation are unclear, but a NW trend is suspected.

Table 8 - Summary of resource estimation information in accordance with LR 5.8.1

Geology and geological interpretation	REE mineralisation occurs in clay layers that overlie a Jurassic age dolerite basement in a district with some residual weathered Tertiary age alkali basalt. Jurassic age tholeiitic dolerite and Tertiary age bauxite-laterite are the main bedrock geological units. Paleochannels host thicker clay zones which host the rare earth element mineralisation.
Sampling and sub-sampling techniques	Sampling was at 1 metre intervals. Subsampling for assaying is by quartering the clay samples twice and each time, mixing diagonally opposite quarters. Assay results from resampling correspond satisfactorily.
Drilling techniques	RC aircore and push-tube coring used.
Criteria used for classification, including drill and data spacing and distribution.	Indicated Resources are those blocks with grades above the cut-off grade that were estimated based on a minimum 4 samples within 120 metres. Inferred Resources are those blocks with grades above the cut-off grade that were estimated based on a minimum 4 samples within 250 metres.
Sample analytical method	Assay samples are analysed by standard NATA-approved induction coupled plasma analytical methods for rare earth elements at ALS labs in Brisbane (method ME-MS81) and LabWest in Perth (method MMA04). Interlab comparisons proved satisfactory.
Estimation methodology	The centroid of each 1 metre sample is accurately located in Easting, Northing and the RL coordinates are derived from 1m LiDAR data. Because the clay horizon drapes the topography, estimation is by two runs of horizontal circular search ellipses. The first search ellipse is 120 x 150 metres horizontally and 2 metres vertically to define Indicated Resources. The second search ellipse is at 250 x 250 metres to estimate Inferred Resources. Clay density by gravimetric measurements typically exceeds 2 tonnes per cubic metre, but some samples exhibit density loss, so a density of 1.9 tonnes per cubic metre was applied globally.
Cut-off grade	Block cut-off grade is US\$30/t of gross REO value which approximates 350 ppm TREO - CeO ₂ that was used in the previous estimate. A higher-grade resource was estimated using a cut-off grade of US\$40/t which approximates 450 ppm TREO-CeO ₂ used previously.
Mining and metallurgical methods and parameters, and other modifying factors	None applicable at this resource-drilling stage. Production and rehabilitation strategies are being reviewed. Deposits of this type are mined in China but under very different jurisdictions. The land is freehold hardwood and pine plantations.

Additional information:

Figure 13 below shows the location of all drill holes, as of 11 April 2024.

Appendix 1 shows the JORC Table 1 report.

Table 9 at the end of this report lists the drillhole coordinate locations and assays used for the block modelling being reported this Resources Report.

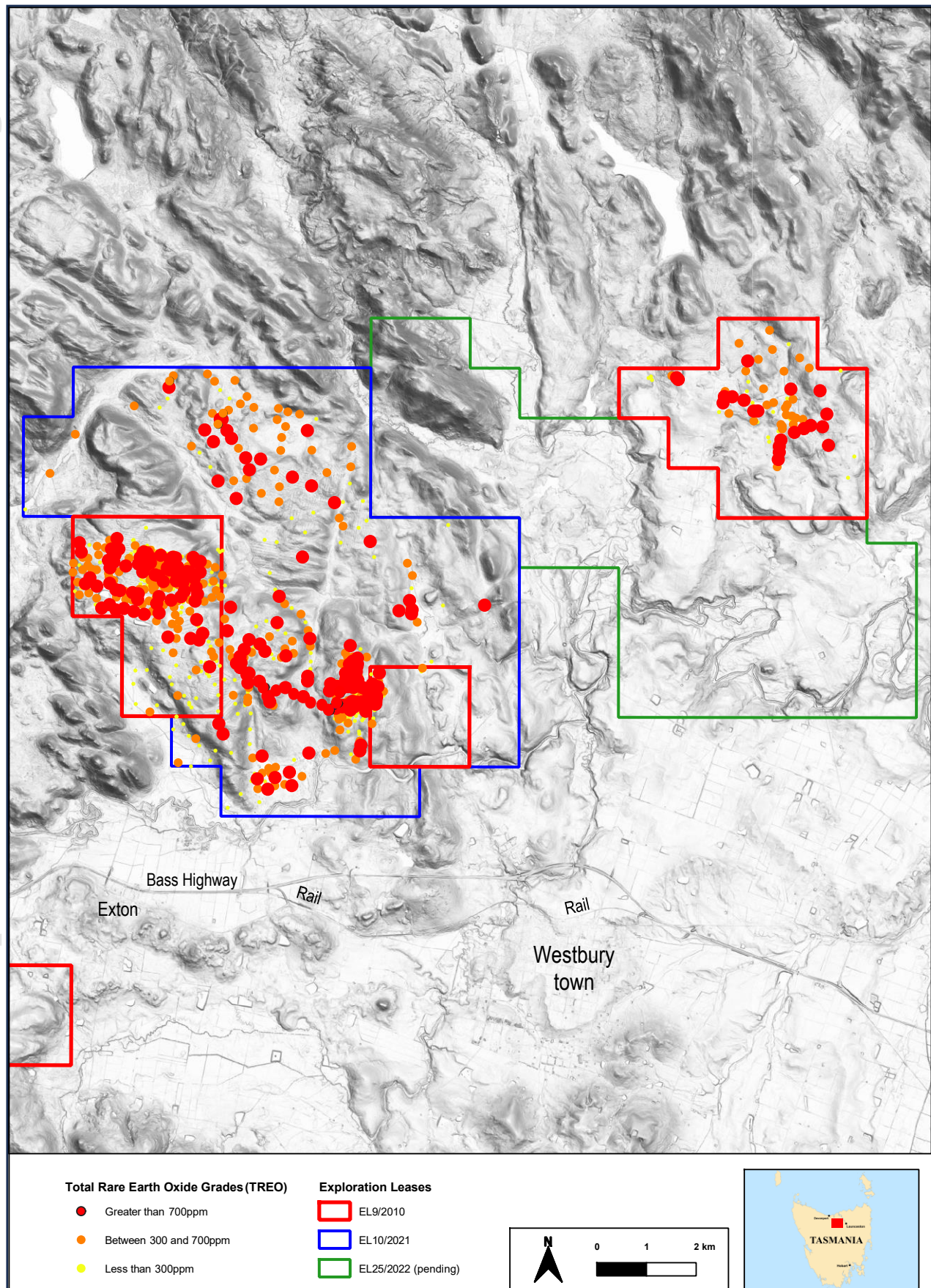


Figure 13: Drill coverage map & local infrastructure
Prospect and deposit names are shown in Figures 2 & 12 above

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.

Competent Persons Statement

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 he is 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.

Consultants

The geostatistical consultants that created the resource block model were: block modelling by Skandus Pty Ltd using GEMS 4.11 software; QGIS & LiDAR modelling by Terra Geospatial, UK.

About ABx Group Limited

ABx Group (ABX) is a uniquely positioned, high-tech Australian company delivering materials for a cleaner future.

The two current areas of focus are:

- Creation of an ionic adsorption clay rare earth project in northern Tasmania
- Establishment of a plant to produce hydrogen fluoride and aluminium fluoride from recycled industrial waste, via its 83%-owned subsidiary, Alcore

There is also a legacy business:

- Mining and enhancing the value of bauxite resources for cement, aluminium and fertilisers.

ABx endorses best practices on agricultural land, strives to leave land and environment better than we find it. We only operate where welcomed.

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Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	- Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. - Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. - Aspects of the determination of mineralisation that are Material to the Public Report. - In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	1m drill hole samples from reverse circulation aircore and pushtube core drilling to 37.5 metres maximum depth but typically to 12 metres depth - Subsample obtained by quartering sent to commercial labs using NATA-approved REE analytical methods - Drill sample weights can vary due to difference in moisture and different mixes of bedrock chips which can be dense and hard or rotted and light. - Groundwater samples can contain high REE grades and ionic adsorption clays and be removed from the hole area by operation at high pressure (250 psi)
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Reverse circulation aircore chip sampling and push-tube coring. Grades of core samples correspond well with aircore sample grades.
Drill sample recovery	- Method of recording & assessing core and chip sample recoveries and results assessed. - Measures taken to maximise sample recovery & ensure representative nature of the samples. - Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	- Drill sample weights vary due to heterogeneity, ground conditions and drilling method. No relationship between sample weight and grade - Clay-washing and/or airpressure removal of groundwater & clay may undersample the ionic clay REE in places.
Logging	- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. - Whether logging is qualitative or quantitative. Core (or costean, channel, etc) photography. - The total length and percentage of the relevant intersections logged.	- Geologically logged by senior geologists. Every sample photographed. - Photos, logs and assays entered into ABx's proprietary ABacus database.
Sub-sampling techniques and sample preparation	- If core, whether cut or sawn and whether quarter, half or all core taken. - If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. - For all sample types, the nature, quality and appropriateness of the sample preparation technique. - Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. - Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. - Whether sample sizes are appropriate to the grain size of the material being sampled.	- Chips are subsampled using industry-standard quartering method in accordance with ISO standards for fine damp clay material. - Reassaying corresponds well
Quality of assay data and laboratory tests	- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. - For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. - Nature of quality control procedures adopted (eg standards, blanks, duplicates, external lab checks) & whether acceptable levels of accuracy (ie lack of bias) & precision have been established.	- Assaying done at NATA-registered commercial labs using induction coupled plasma methods for rare earth elements at ALS labs in Brisbane (method ME-MS81) and LabWest in Perth (method MMA04). Interlab assays corresponded well. - Desorption extraction tests by ANSTO at Lucas Heights, Sydney NSW with ANSTO's assays done at ALS Brisbane.
Verification of sampling and assaying	- The verification of significant intersections by either independent or alternative company personnel. - The use of twinned holes. - Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. - Discuss any adjustment to assay data.	- Assaying done at NATA-registered commercial laboratories of ALS Brisbane Australia and Labwest Minerals Analysis Pty Ltd in Western Australia. - Redrilled holes correlated closely - Duplicate interlab assays corresponded well. - No adjustment of assay data done.

Criteria	JORC Code explanation	Commentary
Location of data points	- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. - Specification of the grid system used. - Quality and adequacy of topographic control.	- GPS hole locations confirmed within 1m. - Grid Coords CRS:WGS84/UTM zone 55s (EPSG:32755) - Topographic control by Lidar to within 0.25m
Data spacing and distribution	- Data spacing for reporting of Exploration Results. - Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. - Whether sample compositing has been applied.	- Drilling typically at 50 to 105 metre spacing on mineralised prospects - Geological continuity is established by drill pattern - Grade continuity is not yet established beyond 80m - Sample compositing not applied
Orientation of data in relation to geological structure	- Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. - If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	- Vertical holes through horizontal clay is appropriate - Clay layer drapes over topography and accumulates in gullies. Vertical holes is the appropriate orientation.
Sample security	The measures taken to ensure sample security.	Samples collected and bagged at every hole site and assembled onto pallets daily, shipped to lab weekly.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Several audits confirmed reliability

Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	- Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. - The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	- Satisfactory to excellent. All tenements are in force, unencumbered and securely held by ABx - All drilling is on freehold land with access approvals by landholders
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	ABx is the first company to explore for Rare Earth Elements in northern Tasmania. No prior work has been done by other parties
Geology	Deposit type, geological setting and style of mineralisation.	Bauxite deposit formed on Lower Tertiary basalts overlying Jurassic dolerite
Drill hole Information	- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length. - If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	- GPS location. - LiDAR topography provided by government - Lidar topography contoured at 1m height intervals - All holes are short straight vertical holes
Data aggregation methods	- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. - Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. - The assumptions used for any reporting of metal equivalent values should be clearly stated.	- Assays from labs converted to oxides by atomic wts - Intercept summaries, if and when presented, are length-weighted arithmetic averages - Total Rare Earth Oxides (TREO) is sum of all rare earth oxides. TREO-CeO₂ is TREO minus Cerium oxide. PermMag= Nd₂O₃ + Pr₆O₁₁ + Dy₂O₃ + Tb₄O₇

Criteria	JORC Code explanation	Commentary
<i>Relationship between mineralisation widths & intercept lengths</i>	- These relationships are particularly important in the reporting of Exploration Results. - If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. - If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	- Mineralisation typically 3 to 8 metres thick and drillholes are sampled at 1 metre intervals - Horizontal layers drilled by vertical holes means intercept thickness is true thickness
<i>Diagrams</i>	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	N.A. Diagrams presented give appropriate information
<i>Balanced reporting</i>	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All new results are reported in this report and reference made to previous tabulation of data
<i>Other substantive exploration data</i>	Other meaningful, material exploration data should be reported including: geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	N.A. Information provided is appropriate.
<i>Further work</i>	- The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). - Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Step-out drilling over a wider area has been planned, work plans submitted and new drill rig configurations have been developed.

Section 3 Estimation & Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	Measures taken to ensure data has not been corrupted by, for example, transcription or keying errors, between its initial collection & its use for Mineral Resource estimation purposes. Data validation procedures used.	- Random QA-QC checks done on each drill campaign - Rare data or lab errors noted if conflicts with geological logging. - Lab data entered electronically. Written logs & sample photos also in database
<i>Site visits</i>	Comment on any site visits undertaken by the Competent Person & outcome of those visits. If no site visits, why.	Competent person visited all sites at discovery, mapping, drilling, bulk sampling & mining. All satisfactory.
<i>Geological interpretation</i>	- Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. - Nature of the data used & of any assumptions made. - Effect, if any, of alternative interpretations on Mineral Resource estimation. - The use of geology in guiding & controlling Mineral Resource estimation. - Factors affecting continuity both of grade & geology.	- Geology is single clay strata. Drillholes determine degree of variation, especially where concealed by soil or covering layers. - Outcrops mapped & sampled. Drillholes complete the subsurface mapping. - Outlines can vary estimate by 10% to 15%. 2 different methods used to check - Method 1 = geological model outlines. Method 2 = voronoi polygons - Continuity assumed to be semi random or highly variable, as normal for laterites
<i>Dimensions</i>	Extent & variability of Mineral Resource expressed as length (along strike), plan width, & depth below surface to the upper & lower limits of Mineral Resource.	REE clay channels 100 to 450m wide meander over 1 to 2km strike. REE mineralisation thickness varies from 1 to 33 metres. Overburden varies from 0 to 10m.
<i>Estimation & modelling techniques</i> <i>Moisture</i>	- Nature & appropriateness of estimation technique(s) applied & key assumptions, including treatment of extreme grade values, domaining, interpolation parameters & maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software & parameters used. - Check estimates, previous estimates &/or mine production records & whether Mineral Resource estimate takes appropriate account of such data. - The assumptions made regarding recovery of by-products. - Deleterious elements or other non-grade variables of economic significance - In the case of block model interpolation, the block size in relation to the average sample spacing & the search employed. - Any assumptions behind modelling of selective mining units. - Assumptions about correlation between variables. - Description of geological interpretation used to control resource estimates. - Discussion of basis for using or not using grade cutting or capping. - Process of validation, checking process used, comparison of model data to drill hole data, & use of reconciliation data if available. - Are tonnages dry basis or natural moisture, & method of moisture determination.	- Method 1: Block model 25m x 25m horizontally inside geological boundaries. Thickness set by intercepts in holes. Grades interpolated Gemcom software by inverse distance squared methods. Search ellipse 250m along strike by 150m. - Method 2: each drill sample is allocated an area half way to next holes, to a limit of 80 metres. Tonnage is density x area x sample length. Samples meeting grade cutoffs accumulated by tonnage weighting. Good correlation with Method 1. - Good consistency between initial estimates & re-estimations after additional drilling. - By-products not reported. Viability not dependent on by-products. - No deleterious elements known at this resource stage. CaO may affect yields. - Blocks 60m x 60m x 2m suits irregular drill spacing of 50 to 100m and geological shapes. - No assumptions of (1) selective mining unit or (2) correlation between variables - Blocks are kept inside lease boundaries and surface topography. - No cutting of high grades at this early stage. Spike high grades very rare. 2 estimation methods correspond reasonably. - Dry density factor applied so tonnages and grades are on a dry basis.

Criteria	JORC Code explanation	Commentary
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	- Gross value of contained REE Oxides determined as per prices listed in Table 5 - Base-case cut-off grade of US\$30/tonne was applied which approximates the 350ppm TREO-CeO₂ block cut-off-grade used previously. To be adjusted to suit economics when known
Mining factors or assumptions	• Assumptions made regarding mining methods, minimum dimensions & dilution. It is necessary as part of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods & parameters when estimating Mineral Resources may not be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Nil at this early stage but methods historically used in Tasmania have been assessed. It is likely that a hybrid method will be required in this socio-economic-environmental setting and it would be inappropriate to speculate at resource estimation stage.
Metallurgical factors or assumptions	• Basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes & parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Desorption tests done on 78 representative samples by ANSTO indicate good potential for high extraction rates. Mineralogy studies ongoing. ABx has established its own testing procedures at its Research Lab, near Launceston Airport
Environmental factors or assumptions	• Assumptions made regarding possible waste & process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining & processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions.	- Rehabilitation strategy is under assessment by a senior industry expert with considerable experience in Tasmania. - All options must meet ABx's paramount policy to always leave the land better than found and only operate where welcome. - ABx has applied for a research grant for devising the optimum production and rehabilitation methods in Tasmania
Bulk density	- Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size & representativeness of the samples. - The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture & differences between rock & alteration zones within the deposit.	- Measured densities by volumetric methods from pit samples. However lower density samples found in drill samples led to a 15% reduction in global density assumption to 1.9 dry tonnes per cubic metre. - N.A. Clays are compacted
Classification	- Bulk density assumptions used in the evaluation process of the different materials. - Basis for classification of the Mineral Resources into varying confidence categories. - Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology & metal values, quality, quantity & distribution of the data). - Whether the result appropriately reflects the Competent Person's view of deposit.	- No assumptions used. Gravimetric measurements done. - Minimum 4 samples in: (1) Indicated 120m search ellipse (2) Inferred 250 search ellipse - Resources will not be classified as measured until mining and/or clay-coring experience is gained sufficient to correlate resource predictions with actual production outcomes. Data variability is similarly high in holes and in mine openings in these environments. - Estimation results appropriately reflects Competent Persons' views of the deposit
Audits or reviews	• Results of any audits or reviews of Mineral Resource estimates.	None done to date. In progress by independent companies.
Discussion of relative accuracy/confidence	- Where appropriate a statement of the relative accuracy & confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy & confidence of the estimate. - Statement should specify whether it relates to global or local estimates, &, if local, state the relevant tonnages, which should be relevant to technical & economic evaluation. Documentation should include assumptions made & the procedures used. - Statements of relative accuracy & confidence of the estimate should be compared with production data, where available.	- All Competent Persons do manual, volume-based checks of estimates to be satisfied with results from estimations methods - Competent Persons have signed approvals for publicly released resource reports - No objections to date & comments are welcomed - Each deposit is estimated individually. - It will always be done in accordance with industry practice & common sense checking. This will be a constant task as this project develops further.

END

