

## High-grade REE zone expanded at Rubble Mound

A 97-hole drilling campaign has returned high grade results from Rubble Mound

Results continue to expand the extent of REE mineralisation

ABx's summer drilling campaign completed on schedule and resource estimation will be conducted when all assays received

ABx Group (ASX: ABX) is pleased to announce high-grade rare-earth elements (REE) results from the recently completed 97-hole drilling campaign at Rubble Mound, which enlarged the extent of the Rubble Mound high-grade REE zone within the extensive 52 million tonne Deep Leads-Rubble Mound resource<sup>1</sup>.

The results also expand the areal extent of the REE mineralisation and confirms that ABx's northern Tasmanian REE exploration target area exceeds 100 km<sup>2</sup> (Figures 1 & 2).

### High Dy+Tb enrichments

Like all ABx rare earths mineralisation in Tasmania, the new drill results continue to be highly enriched in the two rare earths with the most critical supply risk, dysprosium (Dy) and terbium (Tb), with Dy+Tb exceeding 4.5% of TREO. This remains the highest proportion of Dy and Tb of any clay-hosted rare earths resource in Australia, and is globally very high.

Thick zones of high-grade ionic clay REE with Dy+Tb/TREO ratios above 5% are globally rare. ABx's REE are enriched in Dy and Tb which is a strategically important characteristic of these unique REE resources. The grades of thorium and uranium are also very low.

### Ore geometry is considered favourable

Table 1 shows assays from eight strongly mineralised holes to demonstrate the geometry of the mineralisation which is clay-hosted. Typically there is a low-grade, REE-depleted surface layer 2 to 5 metres thick overlying an REE-enriched layer that is 4 to 17 metres thick.

This geometry is considered to be ideal for restoring any mined areas to be used for plantation timber, agricultural use or for other purposes.

### Schedule for next resource estimate update

Assays have been received from 66 of the 97 holes in this campaign (see Table 3) and approximately 230 assays are pending.

Once the outstanding assays have been received, a resource update will be undertaken that will include the resources at Wind Break for the first time.

<sup>1</sup> ASX announcement 20 November 2023

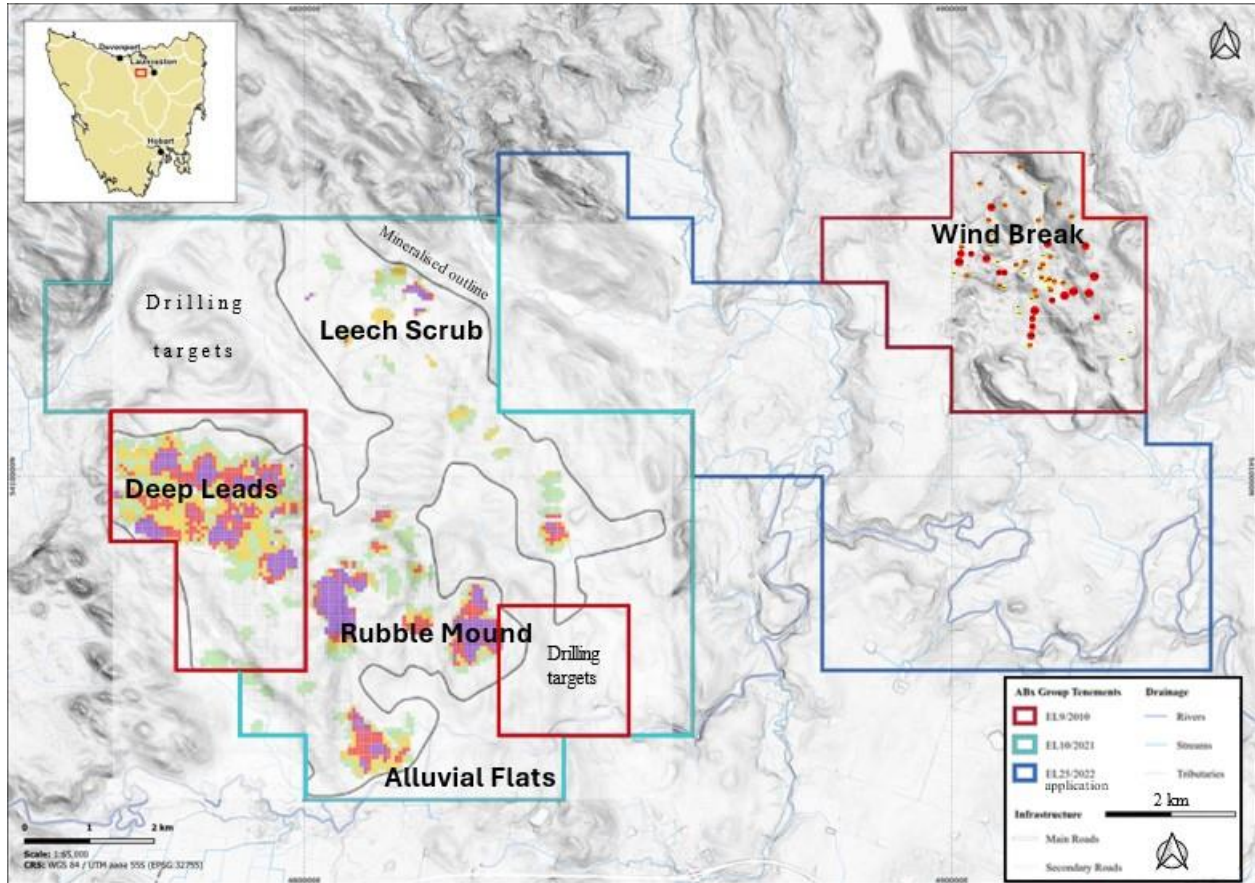


Figure 1: ABx's 50 million tonne REE resources of Deep Leads, Rubble Mound, Alluvial Flats and Leech Scrub, from less than 15% of ABx's northern Tasmanian 100 km<sup>2</sup> exploration target area. Wind Break REE resources (top right) will be estimated for the first time during April

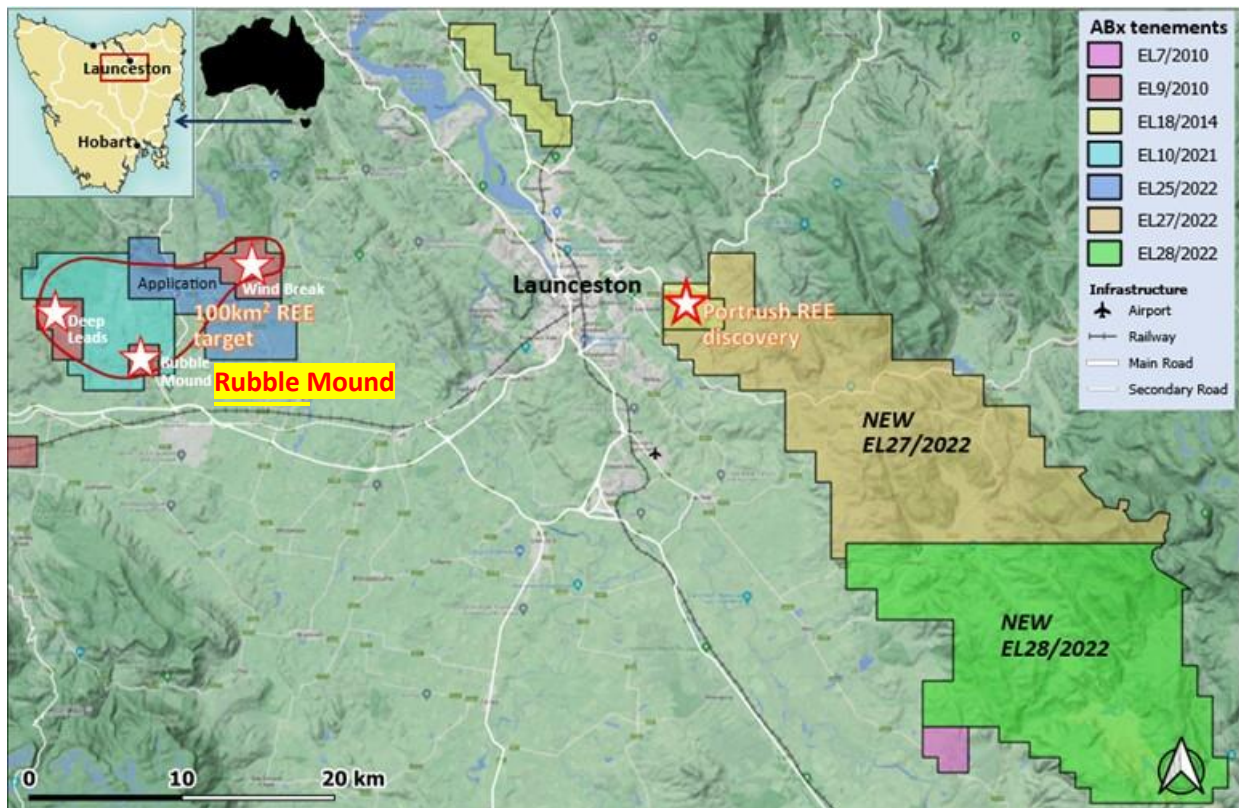
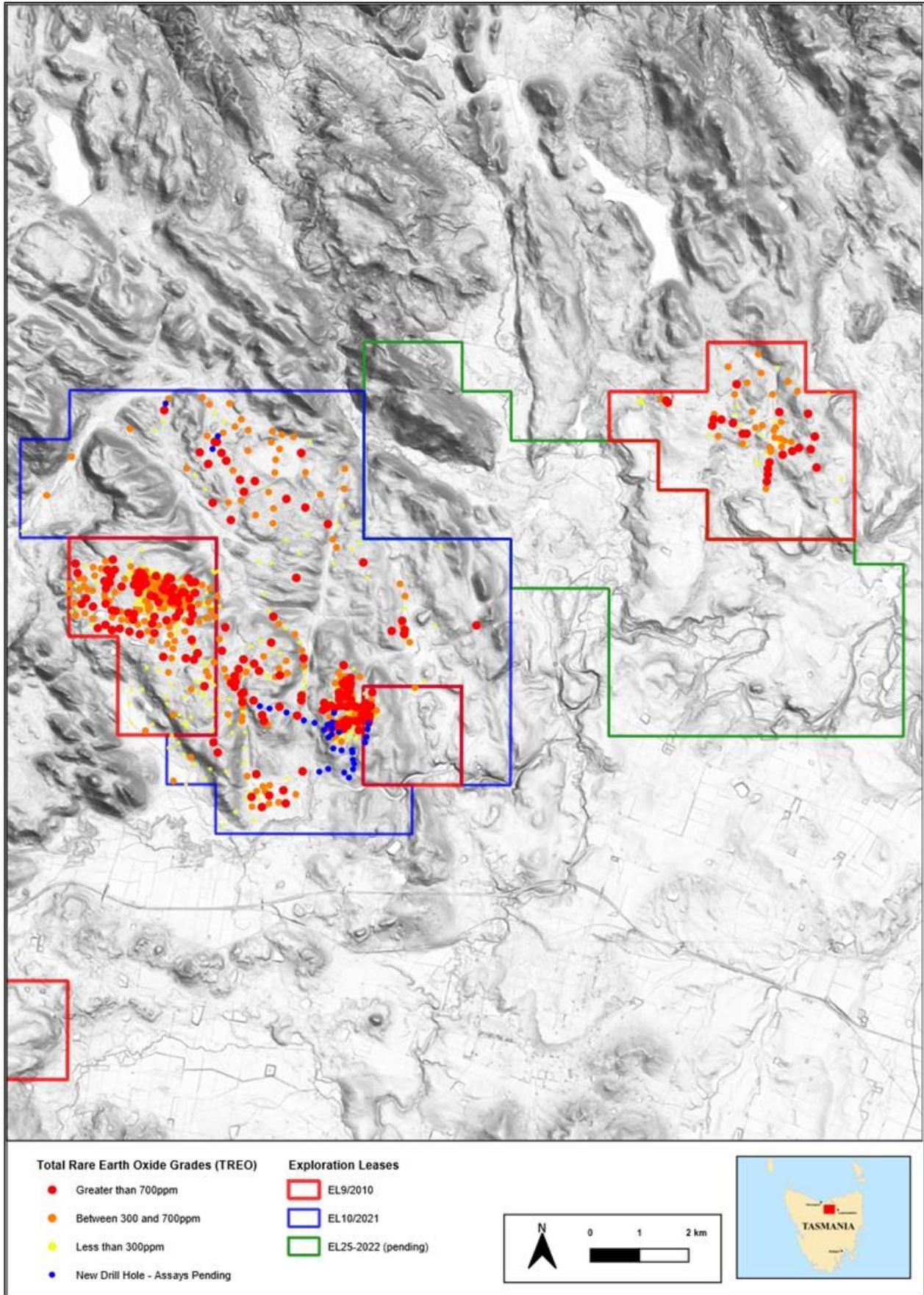
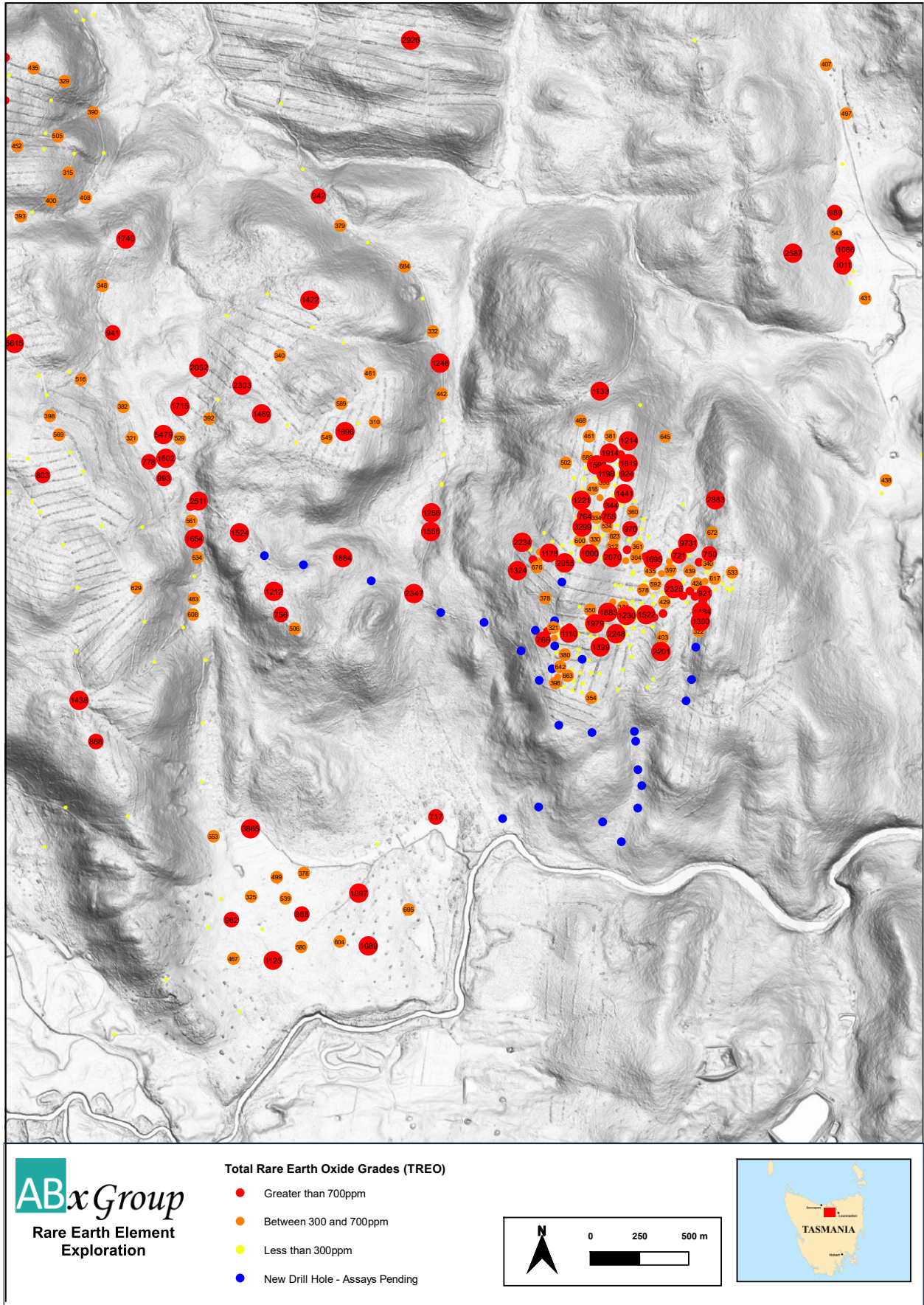


Figure 2: Location of ABx exploration projects and infrastructure in northern Tasmania





**Figure 3: Drillhole distribution and ABx tenements. Note that most of the holes with assays still pending (blue dots) are from extensions of the Rubble Mound REE zone – see Figure 4.**



**Figure 4: Drillholes and grades at Rubble Mound, which is a higher-grade zone of REE and has some of the highest leach extraction rates achieved to date. The holes with assays still pending are shown as blue dots.**

**ABx Group Managing Director and CEO Mark Cooksey said:**

*"It is exciting to see that our exploration program continues to produce outstanding results. A focus of the recent drilling campaign was to expand the Rubble Mound high-grade zone within the existing resource, and this has been achieved. A distinctive feature of the ABx deposits is the high proportion of Dy and Tb, and the recent results confirm this pattern.*

*"We look forward to providing the remainder of the assay results from this drilling campaign, and a resource update, which will include Wind Break for the first time."*

**Next steps – Assays pending prior to resource update and extraction studies continue**

ABx's 2024 drilling campaign began on schedule on Monday 15 January and ended on Wednesday 6 March. It was the first drilling specifically for REE at the high-grade Rubble Mound zone that has previously only been drilled for shallow bauxite zones.

At the same time, ABx is continuing its research into a low impact method of extracting its REE mineralisation.

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, via its 83%-owned subsidiary, Alcore

There is also a legacy business:

- Mining and enhancing the value of 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.

### General

Information in this report relating to Exploration Information and Mineral Resources is 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 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.

**Table 2 - Summary of resource estimation information of 20 November 2023 referred to above, in accordance with LR 5.8.1**

<b>Geology and geological interpretation</b>	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.
<b>Sampling and sub-sampling techniques</b>	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.
<b>Drilling techniques</b>	RC aircore and push-tube coring used. Auger drilling is being tested.
<b>Criteria used for classification, including drill and data spacing and distribution.</b>	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.
<b>Sample analytical method</b>	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.
<b>Estimation methodology</b>	The centroid of each 1 metre sample is accurately located in Easting, Northing and RL coordinates. Because the clay horizon drapes the topography, estimation is by two runs of horizontal circular search ellipses. The first search ellipse is 120 metres horizontally and 2 metres vertically to define Indicated Resources. The second search ellipse is at 250 metres to estimate Inferred Resources. Clay density is typically 2 tonnes per cubic metre, but some samples exhibit density loss, so a density of 1.9 tonnes per cubic metre was applied globally.
<b>Cut-off grade</b>	Block cut-off grade is 350 ppm TREO - CeO <sub>2</sub> which is equivalent to 250 to 300 ppm TREO – CeO <sub>2</sub> in drillholes. A separation between background and mineralised grades exists at 190-260ppm TREO-CeO <sub>2</sub> . See Fig 10.
<b>Mining and metallurgical methods and parameters, and other modifying factors</b>	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.

Table 3 shows the drill assay data and the JORC Appendix 1 information is attached.















## Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Drill hole samples from reverse circulation aircore and pushtube core drilling to 37.5 metres maximum depth but typically to 12 metres depth</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>Reverse circulation aircore chip sampling and push-tube coring. Grades of core samples correspond well with aircore sample grades.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording &amp; assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery &amp; ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Weight tests indicated reliable sample recovery except for first metre in soils (not used in resource estimates)</li> <li>No relationship between sample recovery and grade has been observed but some evidence of washing out clay in wet zones which will undersample the REE in places.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Geologically logged by senior geologists. Every sample photographed, with photos, logs and assays entered into ABx's proprietary ABacus database.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Chips are subsampled using bauxite shovel and quartering method in accordance with ISO standards for fine damp clay material. Reassaying corresponds well</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external lab checks) &amp; whether acceptable levels of accuracy (ie lack of bias) &amp; precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Assaying done at NATA-registered commercial labs of ALS Brisbane Australia and Labwest Minerals Analysis in Western Australia. Duplicate interlab assays corresponded well.</li> <li>Desorption extraction tests were conducted by ANSTO at Lucas Heights, Sydney NSW with ANSTO's assays done at ALS Brisbane.</li> </ul>

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>All assaying done at NATA-registered commercial laboratories of ALS Brisbane Australia and Labwest Minerals Analysis Pty Ltd in Western Australia.</li> <li>Duplicated and redrilled holes correlated closely</li> <li>Duplicate interlab assays corresponded well.</li> <li>No adjustment of assay data done.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>GPS hole locations have been tested for accuracy on many prospects, all satisfactorily – usually within 1m.</li> <li>Grid Coordinates are GDA94</li> <li>Topographic control by Lidar topography when needed</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Drilling typically at 50 to 75 metre spacing on mineralised prospects</li> <li>Geological continuity is established by drill pattern</li> <li>Grade continuity is not yet established beyond 50m</li> <li>Sample compositing not applied</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Vertical holes through horizontal clay is appropriate</li> <li>Clay layer drapes over topography and accumulates in gullies. Vertical holes is the appropriate orientation.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Samples collected and bagged at every hole site and assembled onto pallets daily, shipped to lab weekly.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Several audits confirmed reliability</li> </ul>

## 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	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Satisfactory to excellent. All tenements are in force, unencumbered and securely held by ABx</li> <li>All drilling is on freehold land with access approvals by landholders</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>ABx is the first company to explore for Rare Earth Elements in northern Tasmania. No prior work has been done by other parties</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>Bauxite deposit formed on Lower Tertiary basalts overlying Jurassic dolerite</li> <li>REE of interest are all in clays</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• 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:               <ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> </ul> </li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• GPS location.</li> <li>• Airborne Radar RL and LiDAR topography</li> <li>• Lidar topography contoured at 1m height intervals</li> <li>• All holes are short straight vertical holes</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• All data are presented as received from labs</li> <li>• Intercept summaries, if and when presented, are length-weighted arithmetic averages</li> <li>• Total Rare Earth Oxides (TREO) are an aggregate of all rare earth oxides. TREO-CeO<sub>2</sub> is TREO minus Cerium oxide values.</li> </ul>
<i>Relationship between mineralisation widths &amp; intercept lengths</i>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• 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').</li> </ul>	<ul style="list-style-type: none"> <li>• Mineralisation typically 3 to 6 metres thick and Drillholes are sampled at 1 metre intervals</li> <li>• Horizontal layers drilled by vertical holes means intercept thickness is true thickness</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• N.A. Diagrams presented give appropriate information</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• All new results are reported in this report and reference made to previous tabulation of data</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• Other exploration data, if meaningful and material, should be reported including (but not limited to): 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.</li> </ul>	<ul style="list-style-type: none"> <li>• N.A. Information provided is appropriate.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>• Step-out drilling over a wider area has been planned, work plans submitted and new drill rig configurations have been developed.</li> </ul>