Highly Successful Rare Earth Column Leach Tests

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> Column leach results from ANSTO on 26 kg bulk samples demonstrate very high extraction of high-value heavy rare earths, including dysprosium and terbium

> Results support the technical feasibility of heap leaching for the Deep Leads ionic adsorption clay rare earth project, which is currently under investigation

> A second mixed rare earth carbonate sample is planned to be produced from production solution from column leach tests for marketing purposes

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ABx Group Limited (ASX: ABX) (**ABx** or the **Company**) has achieved outstanding results from two rare earth column leach tests on 26 kg bulk samples conducted by the Australian Nuclear Science and Technology Organisation (ANSTO) in December 2025, as part of ongoing metallurgical studies at the Deep Leads rare earth project in northern Tasmania.

Both column tests achieved more than 80% extraction of total rare earths, including over 70% extraction of dysprosium (Dy) and terbium (Tb), the two most sought after heavy rare earths (Table 1).

The results exceeded expectations and confirm that high extractions can be achieved from the Deep Leads rare earth resource using a range of flowsheet options. This provides ABx with significant flexibility and scope for optimisation.

Table 1: Extraction of magnetic rare earths from bulk sample. Left four columns have been reported previously.[1] **Right two columns are results from two leach tests reported here. Full results in Appendix A.**

Lab	ABx	ANSTO					
pH	4.0	4.0	4.5	4.5	4.5	3.8	3.8
Solid (g)	20	80	80	300	3,600	26,250	26,420
%Solids	20%	4%	4%	25%	25%	NA	NA
AMS (M)	0.3	0.3	0.3	0.3	0.3	0.3	0.15
Pr_6O_{11}	66%	74%	75%	70%	65%	81%	80%
Nd_2O_3	69%	76%	77%	72%	64%	85%	82%
Tb_4O_7	60%	74%	73%	62%	63%	>82%	74%
Dy_2O_3	65%	72%	72%	66%	62%	80%	72%
MREO[1]	**68%**	**75%**	**76%**	**71%**	**64%**	**84%**	**80%**
TREO-Ce	66%	75%	76%	73%	66%	86%	81%
TREO	60%	68%	69%	66%	60%	78%	74%

[1]MREO = Pr_6O_{11} + Nd_2O_3 + Tb_4O_7 + Dy_2O_3

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[1] ASX Announcement, 17 September 2025

For more information, please join ABx Group's interactive Investor Hub
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Dr Mark Cooksey, Managing Director and CEO of ABx Group, commented:

"These results are much better than we expected. We were hoping that heap leaching would match tank leaching, but the results suggest that heap leach could be superior to tank leach. ABx is investigating heap leaching because it is potentially lower capital cost and more flexible than tank leaching, which is aligned with the ABx strategy to enter commercial production as soon as possible.

"Additionally, the column leach solution product has a higher heavy earth content and low impurities, so we are likely to engage ANSTO to produce an MREC from this solution. This will be our second MREC product, and will be provided to a range of potential customers that are expressing very strong interest in the ABx MREC because of its exceptionally high Dy & Tb content."

Bulk Sample Material

The source material for the column leach tests was a bulk sample from trial pit DLP002 from the Deep Leads resource (Figure 4).[2] A fresh 100kg (wet) sub-sample was obtained by homogenisation and fractional shovelling on a tarp followed by light disaggregation and hand-screening at 10mm. Manually identified clasts (<5% of sample) were removed by hand.

Figure 1: (left) Column leach tests in progress at ANSTO on 26 kg samples from the ABx Deep Leads deposit; (right) Post-leach clay from column C2 showing stability of agglomerates

[2] ASX Announcement, 6 August 2025

Purpose of Column Leach Tests

In tank leaching, the clay ore is added to tanks containing an ammonium sulfate solution. The tanks are stirred to produce a slurry, which ensures good contact between the ore and the ammonium sulfate. The rare earths are desorbed from the clay into the sulfate solution.

Heap leaching is lower cost and quicker to build than tank leaching. It involves forming a heap of clay ore on an impermeable, gently sloping pad and irrigating from above with leachate. The leachate percolates downward through the heap and extracts rare earths into solution. The enriched solution is collected at the base. Heap leaching is potentially lower capital cost than tank leaching, because less capital equipment is required.

Column leach tests are an industry standard simulation of a heap leach. The column leach tests reported here are to determine whether the leaching performance in column tests is any different to that previously obtained in tank leaching tests, and they indicate the likely heap leaching performance.

Column Leach Test Conditions

- Ore was homogenised and screened at 10 mm, followed by agglomeration to a 10 mm feed to consolidate fines and ensure suitable bed structure and permeability
- Two identical columns, each 2.4 metres high and 150 mm in diameter (Figure 1)
- Approximately 26 kg of ore per column to a 'bed height' of 2m
- Two ammonium sulfate (AMS) leachate concentrations:
    - Test C1: 0.30 M ammonium sulfate
    - Test C2: 0.15 M ammonium sulfate
- Irrigation rate of ore with leachate: 5.0 L/m^2/hour (approximately 2.12 L / day)
- Ambient temperature (~21°C ambient conditions)
- Target pH: 4.0 (actual feed pH ~3.8).
- Test duration: 24 days
- Discharge liquor collected daily (except Sunday) and stored separately
- Post-test treatment: Column flushed with 8 L of tap water at 15 L/m^2/hour (~30hrs). Column allowed to discharge under gravity for >13-15 days. Solid residue discharged (Figure 1)

Column Leach Test Results

The cumulative extraction percentage of rare earths for each test is summarised in Figure 2 (for test C 1) and Figure 3 (for test C2). Complete results are provided in Appendix A.

The trends are similar for all the rare earths, except cerium (Ce), in both tests. This Ce behaviour is a positive characteristic of ionic clays, where the low-value Ce component is mostly present in a non-ionic form and therefore is not extracted in such mild conditions.

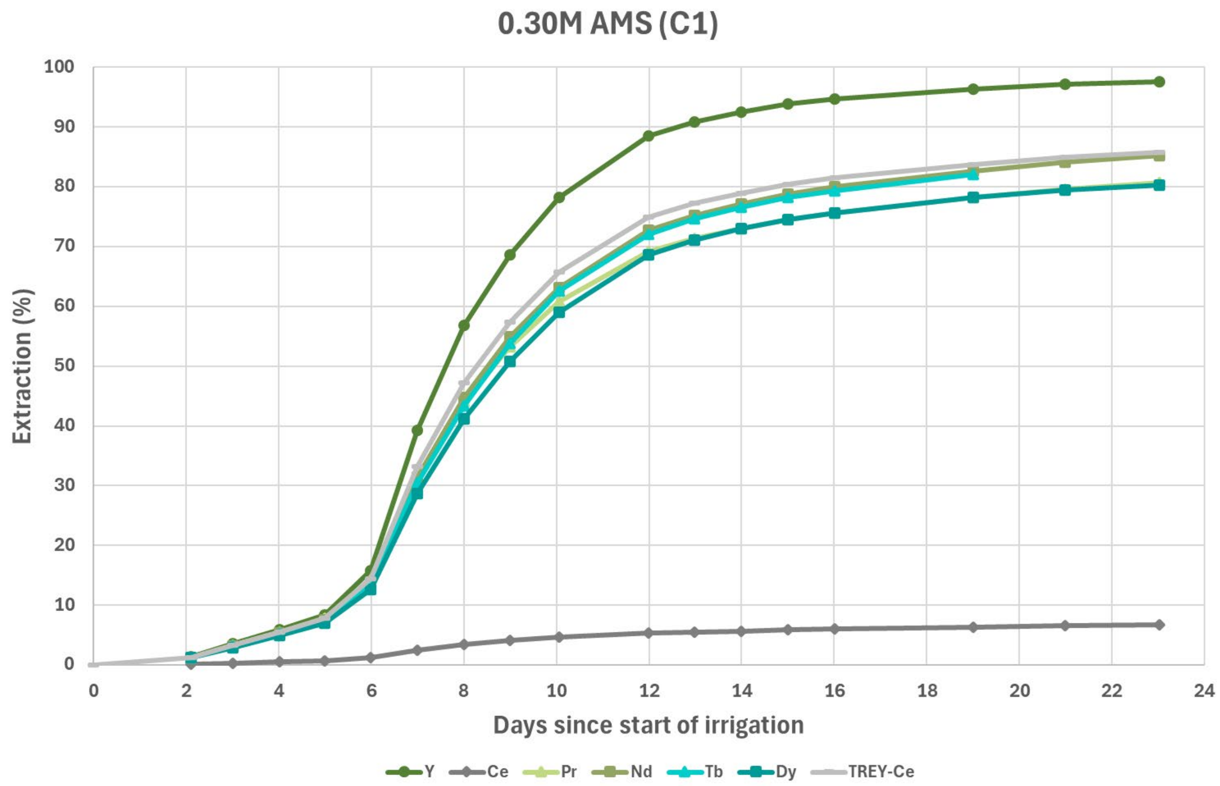

Figure 2: Cumulative extraction as calculated by discharge from Column 1 fed with 0.30M AMS at pH 3.8

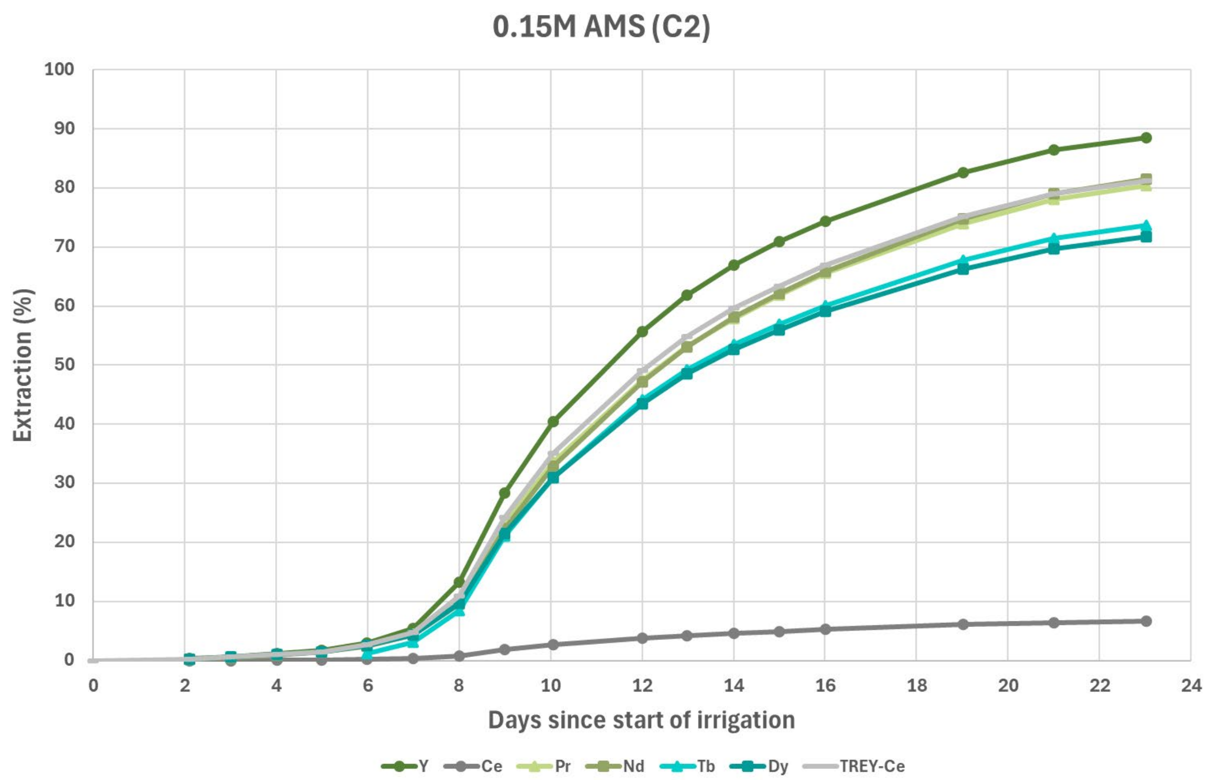

Figure 3: Cumulative extraction as calculated by discharge from Column 2 fed with 0.15M AMS at pH 3.8

Prior to irrigation, the bed is in a wet but unsaturated condition containing approximately 10 kg of moisture that was residual from the agglomeration process. At this point, the bed has the capacity to soak up additional liquid without much discharge occurring. For both columns this is reflected in the initial 1–2 days of irrigation. For column C1, the discharge from days 2-6 was dominated by displacement of residual agglomeration liquid as the fresh leach solution advanced through the bed. By day 7, the main extraction front had progressed to the base of the column and a rapid increase was measured in the rare earth concentration of the discharge, which continued for several days. By day 12, the majority of the extraction was complete. Irrigation was stopped by on day 23 with extraction approaching a plateau. Despite C2 operating at the same irrigation rate as C1, it exhibited a slower ramp-up in extraction because the lower-strength leach solution provided a reduced driving force for rare earth desorption. This more gradual advance of the reaction front is also the reason the C2 exhibits a gentler extraction curve.

Even with a leachate concentration of just 0.15 M, the final extraction for column C2 (81% TREO) was still very similar to that achieved at 0.30 M in column C1 (86% TREO). This result suggests that it could be feasible to leach at the lower ammonium sulfate concentration, reducing both operating cost and environmental impact. This will be investigated during project optimisation studies.

Both columns exhibited excellent physical characteristics with minimal bed slumping (<15%), uniform percolation, and good mechanical stability even post-leach.

A critical metric for mixed rare earth carbonate (MREC) product quality is the ratio of aluminium to total rare earths (Al:TREE ratio) in the solution. In these two columns, the Al:TREE ratio was less than 0.005, which is similar to previous testwork. It is expected that this will produce a similarly high quality MREC product with a low level of aluminium.

Next Steps

Given the strong customer interest in MRECs from the Deep Leads resource, ABx is likely to engage ANSTO to produce another MREC sample from the product solutions from these column leach tests. This should be very similar to the maiden MREC sample produced in December: a very high proportion of heavy rare earths such as Dy and Tb, and low impurities.[3]

The results from these column leach tests will inform process flowsheet studies being conducted with engineering partners.

[3] ASX Announcement, 2 December 2025

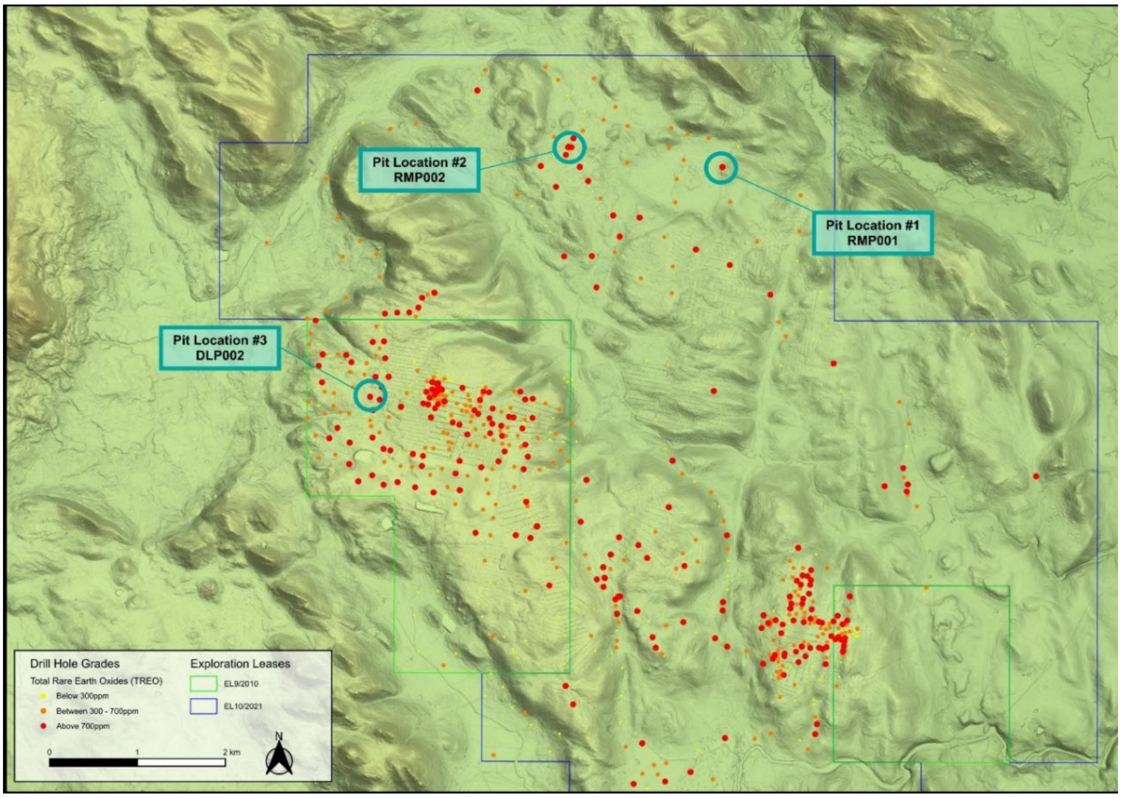

Figure 4: Trial pit locations at Deep Leads

This announcement is approved for release by the board of ABx Group Limited.

Go to the ABx Investor Hub to watch a video of this announcement and ask any questions of management.

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About ABx Group Limited

ABx Group Limited (ABx) is a uniquely positioned Australian company delivering materials for a cleaner future.

The three priority projects are:

- **Heavy rare earths**: Supplying light and heavy rare earths from Tasmania into Western supply chains

  - Maiden mixed rare earth carbonate produced
  - Processing Options Analysis conducted in partnership with external experts
- **Clean fluorine chemical production**: Producing industrial chemicals from aluminium smelter by-product (ALCORE)
  - Continuous pilot plant under construction in Bell Bay, Tasmania
- **Near-term bauxite production**: Mining bauxite resources for the aluminium, cement and fertiliser industries
  - Agreements executed with Good Importing International for bauxite projects in Queensland and New South Wales, and $2.7 million initial payment has been received
  - Approvals well advanced for DL130 bauxite project in northern Tasmania

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

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.

Appendix A

Cumulative rare earth extraction in column leach tests. See 'Column Leach Test Conditions' for test conditions

Test	C1			C2		
Day	8	16	24	8	16	24
La_2O_3	33%	69%	74%	5%	64%	82%
CeO_2	3%	6%	7%	0%	5%	7%
Pr_6O_{11}	31%	74%	81%	4%	62%	80%
Nd_2O_3	31%	79%	85%	4%	62%	82%
Sm_2O_3	29%	77%	84%	4%	58%	76%
Eu_2O_3	31%	81%	88%	4%	61%	79%
Gd_2O_3	33%	83%	89%	5%	62%	79%
Tb_4O_7	31%	78%	>83%	3%	57%	74%
Dy_2O_3	29%	74%	80%	4%	56%	72%
Ho_2O_3	30%	79%	84%	3%	57%	73%
Er_2O_3	29%	76%	81%	4%	55%	71%
Tm_2O_3	24%	68%	68%	1%	46%	59%
Yb_2O_3	22%	65%	72%	3%	45%	60%
Lu_2O_3	21%	61%	61%	0%	40%	51%
Y_2O_3	39%	94%	98%	6%	71%	88%
TREO	30%	73%	78%	4%	57%	74%
TREO-Ce	33%	80%	86%	5%	63%	81%
MREO	**31%**	**77%**	**84%**	**4%**	**61%**	**80%**

Table 1 - Summary of sampling information referred to above, 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.
Sampling and sub-sampling techniques	Pit sampling was done at 1 metre intervals using a large excavator with an 8 metre boom. Subsampling of ~100kg was performed by fractional shovelling. This sample was lightly disaggregated and hand-screened at 10mm without drying.
Drilling techniques	Not applicable (N.A.). Bulk pit sampling by excavator
Criteria used for resource classification, drill & data spacing & distribution.	N.A.
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). Interlab comparisons were satisfactory.
Estimation methodology, cut-off grade, mining, metallurgy & other modifying factors	All N.A.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling* • *Include reference to measures taken to ensure sample representivity* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *Industry standard work:*	• Bulk pit dug by excavator • Samples taken at 1 metre intervals by cleaning pit at the metre interval, then taking full 1 metre slice for the samples. • Subsampling the metre samples done as per ISO bauxite sampling processes
Drilling techniques	• *Drill type*	• Not applicable to bulk pits excavated by excavator with 8 metre boom
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• Not applicable to bulk pits
Logging	• *Whether samples have been geologically and geotechnically logged to an appropriate level for metallurgical studies.* • *Whether sampling is qualitative or quantitative.* • *Total length & percentage of the relevant intersections logged.*	• Pits sampled, assayed, logged, photographed & stored to ISO standards. See below • All 8 metres was logged and sampled • Depth 5m to 6m selected – see below
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn, quarter, half or all core.* • *If non-core, sample method, whether sampled wet or dry.* • *Nature, quality & appropriateness of the sample preparation.* • *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.*	• Depth 5m to 6m selected for the sample to be used to produce a mixed carbonate rare earth carbonate (MREC) • 100kg sub-sample obtained by homogenisation and fractional shovelling on a tarp followed by light disaggregation and hand-screening at 10mm. Manually identified clasts (<5% of sample) were removed by hand.Separate subsamples assayed the same
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.* • *Geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis* • *Nature of quality control procedures adopted.*	• Assaying done by NATA-registered ALS laboratories, Brisbane • N.A. Assays are by ALS which is a major mineral laboratory • ALS is industry-standard and publishes its QA/QC protocols and results on its website
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.*	• Pit sampling supervised by 4 ABx senior staff – see Competent Person & Expert Statement for details. • Repeated subsampling assayed the same. • Metal assays from ALS converted to oxides as per industry standards for reporting
Location of data points	• *Accuracy & quality of surveys used to locate drill holes & pits.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Location by GPS • Pit DLP002 location: 477720E , 5410126N (WGS 84 56S grid). RL 287.675m by LiDAR.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient.* • *Whether sample compositing has been applied.*	• Bulk pit sampling at 1m intervals considered appropriate and sufficient
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.* • *Does the drilling orientation introduce a sampling bias*	• Vertical bulk pit sampling is appropriate for the horizontal layers of REE mineralisation
Sample security	• *The measures taken to ensure sample security.*	• Chain of custody protocols were applied to secure the bulk bag samples.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Two bulk samples taken simultaneously assayed the same

Section 2 Reporting of Exploration Results (Criteria listed in 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.* • *Security of tenure and impediments to obtaining a licence to operate.*	• EL7/2010 100% owned and unencumbered. Pit located in a pine plantation with approvals from owner and government agencies.
Exploration by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• ABx sole discoverer and first to explore this area.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• REE mineralisation occurs in clay layers that overlie a Jurassic age dolerite basement in a district with some residual weathered Tertiary age alkali basalt.
Drill hole Information	• *Summary of information for understanding exploration results including a tabulation of the following information for all material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres)* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If exclusion of this information is justified, the Competent Person should clearly explain why this is the case.*	• Pit DLP002 location: 477720E , 5410126N (WGS 84 56S grid). RL 287.675m by LiDAR.
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.*	• No aggregation or any cutting of assays done • Metal assays from ALS converted to oxides as per industry standards for reporting
Relationship between mineralisation widths & intercept lengths	• *These relationships are particularly important.* • *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').*	• Vertical bulk pit sampling is appropriate for the horizontal layers of REE mineralisation
Diagrams	• *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.*	• See report
Balanced reporting	• *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 data to date is reported in this report
Other substantive exploration data	• *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.*	• All data to date is reported in this report
Further work	• *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.*	• ANSTO labs are engaged to undertake the processing on the 100kg sample to produce a mixed rare earth carbonate (MREC)