ASX: ABX

REE Resource Triples at Deep Leads, Tasmania

Mineral Resource increased by 350% to **13.9 million tonnes**

Area covered represents 16% of prospective area currently identified for future resource expansion drilling

Resource expansion arises from the first 25% of holes in current drilling program

Latest drilling uncovering thicker zones, some exceeding 30 metres

ABx Group (ASX: ABX) ("ABx" or the "Company") is pleased to announce an updated Mineral Resource Estimate that more than triples the tonnage of the rare earth elements (REE) deposit at the Deep Leads – Rubble Mound channel, located in northern Tasmania.

Table 1: Mineral Resources Estimate for Deep Leads – Rubble Mound Channel

								Permanent Magnet REOs														
Resource Category	**Million Tonnes**	From (m)	To (m)	Thick-ness (m)	TREO avg ppm	TREO-CeO_2 ppm	Perm Mag ppm	Nd_2O_3 ppm	Pr_6O_{11} ppm	Tb_4O_7 ppm	Dy_2O_3 ppm	CeO_2 ppm	Er_2O_3 ppm	Eu_2O_3 ppm	Gd_2O_3 ppm	Ho_2O_3 ppm	La_2O_3 ppm	Lu_2O_3 ppm	Sm_2O_3 ppm	Tm_2O_3 ppm	Yb_2O_3 ppm	Y_2O_3 ppm
Inferred	11.2	3.6	10.7	7.2	689	512	170	113	28	4.1	25	177	14	6.9	26	5.0	99	1.9	25	2.0	12	149
Indicated	2.7	4.8	11.2	6.4	772	490	174	116	30	4.2	24	283	13	7.8	26	4.5	101	1.6	27	1.8	11	123
Total	**13.9**	**3.8**	**10.8**	**7.0**	**705**	**507**	**171**	**114**	**29**	**4.1**	**24**	**198**	**14**	**7.0**	**26**	**4.9**	**100**	**1.8**	**26**	**2.0**	**12**	**144**

Parameters Cut-off grade = 250ppm TREO-CeO_2 Minimum thickness = 2 metres Maximum extrapolation = 80 metres Density = 1.9 tonnes/cubic metre
TREO = total rare earth elements as oxides. TREO-CeO2 = TREO minus cerium oxide

Commenting on the interim Resource, ABx Group Managing Director and CEO Mark Cooksey said:

"The substantial upgrade of the Mineral Resource at a higher cut-off grade is a phenomenal result, and I am exceptionally pleased with the emerging deposit at Deep Leads – northern Tasmania's first clay-hosted rare earths discovery.

"Adding to our excitement are the pending assays from our latest drilling, which in some cases have intersected REE zones greater than 30m thick ending in mineralisation, in addition to the planned infill drilling at known REE locations.

"Following these results, Deep Leads has been confirmed to have a strike length extending 7km with the mineralised area open in all directions. The area covered by Resource drilling has increased from 2.35km^2 to 5.73km^2, which is less than 17% of the total 35km^2 prospective area.

"The Rubble Mound discovery located 6.5km southeast of Deep Leads is confirmed to be part of the same REE mineralisation system as Deep Leads, and may eventually extend the REE mineralisation horizon beyond 10km.

"*This Mineral Resource estimation will help ABx decide how wide it must spread its drilling to find its minimum economic target with the remaining holes in this drilling program. As at 9 March, results were pending from a further 30 drillholes shown in Figure 2, and are now pending from 50 drillholes, which can substantially expand the resources.*

"While the growing size of this shallow mineralised channel discovered at Deep Leads is a major revelation, I encourage investors to look closely at the project, which is enriched with high-value rare earths used for permanent magnets in advanced technologies, such as neodymium, praseodymium, terbium and dysprosium.

"Furthermore, our work with Australian Nuclear Science and Technology Organisation (ANSTO) has confirmed our mineralisation as ionic adsorption clay[1], which are capable of delivering high REE recoveries using benign, low-cost processing.

"Not all clays are created equal and, while clay-hosted REEs are an emerging exploration target, very few deposits globally are confirmed as IAC."

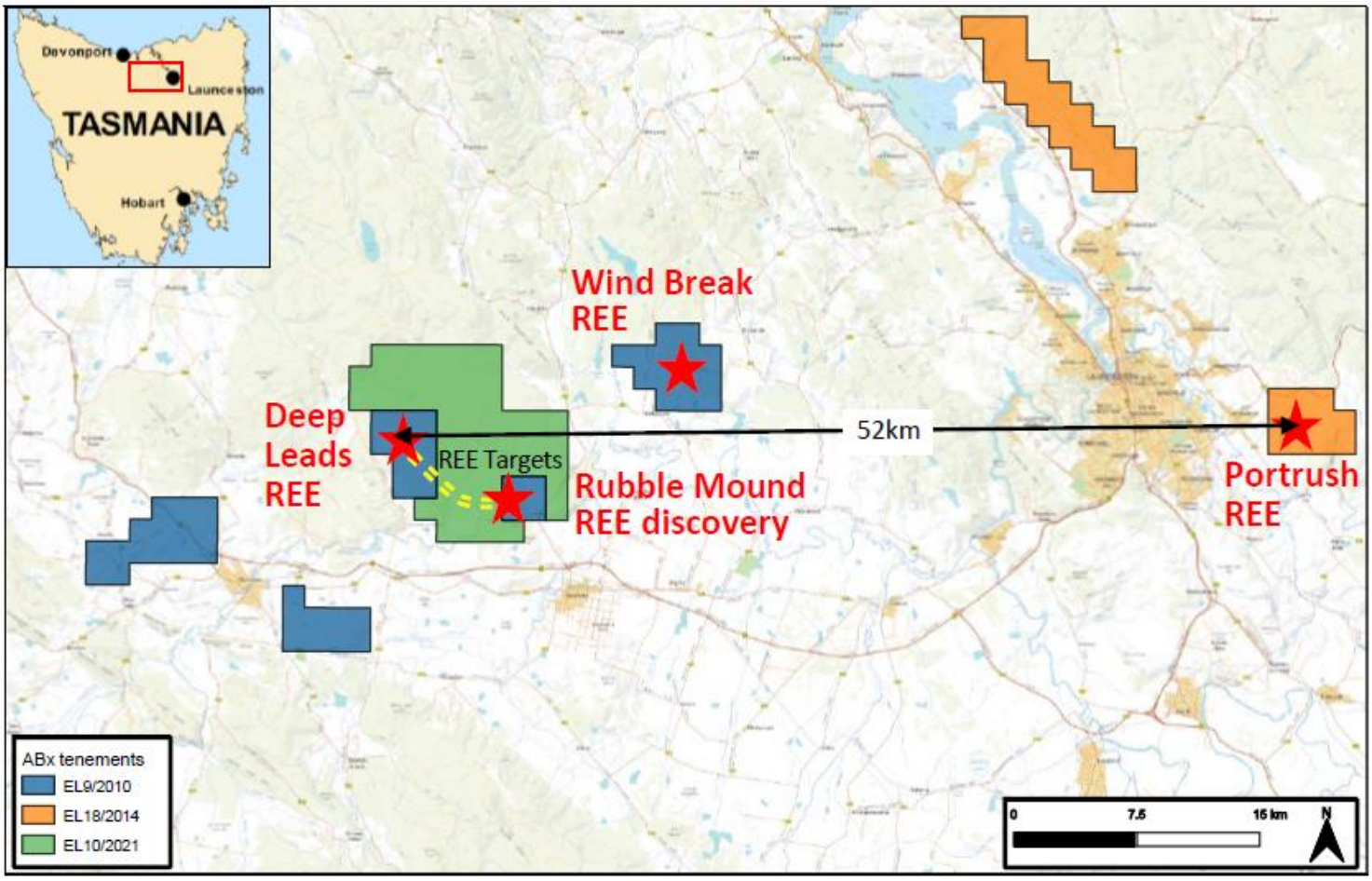

Figure 1: ABx leases in the 52km wide REE province. Deep Leads – Rubble Mound is the first of the discoveries to be sufficiently drilled for estimation of a resource

[1] See ASX release 'Widespread High Extractions of Ionic Adsorption Clay Rare Earths', 2 February 2023

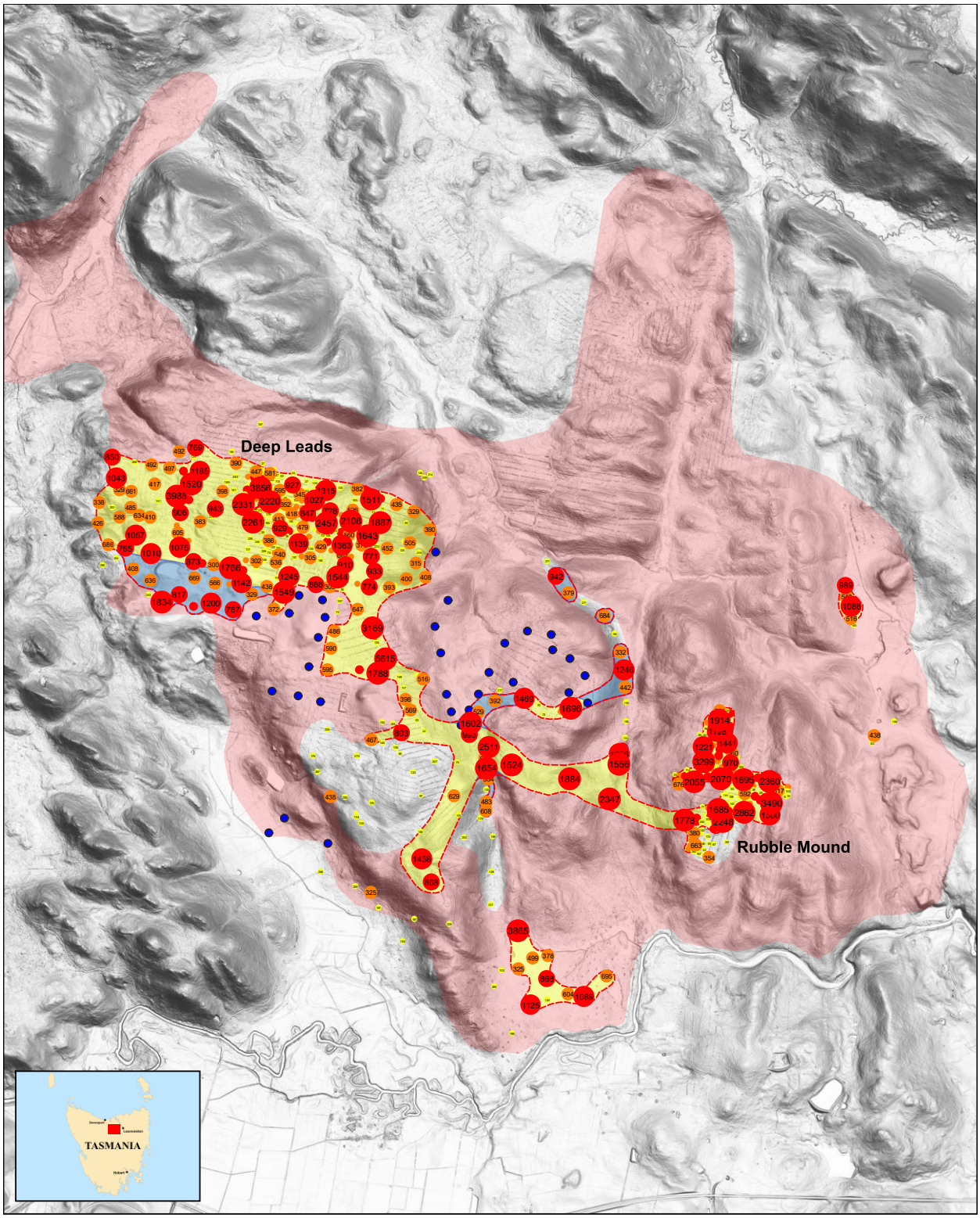

Figure 2: Deep Leads drillhole with REE grades shown as total rare earth oxide (TREO). The 30 holes with assays pending as at 9 March are shown (blue dots), and there are now assays pending for 50 holes. The current drilling program totals 150 holes, all designed to expand the resource zone

The interim Mineral Resource is based on 720 drillholes totalling 5,825 metres drilled and 2,091 metres assayed. New intercepts used in this Resource upgrade since the previously announced Maiden Resource[2] are shown in Table 3.

This Resource estimate is slightly shallower than the previously announced Maiden Resource[2], with the average overburden reducing from 4.4m to 3.8m.

By applying the higher cut-off grade of 250ppm TREO-CeO_2 for this Resource estimate, the average resource thickness reduced from 7.8m to 7m. However, following the discovery of several thicker, yet to be assayed holes, ABx anticipates the thickness to increase in future estimates.

To assist the planning of further drill-evaluation strategies, a tonnage-grade graph has been created to show the tonnages of resources and average grade of those tonnages, sorted from highest grade to lowest grade.

Results are reported in TREO as well as TREO minus cerium oxide, as CeO_2 is relatively low in value.

Figure 3 shows the relationship between cut-off grades and resource tonnages and average grades of both TREO-CeO_2 and TREO.

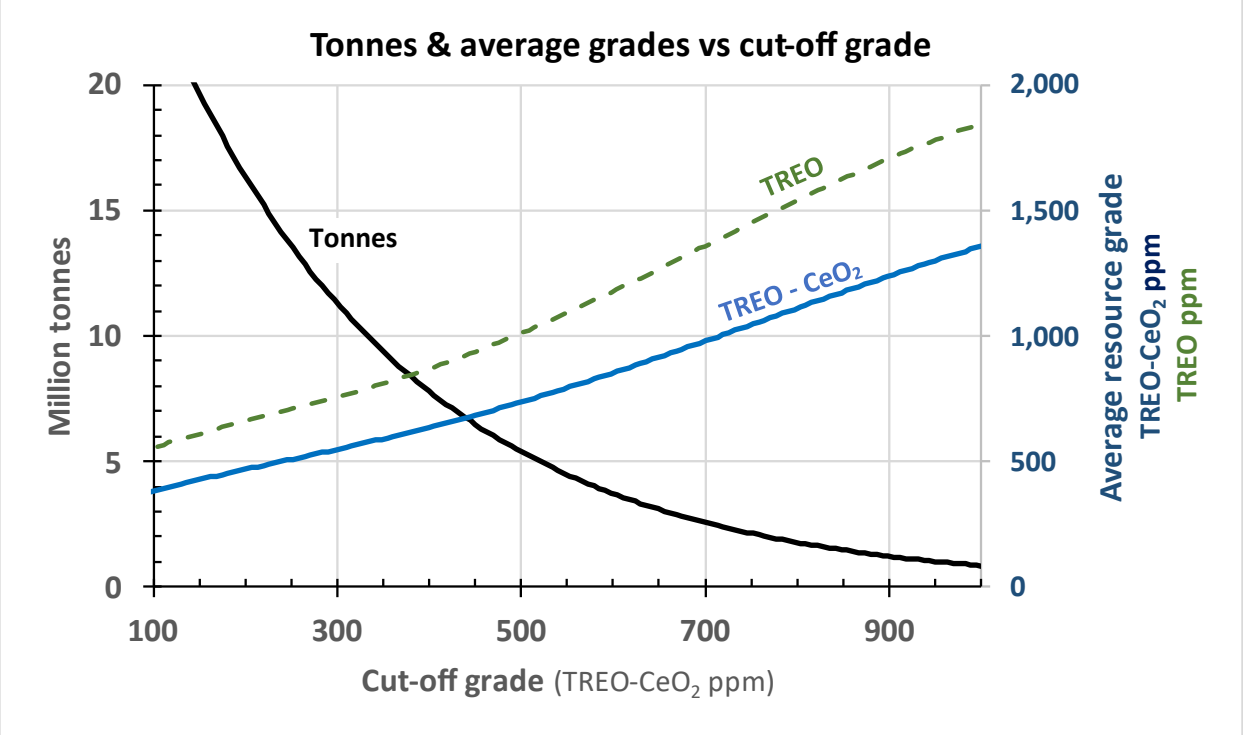

Figure 3: Tonnages and average grades plotted versus the cut-off grade applied to the resource estimation

[2] See ASX release 'ABx Maiden Resource Estimate', 23 November 2022

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

Geology and geological interpretation	Clay layers overlying dolerite basement and an area with alkali basalt, tholeiitic dolerite and bauxite-laterite are the main geological units. Paleochannels host thicker clay zones.
Sampling and sub-sampling techniques	Sampling and subsampling for assaying is by quartering in accordance with ISO standards for bauxite.
Drilling techniques	RC aircore and push-tube coring used.
Criteria used for classification, including drill and data spacing and distribution.	Drill spacing boundary between Indicated and Inferred Resources is 50 metres. Maximum extrapolation of Inferred Resources is 80 metres.
Sample analytical method	Assay samples are analysed by ALS labs in Brisbane (method ME-MS81) and LabWest in Perth (method MMA04). Interlab comparisons conducted proved satisfactory.
Estimation methodology	Assay intervals are all 1 metre. Downhole intercepts are simple arithmetic averages of grades above cut-off grade. Because the clay horizon drapes the topography, estimation is by the 2-dimensional polygonal method with maximum extrapolation of Inferred Resources to 80 metres. Clay density is measured at over 2 tonnes per cubic metre but a few drill samples exhibit density loss, so a density of 1.9 tonnes per cubic metre was applied globally.
Cut-off grade	250 ppm TREO - CeO_2
Mining and metallurgical methods and parameters, and other modifying factors	None applicable at this resource-drilling stage. Reviews of production and rehabilitation strategies have commenced.

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

For further information please contact:

Dr Mark Cooksey
MD & CEO
ABx Group
Mobile: +61 447 201 536
Email: mcooksey@abxgroup.com.au

Website: abxgroup.com.au

About ABx Group Limited

ABx Group (ABX) is a uniquely positioned, high-tech Australian company creating new supplies of strategic minerals and chemicals.

The three current significant projects 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
- Mining and enhancing the value of bauxite resources for cement, aluminium and fertilisers.

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

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

Mr Levy has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of exploration Results, Mineral Resources and Ore Reserves. Mr Levy has consented in writing to the inclusion in this report of the Exploration Information in the form and context in which it appears.

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.*	• Drill hole samples from reverse circulation aircore and pushtube core drilling to 37.5 metres maximum depth but typically to 12 metres depth
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.*	• Weight tests indicated reliable sample recovery except for first metre in soils (not used in resource estimates) • 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.
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, with 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 bauxite shovel and 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*	• Assaying done at NATA-registered commercial labs of ALS Brisbane Australia and Labwest Minerals Analysis in Western Australia. Duplicate interlab assays corresponded well. • Desorption extraction tests were conducted by ANSTO at Lucas Heights, Sydney NSW with ANSTO's assays done at ALS Brisbane.

Criteria	JORC Code explanation	Commentary
	acceptable levels of accuracy (ie lack of bias) & precision have been established.	
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.*	• All assaying done at NATA-registered commercial laboratories of ALS Brisbane Australia and Labwest Minerals Analysis Pty Ltd in Western Australia. • Duplicated and redrilled holes correlated closely • Duplicate interlab assays corresponded well. • No adjustment of assay data done.
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 have been tested for accuracy on many prospects, all satisfactorily – usually within 1m. • Grid Coordinates are GDA94 • Topographic control by Lidar topography when needed
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 75 metre spacing on mineralised prospects • Geological continuity is established by drill pattern • Grade continuity is not yet established beyond 50m • 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*
		• GPS location.
		• Airborne Radar RL and LiDAR topography
		• Lidar topography contoured at 1m height intervals

Criteria	JORC Code explanation	Commentary
	○ *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.*	• 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.*	• All data are presented as received from labs • Intercept summaries, if and when presented, are length-weighted arithmetic averages • Total Rare Earth Oxides (TREO) are an aggregate of all rare earth oxides. TREO-CeO_2 is TREO minus Cerium oxide values.
Relationship between miner-alisation widths & intercept lengths	• *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 6 metres thick and Drillholes are sampled at 1 metre intervals • Horizontal layers drilled by vertical holes means intercept thickness is true thickness
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.*	• N.A. Diagrams presented give appropriate information
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 new results are reported in this report and reference made to previous tabulation of data
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.*	• N.A. Information provided is appropriate.
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.*	• 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
Database integrity	• *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.*	• Random QA-QC checks done on each drill campaign • Rare data or lab errors noted if conflicts with geological logging. • Hand-held XRF readings double-check
	• *Data validation procedures used.*	• Lab data entered electronically. Written logs & sample photos also in database
Site visits	• *Comment on any site visits undertaken by the Competent Person & outcome of those visits.*	• Competent persons visited sites at discovery, mapping, drilling, bulk sampling & mining. All satisfactory.
	• *If no site visits, why.*	• All sites visited
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	• Geology is simple strata. Drillholes determine degree of variation, especially where concealed by soil or covering layers.

Criteria	JORC Code explanation	Commentary
	• *Nature of the data used & of any assumptions made.*	• Outcrops mapped & sampled. Drillholes complete the subsurface mapping.
	• *Effect, if any, of alternative interpretations on Mineral Resource estimation.*	• Outlines can vary estimate by 10% to 15%. 2 different methods used to check
	• *The use of geology in guiding & controlling Mineral Resource estimation.*	• Method 1 = geological model outlines. Method 2 = voronoi polygons
	• *Factors affecting continuity both of grade & geology.*	• Continuity assumed to be semi random or highly variable, as normal for laterites
Dimensions	• *Extent & variability of the Mineral Resource expressed as length (along strike or otherwise), 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.
Estimation & modelling techniques	• *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.*	• 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.
	• *Availability of check estimates, previous estimates &/or mine production records & whether Mineral Resource estimate takes appropriate account of such data.*	• Good consistency between initial estimates & re-estimations after additional drilling.
	• *The assumptions made regarding recovery of by-products.*	• By-products not reported. Viability not dependent on by-products.
	• *Estimation of deleterious elements or other non-grade variables of economic significance*	• No deleterious elements known at this resource stage. CaO may affect yields.
	• *In the case of block model interpolation, the block size in relation to the average sample spacing & the search employed.*	• Blocks 25m x 25m suits irregular drill spacing of 50 to 90m and fits the geological shapes.
	• *Any assumptions behind modelling of selective mining units.*	• Nil
	• *Assumptions about correlation between variables.*	• Nil
	• *Description of how the geological interpretation was used to control the resource estimates.*	• Method 1 blocks kept inside boundaries. • Method 2: Voronoi polygons also inside main boundaries and max 80m
	• *Discussion of basis for using or not using grade cutting or capping.*	• Nil at this early stage. Best left uncut.
	• *Process of validation, checking process used, comparison of model data to drill hole data, & use of reconciliation data if available.*	• 2 estimation methods correspond reasonably. Holes compare well with twinned holes, pit samples & reasonably well with mine results.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, & the method of determination of the moisture content.*	• Dry density factor applied so tonnages and grades are on a dry basis. Moisture measured gravimetrically by weighing wet and after drying
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• 250ppm TREO-CeO2 is current boundary between background and mineralised REE zones. Will be adjusted to suit economics when known
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions & internal (or external) mining dilution. It is always necessary as part of the process 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 always 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
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*	• Desorption tests done on 78 representative samples by ANSTO indicate good potential for high extraction rates. Mineralogy studies ongoing

Criteria	JORC Code explanation	Commentary
	this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	
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.*	• 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.
	• *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.*	• N.A. Clays are compacted
	• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• No assumptions used
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	• Method 1: number of data points per block • Method 2: nearness to next holes
	• *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).*	• Resources will not be classified as measured until mining experience is gained sufficient to correlate resource predictions with actual production outcomes. Data variability is similarly high in holes and in mine openings.
	• *Whether the result appropriately reflects the Competent Person's view of deposit.*	• 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. Next major update will be audited
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.*	• 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
	• *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.*	• Each deposit is estimated individually.
	• *Statements of relative accuracy & confidence of the estimate should be compared with production data, where available.*	• Is always being done, in accordance with industry practice & common sense triple-checking. This will be a constant task as this project develops further.

END

Table 3 – Intercepts used for this Mineral Resource estimation

New Holes since Maiden Resource are DL556 to DL584 (Deep Leads) & RM229 to RM264 (Rubble Mound)

Cut-off grade 250ppm TREO-CeO2 Density = 1.9

										Permanent Magnet REOs														
Hole ID	From (m)	To (m)	Metres (m)	East	North	RL	TREO avg ppm	TREO-CeO_2 ppm	Perm Mag ppm	Nd_2O_3 ppm	Pr_6O_{11} ppm	Tb_4O_7 ppm	Dy_2O_3 ppm	CeO_2 ppm	Er_2O_3 ppm	Eu_2O_3 ppm	Gd_2O_3 ppm	Ho_2O_3 ppm	La_2O_3 ppm	Lu_2O_3 ppm	Sm_2O_3 ppm	Tm_2O_3 ppm	Yb_2O_3 ppm	Y_2O_3 ppm
DL162	6	9	3	478481	5410273	315	1179	981	332	216	49	10.5	55.7	198	32	19	67	10	145	4	57	4	24	288
DL167	4	6	2	479226	5409598	318	486	316	133	97	28	1.7	6.6	170	3	5	12	1	119	0	19	0	2	22
DL170	3	5	2	479301	5409904	302	1533	305	107	71	19	2.9	14.2	1228	9	5	16	3	64	1	20	1	8	71
DL172	4	6	2	479114	5409997	304	484	325	114	74	19	3.3	18.0	159	11	5	19	3	63	1	18	2	9	80
DL180	4	6	2	479252	5409511	307	768	324	108	73	18	2.8	13.3	444	8	6	18	3	75	1	19	1	6	80
DL185	7	9	2	479153	5408911	306	357	279	104	68	17	2.4	15.8	79	8	5	16	3	48	1	15	1	7	72
DL190	3	9	6	479625	5408665	307	1907	978	424	296	78	7.7	43.0	929	17	18	53	7	226	2	56	2	12	161
DL196	6	8	2	479765	5407995	308	557	301	121	82	20	2.7	15.8	256	8	6	16	3	58	1	20	1	9	56
DL215	10	12	2	478737	5409813	325	556	253	75	51	20	0.7	3.5	303	2	2	5	1	147	0	8	0	1	11
DL221	8	12	4	478819	5409964	330	394	258	89	59	14	2.5	13.6	136	7	5	16	3	43	1	16	1	6	73
DL313	8	10	2	479010	5410189	320	806	602	258	176	53	4.5	24.7	204	12	10	27	4	146	2	42	2	13	86
DL315	8	10	2	478971	5410092	319	913	722	251	164	41	6.4	38.4	191	21	12	39	7	147	3	42	3	19	178
DL316	3	5	2	479079	5409886	320	1379	333	128	86	23	2.7	16.5	1046	10	5	15	3	70	2	19	2	11	68
DL389	17	20	3	478740	5409402	319	947	723	243	159	38	7.3	38.6	224	19	13	45	7	135	2	38	3	15	202
DL392	7	10	3	479568	5409892	307	1167	1,046	409	282	75	8.3	44.5	121	25	15	50	9	241	3	55	4	22	214
DL393	4	7	3	479358	5410194	277	375	285	93	62	17	2.1	11.8	90	7	4	12	3	68	1	12	1	6	78
DL397	3	5	2	479074	5410180	324	834	309	92	56	13	3.3	18.6	525	10	5	20	4	53	1	15	1	8	100
DL403	4	10	6	478481	5410203	307	2479	2,316	804	514	116	26.5	147.9	163	75	52	159	28	302	9	151	11	62	663
DL404	1	4	3	478428	5410211	312	565	529	197	129	29	6.0	32.7	35	16	12	36	6	70	2	36	2	14	137
DL407	5	10	5	478071	5410013	310	770	499	139	85	21	4.3	28.5	271	19	7	26	7	71	3	21	3	16	189
DL408	2	4	2	478413	5409893	321	450	349	148	106	34	1.5	6.9	101	2	5	12	1	140	0	18	0	2	20
DL409	7	10	3	478209	5409479	311	1302	737	239	156	40	6.2	37.5	565	22	11	40	8	142	3	35	3	18	216
DL411	3	8	5	478950	5409936	318	693	362	137	97	22	2.9	15.3	330	8	6	18	3	89	1	19	1	6	75
DL413	13	15	2	479183	5409399	327	1040	726	254	161	47	7.6	38.7	314	19	17	47	7	107	2	54	2	13	205
DL414	0	3	3	479469	5409311	314	604	518	162	91	32	6.3	33.0	86	17	12	36	6	76	2	38	2	11	157
DL415	4	8	4	479484	5410101	303	814	441	180	124	35	3.0	17.4	373	9	6	17	3	104	2	26	1	11	81
DL420	18	21	3	478827	5409702	324	852	776	252	161	35	8.6	47.1	76	24	15	54	9	96	2	46	3	17	257
DL422	5	11	6	478493	5410279	314	802	653	223	147	33	6.4	36.0	149	20	12	41	7	90	2	39	3	15	201
DL425	8	15	7	478459	5409997	326	632	520	137	85	21	4.5	26.4	113	16	7	27	6	81	2	21	2	10	210
DL426	8	11	3	478514	5410091	314	564	484	141	92	20	4.3	24.7	79	15	8	29	5	72	2	24	2	11	177
DL427	7	14	7	478567	5410077	309	1164	1,077	299	188	44	9.9	56.4	87	32	17	62	11	152	3	51	4	21	424
DL432	8	12	4	478465	5410197	306	602	546	162	101	23	5.5	32.3	56	18	9	33	7	69	2	27	2	14	202
DL433	2	8	6	478485	5410193	311	927	698	209	124	28	8.1	48.2	229	24	13	51	9	87	3	38	3	19	244
DL434	1	7	6	478491	5410212	323	463	314	102	64	14	3.4	20.0	149	10	6	23	4	40	1	19	1	8	100
DL435	6	14	8	478536	5410208	323	662	578	185	118	28	5.7	33.6	84	17	11	37	6	83	2	32	2	13	191
DL448	9	11	2	478398	5410119	314	673	608	224	153	35	5.4	30.6	65	16	11	33	6	98	2	37	2	15	164
DL450	5	19	14	478360	5410184	313	757	611	210	141	36	4.7	28.4	146	18	8	27	6	124	2	30	3	17	167
DL453	3	8	5	478427	5410293	306	1489	1,102	440	307	79	8.2	45.7	387	23	18	53	8	265	3	66	3	20	204
DL462	12	15	3	478695	5409260	319	847	619	226	154	36	5.4	30.2	228	15	11	35	6	120	2	36	2	13	154
DL466	19	22	3	478661	5409837	284	362	264	91	56	14	3.0	17.8	97	10	5	16	3	38	1	16	1	9	74
DL468	16	22	6	478380	5410041	311	614	477	189	129	31	4.6	24.2	137	11	9	30	4	90	1	32	2	9	100
DL477	3	7	4	479619	5408662	313	3408	1,406	533	355	84	14.2	79.8	2003	36	30	90	14	226	4	95	5	31	342
DL480	5	8	3	479123	5408756	312	495	297	105	70	17	2.6	15.0	198	7	5	17	3	57	1	17	1	6	77
DL482	1	21	20	478986	5409330	326	525	399	143	97	22	3.8	20.2	126	10	7	24	4	66	1	24	1	8	110
DL484	4	12	8	478881	5409907	330	392	281	99	67	16	2.6	13.6	111	7	5	17	3	54	1	16	1	5	73
DL488	2	5	3	477952	5409519	301	521	281	95	63	15	2.4	14.7	240	8	4	15	3	47	1	15	1	8	83
DL489	1	5	4	477874	5409535	292	726	505	157	100	23	4.6	29.0	221	17	8	29	6	74	2	25	2	14	170
DL490	0	4	4	477257	5409655	283	602	503	153	99	23	4.5	27.6	99	17	7	28	6	72	2	25	2	14	177
DL491	0	3	3	479979	5409401	280	352	287	90	58	13	2.6	16.1	65	10	4	16	3	43	1	14	1	9	97
DL496	4	6	2	479549	5408532	316	1251	873	361	252	59	7.4	42.7	378	21	18	50	7	166	3	62	3	21	162
DL497	0	6	6	479382	5408563	311	935	715	290	206	49	5.4	29.6	220	15	12	39	5	148	2	46	2	13	142
DL498	1	4	3	479092	5408562	307	431	282	102	69	17	2.3	13.8	149	8	5	15	3	53	1	15	1	6	74
DL509	2	4	2	479837	5409711	291	447	281	89	59	15	2.2	13.3	166	8	3	12	3	59	1	12	1	8	85
DL514	3	6	3	479570	5410109	306	819	488	188	126	32	4.5	26.3	331	14	8	27	5	84	2	33	2	14	110
DL515	1	5	4	477349	5409772	290	739	493	155	103	24	4.0	24.3	247	15	6	25	5	87	2	23	2	13	159
DL520	2	8	6	477720	5410126	295	1871	1,682	515	331	78	14.9	91.3	189	54	24	93	19	275	7	81	8	47	560
DL521	0	2	2	477853	5410236	305	1212	1,111	332	200	47	11.9	72.9	101	40	18	76	14	153	5	59	6	34	373
DL522	4	12	8	477781	5410352	301	749	658	194	122	30	5.5	35.6	91	22	8	34	7	110	3	29	3	19	230
DL523	1	3	2	477655	5410378	298	417	256	72	46	11	2.1	13.1	161	8	3	14	3	44	1	11	1	7	92
DL524	4	8	4	477492	5410407	293	443	292	96	64	16	2.2	13.8	152	9	4	13	3	58	1	14	1	8	84
DL527	12	14	2	477521	5410235	300	330	294	75	47	12	2.2	14.6	36	10	3	13	3	48	1	10	1	9	120
DL530	4	9	5	477891	5410563	307	472	315	111	75	19	2.4	14.4	158	8	4	15	3	75	1	16	1	8	73
DL531	2	9	7	477930	5410353	292	878	663	228	152	40	5.2	30.6	215	17	9	33	6	140	2	33	2	15	177
DL532	2	8	6	477830	5410093	305	530	451	138	88	21	3.9	24.2	78	14	6	23	5	76	2	20	2	12	153
DL533	0	6	6	477753	5409975	293	569	390	125	82	19	3.4	20.9	179	13	6	20	4	68	2	19	2	11	121

Table 3 concluded

Cut-off grade 250ppm TREO-CeO2 Density = 1.9

Hole ID	From (m)	To (m)	Metres (m)	East	North	RL	TREO avg ppm	TREO-CeO_2 ppm	Perm Mag ppm	Permanent Magnet REOs				CeO_2 ppm	Er_2O_3 ppm	Eu_2O_3 ppm	Gd_2O_3 ppm	Ho_2O_3 ppm	La_2O_3 ppm	Lu_2O_3 ppm	Sm_2O_3 ppm	Tm_2O_3 ppm	Yb_2O_3 ppm	Y_2O_3 ppm
										Nd_2O_3 ppm	Pr_6O_{11} ppm	Tb_4O_7 ppm	Dy_2O_3 ppm											
DL535	0	2	2	477722	5409860	304	373	257	83	54	14	2.0	13.0	115	8	3	12	3	50	1	12	1	7	77
DL537	0	5	5	477732	5409793	290	427	331	105	69	17	2.6	15.8	96	9	4	16	3	68	1	15	1	8	100
DL539	0	7	7	477748	5409664	286	696	551	161	101	25	4.8	30.2	145	17	7	28	6	93	2	24	2	15	195
DL540	0	6	6	477489	5409606	281	728	583	159	99	23	4.8	31.4	145	19	7	29	7	94	3	23	3	17	222
DL541	0	2	2	477381	5409951	286	436	337	94	59	15	2.8	17.9	99	11	4	17	4	57	1	14	2	9	124
DL542	0	2	2	477202	5409935	278	538	423	120	75	19	3.4	22.2	114	13	5	21	5	75	2	18	2	12	151
DL543	2	5	3	477007	5409882	275	385	291	87	55	12	2.6	16.7	94	10	4	16	3	46	1	13	1	9	100
DL545	0	4	4	477172	5410288	296	566	347	116	79	19	2.5	15.9	219	10	4	16	3	70	1	17	1	9	99
DL549	2	4	2	477304	5410023	301	418	268	82	55	14	1.8	11.5	150	8	3	12	3	58	1	11	1	7	83
DL553	0	8	8	477100	5409684	292	506	432	117	71	17	3.8	24.0	74	15	5	22	5	65	2	18	2	13	168
DL555	2	17	15	478311	5409343	308	412	298	113	81	19	2.0	10.6	114	5	4	13	2	84	1	16	1	4	55
DL569	5	7	2	479493	5407931	308	433	308	96	63	15	2.4	15.2	125	10	4	14	3	58	1	13	1	9	98
DL573	2	7	5	477326	5409469	286	342	272	81	51	12	2.4	14.6	70	9	3	15	3	43	1	14	1	8	94
DL574	3	10	7	477484	5409364	300	500	383	116	75	19	3.0	18.3	117	11	4	19	4	75	1	17	2	10	123
DL576	9	28	19	477588	5409168	311	722	579	216	148	35	5.0	27.4	143	13	10	33	5	115	1	34	2	10	139
DL577	14	21	7	477746	5409236	305	484	407	121	78	19	3.3	20.6	78	13	5	20	4	74	2	18	2	11	138
DL578	2	9	7	477883	5409388	300	476	360	94	58	14	2.9	19.4	115	13	4	17	4	50	2	14	2	11	149
DL579	18	21	3	477876	5409130	296	669	503	159	105	26	3.8	23.9	166	14	6	23	5	109	2	23	2	13	148
DL580	5	9	4	478035	5409160	305	831	382	139	94	23	3.1	18.7	449	10	6	20	4	71	1	22	1	9	100
DL581	3	5	2	478069	5409341	294	555	466	150	100	25	3.5	22.2	89	14	6	22	5	89	2	22	2	12	143
DL583	3	7	4	478235	5409102	314	552	362	129	87	22	2.9	17.4	189	9	5	18	3	77	1	19	1	8	91
RM013	14	16	2	482598	5407889	291	404	276	121	82	24	2.3	13.1	128	7	4	13	2	55	1	18	1	9	44
RM016	8	10	2	482627	5408011	286	798	312	131	89	27	2.2	12.7	486	7	4	13	3	72	1	19	1	8	53
RM025	8	10	2	482654	5407851	293	830	294	113	76	20	2.5	14.6	536	8	4	16	3	58	1	18	1	9	61
RM030	6	9	3	482742	5408177	283	1006	389	173	119	34	3.1	16.8	617	8	7	19	3	83	1	28	1	9	57
RM049	9	12	3	482533	5408095	280	472	357	120	79	22	2.6	15.5	115	10	4	16	3	81	2	16	2	9	94
RM051	5	7	2	482661	5407587	287	1610	1,052	488	339	104	7.4	37.4	558	17	15	47	7	253	2	73	2	17	130
RM074	6	9	3	482639	5407309	282	1363	1,096	469	335	74	9.4	49.8	267	25	19	60	9	227	4	80	3	24	176
RM110	6	9	3	482436	5406988	279	637	377	127	84	22	3.2	18.2	260	12	5	20	4	74	2	19	2	9	104
RM114	9	13	4	482508	5407741	297	2059	1,239	576	402	123	8.7	42.1	820	19	21	56	7	325	3	94	3	17	119
RM125	11	15	4	482831	5407592	281	1034	981	287	186	49	7.2	44.5	53	29	10	44	10	218	4	37	4	22	316
RM128	9	12	3	482868	5407579	284	1277	980	360	240	66	8.1	46.4	297	25	12	48	9	246	3	52	4	20	201
RM136	5	8	3	482920	5407304	267	1186	379	156	106	30	3.1	17.9	807	10	6	18	3	74	1	25	2	9	73
RM152	6	9	3	482340	5407609	298	820	657	205	130	33	5.7	35.9	163	24	8	35	8	104	3	32	3	19	216
RM158	10	14	4	480877	5408309	221	1011	911	295	192	47	8.4	48.0	100	30	13	48	10	162	4	46	4	25	273
RM166	19	21	2	480830	5405867	231	290	251	88	57	14	2.2	13.9	39	8	4	13	3	45	1	13	1	8	68
RM167	10	16	6	480960	5405965	229	428	260	88	59	16	1.7	11.1	168	7	2	11	2	65	1	12	1	7	64
RM170	5	12	7	480942	5405544	226	596	379	146	104	24	2.9	14.9	216	8	7	20	3	76	1	22	1	6	92
RM172	5	9	4	481281	5405641	229	520	343	124	87	24	2.2	10.6	177	6	5	14	2	109	1	17	1	4	60
RM173	5	7	2	481426	5405619	231	943	403	162	115	31	2.9	13.2	540	7	7	18	2	110	1	24	1	5	65
RM174	10	18	8	481088	5405779	232	436	278	93	62	14	2.5	15.5	158	9	5	16	3	40	1	15	1	8	86
RM175	4	10	6	480826	5406210	227	1435	839	365	273	75	2.7	13.6	596	7	6	24	3	297	1	37	1	5	94
RM176	5	9	4	481630	5405804	228	612	323	124	88	22	2.1	11.9	289	6	5	15	2	88	1	16	1	5	61
RM182	8	10	2	482974	5407430	291	1945	465	182	128	36	3.2	14.9	1480	11	6	17	3	109	2	27	2	10	96
RM204	6	8	2	482310	5407171	295	704	591	205	133	38	4.6	28.9	113	17	7	28	6	112	3	28	3	16	168
RM206	7	16	9	483841	5409149	196	692	597	207	130	40	5.1	31.4	95	19	7	30	6	96	3	30	3	16	180
RM207	10	12	2	483829	5409069	216	579	325	138	94	24	3.0	17.0	254	8	6	19	3	62	1	22	1	7	58
RM208	8	10	2	483839	5409036	203	384	269	79	50	13	2.1	13.7	115	9	3	13	3	51	1	11	1	7	90
RM217	1	23	22	480557	5407867	291	599	503	158	103	25	4.2	25.9	95	15	6	25	5	97	2	23	2	14	157
RM218	4	9	5	480766	5407707	287	987	804	327	227	62	5.7	32.4	183	18	11	34	6	179	3	48	3	18	158
RM220	0	5	5	481653	5407402	269	1032	576	213	147	37	4.3	25.7	456	14	8	26	5	123	2	31	2	14	138
RM221	1	10	9	481738	5407716	246	698	603	172	110	27	4.8	29.7	95	18	7	29	6	107	2	25	2	15	221
RM222	1	15	14	480381	5407981	286	624	459	139	89	21	3.8	23.8	165	15	6	23	5	79	2	21	2	13	155
RM226	5	16	11	479953	5406857	312	606	547	168	110	27	4.3	26.3	59	16	7	26	6	109	2	24	2	14	173
RM241	3	21	18	480391	5408083	284	552	407	133	88	23	3.2	18.7	144	10	5	20	4	89	1	21	1	9	113
RM245	3	14	11	480397	5408079	295	823	622	215	143	36	5.4	30.4	200	15	10	36	5	141	2	35	2	12	151
RM247	3	33	30	480536	5407676	283	701	572	197	132	34	4.4	26.4	129	15	6	27	5	119	2	29	2	14	155
RM248	6	11	5	480553	5407581	278	469	345	97	61	16	2.7	17.7	125	12	3	15	4	61	2	14	2	11	125
RM250	2	6	4	480535	5407373	270	388	294	95	62	15	2.4	15.1	94	9	4	15	3	51	1	14	1	8	93
RM251	3	6	3	480531	5407293	264	455	400	103	64	14	3.4	21.8	55	14	5	21	5	50	2	16	2	12	170
RM252	3	12	9	481741	5407811	252	631	560	149	96	25	3.9	24.0	70	16	5	24	5	123	2	19	2	13	203
RM257	3	7	4	481792	5408412	240	310	273	85	56	14	2.2	13.7	37	8	3	13	3	56	1	11	1	7	84
RM258	2	7	5	481783	5408568	243	566	534	110	64	15	4.0	27.8	32	19	5	24	6	65	2	15	2	14	270
RM261	4	9	5	481602	5409056	240	398	352	138	96	26	2.4	14.4	46	8	5	15	3	92	1	19	1	7	64
RM263	3	5	2	481274	5409263	235	376	332	109	74	19	2.3	14.2	44	8	4	14	3	74	1	15	1	7	94
RM264	5	12	7	481163	5409412	239	655	564	173	113	27	4.5	28.3	91	19	6	27	6	101	3	25	3	18	185