

13 March 2025



MAIDEN MINERAL RESOURCE ESTIMATE 45MT TANBREEZ RARE EARTH PROJECT GREENLAND

European Lithium Ltd (ASX: EUR, FRA:PF8, OTC: EULIF) (**European Lithium** or the **Company**) is pleased to announce the Maiden Mineral Resource Estimate (MRE) of 45MT at 0.4% REO from the Tanbreez Project in Greenland, (see Table 1).

The MRE was prepared in 2016 for Rimbal Proprietary Limited and since acquiring the Tanbreez Project in 2022 is reporting the 2016 MRE.

The Tanbreez Fjord and the Tanbreez Hill rare-earth mineral sites are contained within a mineralised Kakortokite host unit covering an area of approximately 5km x 2.5km and 270 meters thick, estimated at 4.7 billion tonnes of Kakortokite. The host does not indicate any certainty of hosting mineralisation.

Tanbreez Project Acquisition

European Lithium first acquire a 5% interest in Tanbreez Mining Greenland A/S (**Tanbreez**) on 3 October 2022 and acquired a further 2.5% interest in Tanbreez on 6 February 2023. At this time, the investment of 7.5% in Tanbreez was not considered material to the Company and as such the MRE was not disclosed at the time of acquiring an interest in Tanbreez. In June 2024, Critical Metals Corp. (NASDAQ: CMC) entered into the Heads of Agreement with Rimbal Pty Ltd to acquire up to 92.5% in Tanbreez and have completed the initial investment and stage 1 interest to hold a 42.0% interest in Tanbreez. As of the date of this announcement, European Lithium and CMC hold a combined interest of 49.5% in Tanbreez. European Lithium is CMC's largest shareholder and as such now considers the Tanbreez Project to be material and as a result is announcing the Maiden MRE in this announcement following consultation with the ASX.

CMC has completed due diligence and is preparing a S-K 1300 Report for lodgement with the SEC in the United States of America. It has undertaken a recent drilling program for confirmation, extension and infill drilling to prepare the project for Mine Development Studies and anticipates assay results will be available in the near future.

The Company wishes to report The Maiden Mineral Resource Estimate for the Tanbreez Project located in Greenland. This estimate was prepared by Al Maynard and Associates Pty Ltd on 30 August 2016 in accordance with the JORC Code 2012. The authors of the report are independent consultants with a long experience with the project. They are qualified as 'Competent Persons' under the JORC Code 2012 and the VALMIN Code 2015. The authors are P.A. Jones, BAppSc (App.Geol), MAusIMM, MAIG., and A.J. Maynard, BAppSc (Geol), MAIG MAusIMM.

The MRE report was commissioned by Rimbal Pty Ltd in 2016, a private company registered in Australia and not required to provide any disclosure. EUR subsequently acquired part of the Project in June 2024 and has now reported the MRE. The Mineral Resource Estimate



provided by European Lithium for reference in accordance with ASX Listing Rules as a basis for further public disclosures relating to the Tanbreez Project.

The Mineral Resource Estimate has not been updated and no more recent estimates or data relevant to the reported mineralisation is available.

The estimate is conceptual in nature. It is based on extensive historic and Tanbreez exploration drilling (414 holes) coupled with the exposures in multiple creek sections. Investors should not place undue reliance on this information.

Overview of the Tanbreez Project

The Tanbreez Project is a significant critical minerals asset positioned to provide a sustainable, reliable and long-term rare earth supply for North America and Europe. Once operational, Tanbreez is expected to supply REEs to customers in the western hemisphere to support the production of a wide range of next-generation commercial products, as well as demand from the defence industry. The Tanbreez Project is expected to possess greater than 27% Heavy Rare Earth Elements (HREEs), which carry a much higher value than Light Rare Earth (LREEs). In an industry where competitors primarily target LREE, the Tanbreez Project is believed to be unique, not only due to its significant size, but also because of its HREE asset mix.

2016 Mineral Resource Estimate Summary

TANBREEZ PROJECT	Mtonnes	TREO	ZrO ₂	Nb ₂ O ₅
Tanbreez Hill and Fjord				
Indicated Resource	25.4	0.37%	1.37%	0.13%
Inferred Resource	19.5	0.39%	1.42%	0.15%
Total	44.9	0.38%	1.39%	0.14%

Table 1 2016 MRE for Inferred and Indicated Resource Estimate

The Tanbreez Project is favourably located in Southern Greenland and is expected to have access to key transportation outlets as the project's area features year-round direct shipping access via deep water fjords that lead directly to the North Atlantic Ocean.

Commenting on the 45MT MRE, Tony Sage, Executive Chairman of the Company, said:

"I am pleased to report Tanbreez has reached a significant milestone by declaring the MRE that now will allow our next results and drilling develop the initial resource to more tonnes and grade in the coming months"

"The deposit drilling only covers approximately 5% of the total project area and deeper and extension drilling will commence shortly to deliver an even higher resource"

"We are measuring the real potential for Tanbreez on the significant investment over the past 2 decades by Rimbal and this major discovery as my team take this amazing deposit into a world class REE development project".

"I am excited with more good news in the coming the months will be rewarding for all stakeholders as we achieve greater milestones on this important REE project for the western world"



Geology and Geological Interpretation

The **Ilímaussaq Complex** in Greenland is a large peralkaline igneous intrusion famous for its unique mineralogy and economic potential. It is the type locality for several rare minerals, including Kakortokite and eudialyte, and is one of the most well-studied peralkaline complexes in the world.

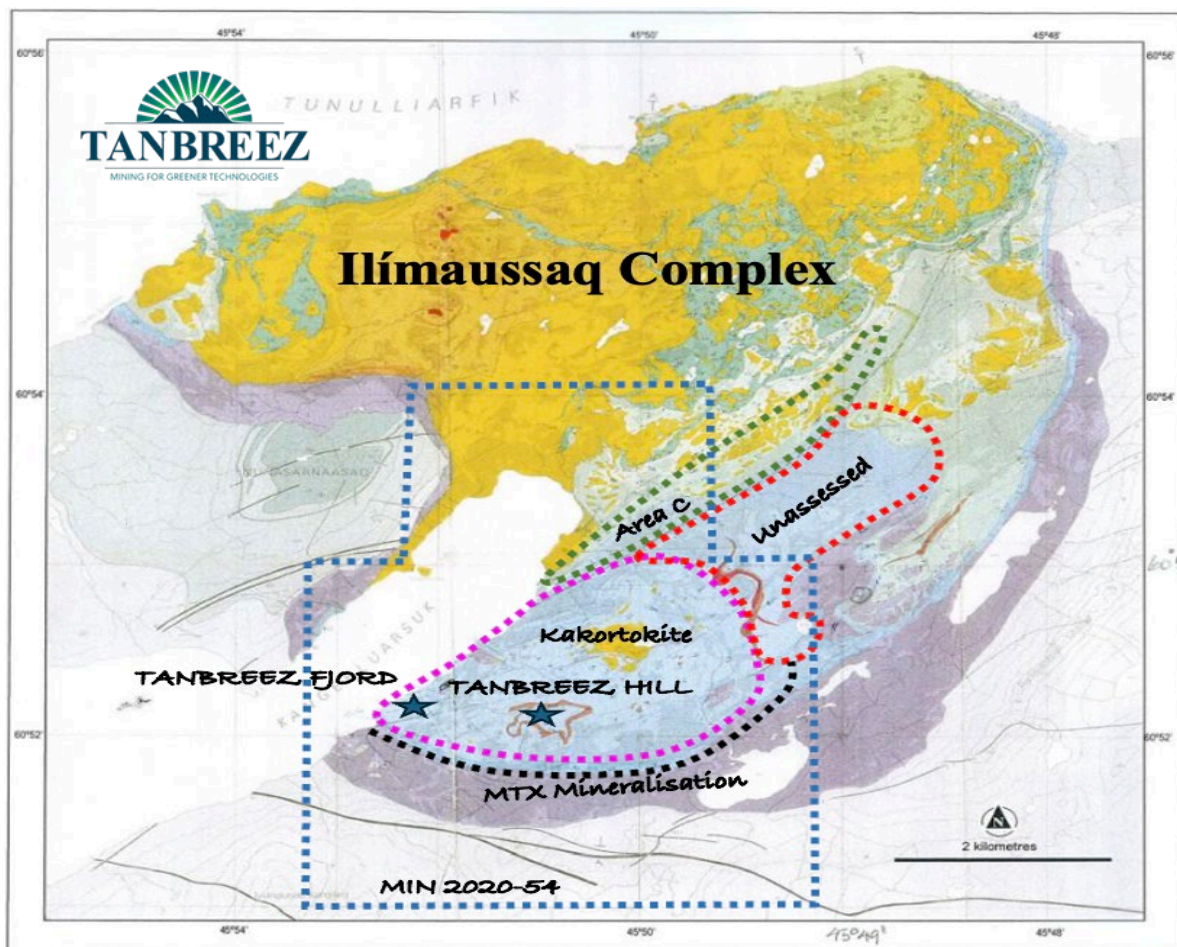


Figure 1 Geological Map showing the expansive area of Host Rock Kakortokite surface outcrop and MRE zones for the Tanbreez Fjord and Tanbreez Hill Deposits

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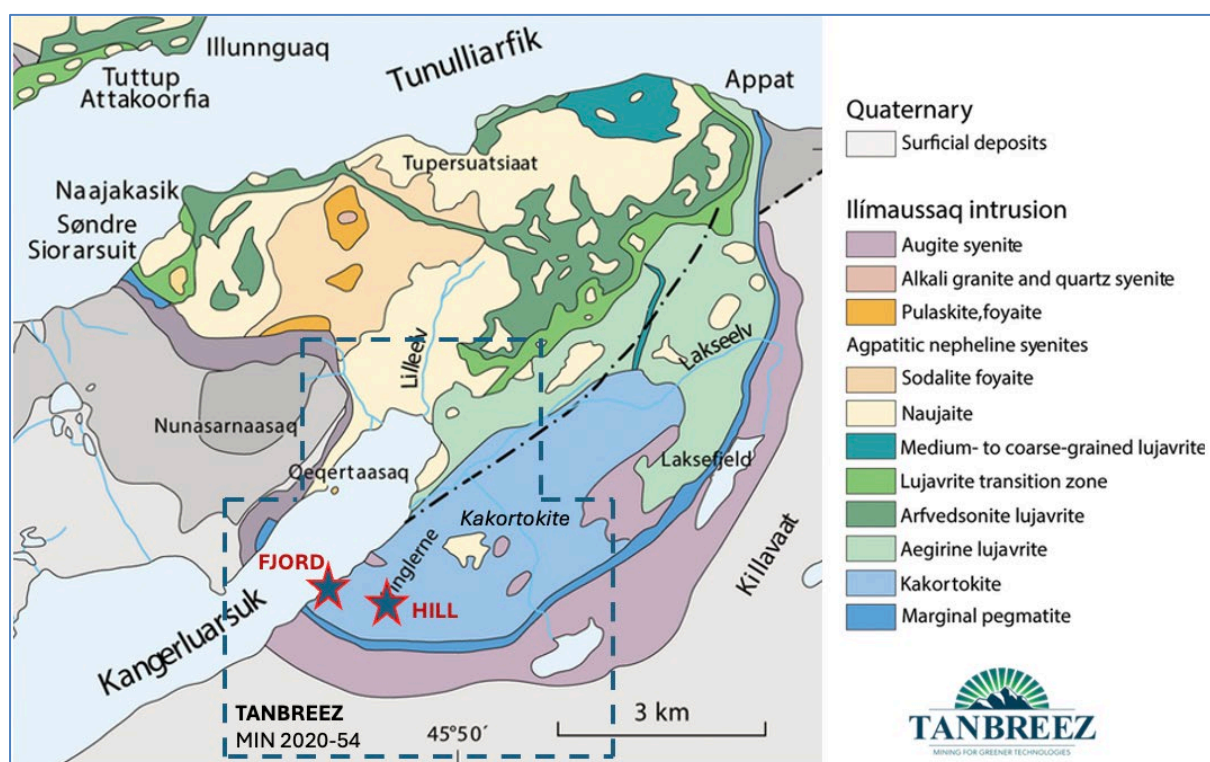


Figure 2 The Tanbreez Fjord and the Tanbreez Hill rare-earth mineral sites are hosted within a Kakortokite unit covering an area of approximately 5km x 2.5km, estimated at 4.7 billion tonnes of Kakortokite of which host that does not indicate any certainty of hosting mineralization

The layered Kakortokite unit is well-exposed along the coast, east of the Kangerluarsuk fjord. It constitutes a modal mineralogy of alkali feldspar, nepheline, arfvedsonite and eudialyte with minor sodalite, aegirine, aenigmatite and fluorite, (see Figure 1)

The unit forms an approximately 250 to 300-metre-thick sequence consisting of at least 30 layered units. Each unit is on average 8 m thick and consists of a basal black layer dominated by arfvedsonite followed by a thin red layer rich in eudialyte (sometimes poorly developed) and sealed by a thick white top layer rich in feldspar and nepheline.

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Figure 3 The layered Ilimaussaq intrusion, host of the Tanbreez Project showing middle and lower ground slopes and plateau with distinct and dominant banded layered Kakortokite

The exposed sequence rises from the Fjord up to about 400m above sea level and is comprised of 95% Kakortokite and 5% other rocks, mostly syenite dykes and sills.

Kakortokite is a rare, layered igneous rock composed primarily of nepheline, alkali feldspar, and aegirine, often with significant amounts of eudialyte, arfvedsonite, and other rare minerals. It is typically found in peralkaline igneous complexes, particularly in nepheline syenites.

The host unit dips shallowly to the north at about 10-15°. This layering is composed of black, red and white layers with the colours reflecting enrichment of various minerals:

- The black layers are enriched in arfvedsonite.
- The pink layers are enriched in eudialyte.
- The white layers are enriched in alkali-feldspar and nepheline with local sodalite.

This layering stands out clearly from the distance however it is not always so obvious up close and in drill core. Some layers are faint while others are much more strongly developed.

There is a pronounced thickness variation between layers as well as in texture and grain size which helps in identifying marker horizons.

Eudialyte is a rare, complex silicate mineral that contains zirconium, sodium, calcium, iron, manganese, and rare earth elements (REEs). It typically forms in peralkaline igneous rocks, such as nepheline syenites and Kakortokites, and is known for its distinctive red to pink coloration.



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The eudialyte content of the black and white layers is similar with a little less than 10% by volume, whereas the eudialyte content of the pink layers is around 30 - 40% vol.

Sampling and Sub Sampling Techniques

Sample Preparation & Storage

The core was transported from drill hole to the centre of operation at Qaqortoq via helicopter. All samples were logged in Greenland and then split (with one quarter of each core being cut and sent to Perth Western Australia for crushing and assaying). Duplicate samples and samples for petrological work where a second quarter of the core was used. Samples were usually assayed in one metre sections.

The core samples were then sent to Perth where the core was crushed, split and assayed in a commercial laboratory. The bulk sample from this is stored while an approximate 200g repeat of the final grind prior to assays is also kept in Perth. The cut core in Greenland stored in core trays is stored in 6 locked containers. Following the receipt of assays and with the elapse of time all cores have been relogged at least a second time.

Percussion drill samples were taken each metre which was then split to approximately 2kg to be sent to Perth for testing. The remainder is stored in locked containers at Qaqortoq. A representative sample from the percussion drill holes is also stored in Perth. In places of lesser importance such as through syenite sills these samples were combined to 5 m sections.

The Perth drill hole pulp is stored at the company's office at South Perth, in a locked shed storage units located near the Perth airport and regional Western Australia for the bulk samples.

Some 200 tonnes of the bulk samples remain to be tested. Bulk samples were taken in 200 litre drums or 1-tonne bags and then transported via a helicopter to a beach where they were barged to Qaqortoq and sealed in drums prior to shipment to Perth. Some large diameter diamond drill holes were drilled in the deposit for geotechnical drilling and stratigraphic study are stored at Qaqortoq.

Analysis

All analysis, bulk testing has been undertaken at commercial independent laboratories under the supervision of the company and its own independent advisers. The company has been fortunate in that with so many elements in direct proportion errors in assaying, mistyping of results etc are obvious and easily rechecked initially by graphing (referred to later in this report). The handheld XRF machines owned by the company, both have been standardised against the approximately 2000 splits from 2007. No handheld XRF results have been used to determine published head grade, (See Diagram 1).

Detection Limits

The Company has data managed over 500,000 assays, spread over 40 years and used the facilities of no less 10 separate laboratories with different analysis techniques taking into consideration the range of detection limits.

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There were also considerable variations with options used for assaying. For example, in one particular year the lower limit for thorium and uranium was set at 50 ppm, which is above background level, but well below the 130-ppm established standard where it is deemed hazardous. Thus, giving virtually, a whole year results as less than 50 ppm. As an example, below is a list of the various lower standards.

In the case of rare earths, most laboratories utilise 0-1000 ppm by ICP and then 1000 ppm – 100% using the XRF (Fusion), as neither is accurate outside the range (for the handheld XRF limits are not quoted as they are not used in the calculations).

Care must be then taken to ensure the higher XRF values are comparable to the ICP. One year in 2012 all REE were rejected due to the problem that the XRF values were far too high when compared to the ICP.

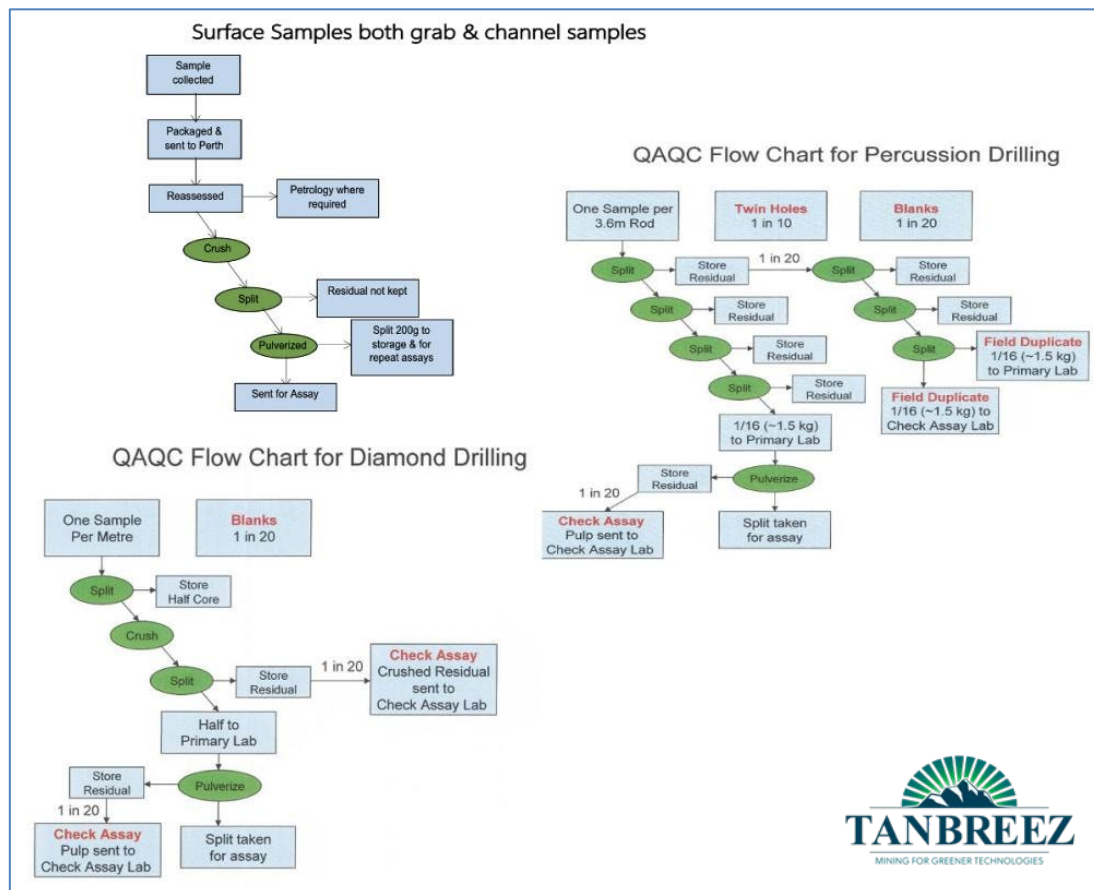


Diagram 1 Tanbreez – Rimbal QA-QC Flow Sheet Quality Control and Quality Assurance Programs

The original QA/QC program was set up by the independent geological firm, SRK for Tanbreez, and Tanbreez has followed those guidelines, although as a private company this was not a requirement as the JORC code for example was setup for companies to report to the ASX. The following procedures have been used to obtain samples for assays.

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The overall conclusions of the QA/ QC work completed are as follows:

- a) The 2007 samples repeated by UltraTrace showed no variation over 27 elements except for hafnium which showed some variation due to sample concentration and detection gap.
- b) Samples re-assayed from Highwoods 1980's showed high correlation of results when re-assayed by UltraTrace some 20 years later.
- c) Samples assayed by UltraTrace and SGS also showed a high degree of correlation.
- d) Five large bulk samples taken showed that variation did occur between labs if care was not taken with overriding instructions and a need for clear understanding of variation that can occur between different methods e.g. differences between ICP and XRF can be minimised.
- e) A large proportion of the hundreds of samples had their S.G. tested and show most were in the range 2.72 to 2.81 (except where sodalite was present).
- f) For most assaying campaigns, blanks from the Julianhab granite were used. These showed almost constant results, and no assay campaigns were rejected on the ground of cross contamination between samples during crushing.
- g) In 2007, 2010 and 2013 drilling programs approximately 1:20 samples were randomly repeated which except for minor variation in hafnium showed remarkable consistency.
- h) In 2007, 2010 and 2013 duplicate samples of samples were taken meeting both 2004 JORC and 2012 JORC standards given the respective program to JORC changes – these likewise showed remarkably similar results.
- i) Standards provided by the laboratories again showed remarkably similar results, (see Diagram 1).

The sample preparation, security, and analytical procedures applied for the Tanbreez Project were appropriate and fit for the purpose of establishing an analytical database for use in grade modelling and preparation of Mineral Resource Estimates emphasis on meeting both 2004 JORC and 2012 JORC standards given the respective changes to the program to JORC Codes

Drilling Techniques

Between 2000 and 2013, the Tanbreez deposit in southern Greenland underwent extensive drilling to evaluate and confirm its rare earth element (REE) resources. Initial exploration efforts in the early 2000s focused on geological surveys and sampling, which identified significant mineralization of eudialyte—a mineral rich in zirconium, niobium, tantalum, and REEs—within the Ilímaussaq intrusive complex.

Key highlights of the drilling campaigns:

- **2007 and 2010:** Targeted drilling programs were conducted. Several stratigraphic drill holes were completed to establish a clearer picture of the deposit's scale and mineral composition. These efforts supported Tanbreez Mining's application for an exploitation license. Rimbal drilled 14 diamond holes in 2007 and 46 diamond holes plus 49 RC holes in 2010

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- **2013:** Additional drilling and metallurgical testing refined estimates of the deposit's size and economic feasibility. Studies confirmed that approximately 30% of the total REEs at Tanbreez were heavy REEs, which are particularly valuable. Rimbal drilled 9 diamond holes in 2013. The overall drill database of 414 drill holes was used to compile a Mineral Resource Estimate and a Definitive Feasibility Study in 2016 (not published for private use only). 184 drill holes were included in the MRE assessment, including 66 valid holes drilled by Highwood, (See Table 1 and Appendix 2).

The combined maiden drilling (2007-2013) was used to formulate the MRE with no added or further drilling results were use.

- **2017:** This work and the Environmental Impact Assessment (EIA), Social Impact Assessment (SIA) and Impact Benefit Agreement (IBA) were presented to the government as an application for an exploitation licence, (not published for private use only).
- **2020:** The Greenland government granted an exploitation license (MIN 2020-54), marking a transition from exploration to development. This was based on extensive prior drilling and feasibility studies.

By 2020, Tanbreez was considered one of the world's largest REE deposits, with over 4 billion tonnes of mineralized Kakortokite that does not indicate any certainty of hosting mineralization.

DRILLING STATISTICS	Year	Number	Metres	Average
First Phase	JORC 2004			
Diamond	2007	14	2,148.20	153.4
RC	2007	67	1,083.10	16.2
Second Phase	JORC 2004			
Diamond	2010	46	901	19.6
RC	2010	48	1,470.00	30.6
Third Phase	JORC 2012			
Diamond	2013	9	829.5	92.2
Total		184	6431.8	35.0

Table 2 Drilling Table showing date, frequency and meterage for the Maiden MRE

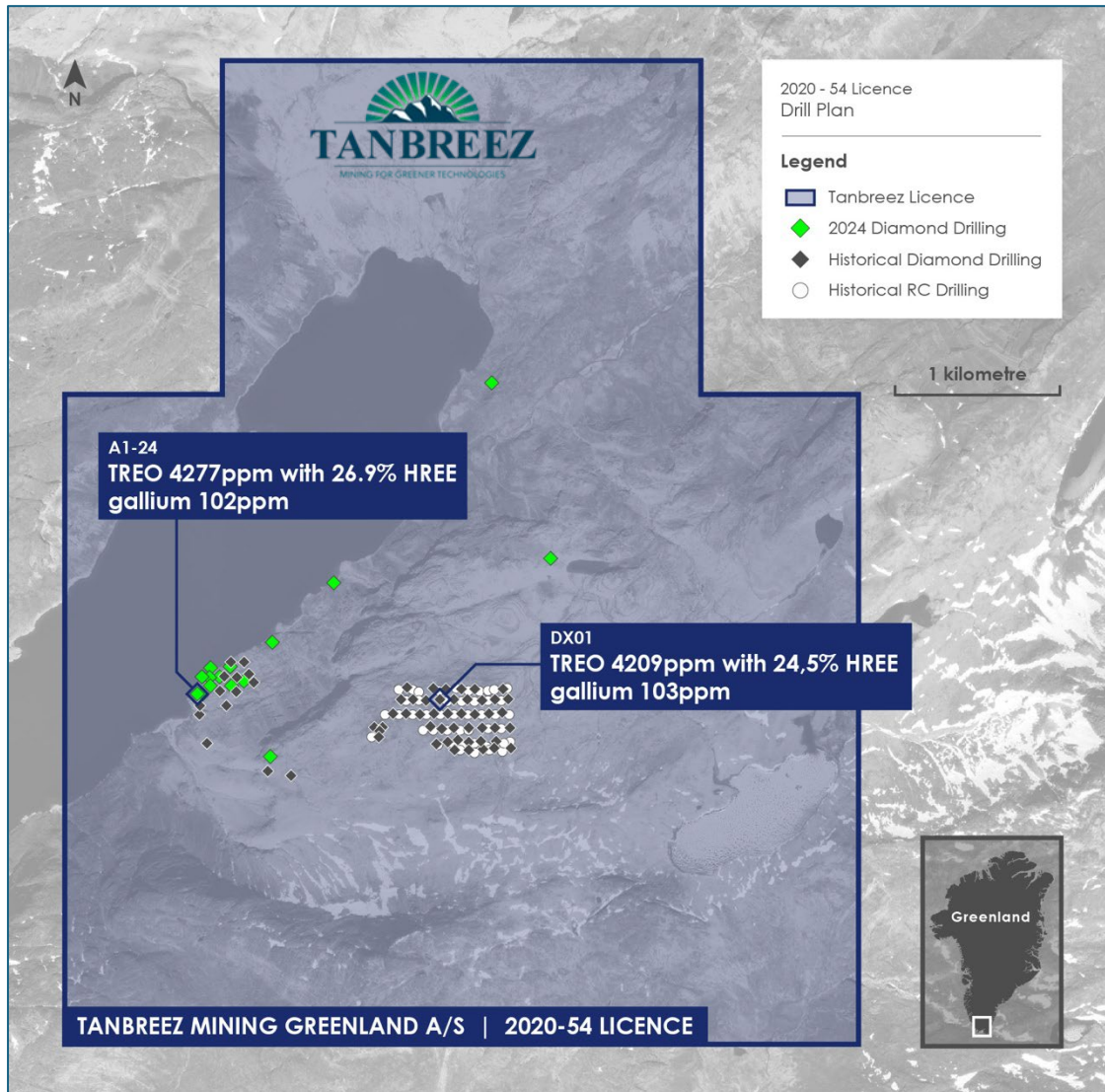


Figure 4 Drill Collar Plan of drill hole collars over the MRE Zones with Diamond Hole A1-24 (40 metres) confirmation drill hole announced on the ASX in January 2025 and DX-01 Stratigraphic drill (338 metres) drilled in 2013 showing average grade of Ga_2O_3 and TREO and HREE

Please note neither drill holes A1-24 or DX-01 stratigraphic deep hole were used in the Mineral Resource Estimate.

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Figure 5 Diamond drilling 2013 over eudialyte surface outcrop (in foreground) over the Fjord MRE Zone

Criteria Used for Classification

The drill hole data was first compiled then verified and checked for errors. No significant problems were found in the data once it was compiled. East-west cross sections were created by digitising the Upper and Lower blocks at Tanbreez Hill and the mineralised zone at Tanbreez Fjord, snapping to the drill hole intercepts.

Given that the eudialyte mineralisation is quite regularly disseminated throughout the Kakortokite host rock there is sufficient geological mapping to give confidence on the limits of the modelling and the quality of drill hole data is sound, all resources at Fjord West within 50 m of a drill hole intersection are considered Indicated and between 50-100 m of a drill hole intersection Inferred according to the JORC (2012) code. Due to the lack of drilling on a regular grid at Fjord East the resources within 50 m of a drill hole intersection are considered only Inferred.

To assist with mining scoping studies the modelling was extended out to 250 m and this modelled mineralisation beyond the Inferred Resources is classified as an Exploration Target according to the JORC code for reporting mineral resources and ore reserves and that this modelling is therefore only conceptual in nature as there has been insufficient exploration drilling done in these areas to define a Mineral Resource and it is uncertain if further exploration will eventually result in the determination of a Mineral Resource.

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Sample Analysis Method

Diamond drill holes, R.C. holes, channel chip samples with samples cross checked at separate laboratories, at different times. The samples have also been independently checked twice with a handheld XRF machine using pressed duplicates.

Drill holes have been twinned with diamond, R.C. and even channel samples repeat. Repeat holes of diamond drilling, R.C. holes and surface samples are almost identical in assays.

The sampling shows very even grade with no nugget effect at approx. 2% ZrO₂ the grade remaining remarkably constant. All mineralisation is within the mineral eudialyte with as a result the Zr is directly proportional to HF, Ta, Nb, all the REE and HREE mineralization. .

All the assaying was completed by Ultra Trace Pty Ltd in Perth, Western Australia by ICP analysis. The remaining pulps not used for assaying are stored in Perth.

Initially a full scale ICP analysis was done on holes 2010DD10-D20, 2010DD10-D13, 2010DD10-D30 and 2010DD10-D42. The results were obtained, and it was decided by Rimball that the remaining samples would be assayed for Zr, Ce, Dy, Nb, and Y only for the 2010 drilling program.

Thereafter a full suite of rare Earth oxides, ZrO₂, Nb₂O₅ and other oxides were analysed for the 2013 drilling Campagne under the guidelines of JORC 2012, (see Table 6 and appendix 3)

There is a clear relationship between ZrO₂ and REO (using Dy₂O₃ as a proxy) and the median that was used to estimate REO values for the earlier drilling programs, (See Table 5)

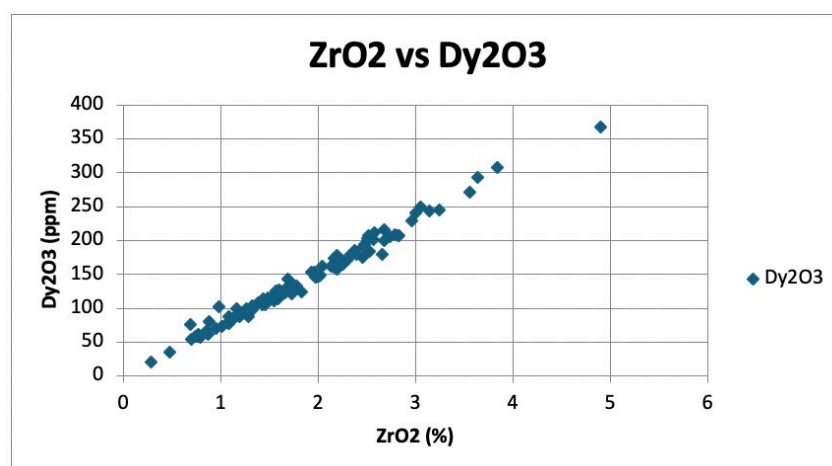


Table 3 Shows relationship with zirconium oxide and dysprosium oxide over 203 samples



2013 Drilling	ZrO ₂ %	TREO %	HREO %	LREO %	HREO % %	TREO: ZrO ₂
Average	1.70	0.45	0.12	0.33	27.1%	0.26
Median	1.43	0.39	0.10	0.28	26.7%	0.27
Minimum	0.01	0.02	0.00	0.02	18.1%	1.99
Maximum	7.38	1.72	0.48	1.28	27.8%	0.23

Table 4 Shows average grade percentiles of TREO light and heavy REE's in relation to ZO₂ (see Appendix 3)

Estimation and modelling techniques

The resource modelling method using digital block models with grades interpolated using the Inverse Distance Squared algorithm with restricted search ellipses and domain wireframes is appropriate for the style of mineralisation modelled. No deleterious element was identified. Cutting and capping of grades was not used as the grade of each unit is remarkably constant along strike and down dip with very few outliers. The resource model was validated by visually checked against drilling and statistically comparing the resource grades against the drill assays.

The modelling was done in two passes. The first pass with a wider 100 m horizontal circular radius was used to model the Inferred resource and the second pass 50 m horizontal radius was used to model the Indicated resource. The wider 100 m horizontal search radius with a 10m vertical ellipse radius produced a more smoothed grade model than the second pass with a tighter 5 m vertical radius. Once the modelling was complete the model above the topography was removed.

The resources were modelled using MineMap software. Search radii of 250 m horizontal circular and 50 m vertical was used to model resources. The search ellipses were oriented



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vertically in the edge zone and horizontally in the core.

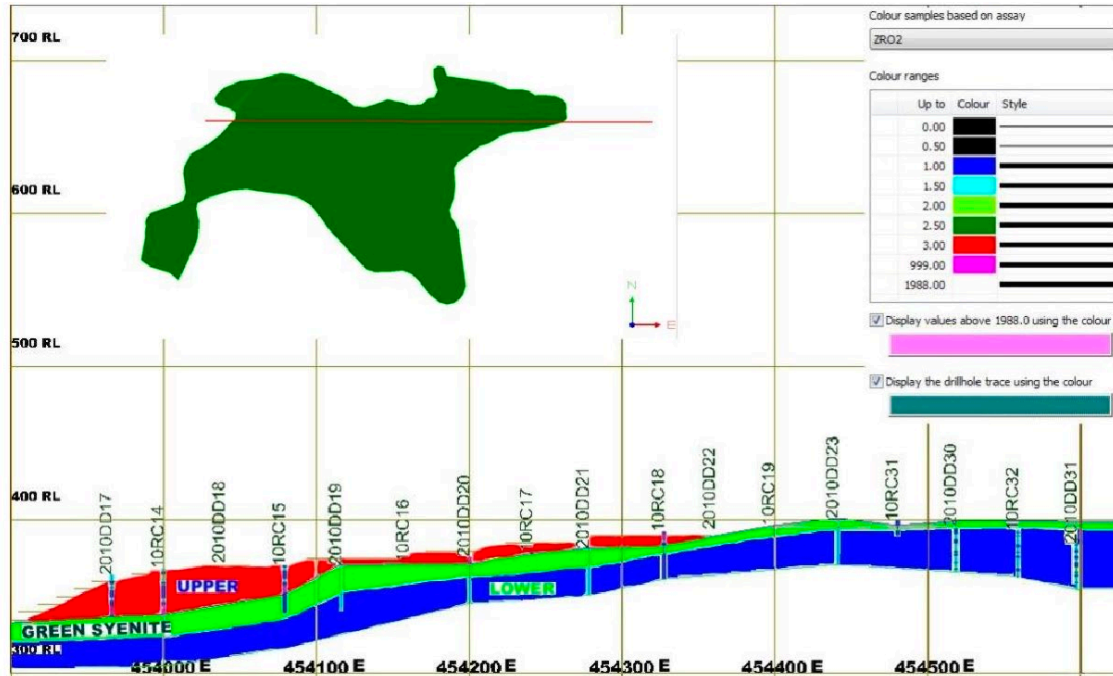


Figure 6 Tanbreez Hill - A typical cross section showing Upper and Lower blocks with interstitial "green" syenite for the MRE.

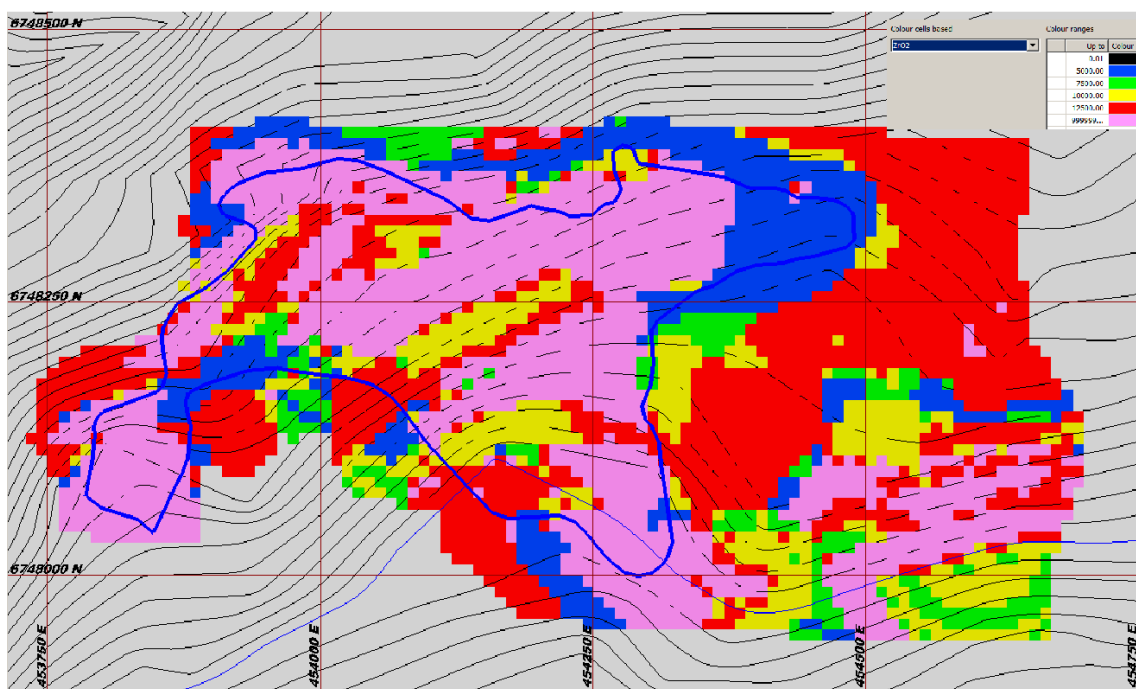


Figure 7 Tanbreez Hill - The upper surface of the block model. The blue line shows the mapped limits of the green syenite sill within which the Upper resource estimate was confined.

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Cut-off parameters

No cut-off grades applied to the resources as the deposit will be bulk mined. The anticipated mining method and detailed review of grade variability suggests that all the mineralised zones will be sent to the ROM Pad. Arfvedsonite and Feldspar may be recovered and sold with estimated waste materials less than 5%. The average grade without applying a cut - off grade is 0.38% TREO.

If a bottom cut off is applied there is potential to raise the resource grade. The average grade for the entire length of the stratigraphic holes below the Mineral Resource Estimate is 0.40 to 0.45% TREO, (see table 7 and Appendix 3).

Percentile	ZrO ₂ %	TREO%	HREO	LREO	HREO%
10%	0.93%	0.27%	0.07%	0.20%	24.55%
20%	1.07%	0.30%	0.08%	0.23%	25.57%
30%	1.20%	0.33%	0.09%	0.25%	26.16%
40%	1.32%	0.36%	0.09%	0.26%	26.69%
50%	1.43%	0.39%	0.10%	0.28%	27.02%
60%	1.58%	0.43%	0.12%	0.32%	27.48%
70%	1.77%	0.48%	0.13%	0.35%	27.85%
80%	2.17%	0.55%	0.15%	0.40%	28.28%
90%	2.78%	0.71%	0.20%	0.51%	28.71%

Nine diamond drill holes, 671 assays

Table 5 shows the distribution if TREO assays for the 2013 Drilling Program (See Appendix 3 Assay tables for all 2013 drill results)

Mining, Metallurgical and Environmental Factors

The resources will be bulk mined in open pits, so no mining losses or dilution factors are required.

Extensive metallurgical testwork has been undertaken on samples of eudialyte and a bulk sample through a pilot plant. Pilot Plant scale tests have been carried out prior to Tanbreez material by Highwood, EURARE and Curtin University. In 2009 and in 2011 Tanbreez commissioned an Australian metallurgical test laboratory (Ammtec) to conduct detailed metallurgical testing to establish the parameters required for the design of a physical processing circuit for the ore. The results of the testwork are to be included in the design criteria to enable the completion of a feasibility study.

Total number of Assays	336,548
Total weight of bulk tests	709 tonnes
Separate Bench size bulk mechanical tests over 1kg	1469
Mechanical bench tests over 100kg	169
Chemical Separation tests (metallurgical	2229

Table 6 Metallurgical tests completed by Rimbal Pty Ltd on the Tanbreez Project.



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Key processing characteristics of the ore include:

- The TANBREEZ deposit contains three main mineral species: arfvedsonite, eudialyte and feldspar.
- The eudialyte contains all the valuable metals of interest in the ore. The valuable elements have been shown to occur in constant proportion to the zirconium content. This has enabled testwork and design to progress based on Zr assays.
- The eudialyte is liberated at the relatively coarse grain size of 330 μm .
- The eudialyte can be physically upgraded by a factor of three by magnetic separation.

The three primary minerals within the orebody have been shown to have specific magnetic properties. The arfvedsonite is highly magnetic and the feldspar is nonmagnetic, while the eudialyte exhibits magnetic behaviour in a strongly magnetic field. These properties have been utilised in formatting a testwork programme at Ammtec with the results from that campaign taken into the feasibility study.

The following programs of testing are currently being conducted at Ammtec.

- Bench scale magnetic separation tests to refine specific process criteria.
- Bulk high pressure grinding rolls and semi-commercial scale magnetic separation testing to produce sufficient eudialyte and feldspar samples for downstream processing by others.
- Tailings settling studies and waste rock testwork to provide input to the environmental aspects of the feasibility study.

Mineral Resource Classification

Al Maynard & Associates Pty Ltd (“Maynard”) was commissioned by Rimbal Pty Ltd (“Rimbal”) to estimate the zirconia and rare earth resources and provide details on the resource estimates at the two sites within the Kakortokite unit. Maynard updated its reports to the JORC Code 2012 in 2016. The authors of the report are independent consultants with a long experience with the project. They qualify as ‘Competent Persons’ under the JORC Code 2012 and the VALMIN Code 2015. The Mineral Resource Estimate (MRE) was completed in August 2016. Rimbal Pty Ltd is a private company and not required to make announcement to the public. Following the acquisition of the Tanbreez Project, European Lithium undertook expensive due diligence including technical assessment and auditing of the company accounts that have now been completed to the satisfaction of the Company. European Lithium is a company registered on the ASX and an holds equity in the Project has now prepared this Release in conjunction with obligations to the SEC.



Between 2007 and 2013, the Tanbreez deposit in southern Greenland underwent extensive drilling to evaluate and confirm its rare earth element (REE) resources. Initial exploration efforts in the early 2000s focused on geological surveys and sampling, which identified significant mineralization of eudialyte—a mineral rich in zirconium, niobium, tantalum, and REEs—within the Ilímaussaq intrusive complex.

The mineral resource estimate is based on the drilling results from three phased of work in two locations (Tanbreez Hill and Tanbreez Fjord) totalling 184 holes for 6431.8 metres. Some of the earlier drillings were completed under the JORC Code 2004. Critical Metals Corp completed a drilling program in late 2024 to confirm the earlier drilling used in the MRE and to test beneath the MRE. The drill holes were strategically positioned to both confirm the existing mineralization, demonstrate the existence of mineralisation through the Kakortokite unit and to enhance the overall quality control process for the mineral body at the Tanbreez Project.

- *Al Maynard & Associates Pty Ltd, 2016, Resource Estimates at Two Sites within the Tanbreez Project (JORC 2012) for Rimbal Pty Ltd, Revised: 30 August 2016*

The information regarding the Mineral Resource Estimates as of 2017 at Tanbreez Hill Zone and Tanbreez Fjord Zone within the Tanbreez Project represent the independent opinion of Al Maynard and Associated Pty Ltd for the current estimates of such resources. The estimates are in accordance with the requirements on the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, December 2012 (the “JORC Code”).

The estimates of the Tanbreez Project are based on interpretations of geological data obtained from drill holes, surface and creek section mapping and sampling through the entire Kakortokite sequence.

The Competent Person for Al Maynard and Associated Pty Ltd believes that the quoted resource categories in the resource statements are appropriate and properly take into consideration the geology and style of the mineralisation, the density, spacing and quality of the sampling data and grade variability of the mineralisation.

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TANBREEZ PROJECT	Million Tonnes	CeO ₂ %	Dy ₂ O ₃ %	Nb ₂ O ₅ %	Y ₂ O ₃ %	ZrO ₂ %	TREO %
TANBREEZ HILL							
Indicated Resource							
Upper	3.20	0.19%	0.02%	0.14%	0.09%	1.72%	0.47%
Lower	13.46	0.16%	0.01%	0.11%	0.06%	1.11%	0.30%
Total	16.66	0.16%	0.01%	0.12%	0.06%	1.22%	0.33%
Inferred Resource							
Upper	0.93	0.19%	0.01%	0.13%	0.08%	1.48%	0.40%
Lower	4.72	0.14%	0.01%	0.10%	0.06%	1.04%	0.28%
Total	5.65	0.15%	0.01%	0.11%	0.06%	1.11%	0.30%
TOTAL	22.31	0.16%	0.01%	0.11%	0.06%	1.20%	0.33%
FJORD DEPOSIT							
Indicated Resource	8.76	0.16%	0.01%	0.17%	0.07%	1.63%	0.44%
Inferred Resource	13.80	0.15%	0.01%	0.16%	0.07%	1.55%	0.42%
TOTAL	22.56	0.15%	0.01%	0.16%	0.07%	1.58%	0.43%
Tanbreez Hill and Fjord							
Indicated Resource	25.42	0.16%	0.01%	0.13%	0.07%	1.37%	0.37%
Inferred Resource	19.45	0.15%	0.01%	0.15%	0.07%	1.42%	0.39%
TOTAL	44.87	0.16%	0.01%	0.14%	0.07%	1.39%	0.38%
Estimated in accordance with the JORC Code 2012					TREO:ZrO2 - Ration 0.27		
No lower cut off values were applied to the estimation					TREO Content estimated from this ratio		
Source: Al Maynard and Associates, 30 August 2016							

Table 7 Showing the MRE details of the 2016 Mineral Resource Estimate and assay results (see Appendix 3 Assay tables for all 2013 drill results)

Review and Opinion on the Mineral Resource Estimate

The 2016 Mineral Resource Estimate Report was reviewed by Malcolm Castle, principal consultant for Agricola Mining Consultants Pty Ltd. Mr Castle holds a BSc Hons (Applied Geology UNSW) and GCertAppFin (Sec Inst and is a Member of the Australasian Institute of Mining and Metallurgy (M AusIMM). Mr Castle is a Competent Person under the JORC Code 2012 and is independent of the Tanbreez Project and its owners.

The information provided in the report by Al Maynard and Associates clearly sets out the steps taken to ensure and high-quality outcome for the resource estimate.

The current Mineral Resource estimates are classified as Indicated and Inferred Resources under the JORC Code 2012. Details of the estimate are included in JORC Table 1 attached to the report. and have been determined by drill density and number of drillholes and samples utilized in grade estimation. The resource classification accounts for all relevant factors and reflects the views of the deposit prepared by Al Maynard and Associates Pty Ltd. The resource classification appropriately and reasonably reflects the varying levels of confidence of the resource model to predict average grade and tonnages for the resources if it were to be mined.

13 March 2025



Confidence in the relative accuracy of the estimate is reflected by the categorization of the mineralisation as Indicated and Inferred Resources.

Malcolm Castle is satisfied that the Mineral Resource Estimates are reasonable and carried out to a high professional standard in accordance with the JORC Code 2012. There is no more recent information available that would materially alter the finding of the 2016 Mineral Resource Estimate.

Competent Persons Statement – Malcolm Castle:

The information in this Report that relates to Exploration Results and Mineral Resource Estimates of the Company is based on, and fairly represents, information and supporting documentation reviewed by Malcolm Castle, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Castle 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 under the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Castle is not an employee of the Company and is the independent principal consultant for Agricola. Mr Castle consents to the inclusion in this report of the matters based on the information and supporting documentation in the form and context in which they appear.

JORC Compliance and Competent Person Statement

The information in this announcement that relates to the Maiden Mineral Resource Estimate is based on and fairly represents information reviewed by George Karageorge, who is a Member of AusIMM. He has sufficient experience relevant to the style of mineralization and type of deposit under consideration.

Competent Person Statement – George C Karageorge

Statements contained in this report relating to exploration results, scientific evaluation and potential, are based on information compiled and evaluated by George Karageorge. Mr Karageorge is Principal of Geosan Consulting, and a Member of the Australian Institute of Mining and Metallurgy (AusIMM), is a geologist with sufficient relevant experience in relation to rare earth and rare metal mineralization being reported on, to qualify as a competent Person as defined in the Australian Code for Reporting of Identified Mineral resources and Ore reserves (JORC Code 2012).

Mr Karageorge consents to the use of this information in this report in the form and context in which it appears.

Next Steps

Critical Metals Corp. plans to undertake further verification work, including infill drilling, metallurgical test work, mine design and feasibility studies.

The Company will provide further updates to the market as this work progresses.



For more information, please visit :// europeanlithium.com. or criticalmetalscorp.com for an updated investor presentation

This announcement has been approved for release on ASX by the Board of Directors.

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Appendix 1: JORC Table 1

JORC Code, 2012 Edition – Table 1 TANBREEZ DEPOSIT

Section 1 Sampling Techniques and Data

Al Maynard & Associates Pty Ltd, 2016, Resource Estimates at Two Sites within the Tanbreez Project (JORC 2012) for Rimbal Pty Ltd, Revised: 30 August 2016

Criteria	JORC Code explanation	Commentary
Sampling techniques	- Nature and quality of sampling (e.g. 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.	Diamond drill holes, R.C. holes, channel chip samples with samples cross checked at separate laboratories, at different times. The samples have also been independently checked twice with a hand held XRF machine using pressed duplicates. Drill holes have been twinned with diamond, R.C. and even channel samples repeat. ☑ Repeat holes of diamond drilling, R.C. holes and surface samples are almost identical in assays. ☑ At this stage about 97% of the body is economic and can be mined and treated. ☑ The sampling shows very even grade with no nugget effect at approx. 2% ZrO₂ the grade is remarkably constant. All mineralisation is within the mineral eudialyte with as a result the Zr is directly proportional to HF, Ta, Nb, all the REE etc.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).	☑ Diamond, R.C., channel chip sampling – partly in previously diamond cut channels. The deposit has no weathering and virtually outcrops 100%.

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Criteria	JORC Code explanation	Commentary
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and 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.	☑ All cores have been logged ☑ Sample recovery is virtually 100% ☑ No loss of material and as a result no bias.
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 in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	☑ All cores are logged and photographed ☑ Virtually all sections of all cores are in ore grade material with only sections in the augite syenite and black Madonna not being economic
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all cores 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.	☑ Usually half core has been assayed, in some sections core has been taken for petrological work ☑ R.C. holes were riffle split to size ☑ Sample preparation is standard of core split, all crushed and split (usually by an independent laboratory) ☑ Quality control, standards, repeats, duplicates and blanks have been used ☑ The grain size is about sand size and these samples on re-assaying give almost identical results. ☑ All assaying methods and techniques are appropriate

Criteria	JORC Code explanation	Commentary
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	☑ Handheld XRF results have not been used for resource modelling ☑ Different assay techniques all match within acceptable limits ☑ These samples assayed, often twice, were used to calibrate the XRF machines successfully. ☑ All have been done and all showed results at acceptable levels of recovery or better
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.	☑ The nature of the geology does not lead to significant variable grade intersections, rather a constant grade ☑ Twin holes have been used to give similar results ☑ No adjustment to assay data was required.
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.	☑ Drill holes were surveyed using an independent surveyor ☑ The early holes (1989) used a local grid subsequent transferred to a GPS (1994). Topographic control from existing maps and from a recent geophysical survey.
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.	☑ Drill hole spacing varies to accommodate steep topography meaning holes on standard grids have to be slightly shifted ☑ Sample distribution is adequate for good geological control ☑ Sample compositing to 5m sections done in some percussion holes



Criteria	JORC Code explanation	Commentary
<i>Orientation of data in relation to geological structure</i>	- 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.	☑ No structural bias is possible in this large deposit ☑ Variation to grade is slight as the rocks generally dip shallowly to the north – most holes were vertically drilled
<i>Sample security</i>	The measures taken to ensure sample security.	☑ Samples taken and kept in locked containers in nearby town
<i>Audits or reviews</i>	The results of any audits or reviews of sampling techniques and data.	☑ All data is reviewed as a matter of fact about every 3 years. External reviews by banks and the government have occurred on several occasions – so far no differences to the interpretation, results, size have been advanced

Section 2 Reporting Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	- 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.	☑ The exploration licence is controlled 100% by the group. An application for an exploitation licence has been submitted, under Greenland law this cannot be refused. The Exploitation Licence MEL 2020-54 was granted in August 2020
<i>Exploration done by</i>	Acknowledgment and appraisal of exploration by other parties.	☑ Earlier exploration by other groups is included and acknowledged with all their drill cores being re-assayed

Criteria	JORC Code explanation	Commentary
other parties		
Geology	• Deposit type, geological setting and style of mineralisation.	☑ A zone 5km x 3km x 400m of disseminated mineralisation in very large igneous intrusions
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	☑ All holes have been surveyed – earlier drilled holes have been placed by translating the local coordinates then used to today's GPS. ☑ Summaries of drill holes and location maps included in report. See appendix 1
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. 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 cut off grades have been used except to the west where about 1% ZrO₂ is used. ☑ Most holes were assayed at 1m intervals irrespective of geology ☑ No metal equivalents used



Criteria	JORC Code explanation	Commentary
<i>Relationship between mineralisation widths and intercept lengths</i>	• <i>These relationships are particularly important in the reporting of Exploration Results.</i> • <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> • <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i>	☑ The mineralisation is layered at a relatively flat dip of up to 20 degrees so the mainly vertical holes intersect the mineralisation at an angle that makes the apparent thicknesses longer than the true widths. The resource modelling method accounts for these apparent thicknesses
<i>Diagrams</i>	• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	☑ All the appropriate maps and sections are included in the report
<i>Balanced reporting</i>	• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</i>	☑ Only grades of resource estimates are quoted in report to avoid biased reporting of drilling results
<i>Other substantive exploration data</i>	• <i>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.</i>	☑ All the meaningful and material exploration data included in the report ☑ So far, no contaminants such as U, Th, F known to affect the ore
<i>Further work</i>	• <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	☑ Immediate future work will concentrate on in-fill drilling on the Tanbreez Fiord and Tanbreez Hill deposits in preparation for mining.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	- Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. - Data validation procedures used.	☑ All results have been proofread by several personnel and independent consultants ☑ All data checked against original logs and assay certificates were possible, checked in MineMap software for down-hole integrity
Site visits	- Comment on any site visits undertaken by the Competent Person and the outcome of those visits. - If no site visits have been undertaken indicate why this is the case.	☑ There have been no site visits by the Competent Person due to a lack of time to visit the isolated site.
Geological interpretation	- Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. - Nature of the data used and of any assumptions made. - The effect, if any, of alternative interpretations on Mineral Resource estimation. - The use of geology in guiding and controlling Mineral Resource estimation. - The factors affecting continuity both of grade and geology.	☑ Total confidence as the orebody is simple structurally and outcrops almost 100%. ☑ All the drill holes match the mapped surface geology ☑ The geology was used to confine the mineralisation in the resource modelling.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	5km x 3km x 400m all outcrop below that level and plunging the north not assessed
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	The resource modelling method, digital block models with grades interpolated using Inverse Distance Squared algorithm with restricted search ellipses and domain wireframes is appropriate for the style of mineralisation modelled. ☑ No deleterious element so far identified ☑ Cutting and capping of grades was not used as the grade of each unit is remarkably constant along strike and down dip with very few

Criteria	JORC Code explanation	Commentary
	<i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i> <i>The assumptions made regarding recovery of by-products.</i> <i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i> <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i> <i>Any assumptions behind modelling of selective mining units.</i> <i>Any assumptions about correlation between variables.</i> <i>Description of how the geological interpretation was used to control the resource estimates.</i> <i>Discussion of basis for using or not using grade cutting or capping.</i> <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i>	outliers. ☐ The resource model was validated by visually checked against drilling and statistically comparing the resource grades against the drill assays
Moisture	<i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i>	☐ The bulk densities used for tonnage estimates are on a dry basis
Cut-off parameters	<i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i>	☐ No cut-off grades applied to the resources as the deposit will be bulk mined.
Mining factors or assumptions	<i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, 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 and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with</i>	☐ The resources will be bulk mined in open pits so no mining losses or dilution factors are required. ☐ Metallurgical and economic studies conducted by the client indicate that the resources can be economically exploited

Criteria	JORC Code explanation	Commentary
	<i>an explanation of the basis of the mining assumptions made.</i>	
Metallurgical factors or assumptions	The 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 and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	☑ Mechanical separation proven for over 100 years (since 1889) – bulk testing by Tanbreez backed up these earlier results. ☑ All separation work has been done by independent consultants
Environmental factors or assumptions	Assumptions made regarding possible waste and 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 and 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 made.	☑ All products and potential wastes have been fully tested by independent environmental consultants ☑ All waste samples tested have proved to be inert ☑ Full E.I.A completed and accepted by the government
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 and representativeness of the samples. - The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. - Discuss assumptions for bulk density estimates used in the evaluation	☑ As expected with a large igneous intrusion with no vugs, bulk density tests produced consistent results throughout the mineralisation. ☑ All the bulk density measurements were taken of dry samples.

Criteria	JORC Code explanation	Commentary
	<i>process of the different materials.</i>	
<i>Classification</i>	<i>The basis for the classification of the Mineral Resources into varying confidence categories.</i> <i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i> <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i>	☑ The Competent Person believes that the quoted resource categories in the resource statements are appropriate and properly take into consideration the geology and style of the mineralisation, the density, spacing and quality of the sampling data and grade variability of the mineralisation.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of Mineral Resource estimates.</i>	☑ There has been no independent audit of the current resource estimates
<i>Discussion of relative accuracy/ confidence</i>	<i>Where appropriate a statement of the relative accuracy and 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 and confidence of the estimate.</i> <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i> <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i>	☑ The global resources quoted have been checked by the Competent Person and the resource categories used properly reflect the accuracy and confidence level of the resource estimates. ☑ The resource modelling was checked using appropriate statistical and qualitatively against the drilling. ☑ There has been no mine production from any of the resource locations however bulk metallurgical samples, when tested, returned assays as expected from the resource modelling.

Drill Holes for MRE Calculations 2007- 2013

Appendix 2

Drill Holes for MRE Calculations 2007

DrillHole	Easting	Northing	Elevation	Dip	Azimuth	Total Depth
DDH-07-01	452657.3	6748241	19	-45	148	93
DDH-07-02	452657.3	6748241	19	-45	174	129
DDH-07-03	452657.3	6748241	19	-45	322	162
DDH-07-04	452657.3	6748241	19	-45	56	228
DDH-07-05	452657.3	6748241	19	-45	88	182
DDH-07-06	452770	6748174	62	-45	232	99
DDH-07-07	452770	6748174	62	-60	232	111
DDH-07-08	452770	6748174	62	-45	322	171
DDH-07-09	452770	6748174	62	-45	52	168
DDH-07-10	452770	6748174	62	-45	142	150
DDH-07-11	452810.1	6748417	25	-80	160	249
DDH-07-12	452899.6	6748332	77	-90	0	78
DDH-07-13	453160.5	6747889	326	-45	200	85.2
DDH-07-14	453160.5	6747889	326	-60	290	243

Drill Holes for MRE Calculations 2008

hole_id	x	y	z	max_depth	Azimuth	dip	priority	purpose	site	comment
DDH0801	452960	6748022	189	230	240	-60	1	Geotech	6	geotech03
DDH0802	452960	6748022	189	225	120	-60	2	Resource	6	
DDH0803	452960	6748022	189	250	60	-60	3	Geotech	6	geotech04
DDH0804	452960	6748022	189	270	35	-45	4	Resource	6	
DDH0805	452960	6748022	189	270	350	-45	5	Resource	6	
DDH0806	452960	6748022	189	270	300	-45	6	Resource	6	
DDH0807	453186	6748178	175	220	240	-60	7	Geotech	9	geotech06
DDH0808	453186	6748178	175	220	60	-60	8	Geotech	9	geotech05
DDH0809	453161	6747889	326	385	350	-60	9	Resource	5	
DDH0810	453161	6747889	326	250	125	-60	10	Resource	5	
DDH0811	453250	6748000	308	320	315	-70	11	Geotech	7	geotech01
DDH0812	453250	6748000	308	440	315	-45	12	Reserve	7	
DDH0813	453250	6748000	308	440	285	-45	13	Resource	7	
DDH0814	453250	6748000	308	350	240	-60	14	Resource	7	
DDH0815	453250	6748000	308	350	144	-60	15	Geotech	7	geotech02
DDH0816	453250	6748000	308	350	30	-60	16	Reserve	7	
DDH0817	453250	6748000	308	250	355	-45	17	Reserve	7	
DDH0818	453375	6748080	300	430	285	-45	18	Reserve	8	
DDH0819	453375	6748080	300	430	315	-45	19	Reserve	8	
DDH0820	453000	6748325	78	110	225	-45	20	Geotech	10	new geotech10
DDH0821	453000	6748325	78	110	315	-45	21	Reserve	10	
DDH0822	453000	6748325	78	110	45	-45	22	Geotech	10	new geotech09
DDH0823	453000	6748325	78	110	90	-45	23	Reserve	10	
DDH0824	453000	6748325	78	110	135	-45	24	Reserve	10	
DDH0825	453000	6748325	78	110	180	-45	25	Reserve	10	
DDH0826	453000	6748325	78	80	0	-90	26	Reserve	10	



Stratigraphic Diamond Holes 2010 within the Hill Zone MRE & no assay results used in the MRE

Hole ID	ID	Easting	Northing	Elevation	Dip	Azimuth	Depth [m]
DX-01	DX-01	454197.9	6748261	384.266	-90	0	384.177

Drill Holes for MRE Calculations 2010

Hole ID	ID	Easting	Northing	Elevation	Dip	Azimuth	Depth [m]
D01	1	454276	6748022	438.043	-90	-90	30
D02	2	453839.2	6748068	395.706	-90	-90	30
D03	3	454178.9	6748059	434.575	-90	0	30
D04	5	454241	6748063	433.382	-90	0	30
D05	7	454300.1	6748059	434.92	-90	0	30
D06	9	453842.7	6748099	388.043	-90	-90	30
D07	10	453809	6748142	378.024	-90	0	30
D08	12	453859	6748137	375.149	-90	0	30
D09	14	454144.7	6748149	417.838	-90	0	30
D10	16	454208.5	6748138	423.982	-90	0	30
D11	18	454276.7	6748151	415.571	-90	0	30
D12	20	453920.1	6748220	360.684	-90	0	30
D13	22	453998.4	6748220	375.055	-90	0	30
D14	24	454083.9	6748219	387.261	-90	0	30
D15	26	454162.4	6748220	395.556	-90	0	30
D16	28	454239.9	6748220	400.73	-90	0	30
D17	30	453966.2	6748296	364.252	-90	0	30
D18	32	454040	6748300	372.082	-90	0	30
D19	34	454116.2	6748299	370.677	-90	0	30
D20	36	454200.2	6748299	375.902	-90	0	30
D21	38	454278	6748305	381.282	-90	0	30
D22	40	454360.7	6748306	394.097	-90	0	30

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Hole ID	ID	Easting	Northing	Elevation	Dip	Azimuth	Depth [m]
D23	42	454441.3	6748292	401.104	-90	0	30
D24	44	454000.9	6748367	343.889	-90	0	30
D25	47	454323.8	6748359	378.067	-90	-90	30
D26	103	454159.5	6748364	361.813	-90	-90	30
D27	105	454233	6748364	366.326	-90	-90	30
D28	107	454400.9	6748362	384.5	-90	-90	30
D29	111	454564.6	6748358	383.302	-90	-90	30
D30	119	454518.4	6748307	396.303	-90	-90	30
D31	121	454597.1	6748302	385.18	-90	-90	30
D32	127	454323.8	6748226	402.655	-90	-90	30
D33	129	454395.4	6748220	402.649	-90	-90	30
D34	131	454480.6	6748220	405.604	-90	-90	30
D35	133	454555.7	6748225	398.606	-90	-90	30
D36	141	454361.4	6748141	409.327	-90	-90	30
D37	143	454440.2	6748141	406.996	-90	-90	30
D38	145	454520.7	6748140	404.172	-90	-90	30
D39	147	454601.6	6748136	406.27	-90	-90	30
D40	154	454360.9	6748052	420.045	-90	-90	30
D41	156	454435.7	6748057	412.87	-90	-90	30
D42	158	454520.8	6748057	414.733	-90	-90	30
D43	167	454358.8	6748020	423.22	-90	-90	30
D44	169	454441.9	6748021	417.365	-90	-90	30
D45	171	454510.9	6748024	420.154	-90	-90	30
D46	173	454603.9	6748024	434.434	-90	-90	30
RC01	4	454195.2	6748057	435.588	-90	-90	30
RC02	6	454285.4	6748059	433.796	-90	-90	30
RC03	8	453800	6748100	392.429	-90	-90	30
RC04	11	453838.2	6748148	372.383	-90	-90	30
RC05	13	454105.5	6748139	412.55	-90	-90	30



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Hole ID	ID	Easting	Northing	Elevation	Dip	Azimuth	Depth [m]
RC06	15	454160	6748140	422.804	-90	-90	30
RC07	17	454239.9	6748140	419.935	-90	-90	30
RC08	19	453881.7	6748214	353.181	-90	-90	30
RC09	21	453961.7	6748218	367.381	-90	-90	30
RC10	23	454040.1	6748219	381.865	-90	-90	30
RC11	25	454119.5	6748220	390.042	-90	-90	30
RC12	27	454200.2	6748219	398.567	-90	-90	30
RC13	29	454280	6748220	405.663	-90	-90	30
RC14	31	454000	6748300	368.497	-90	-90	30
RC15	33	454079.2	6748301	370.222	-90	-90	30
RC16	35	454160.1	6748300	372.514	-90	-90	30
RC17	37	454240.9	6748293	379.487	-90	-90	30
RC18	39	454327.3	6748299	392.556	-90	-90	30
RC19	41	454399.4	6748298	396.436	-90	-90	30
RC20	43	453956.3	6748364	341.678	-90	-90	30
RC21	45	454040.2	6748360	352.618	-90	0	30
RC22	46	454295.7	6748371	373.996	-90	-90	30
RC23	101	454077	6748351	361.444	-90	0	30
RC24	102	454116.6	6748350	366.036	-90	0	30
RC25	104	454193.8	6748359	367.667	-90	0	30
RC26	106	454368.4	6748358	383.243	-90	0	30
RC27	108	454434.2	6748354	389.252	-90	0	30
RC28	109	454483.1	6748355	391.653	-90	0	30
RC29	110	454519.8	6748360	387.719	-90	0	30
RC30	112	454594.9	6748366	381.48	-90	0	30
RC31	118	454480.2	6748300	399.446	-90	0	30
RC32	120	454559	6748300	393.385	-90	0	30
RC33	128	454360.8	6748221	402.563	-90	0	30
RC34	130	454441.1	6748218	404.845	-90	0	30



Hole ID	ID	Easting	Northing	Elevation	Dip	Azimuth	Depth [m]
RC35	132	454520.8	6748219	403.489	-90	0	30
RC36	134	454603.8	6748219	392.959	-90	0	30
RC37	140	454319.8	6748141	415.43	-90	0	30
RC38	142	454361.3	6748141	409.32	-90	0	30
RC39	144	454477.6	6748147	405.594	-90	0	30
RC40	146	454550.4	6748148	403.394	-90	0	30
RC41	153	454319.3	6748060	432.328	-90	0	30
RC42	155	454398.6	6748064	411.684	-90	0	30
RC43	157	454469.1	6748045	414.762	-90	0	30
RC44	159	454567.1	6748061	419.26	-90	0	30
RC45	160	454602.8	6748072	417.915	-90	0	30
RC46	166	454321.5	6748027	431.361	-90	0	30
RC47	168	454400.2	6748014	419.803	-90	0	30
RC48	170	454484.4	6748023	419.784	-90	0	30
RC49	172	454558.3	6748021	428.948	-90	0	30
DX-01	DX-01	454197.9	6748261	384.266	-90	0	384.177
DX-02	DX-02	454958.9	6748309	404.201	-90	0	404.273



Drill Holes for MRE Calculations 2013

Hole ID	Easting	Northing	Elevation	Dip	Azimuth	Total Depth
DDH 001-13	452860	6748480	16	-90	-90	51.5
DDH 003-13	452939	6748484	23	-90	-90	52
DDH 009-13	452728	6748249	38	-90	-90	64
DDH 011-13	452789	6748314	41	-90	-90	62
DDH 012-13	452900	6748400	36	-90	-90	80
DDH 015A-13	453013	6748370	78	-90	-90	72
DDH 015A-13	452976	6748418	46	-90	-90	52
DDH 016-13	452840	6748225	64	-90	-90	68
DDH 306-13	453314	6747861	360	-90	-90	328

Percussion Drill Holes89_91Fjord MRE

Hole ID	Easting	Northing	Elevation	Dip	Azimuth	Total depth	Z2
89-01	454176.9	6748127	419.4	-70	193	14.65	419.5
89-02	454217.7	6748138	415.4	-69	197	19	416
89-03	454265.8	6748099	421.4	-65	163	15.4	421.3
89-04	454161.6	6748194	395.3	-68	183	17.2	396
89-05	454224.1	6748176	403.8	-70	181	17.3	404.8
89-06	454234	6748227	390.2	-70	156	9.8	391.8
89-07	454122.6	6748198	388.3	-70	183	10.75	389.1
89-08	454065.5	6748219	378.3	-70	187	10.3	379
89-09	454011.9	6748247	372.3	-70	180	18	372.3
89-10	453957.3	6748247	365.3	-72	161	17	366
89-11	454130	6748148	407	-70	180	9.9	407.3
89-12	454226.3	6748291	375.1	-80	184	4.15	375.8
89-13	454362.4	6748293	392.3	-75	158	8.9	392.5
89-14	454071.5	6748265	371.45	-70	186	22.1	371.4
89-15	454117.3	6748247	374.86	-70	171	17	374.5
89-16	453969.1	6748348	341.9	-70	178	10.1	342.5
89-17	453824.2	6748097	388	-70	162	13.35	386
89-18	456142.4	6748969	429.6	-78	223	22.35	
89-19	457664.7	6751016	193.9	-80	183	55.9	
89-20	457636.9	6751243	123.2	-81	3	64.9	
89-21	457551.7	6751339	193.4	-82	199	135	
89-22	457380.6	6751350	210.8	-84	188	12.2	
89-23	457443.3	6751203	210.7	-83	198	140.4	
89-24	457308.2	6751085	159.9	-82	180	97.6	
89-25	456680.1	6751410	87.7	-75	188	103.2	
89-26	455747.5	6750792	45.9	-62	163	68.5	
89-27	454778.1	6750289	86.4	-44	133	108.6	



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Hole ID	Easting	Northing	Elevation	Dip	Azimuth	Total depth	Z2
89-28	454871.8	6750336	73.3	-60	129	62.25	
89-29	454944.1	6750400	69.1	-61	143	80.1	
89-30	454705.9	6750200	86.6	-60	131	88.4	
89-31	454574.2	6750082	100.1	-60	146	98.6	
89-32	454499.2	6749992	82.5	-59	141	73.65	
89-33	454626.2	6750155	100	-60	134	13.3	
89-34	454635.6	6750145	97.5	-60	133	7.9	
89-35	454627.4	6750115	92.9	-60	133	103.5	
89-36	454537	6750132	159	-61	127	159	
89-37	454650	6750254	100.4	-61	135	152.4	
91-38	454219	6748160	409	-70	170	20.7	409.7
91-39	454217.1	6748179	402	-70	170	16.6	403
91-40	454287.5	6748056	431	-70	165	12.2	431.2
91-41	454233.7	6748093	426	-76	158	10	425.5
91-42	454255.5	6748162	409	-71	154	11	409.3
91-43	454243.3	6748189	402	-70	165	12.1	402.5
91-44	454205.1	6748234	384	-70	166	13.7	384.1
91-45	454153.8	6748256	375	-75	170	14.4	375.5
91-46	454096.5	6748298	367	-70	148	14	367.2
91-47	454046.3	6748289	368	-70	169	27.8	367.5
91-48	454006.3	6748282	366	-70	157	28.1	366.5
91-49	453906.4	6748223	356	-70	130	11.3	355.5
91-50	454285.3	6748243	393	-70	147	4.6	394.5
91-51	454308	6748264	391	-70	154	7	392
91-52	455.481.1	6747878	530	-50	165	58.7	
91-53	455481.1	6747878	530	-75	345	66.2	
91-54	455018.8	6749836	90	-71	242	127	
91-55	452666.1	6748265	15	-46	243	100.2	
CN-1	454193.6	6748091	429	-70	170	8.9	



Hole ID	Easting	Northing	Elevation	Dip	Azimuth	Total depth	Z2
CN-2	454231.2	6748151	412	-68	182	11.6	

RC Percussion 2007 for MRE Fjord

DrillHole	Easting	Northing	Elevation	Dip	Azimuth	Total Depth
ECP069	452617	6748270	11.87	-90	0	14
ECP070	452619.4	6748255	12.78	-90	0	14
ECP071	452623.8	6748244	12.74	-90	0	21.2
ECP072	452615.4	6748281	10.03	-90	0	12
ECP073	452622.6	6748274	11.16	-90	0	21.2
ECP073A	452622.3	6748274	11.15	-90	0	16.6
ECP074	452628.7	6748266	11.67	-90	0	21.2
ECP075	452635.6	6748258	13.1	-90	0	17.6
ECP076	452644.3	6748251	15.37	-90	0	21.2
ECP076A	452644.4	6748251	15.41	-90	0	10.4
ECP077	452661.4	6748222	17.11	-90	0	14
ECP078	452618.1	6748296	8.51	-90	0	21.2
ECP079	452626.1	6748287	10.36	-90	0	6.8
ECP080	452632.7	6748279	12.21	-90	0	17.6
ECP081	452639.1	6748271	13.06	-90	0	21.2
ECP081A	452638.8	6748271	13.1	-90	0	17.6
ECP082	452645.5	6748262	14.26	-90	0	21.2
ECP083	452651.3	6748254	15.84	-90	0	12
ECP084	452658	6748246	16.53	-90	0	21.2
ECP085	452663.6	6748238	16.88	-90	0	6.8
ECP086	452668.3	6748228	18.38	-90	0	4.4
ECP088	452674.5	6748219	21.21	-90	0	21.2
ECP089	452620.2	6748303	8.57	-90	0	3.2
ECP090	452628.5	6748296	9.86	-90	0	6.8
ECP091	452635.4	6748287	12.46	-90	0	17.6

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DrillHole	Easting	Northing	Elevation	Dip	Azimuth	Total Depth
ECP069	452617	6748270	11.87	-90	0	14
ECP070	452619.4	6748255	12.78	-90	0	14
ECP071	452623.8	6748244	12.74	-90	0	21.2
ECP092	452643.6	6748279	13.48	-90	0	21.2
ECP093	452650.1	6748271	14.06	-90	0	17.6
ECP094	452656.8	6748263	16.11	-90	0	21.2
ECP094A	452656.5	6748264	16.06	-90	0	9.4
ECP095	452663	6748256	17.14	-90	0	21.2
ECP096	452668.6	6748249	17.9	-90	0	17.6
ECP097	452674.3	6748240	19.02	-90	0	21.2
ECP098	452680.5	6748232	20.86	-90	0	14
ECP099	452684.8	6748223	23.15	-90	0	17.6
ECP100	452628.7	6748315	3.3	-90	0	21.2
ECP101	452635.3	6748311	4.45	-90	0	10.4
ECP102	452642.2	6748303	6.67	-90	0	21.2
ECP103	452647.3	6748297	8.46	-90	0	17.6
ECP104	452651.7	6748286	9.87	-90	0	6.8
ECP105	452658.8	6748275	11.12	-90	0	21.2
ECP106	452664.3	6748264	12.57	-90	0	14
ECP107	452671	6748258	13.26	-90	0	21.2
ECP108	452674.8	6748248	14.51	-90	0	17.6
ECP109	452681	6748239	15.86	-90	0	6.8
ECP110	452688.2	6748231	18.62	-90	0	21.2
ECP111	452693.4	6748224	20.5	-90	0	12.4
ECP112	452625.6	6748303	3.91	-90	0	21.2
ECP113	452637.2	6748296	6.25	-90	0	3.2
ECP114	452695.6	6748243	20.37	-90	0	14
ECP115	452719.6	6748246	28.04	-90	0	21.2
ECP116	452735.9	6748253	30.55	-90	0	17.6



DrillHole	Easting	Northing	Elevation	Dip	Azimuth	Total Depth
ECP069	452617	6748270	11.87	-90	0	14
ECP070	452619.4	6748255	12.78	-90	0	14
ECP071	452623.8	6748244	12.74	-90	0	21.2
ECP117	452754.5	6748262	33.98	-90	0	21.2
ECP118	452772	6748273	36.78	-90	0	21.2
ECP119	452780.4	6748290	34.66	-90	0	17.6
ECP120	452794.9	6748304	34.29	-90	0	21.2
ECP121	452802.6	6748308	34.63	-90	0	17.6
ECP122	452813.5	6748327	33.15	-90	0	21.2
ECP123	452823.5	6748337	33.16	-90	0	3.2
ECP124	452833.4	6748338	36.36	-90	0	21.2
ECP125	452841.3	6748361	29.88	-90	0	17.6
ECP126	452860.6	6748368	32.68	-90	0	21.2
ECP127	452883.2	6748372	36.6	-90	0	17.6
ECP128	452904.6	6748383	36.41	-90	0	21.2
ECP129	452921.9	6748388	37.22	-90	0	17.6



Appendix 3 2013 -2014 MRE drill hole and assay report for MRE

	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
012-13 1	916	73	49	6	60	16	452	7	329	97	63	11	9	417	49	2553	691	1862	27.06%		0.99
012-13 2	1685	124	82	9	106	27	820	11	602	179	112	20	14	714	80	4584	1177	3408	25.67%		1.49
012-13 3	1782	138	93	10	115	30	855	12	633	187	119	22	14	795	90	4896	1308	3588	26.72%		1.78
012-13 4	1372	102	70	8	83	22	680	9	477	145	92	16	9	612	68	3766	992	2774	26.34%		1.32
012-13 5	1163	78	53	6	69	17	575	7	401	119	72	13	9	462	51	3095	759	2336	24.52%		0.99
012-13 6	1172	90	61	7	74	20	585	8	415	123	79	15	9	544	60	3260	879	2381	26.96%		1.19
012-13 7	1728	135	93	10	111	30	850	12	604	181	114	22	14	808	90	4802	1314	3488	27.36%		1.93
012-13 8	1064	81	56	6	69	18	523	8	377	114	71	13	9	490	56	2954	801	2154	27.10%		1.16
012-13 9	1130	87	58	7	74	19	566	8	395	119	77	14	9	518	57	3138	844	2294	26.89%		1.12
012-13 10	1131	90	62	7	74	20	568	8	399	118	77	14	9	531	60	3167	867	2300	27.39%		1.27
012-13 11	1146	87	59	6	74	19	578	8	395	118	74	14	9	528	59	3176	858	2318	27.02%		1.23
012-13 12	1134	80	54	6	69	17	562	7	394	118	73	13	9	495	52	3084	797	2287	25.85%		1.01
012-13 13	1620	130	88	9	106	28	793	11	566	170	108	20	14	767	87	4517	1251	3266	27.69%		1.67
012-13 14	884	70	48	6	60	14	449	6	334	94	61	10	5	378	46	2465	637	1828	25.84%		0.93
012-13 15	2064	186	127	14	148	38	1067	15	779	217	148	27	18	1003	123	5976	1686	4290	28.21%		2.51
012-13 16	1270	103	70	8	88	21	654	8	472	133	88	15	9	566	65	3571	945	2626	26.47%		1.26
012-13 17	1223	103	70	8	83	21	626	8	458	129	86	15	9	544	65	3449	917	2531	26.60%		1.32
012-13 18	986	83	57	7	69	17	504	7	369	105	68	12	9	437	55	2785	746	2040	26.77%		1.09
012-13 19	3718	352	248	25	272	74	1919	29	1376	389	267	49	32	1869	241	10863	3168	7695	29.16%		4.94
012-13 20	1064	73	49	6	65	15	528	6	401	113	71	11	5	406	48	2860	677	2182	23.68%		0.97
012-13 21	999	84	57	6	65	17	531	7	363	104	67	12	9	457	57	2835	765	2070	26.98%		1.23
012-13 22	1237	99	66	8	78	20	638	8	456	129	83	14	9	556	64	3466	915	2552	26.38%		1.27

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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
012-13 23	1559	127	86	9	106	26	793	10	583	164	108	18	9	704	82	4385	1168	3216	26.65%		1.55
012-13 24	1760	151	103	12	124	32	890	12	686	191	130	22	14	810	100	5037	1369	3669	27.17%		2.07
012-13 25	1360	96	63	8	88	19	666	7	537	149	96	14	9	518	60	3691	875	2815	23.71%		1.16
012-13 26	975	68	45	6	60	14	493	5	364	105	66	10	5	389	43	2646	638	2009	24.10%		0.88
012-13 27	1371	114	77	9	92	23	700	9	516	146	95	16	9	637	74	3889	1052	2837	27.05%		1.45
012-13 28	2206	192	130	15	152	40	1113	15	846	236	159	27	18	1057	128	6333	1759	4574	27.78%		2.63
012-13 31	3002	272	188	20	212	57	1539	22	1134	321	215	39	27	1476	181	8704	2473	6230	28.42%		3.74
012-13 32	2261	196	136	15	152	41	1143	16	860	243	161	28	18	1090	131	6492	1809	4684	27.86%		2.72
012-13 33	1130	83	54	7	69	16	554	7	453	126	79	12	9	457	52	3107	760	2348	24.45%		1.08
012-13 34	1198	94	64	7	78	19	608	8	453	130	83	14	9	536	61	3362	884	2479	26.28%		1.27
012-13 35	921	68	46	6	55	14	479	5	346	99	63	10	5	389	46	2550	637	1913	24.97%		0.91
012-13 36	1201	99	66	8	78	20	616	8	451	129	83	14	9	561	64	3409	920	2489	26.99%		1.36
012-13 37	1865	162	109	13	129	33	938	13	721	202	137	24	14	902	106	5366	1491	3875	27.78%		2.17
012-13 38	1296	101	69	8	78	21	664	8	485	139	89	15	9	569	66	3617	935	2681	25.86%		1.34
012-13 39	1139	83	55	7	69	16	588	7	421	121	74	12	9	477	56	3134	784	2349	25.03%		1.12
012-13 40	911	65	42	6	55	13	459	5	349	99	61	9	5	373	42	2496	611	1885	24.47%		0.89
012-13 41	1082	86	57	7	65	17	552	7	407	116	73	12	9	490	56	3037	799	2238	26.32%		1.13
012-13 42	1327	114	78	8	92	24	677	10	506	143	95	16	9	660	76	3835	1079	2755	28.14%		1.55
012-13 43	1494	125	85	10	101	26	747	10	590	163	108	18	14	726	81	4298	1186	3112	27.59%		1.61
012-13 44	978	70	46	6	55	14	494	5	371	107	65	10	5	406	46	2677	657	2020	24.53%		0.95
012-13 45	1418	114	78	9	92	23	712	10	541	155	100	16	9	658	75	4009	1075	2934	26.81%		1.57
012-13 46	1614	130	88	10	106	28	790	12	581	173	111	20	14	757	85	4520	1240	3280	27.43%		1.73
012-13 47	1239	91	61	7	74	20	589	8	427	130	80	14	9	521	60	3330	857	2473	25.74%		1.30



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
012-13 48	1133	88	62	7	74	20	550	9	406	121	77	14	9	513	63	3144	851	2293	27.06%		1.28
012-13 49	762	55	37	5	46	12	369	5	264	80	49	8	5	328	36	2060	532	1528	25.82%		0.82
012-13 50	1219	101	69	8	83	22	596	9	447	132	87	16	9	604	69	3471	983	2488	28.32%		1.42
012-13 51	948	77	51	6	65	17	469	7	343	103	65	12	9	450	52	2674	740	1935	27.67%		1.13
012-13 52	1845	150	104	12	120	34	890	14	665	196	124	23	14	869	102	5161	1429	3731	27.69%		2.11
012-13 53	1221	90	63	7	74	20	600	8	442	133	79	14	9	510	61	3332	850	2482	25.50%		1.36
001-13 1	1571	130	88	10	111	28	806	11	584	172	112	20	14	757	85	4500	1244	3256	27.65%		1.74
001-13 2	1065	80	53	6	69	16	555	7	392	115	71	13	9	470	51	2971	768	2203	25.86%		1.03
001-13 3	1125	73	48	6	65	15	589	6	407	120	72	12	9	437	44	3029	710	2319	23.43%		0.91
001-13 4	1220	80	53	7	69	17	609	7	427	127	78	13	9	465	47	3227	760	2467	23.54%		0.99
001-13 5	1706	132	91	10	111	29	874	12	616	179	117	21	14	739	81	4732	1230	3502	25.99%		1.76
001-13 6	1805	142	97	10	115	31	936	13	640	188	123	23	14	805	88	5030	1327	3703	26.39%		1.89
001-13 7	1012	72	49	6	65	16	516	7	362	107	67	12	9	406	46	2751	681	2070	24.76%		1.00
001-13 8	1135	85	57	7	74	18	589	7	408	119	77	14	9	485	51	3135	800	2335	25.52%		1.11
001-13 9	1178	79	53	7	69	17	611	7	418	124	77	13	9	447	47	3155	740	2415	23.46%		0.99
001-13 10	1259	90	61	7	78	19	657	8	446	133	83	14	9	513	54	3430	845	2585	24.64%		1.09
001-13 11	1495	117	78	9	97	25	768	10	534	159	101	18	14	660	68	4154	1087	3067	26.17%		1.46
001-13 12	870	67	46	5	55	14	449	6	304	91	58	10	5	371	41	2392	614	1777	25.69%		0.93
001-13 13	2683	235	162	16	189	52	1393	20	966	283	188	36	23	1321	149	7717	2188	5529	28.35%		3.23
001-13 14	1580	88	58	8	83	19	800	8	534	162	92	14	9	518	52	4025	850	3175	21.11%		1.09
001-13 15	1545	109	72	8	92	23	781	9	545	163	101	17	9	620	64	4159	1016	3143	24.42%		1.35
001-13 16	1065	79	54	7	65	17	550	7	373	111	71	12	9	442	48	2910	733	2177	25.18%		1.07
001-13 17	3199	293	207	20	231	65	1638	26	1144	335	227	45	32	1615	186	9262	2699	6563	29.14%		4.01



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
001-13 18	5519	515	364	35	401	116	2782	47	1969	570	395	79	55	2855	330	16032	4761	11270	29.70%		7.38
001-13 19	1106	90	63	7	74	20	597	9	385	114	74	14	9	503	58	3121	839	2283	26.87%		1.36
001-13 20	981	70	47	6	60	15	517	6	346	101	63	11	9	396	43	2673	658	2015	24.61%		1.04
001-13 21	1081	80	54	6	65	17	570	7	367	110	68	12	9	462	49	2958	755	2203	25.53%		1.08
001-13 22	1451	112	77	8	92	25	754	10	516	151	97	17	14	640	69	4034	1057	2977	26.20%		1.55
001-13 23	1442	115	79	8	92	25	760	10	499	149	95	17	14	637	72	4015	1062	2953	26.45%		1.54
001-13 24	1593	126	88	9	101	27	843	11	554	166	106	20	14	709	80	4447	1176	3271	26.45%		1.70
001-13 25	1172	84	55	6	69	18	616	7	400	120	74	13	9	462	52	3157	770	2388	24.38%		1.16
001-13 26	900	59	39	5	51	12	463	5	317	95	58	9	5	335	35	2389	550	1839	23.03%		0.80
001-13 27	1313	100	70	8	83	22	683	9	455	135	87	16	9	579	63	3632	951	2681	26.17%		1.40
001-13 28	2588	223	156	16	180	49	1342	20	931	273	182	34	23	1227	140	7383	2051	5332	27.78%		3.01
001-13 29	2559	220	152	16	175	49	1312	20	911	268	179	34	23	1209	138	7265	2020	5245	27.81%		3.01
001-13 30	2833	231	159	16	189	51	1416	20	1014	297	195	36	23	1272	145	7896	2126	5770	26.92%		3.01
001-13 31	1149	84	55	6	69	18	602	7	416	124	77	14	9	488	55	3171	798	2373	25.16%		1.12
001-13 32	1007	76	49	6	60	16	552	6	357	107	65	12	9	450	50	2823	728	2095	25.80%		1.12
001-13 33	1219	92	61	7	74	19	645	8	441	132	83	15	9	544	61	3409	883	2527	25.89%		1.28
001-13 34	1725	142	95	10	115	31	901	13	652	190	125	23	14	831	97	4963	1360	3603	27.40%		2.01
001-13 35	1351	100	66	7	83	21	707	9	500	145	93	16	9	584	66	3758	955	2804	25.40%		1.32
001-13 36	1193	90	58	7	74	19	646	8	432	130	80	15	9	528	60	3349	861	2488	25.71%		1.26
001-13 38	978	69	46	6	55	15	528	6	344	104	64	11	9	411	47	2693	670	2023	24.86%		0.99
001-13 39	1362	110	73	8	88	23	727	10	496	146	94	17	14	648	73	3889	1056	2833	27.15%		1.57
001-13 40	1590	127	85	9	106	27	826	11	591	174	112	21	14	762	83	4538	1235	3302	27.23%		1.72
001-13 41	1421	118	80	8	92	25	767	10	523	151	100	19	14	693	79	4101	1131	2970	27.58%		1.69



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
001-13 42	1355	110	74	8	88	24	713	10	486	144	94	18	14	502	75	3715	915	2800	24.62%		1.58
001-13 43	1619	138	95	9	106	30	871	13	583	173	110	22	14	652	98	4533	1167	3366	25.74%		2.03
001-13 44	1183	95	65	7	74	21	629	9	423	126	81	16	9	442	67	3246	797	2449	24.56%		1.40
001-13 45	867	70	48	5	55	15	468	7	314	94	59	11	9	320	50	2392	585	1806	24.47%		1.07
001-13 47	868	69	47	6	55	15	453	6	331	95	63	11	9	330	47	2404	589	1816	24.49%		0.99
001-13 48	993	81	55	6	65	17	532	7	364	106	70	13	9	372	56	2746	676	2071	24.60%		1.22
001-13 49	2086	181	122	13	143	39	1091	16	772	227	147	29	18	814	124	5822	1487	4336	25.53%		2.51
001-13 50	1499	122	82	8	97	27	785	11	548	162	103	19	14	560	83	4119	1014	3105	24.63%		1.85
001-13 51	1518	121	81	10	97	26	802	11	568	164	106	20	14	550	81	4169	1000	3169	23.99%		1.69
001-13 52	2146	185	128	13	143	40	1136	17	786	231	151	29	18	836	129	5988	1525	4463	25.47%		2.67
001-13 53	1564	124	83	9	97	27	835	11	583	170	107	20	14	562	85	4292	1024	3268	23.85%		1.74
003-13 1	1430	108	73	8	88	23	691	10	504	145	92	16	9	632	73	3902	1032	2869	26.46%		1.46
003-13 2	1141	75	48	6	65	16	552	6	409	119	70	11	9	432	47	3005	708	2297	23.56%		0.93
003-13 3	1122	77	50	6	65	16	563	6	392	115	68	11	9	452	49	3001	736	2265	24.51%		0.96
003-13 4	1297	99	64	8	83	21	634	8	479	137	87	15	9	566	61	3569	926	2643	25.95%		1.22
003-13 5	1798	145	96	12	115	30	881	13	652	187	119	21	14	823	93	5000	1350	3649	27.00%		1.86
003-13 6	1029	72	47	6	65	15	494	6	388	111	68	11	9	419	48	2789	692	2096	24.82%		0.93
003-13 7	1087	85	57	7	69	18	531	8	408	115	75	13	9	495	56	3033	810	2224	26.70%		1.15
003-13 8	1032	76	49	7	60	16	501	6	376	109	68	11	9	437	49	2806	713	2092	25.43%		1.00
003-13 9	1134	79	53	7	69	16	552	6	415	118	74	12	9	465	50	3061	760	2301	24.83%		1.00
003-13 10	1349	106	70	8	88	22	652	9	502	143	93	16	9	612	67	3744	998	2746	26.66%		1.35
003-13 11	817	61	41	5	51	13	402	5	299	87	55	9	5	350	40	2239	575	1664	25.68%		0.84
003-13 12	1790	155	105	12	120	33	875	14	667	187	125	23	14	884	100	5103	1447	3656	28.36%		2.15



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
003-13 13	1208	88	59	7	74	19	573	8	437	123	80	14	9	531	57	3288	859	2429	26.13%		1.18
003-13 14	1284	98	64	8	78	21	625	8	472	134	85	15	9	559	61	3521	913	2608	25.92%		1.22
003-13 15	875	67	45	6	55	14	435	6	322	93	57	10	5	384	43	2415	628	1788	25.99%		0.92
003-13 16	1194	96	65	8	78	21	586	9	441	128	80	15	9	546	64	3340	903	2437	27.03%		1.34
003-13 17	2684	254	177	17	189	55	1303	23	991	280	190	36	27	1417	173	7818	2352	5466	30.08%		3.42
003-13 18	4688	451	318	31	337	98	2305	42	1739	492	340	65	46	2550	307	13807	4213	9594	30.51%		6.24
003-13 19	1117	80	53	7	65	16	527	7	416	119	74	12	9	462	51	3015	755	2260	25.04%		1.09
003-13 20	1405	60	40	5	51	12	813	5	414	132	60	9	5	358	39	3407	579	2829	16.98%		0.86
003-13 21	1266	102	69	8	78	22	616	9	471	134	87	15	9	602	66	3555	972	2583	27.34%		1.38
003-13 22	1709	145	98	10	111	31	834	13	633	180	117	21	14	836	97	4849	1365	3483	28.16%		2.04
003-13 23	921	68	46	6	55	14	453	6	337	97	59	10	5	396	44	2516	644	1873	25.57%		0.99
003-13 25	1372	117	80	9	92	25	676	10	511	145	96	17	14	698	77	3941	1131	2809	28.71%		1.63
003-13 27	3183	290	201	21	217	62	1542	26	1183	335	226	42	32	1648	194	9202	2712	6489	29.48%		4.01
003-13 28	2069	182	126	13	138	39	1007	17	767	217	143	26	18	1039	121	5923	1706	4216	28.81%		2.59
003-13 29	1215	94	64	7	74	20	581	9	447	128	80	13	9	544	64	3347	890	2457	26.60%		1.39
003-13 30	1119	90	59	7	69	19	551	8	414	118	74	13	9	523	58	3132	848	2283	27.09%		1.24
003-13 31	1601	132	90	10	101	28	773	12	590	169	110	19	14	772	88	4511	1257	3253	27.87%		1.90
003-13 32	1085	80	54	7	65	17	525	7	392	114	71	12	9	475	52	2964	771	2193	26.01%		1.18
003-13 33	1012	75	50	7	60	15	486	7	381	105	68	11	9	432	48	2766	707	2059	25.54%		1.04
003-13 34	1454	124	85	9	97	25	717	11	544	150	101	18	14	714	81	4142	1168	2975	28.19%		1.74
003-13 35	1362	121	82	9	92	24	670	11	516	141	96	17	14	698	77	3931	1137	2794	28.92%		1.65
003-13 36	795	63	43	5	51	13	386	6	295	82	53	9	5	366	42	2214	598	1616	27.01%		0.88
003-13 37	3494	324	226	23	244	66	1708	29	1310	360	248	46	32	1849	212	10171	3029	7142	29.78%		4.34



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
003-13 38	1045	95	67	7	74	20	516	9	390	108	73	14	9	544	65	3035	896	2139	29.53%		1.38
003-13 39	959	81	56	6	65	16	470	8	360	99	65	11	9	460	55	2721	761	1960	27.97%		1.20
003-13 40	959	83	57	7	65	17	464	7	366	101	68	12	9	485	54	2754	788	1966	28.62%		1.18
003-13 41	1133	100	70	8	78	21	552	9	426	117	79	14	9	582	66	3264	949	2315	29.07%		1.43
003-13 42	1796	156	109	12	120	32	867	14	679	187	128	22	14	899	104	5137	1469	3668	28.60%		2.20
003-13 43	1243	106	72	8	78	21	609	10	465	130	85	15	9	602	69	3523	982	2540	27.88%		1.50
003-13 44	1538	137	95	10	101	27	758	13	574	159	107	19	14	770	92	4414	1268	3146	28.73%		1.99
011-13 1	3129	262	180	20	212	58	1552	23	1096	336	212	40	27	1506	175	8828	2484	6345	28.13%		3.65
011-13 2	1196	87	58	7	74	19	599	8	416	127	77	14	9	513	56	3260	838	2423	25.70%		1.24
011-13 3	1443	103	69	8	88	22	713	9	500	155	94	16	9	612	65	3906	993	2914	25.41%		1.34
011-13 4	1592	109	72	9	92	24	793	10	548	167	100	17	9	660	71	4272	1064	3209	24.90%		1.36
011-13 5	1475	114	75	9	97	25	724	10	520	157	99	17	14	671	75	4082	1098	2984	26.90%		1.51
011-13 6	1687	131	89	10	106	29	868	12	582	178	110	20	14	782	88	4706	1271	3435	27.01%		1.76
011-13 7	1882	156	104	12	129	34	910	14	688	204	133	24	14	899	104	5307	1478	3829	27.84%		2.24
011-13 8	2931	255	169	19	198	55	1401	22	1067	315	209	39	23	1417	166	8287	2344	5942	28.29%		3.51
011-13 9	1341	88	57	7	74	19	666	7	461	140	85	14	9	523	56	3548	848	2700	23.90%		1.24
011-13 10	1126	75	48	6	65	16	566	6	388	118	71	12	9	437	47	2990	714	2276	23.88%		1.00
011-13 11	2978	257	174	20	207	57	1453	22	1060	319	206	39	27	1471	170	8460	2424	6036	28.65%		3.42
011-13 12	2554	212	143	16	175	47	1219	18	930	280	181	32	23	1199	140	7169	1990	5179	27.75%		2.84
011-13 13	2072	164	110	13	138	36	1000	15	751	224	145	25	18	945	106	5762	1557	4205	27.02%		2.19
011-13 14	1226	92	61	7	78	20	606	8	441	134	83	14	9	528	58	3366	869	2498	25.81%		1.20
011-13 15	1327	96	64	8	83	21	658	8	463	140	85	15	9	574	63	3614	934	2681	25.83%		1.30
011-13 16	2252	180	119	14	148	40	1098	15	825	244	155	28	18	1034	116	6285	1698	4587	27.01%		2.38



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
011-13 17	1042	78	51	7	65	17	502	7	378	113	71	12	9	444	51	2848	735	2112	25.82%		1.05
011-13 18	1404	110	74	8	92	24	687	10	500	150	96	17	9	640	72	3894	1048	2846	26.92%		1.53
011-13 19	1400	110	74	8	88	24	699	10	499	150	95	16	9	640	72	3895	1043	2852	26.79%		1.43
011-13 20	1475	110	74	8	92	24	737	10	518	156	97	17	9	660	72	4059	1068	2991	26.32%		1.46
011-13 21	1465	114	74	9	97	25	711	10	526	155	99	17	9	676	73	4059	1094	2965	26.96%		1.53
011-13 22	1872	158	109	12	124	35	911	14	671	202	130	24	18	904	106	5290	1493	3797	28.22%		2.13
011-13 23	1904	153	102	12	124	33	919	13	672	202	126	23	14	886	99	5283	1448	3835	27.40%		1.95
011-13 24	1714	127	85	10	106	27	835	11	608	182	112	20	14	749	82	4683	1221	3462	26.08%		1.58
011-13 25	1236	94	63	7	78	21	615	8	434	130	81	14	9	541	61	3393	890	2503	26.23%		1.24
011-13 26	1510	130	88	9	101	29	737	12	535	159	104	19	14	731	87	4266	1211	3055	28.39%		1.93
011-13 27	4351	390	270	28	300	87	2137	35	1545	460	300	59	41	2240	266	12511	3689	8822	29.49%		5.58
011-13 28	5024	449	310	31	350	100	2483	41	1796	535	354	68	46	2573	307	14467	4244	10223	29.33%		6.17
011-13 29	1585	133	90	9	106	29	795	12	555	170	106	20	14	762	89	4475	1255	3220	28.05%		2.00
011-13 31	1171	91	58	7	74	19	575	8	412	123	77	14	9	528	58	3223	859	2364	26.65%		1.28
011-13 32	2058	111	77	9	97	24	1120	10	637	203	108	18	9	721	76	5279	1144	4135	21.67%		1.45
011-13 33	1883	155	105	12	120	35	936	14	666	201	125	23	14	894	106	5288	1466	3822	27.72%		2.32
011-13 34	1464	118	80	9	92	27	737	11	518	157	99	18	14	686	81	4110	1126	2984	27.40%		1.65
011-13 35	1000	72	42	6	60	16	490	6	355	106	66	11	9	427	48	2714	691	2023	25.46%		1.07
011-13 36	1442	115	79	9	101	25	746	10	526	157	97	19	14	660	73	4074	1096	2978	26.90%		1.65
011-13 37	2698	234	161	17	194	52	1384	21	995	295	190	37	23	1293	153	7746	2168	5579	27.98%		3.50
011-13 38	2193	182	127	14	152	40	1139	17	798	233	148	29	18	1013	122	6227	1702	4525	27.33%		2.59
011-13 39	2105	177	123	13	148	39	1086	17	764	228	141	28	18	978	118	5985	1647	4338	27.52%		2.53
011-13 40	1301	99	67	8	83	22	683	9	475	143	85	16	9	554	64	3616	922	2693	25.51%		1.43



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
011-13 41	1151	87	59	7	74	19	600	8	423	124	77	14	9	505	57	3216	833	2383	25.91%		1.23
011-13 42	1227	96	66	7	83	22	640	9	448	132	82	16	9	559	63	3458	922	2536	26.66%		1.34
011-13 43	2013	173	120	13	143	38	1030	16	743	217	139	27	18	970	112	5773	1618	4155	28.02%		2.57
011-13 44	1254	95	67	7	78	21	657	9	447	133	82	15	9	554	64	3493	913	2580	26.14%		1.38
011-13 45	900	65	46	5	55	14	476	6	316	95	56	10	5	378	44	2472	625	1848	25.27%		1.00
011-13 46	1192	90	62	7	78	20	630	9	430	128	79	14	9	516	59	3322	856	2466	25.77%		1.32
011-13 47	1195	90	62	7	74	20	634	8	365	128	78	14	9	523	58	3265	857	2407	26.26%		1.28
011-13 48	1547	127	88	9	106	28	810	12	560	166	106	20	14	729	83	4404	1207	3197	27.41%		1.78
011-13 49	1641	117	78	9	106	26	844	10	596	178	106	19	14	671	73	4487	1113	3374	24.80%		1.49
011-13 50	1356	106	71	8	92	23	694	9	505	149	92	17	9	602	66	3799	995	2804	26.19%		1.46
011-13 51	1027	73	50	6	65	16	537	7	372	110	65	12	9	442	47	2838	721	2117	25.41%		0.97
011-13 52	2115	173	118	13	148	38	1081	15	769	232	141	27	18	980	110	5980	1628	4351	27.23%		2.24
011-13 53	1560	126	89	10	106	28	814	11	572	170	104	20	14	719	82	4427	1196	3231	27.02%		1.76
011-13 54	871	61	42	5	55	13	450	5	322	96	57	10	5	361	40	2393	592	1800	24.75%		0.85
011-13 55	1176	94	65	7	83	21	599	8	440	128	81	15	9	549	59	3334	903	2431	27.09%		1.30
011-13 56	1090	84	57	7	74	18	563	8	401	118	71	13	9	477	54	3043	794	2249	26.09%		1.19
011-13 57	1214	94	65	7	78	21	643	9	448	132	82	16	9	551	61	3429	904	2525	26.37%		1.39
011-13 58	2072	177	125	13	148	39	1061	17	781	226	146	28	18	1013	117	5982	1682	4300	28.12%		2.57
011-13 59	1349	107	73	8	88	23	690	10	495	145	89	17	9	602	69	3773	998	2775	26.45%		1.59
011-13 60	2134	173	121	13	143	38	1112	16	790	230	146	28	18	985	115	6062	1638	4424	27.03%		2.50
011-13 61	2684	234	168	16	189	53	1439	22	988	289	183	37	23	1323	156	7804	2205	5599	28.25%		3.57
15A-13 1	1209	95	65	7	78	21	650	9	433	129	80	15	9	541	60	3401	894	2507	26.27%		1.27
15A-13 2	1941	171	117	13	138	37	1014	15	724	213	136	26	18	947	110	5622	1581	4041	28.12%		2.34



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
15A-13 3	1576	126	85	9	111	28	785	11	594	174	110	20	14	696	82	4420	1173	3248	26.53%		1.58
15A-13 4	1120	77	51	7	69	16	586	6	406	122	73	13	9	452	47	3056	741	2315	24.25%		0.92
15A-13 5	1063	78	53	6	69	17	549	7	390	115	70	13	9	447	48	2932	740	2191	25.25%		0.97
15A-13 6	1220	88	59	7	74	19	625	8	432	130	79	14	9	513	56	3333	841	2493	25.22%		1.12
15A-13 7	1332	101	66	8	88	22	688	9	489	144	88	16	9	571	64	3695	946	2749	25.61%		1.26
15A-13 8	1398	98	64	8	88	21	712	8	516	155	92	16	9	551	57	3791	911	2880	24.04%		1.15
15A-13 9	1435	106	71	8	92	23	739	9	520	155	95	17	9	602	66	3946	995	2952	25.21%		1.34
15A-13 10	2026	169	115	13	143	37	1017	15	756	217	141	27	18	947	107	5749	1579	4170	27.46%		2.23
15A-13 11	1397	107	73	8	92	23	714	10	518	152	95	17	9	607	66	3888	1004	2884	25.82%		1.42
15A-13 12	977	62	40	6	55	13	504	5	362	106	64	10	5	358	36	2603	585	2018	22.47%		0.76
15A-13 13	1007	72	49	6	65	16	523	6	367	110	66	12	9	419	47	2775	695	2080	25.05%		0.96
15A-13 14	1196	88	58	7	78	19	603	8	441	129	81	14	9	498	55	3285	827	2458	25.19%		1.15
15A-13 15	650	50	33	3	46	11	332	5	241	71	45	8	5	290	34	1824	482	1342	26.42%		0.70
15A-13 16	1275	107	73	8	92	23	657	9	479	140	89	17	9	599	68	3647	999	2649	27.38%		1.42
15A-13 17	1666	134	91	10	115	29	844	12	611	179	117	21	14	762	87	4693	1265	3428	26.96%		1.74
15A-13 18	1242	94	65	7	83	20	646	9	444	132	85	15	9	538	61	3451	895	2556	25.94%		1.24
15A-13 19	1075	71	49	6	65	16	556	6	380	114	68	12	9	419	47	2892	693	2199	23.98%		0.88
15A-13 20	977	68	47	6	65	15	501	6	349	104	64	11	9	401	44	2666	666	2000	24.99%		0.91
15A-13 21	1550	115	77	9	106	24	767	10	574	166	107	18	14	658	71	4264	1092	3173	25.60%		1.46
15A-13 22	1904	142	98	10	124	31	985	13	687	203	130	23	14	820	91	5276	1357	3919	25.71%		1.84
15A-13 23	2942	67	45	5	65	14	1881	6	751	266	89	12	5	401	41	6588	654	5934	9.93%		0.85
15A-13 24	1072	83	56	7	74	17	547	7	390	116	73	13	9	472	54	2989	785	2204	26.27%		1.18
15A-13 25	1107	79	53	6	69	17	565	7	404	118	74	13	9	452	49	3022	748	2274	24.74%		1.07



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
15A-13 26	1144	85	56	7	74	18	576	7	419	123	78	13	9	480	54	3142	796	2346	25.33%		1.09
15A-13 27	1355	104	71	8	92	23	686	9	505	145	95	17	9	615	67	3802	1007	2794	26.50%		1.31
15A-13 29	856	65	46	5	55	14	441	6	310	91	58	10	9	376	46	2389	628	1761	26.28%		0.93
15A-13 30	1891	157	110	12	134	34	952	14	689	202	132	24	18	876	102	5348	1471	3878	27.50%		2.16
15A-13 31	1157	95	65	7	83	21	600	9	421	124	81	15	9	549	61	3299	907	2391	27.51%		1.30
15A-13 32	1188	91	61	7	78	20	611	8	426	124	80	14	9	503	57	3276	840	2436	25.64%		1.20
15A-13 33	1085	91	63	7	78	20	559	8	393	116	74	14	9	500	60	3079	844	2235	27.42%		1.22
15A-13 34	3126	294	208	20	235	66	1603	27	1152	332	225	45	32	1623	198	9186	2728	6459	29.69%		4.24
15A-13 35	1223	93	64	7	83	20	637	8	442	132	81	15	9	523	60	3398	876	2522	25.77%		1.19
15A-13 36	5077	475	341	31	378	107	2553	44	1803	533	362	72	50	2634	328	14789	4429	10359	29.95%		7.38
15A-13 37	1494	126	88	8	101	27	751	12	532	155	101	19	14	678	84	4190	1150	3040	27.45%		1.92
15A-13 38	816	61	42	5	51	13	429	6	283	84	52	9	5	358	42	2257	587	1669	26.03%		1.01
15A-13 39	888	67	46	5	55	15	469	6	317	94	59	10	9	391	46	2477	645	1832	26.03%		1.04
15A-13 40	1151	94	65	7	78	21	597	9	419	123	78	15	9	551	63	3279	905	2375	27.59%		1.40
15A-13 41	1316	108	75	8	88	23	684	10	467	139	89	16	14	592	72	3700	998	2702	26.97%		1.55
15A-13 42	1330	107	75	8	92	24	688	10	483	143	90	17	9	599	72	3748	1005	2743	26.82%		1.58
15A-13 43	814	54	37	5	46	11	433	5	288	85	51	9	5	320	36	2199	523	1676	23.79%		0.84
15A-13 44	1402	116	79	8	97	25	729	10	516	150	97	18	14	693	76	4031	1129	2902	28.00%		1.66
15A-13 45	2985	267	182	19	212	58	1525	24	1082	314	208	41	27	1509	179	8631	2498	6132	28.95%		3.88
15A-13 46	1947	169	117	13	134	37	1002	15	715	209	137	26	18	973	110	5621	1599	4022	28.44%		2.46
15A-13 47	981	71	48	6	65	15	501	6	364	105	65	11	9	422	47	2716	693	2022	25.54%		1.03
15A-13 48	977	72	48	6	65	16	503	6	355	104	64	11	9	434	48	2718	709	2008	26.10%		1.05
15A-13 49	1206	93	63	7	78	20	619	8	444	129	82	15	9	546	60	3381	892	2488	26.39%		1.34



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
15A-13 50	1300	93	61	8	83	20	649	8	481	141	88	15	9	561	58	3574	908	2666	25.40%		1.30
15A-13 51	1034	71	46	6	65	15	523	6	381	112	67	11	9	422	43	2811	687	2124	24.45%		0.97
15A-13 52	1052	75	49	6	65	15	534	6	383	113	68	12	9	434	47	2866	712	2155	24.83%		1.05
15A-13 53	1341	100	67	8	88	22	676	9	502	145	92	16	9	589	64	3726	963	2763	25.85%		1.42
15A-13 54	1426	115	77	9	97	24	727	10	533	152	99	18	14	688	75	4064	1118	2946	27.51%		1.63
15A-13 55	1134	91	61	7	78	19	588	8	416	121	78	14	9	549	58	3230	887	2343	27.45%		1.30
15A-13 56	903	67	45	5	55	14	475	6	325	97	58	10	5	401	43	2509	646	1863	25.75%		0.96
15A-13 57	3505	317	220	23	254	69	1776	27	1333	377	253	48	32	1872	206	10311	3044	7266	29.53%		4.47
15A-13 58	2044	176	120	13	138	38	1044	15	755	219	141	27	18	1024	114	5885	1670	4215	28.37%		2.51
15A-13 59	1179	92	61	7	78	19	590	8	436	128	80	15	9	526	58	3286	865	2420	26.34%		1.28
15A-13 60	1370	110	75	8	92	24	691	10	503	146	94	17	9	632	74	3856	1044	2811	27.08%		1.61
15A-13 61	889	61	41	5	55	13	444	5	325	94	58	10	5	371	39	2416	600	1816	24.82%		0.78
15A-13 62	1166	94	64	7	78	20	595	8	437	127	80	15	9	544	60	3304	892	2412	27.01%		1.32
15A-13 63	2053	176	122	13	143	38	1045	15	759	222	141	27	18	1021	117	5911	1677	4233	28.38%		2.44
15A-13 64	1606	132	89	10	106	28	817	12	597	174	110	20	14	770	87	4572	1257	3315	27.50%		1.89
15A-13 65	1294	109	77	8	88	24	671	10	478	139	90	16	9	643	73	3728	1048	2680	28.11%		1.61
016-13 1	1978	173	117	14	134	35	950	15	764	208	144	25	18	975	108	5657	1600	4057	28.28%		2.34
016-13 2	2076	178	119	14	138	36	992	15	797	217	150	25	18	998	110	5884	1638	4246	27.84%		2.30
016-13 3	1231	110	74	8	88	22	636	10	496	137	93	16	9	630	69	3628	1028	2600	28.34%		1.34
016-13 4	1000	79	53	7	65	16	477	7	386	107	70	11	9	457	51	2794	748	2047	26.75%		1.01
016-13 5	1580	129	87	10	101	26	760	11	595	166	110	19	14	747	81	4434	1214	3221	27.37%		1.65
016-13 6	1883	166	112	13	129	33	909	15	714	198	135	24	14	945	104	5393	1541	3851	28.58%		2.08
016-13 7	1922	161	110	13	129	33	922	14	732	202	137	23	14	930	101	5442	1514	3928	27.82%		2.05



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
016-13 8	1215	98	65	8	78	20	584	9	461	128	86	14	9	564	61	3400	918	2482	27.00%		1.26
016-13 9	1158	88	58	7	69	17	561	7	433	121	79	13	9	505	55	3181	822	2358	25.86%		1.11
016-13 10	1075	86	58	7	69	17	521	7	402	113	74	13	9	495	54	3001	808	2192	26.94%		1.09
016-13 11	1376	101	65	8	83	20	650	8	526	145	94	15	9	582	59	3741	942	2799	25.18%		1.09
016-13 12	1241	92	59	8	74	18	592	7	474	132	85	13	9	541	55	3399	868	2531	25.54%		1.11
016-13 13	2096	179	120	14	138	36	997	15	801	219	148	25	18	1026	112	5945	1670	4275	28.10%		2.27
016-13 14	2002	162	110	13	129	33	957	14	758	210	140	24	14	932	101	5598	1518	4081	27.11%		2.04
016-13 15	1392	111	73	9	88	22	666	10	534	147	97	16	9	635	72	3882	1036	2846	26.68%		1.39
016-13 16	1547	129	83	10	101	25	731	10	590	162	110	18	14	731	77	4340	1190	3150	27.42%		1.53
016-13 17	1222	101	66	8	78	20	597	8	467	129	85	14	9	579	61	3445	937	2508	27.21%		1.27
016-13 18	1612	134	90	10	106	27	776	11	612	169	115	19	14	772	82	4550	1256	3295	27.59%		1.69
016-13 19	1776	154	105	12	120	31	854	13	685	186	128	22	14	899	96	5093	1453	3640	28.53%		1.90
016-13 20	1671	138	94	10	111	30	812	12	602	178	116	22	14	800	91	4699	1311	3388	27.89%		1.88
016-13 21	2120	177	123	14	143	39	1032	16	753	227	148	28	18	1051	118	6010	1715	4295	28.53%		2.49
016-13 22	1377	112	77	8	92	25	674	10	499	147	95	18	14	673	75	3897	1096	2801	28.12%		1.53
016-13 23	1735	141	97	10	115	31	848	12	618	185	119	23	14	858	93	4900	1385	3515	28.26%		1.96
016-13 24	1474	119	82	9	97	27	732	11	525	156	100	19	14	709	81	4154	1158	2996	27.89%		1.74
016-13 25	1262	98	67	7	78	22	622	9	446	133	83	16	9	577	65	3492	940	2552	26.91%		1.32
016-13 26	1863	155	107	12	124	34	918	14	675	201	129	24	18	907	104	5286	1488	3798	28.16%		2.11
016-13 27	4274	379	264	27	300	85	2070	34	1523	451	299	59	41	2199	253	12257	3614	8643	29.48%		5.38
016-13 28	3553	309	217	23	249	69	1749	29	1270	375	247	48	32	1836	212	10217	3001	7216	29.37%		4.50
016-13 29	1521	121	82	9	97	26	753	11	538	159	101	19	14	711	82	4243	1162	3081	27.39%		1.80
016-13 30	1018	79	55	6	65	17	515	8	363	108	68	13	9	493	55	2871	793	2078	27.62%		1.18



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
016-13 32	1209	98	67	7	78	22	599	9	437	129	83	16	9	597	65	3426	960	2465	28.04%		1.38
016-13 33	1507	118	80	9	97	26	745	11	532	159	101	19	14	726	79	4223	1170	3053	27.70%		1.70
016-13 34	1569	134	94	9	106	30	774	12	556	167	108	21	14	790	92	4477	1294	3183	28.90%		1.99
016-13 35	1577	130	89	9	101	29	785	12	566	169	108	21	14	757	89	4455	1242	3214	27.87%		1.89
016-13 36	1308	101	71	8	83	22	652	10	456	138	87	16	9	620	69	3650	1001	2649	27.43%		1.36
016-13 37	3141	280	198	20	217	62	1535	25	1137	337	220	44	32	1651	191	9091	2700	6391	29.70%		3.98
016-13 38	2177	185	127	13	143	41	1067	17	783	226	146	29	18	1064	126	6161	1750	4411	28.40%		2.63
009-13 1	1779.95	126.25	83.48	11.58	115.26	26.12	849.11	10.92	709	206.60	124.08	20.23	13.71	746.70	81.99	4905	1225	3680	24.97%		1.45
009-13 2	1187.86	95.26	67.47	8.11	78.38	20.62	603.99	8.64	444	131.69	82.33	15.06	9.14	573.99	66.04	3393	935	2458	27.54%		1.55
009-13 3	1201.38	91.82	64.04	8.11	78.38	19.24	603.99	8.19	453	135.32	83.49	14.11	9.14	546.06	61.49	3377	892	2485	26.43%		1.15
009-13 4	1286.13	88.37	58.32	8.11	82.99	19.24	659.11	7.28	502	147.40	90.45	14.58	9.14	525.74	55.80	3554	861	2693	24.24%		1.15
009-13 5	1377.04	115.92	80.05	9.26	101.43	25.66	728.31	10.01	531	154.65	98.57	18.35	13.71	695.91	75.15	4035	1136	2899	28.16%		1.55
009-13 6	1331.59	102.15	72.04	8.11	92.21	22.91	701.33	9.55	496	149.82	90.45	16.47	9.14	617.17	69.46	3788	1011	2777	26.69%		1.40
009-13 7	1332.81	105.59	72.04	9.26	92.21	23.83	709.54	9.10	500	149.82	91.61	16.47	9.14	624.79	68.32	3815	1021	2793	26.78%		1.38
009-13 8	1426.17	112.47	77.76	9.26	96.82	25.20	764.67	10.01	537	159.48	97.41	17.88	9.14	662.89	75.15	4081	1087	2994	26.64%		1.55
009-13 9	1340.18	104.44	73.18	9.26	92.21	23.83	717.75	9.10	506	149.82	92.77	16.47	9.14	632.41	69.46	3846	1030	2816	26.79%		1.43
009-13 10	1805.75	149.20	100.63	12.74	129.09	32.99	957.00	13.19	689	202.98	128.72	23.52	13.71	873.69	96.79	5229	1433	3797	27.40%		2.16
009-13 11	1577.27	126.25	85.76	10.42	106.04	27.95	833.86	10.92	598	177.61	110.16	19.76	13.71	746.70	83.13	4528	1220	3308	26.95%		1.62
009-13 12	1690.28	137.72	96.05	11.58	119.87	30.70	899.54	12.28	652	192.10	121.76	21.64	13.71	827.97	89.96	4917	1350	3567	27.45%		1.96
009-13 13	1540.41	129.69	88.05	10.42	110.65	28.87	824.48	11.37	602	176.40	110.16	19.76	13.71	767.02	86.54	4519	1256	3264	27.78%		1.72
009-13 14	928.67	60.83	41.17	5.79	59.94	13.75	470.29	5.91	364	107.77	63.78	9.88	4.57	363.19	40.99	2540	600	1940	23.63%		0.70
009-13 15	1369.67	117.07	83.48	9.26	96.82	26.58	742.38	10.92	510	152.23	97.41	18.35	13.71	688.29	80.85	4017	1136	2881	28.28%		1.65
009-13 16	1610.43	123.95	88.05	10.42	110.65	28.41	847.93	11.37	607	182.44	111.32	19.76	13.71	739.08	84.26	4588	1219	3369	26.57%		1.74



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
009-13 17	2064.94	161.83	114.35	13.89	142.92	37.11	1088.36	14.55	784	230.77	144.95	25.88	18.27	957.50	109.32	5908	1582	4327	26.77%		2.26
009-13 18	1085.91	78.04	53.74	6.95	69.16	17.41	569.98	7.28	404	122.03	71.90	12.70	9.14	469.86	53.52	3031	771	2260	25.43%		1.07
009-13 19	3161.90	281.19	198.97	22.00	230.52	64.61	1700.56	25.47	1206	356.42	229.60	43.28	27.41	1612.77	189.02	9350	2673	6677	28.59%		3.93
009-13 20	1130.13	91.82	65.18	6.95	78.38	21.08	592.26	9.10	427	125.65	78.85	14.11	9.14	540.98	64.91	3255	895	2361	27.48%		1.32
009-13 21	1368.44	112.47	77.76	9.26	96.82	25.20	728.31	10.46	517	152.23	96.25	17.41	13.71	657.81	77.43	3960	1089	2871	27.50%		1.57
009-13 22	1891.74	165.27	114.35	12.74	138.31	37.57	1000.40	15.01	727	215.06	136.83	25.88	18.27	954.96	112.73	5566	1582	3983	28.43%		2.34
009-13 23	3265.09	292.66	205.83	23.16	244.35	65.98	1748.64	25.93	1252	368.50	237.72	45.64	27.41	1688.97	194.72	9686	2791	6895	28.82%		5.19
009-13 24	2362.21	211.18	146.37	16.21	170.58	47.65	1261.93	19.56	904	263.39	171.62	32.46	22.84	1231.80	143.48	7005	2026	4979	28.92%		2.65
009-13 25	3604.13	316.77	225.27	25.47	267.40	72.40	1894.07	28.65	1374	405.96	262.07	49.40	31.98	1854.05	216.35	10628	3062	7566	28.81%		4.26
009-13 26	2302.02	203.14	141.79	15.05	170.58	46.28	1240.82	18.19	869	256.14	164.66	31.52	18.27	1191.17	135.51	6804	1956	4848	28.75%		2.54
009-13 27	1716.07	146.91	102.92	11.58	124.48	32.99	908.92	13.65	653	194.52	121.76	23.05	13.71	853.37	100.21	5017	1411	3606	28.13%		2.07
009-13 28	1712.39	145.76	101.77	11.58	124.48	32.99	897.19	13.19	657	190.90	124.08	22.58	13.71	860.99	100.21	5008	1416	3593	28.27%		2.17
009-13 29	974.12	73.45	51.46	6.95	69.16	16.50	507.82	6.37	369	107.77	67.26	12.23	9.14	449.54	48.96	2769	737	2033	26.61%		1.04
009-13 30	1123.99	86.08	59.46	6.95	78.38	19.24	588.75	7.28	427	123.24	77.69	14.11	9.14	523.20	58.07	3202	855	2348	26.70%		1.24
009-13 32	1205.06	99.85	69.75	8.11	87.60	22.91	630.97	9.55	464	134.11	86.97	16.47	9.14	617.17	68.32	3530	1001	2529	28.35%		1.38
009-13 33	1303.33	101.00	69.75	9.26	92.21	22.91	680.22	9.10	495	143.78	91.61	16.47	9.14	624.79	68.32	3736	1014	2723	27.13%		1.40
009-13 34	1537.96	119.36	82.33	10.42	106.04	27.49	799.85	10.92	590	172.77	106.68	19.29	13.71	726.38	79.71	4403	1185	3218	26.92%		1.65
009-13 35	2184.10	187.08	133.79	15.05	161.36	43.07	1148.17	17.28	835	242.85	158.87	30.11	18.27	1125.13	129.81	6430	1846	4584	28.71%		2.63
009-13 36	2670.54	237.57	168.09	18.53	202.86	55.44	1416.74	21.83	1019	299.63	193.65	37.64	22.84	1396.89	161.70	7923	2305	5619	29.09%		3.53
009-13 37	1870.85	157.23	112.06	12.74	133.70	36.66	979.29	15.01	706	206.60	132.19	24.94	18.27	927.03	105.90	5438	1531	3907	28.15%		2.23
009-13 38	2423.63	205.44	144.08	16.21	179.81	47.19	1256.07	19.56	935	270.64	175.10	32.93	22.84	1229.26	140.06	7098	2021	5077	28.47%		2.90
009-13 39	1603.06	131.99	93.77	10.42	110.65	30.24	845.59	12.74	610	178.81	114.80	21.17	13.71	787.34	92.23	4657	1294	3363	27.79%		1.89
009-13 40	1472.85	120.51	83.48	10.42	106.04	27.03	771.70	10.92	565	165.52	105.52	19.29	13.71	726.38	81.99	4280	1189	3091	27.79%		1.69



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
009-13 41	1526.90	117.07	81.19	10.42	106.04	27.03	785.78	10.92	579	169.15	106.68	19.29	13.71	708.60	78.57	4340	1162	3177	26.78%		1.62
009-13 42	1305.79	104.44	73.18	9.26	92.21	23.83	686.09	9.55	502	144.98	93.93	17.41	9.14	642.57	70.60	3785	1043	2742	27.56%		1.50
009-13 43	653.51	34.43	22.87	3.47	36.88	7.33	331.90	3.64	248	73.46	40.59	6.12	3.43	215.88	25.05	1707	356	1351	20.83%		0.51
009-13 44	750.55	55.09	38.88	4.63	50.71	12.37	390.54	5.91	286	83.61	51.02	8.94	4.57	332.71	38.72	2114	548	1566	25.92%		0.86
009-13 45	1168.21	83.78	57.18	6.95	73.77	18.79	613.37	8.19	437	128.07	77.69	13.64	9.14	500.34	59.21	3256	824	2432	25.31%		1.18
009-13 46	1299.65	94.11	64.04	8.11	82.99	21.54	686.09	8.64	486	144.98	88.13	15.06	9.14	573.99	62.63	3645	932	2713	25.57%		1.30
009-13 47	1230.86	96.41	67.47	8.11	87.60	21.99	646.21	9.10	464	136.53	85.81	15.53	9.14	584.15	64.91	3528	956	2572	27.11%		1.40
009-13 48	1232.09	97.55	67.47	8.11	87.60	22.45	640.35	9.10	469	137.73	86.97	15.53	9.14	591.77	66.04	3541	967	2574	27.30%		1.47
009-13 49	1664.48	115.92	78.90	10.42	106.04	26.12	770.53	10.46	629	177.61	107.84	18.82	13.71	685.75	77.43	4493	1133	3360	25.22%		1.67
009-13 50	1620.26	135.43	93.77	11.58	119.87	30.70	833.86	12.74	644	181.23	119.44	21.64	13.71	825.44	91.10	4755	1344	3410	28.28%		1.96
009-13 51	1413.89	120.51	83.48	10.42	101.43	27.49	735.35	10.92	553	158.27	102.04	19.29	13.71	718.76	80.85	4149	1176	2973	28.35%		1.72
009-13 52	1008.52	84.93	59.46	6.95	73.77	19.70	520.72	8.19	383	112.60	73.05	13.64	9.14	510.50	59.21	2943	839	2104	28.49%		1.29
009-13 53	2623.86	230.69	165.81	18.53	202.86	54.07	1359.28	21.83	1029	294.80	195.97	37.17	22.84	1404.51	157.14	7818	2297	5521	29.38%		3.50
009-13 54	2105.48	145.76	101.77	13.89	133.70	32.99	965.21	13.65	785	215.06	129.88	23.52	13.71	853.37	99.07	5632	1418	4215	25.17%		2.12
009-13 55	1504.79	90.67	62.89	9.26	87.60	20.62	660.29	8.64	582	153.44	90.45	15.06	9.14	548.60	60.35	3904	904	3000	23.15%		1.34
009-13 56	1664.48	148.05	101.77	11.58	129.09	33.45	880.77	13.65	664	181.23	122.92	23.52	13.71	891.47	97.93	4977	1453	3525	29.19%		2.13
009-13 57	1508.48	126.25	88.05	10.42	110.65	28.41	806.89	11.83	580	161.90	105.52	20.23	13.71	751.78	85.40	4409	1236	3173	28.04%		1.85
009-13 58	2687.74	183.63	130.36	17.37	170.58	42.61	1292.43	16.83	1026	281.51	168.14	30.11	18.27	1079.42	120.70	7266	1793	5474	24.67%		2.78
009-13 59	2550.16	221.51	154.37	18.53	193.64	49.94	1363.97	20.47	998	277.89	182.06	35.29	22.84	1297.84	149.17	7536	2145	5391	28.46%		3.44
015B-13 1	1722.22	127.39	89.19	11.58	119.87	28.41	888.98	11.37	686	200.56	121.76	21.17	13.71	746.70	80.85	4870	1239	3631	25.44%		1.69
015B-13 2	1281.22	105.59	75.47	9.26	92.21	23.83	679.05	10.46	489	143.78	90.45	17.41	9.14	624.79	74.02	3725	1033	2692	27.73%		1.57
015B-13 3	937.27	67.71	46.88	5.79	59.94	15.12	509.00	6.37	344	104.87	61.46	11.29	9.14	403.83	45.55	2628	666	1962	25.33%		0.89
015B-13 4	1028.17	67.71	46.88	5.79	64.55	15.12	539.49	6.37	372	112.60	64.94	11.29	4.57	411.45	44.41	2795	672	2123	24.05%		0.88



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
015B-13 5	1062.57	81.49	57.18	6.95	73.77	18.79	578.19	7.73	398	119.85	71.90	13.17	9.14	502.88	55.80	3057	820	2237	26.82%		1.18
015B-13 6	1749.24	136.58	97.20	11.58	124.48	31.16	930.03	12.74	675	196.94	120.60	22.58	13.71	817.82	89.96	5030	1346	3684	26.76%		1.81
015B-13 7	815.66	60.83	42.31	5.79	55.32	13.75	433.94	6.37	308	92.31	55.66	9.88	4.57	363.19	42.13	2310	598	1711	25.91%		0.93
015B-13 8	1030.63	74.60	51.46	6.95	69.16	16.95	552.39	7.28	391	115.99	69.58	12.70	9.14	452.08	50.10	2910	743	2166	25.55%		0.96
015B-13 9	1106.79	78.04	53.74	6.95	73.77	16.95	568.81	7.28	418	124.44	73.05	13.17	9.14	464.78	51.24	3066	768	2298	25.06%		1.00
015B-13 10	923.76	71.16	50.31	5.79	64.55	16.04	496.09	6.82	351	103.42	63.78	11.76	9.14	426.69	47.83	2648	704	1944	26.59%		0.99
015B-13 11	1152.24	95.26	65.18	8.11	87.60	21.54	611.03	9.10	447	130.49	81.17	15.53	9.14	571.46	62.63	3367	937	2430	27.84%		1.35
015B-13 12	910.24	56.24	40.02	5.79	50.71	12.83	473.81	5.46	338	97.14	54.50	9.41	4.57	327.63	38.72	2425	546	1880	22.50%		0.86
015B-13 13	2148.47	196.26	140.65	15.05	170.58	44.90	1149.34	18.65	823	244.06	156.55	31.52	22.84	1142.91	134.37	6440	1903	4537	29.55%		2.99
015B-13 14	1049.05	81.49	57.18	6.95	73.77	18.33	558.25	7.73	398	117.44	71.90	13.17	9.14	485.10	53.52	3001	799	2201	26.64%		1.24
015B-13 15	1217.34	97.55	67.47	8.11	87.60	21.99	655.60	8.64	469	137.73	84.65	16.00	9.14	576.53	63.77	3521	949	2572	26.94%		1.36
015B-13 16	1277.54	101.00	70.90	8.11	87.60	22.91	684.92	9.55	482	142.57	85.81	16.47	9.14	596.85	67.18	3662	982	2681	26.80%		1.35
015B-13 17	1754.16	161.83	118.92	12.74	133.70	37.57	952.31	15.92	663	194.52	125.24	25.88	18.27	942.27	112.73	5269	1567	3701	29.74%		2.50
015B-13 18	2163.21	221.51	163.52	15.05	179.81	51.32	1204.47	21.83	819	241.64	160.02	35.29	22.84	1295.30	156.00	6751	2147	4603	31.81%		3.39
015B-13 19	732.13	55.09	40.02	4.63	46.10	12.37	423.38	5.91	260	78.77	46.38	8.94	4.57	335.25	40.99	2095	549	1545	26.22%		0.95
015B-13 20	917.61	56.24	40.02	4.63	50.71	12.83	528.93	5.46	317	100.04	53.34	9.41	4.57	347.95	39.85	2489	567	1922	22.78%		0.96
015B-13 21	1073.62	83.78	59.46	6.95	73.77	18.79	568.81	7.73	418	122.03	75.37	13.64	9.14	507.96	55.80	3094	830	2264	26.82%		1.26
015B-13 22	1229.63	97.55	69.75	8.11	87.60	22.45	659.11	9.55	475	140.15	85.81	16.00	9.14	584.15	67.18	3561	963	2598	27.05%		1.50
015B-13 23	1279.99	103.29	76.61	8.11	87.60	24.28	707.20	10.46	471	140.15	85.81	16.47	9.14	619.71	74.02	3714	1022	2692	27.51%		1.58
015B-13 24	773.89	52.79	36.59	4.63	50.71	11.91	425.73	5.46	289	86.51	49.86	8.94	4.57	317.48	37.58	2156	526	1630	24.40%		0.74
015B-13 25	1289.82	97.55	67.47	8.11	87.60	22.45	666.15	9.10	492	143.78	91.61	16.00	9.14	609.55	64.91	3675	984	2692	26.77%		1.38
015B-13 26	2095.65	179.04	128.07	13.89	156.75	41.70	1094.22	16.83	798	235.60	153.07	29.17	18.27	1089.57	120.70	6170	1780	4390	28.85%		2.51
015B-13 27	2532.96	216.92	158.95	17.37	184.42	50.86	1327.61	20.92	951	281.51	182.06	35.29	22.84	1305.46	151.45	7439	2147	5292	28.86%		3.13



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
015B-13 28	1794.69	151.50	109.78	11.58	129.09	35.28	961.70	15.01	661	198.14	126.40	24.46	18.27	924.49	105.90	5268	1514	3754	28.74%		2.28
015B-13 29	1035.54	75.75	54.89	6.95	69.16	17.87	564.12	7.73	379	114.54	70.74	12.70	9.14	477.48	53.52	2949	778	2171	26.39%		1.12
015B-13 30	1009.74	73.45	52.60	5.79	64.55	16.95	544.18	7.28	363	110.67	66.10	12.23	9.14	462.24	50.10	2848	749	2099	26.29%		1.08
015B-13 31	1334.04	99.85	70.90	8.11	92.21	23.37	701.33	9.55	509	151.03	92.77	16.94	9.14	619.71	67.18	3805	1009	2796	26.52%		1.34
015B-13 33	1525.67	120.51	85.76	10.42	106.04	27.95	802.20	11.83	580	170.36	107.84	19.76	13.71	731.46	83.13	4396	1200	3196	27.30%		1.70
015B-13 34	1033.08	75.75	52.60	6.95	69.16	17.41	545.35	7.28	384	115.02	69.58	12.70	9.14	457.16	51.24	2906	752	2154	25.89%		1.10
015B-13 35	988.86	72.31	51.46	5.79	64.55	16.50	526.59	6.82	371	110.19	66.10	11.76	9.14	436.85	48.96	2787	718	2068	25.78%		1.07
015B-13 36	1151.01	89.52	62.89	8.11	78.38	20.62	602.82	8.64	433	129.28	80.01	14.58	9.14	538.44	60.35	3287	883	2404	26.85%		1.29
015B-13 37	1454.43	117.07	83.48	10.42	106.04	27.03	757.63	11.37	553	163.11	104.36	19.29	13.71	718.76	79.71	4219	1176	3043	27.88%		1.72
015B-13 38	1248.05	101.00	70.90	8.11	87.60	23.37	662.63	9.55	477	140.15	90.45	16.47	9.14	632.41	69.46	3646	1020	2626	27.97%		1.39
015B-13 39	1020.80	75.75	53.74	6.95	69.16	17.41	537.14	7.28	379	113.57	69.58	12.70	9.14	472.40	52.38	2897	770	2127	26.58%		1.09
015B-13 40	1965.44	164.12	115.49	13.89	142.92	38.03	1010.95	15.46	753	219.89	141.47	26.35	18.27	987.98	110.45	5724	1619	4105	28.28%		2.43
015B-13 41	1260.34	102.15	74.33	8.11	87.60	24.28	666.15	10.46	471	140.15	88.13	16.94	9.14	617.17	72.88	3649	1015	2634	27.81%		1.63
015B-13 42	678.08	50.50	35.45	4.63	46.10	11.46	351.84	5.00	259	76.84	47.54	8.47	4.57	314.94	34.16	1929	511	1418	26.48%		0.76
015B-13 43	1088.36	89.52	64.04	8.11	78.38	20.62	568.81	8.64	418	122.03	77.69	14.58	9.14	548.60	62.63	3179	896	2283	28.19%		1.27
015B-13 44	1546.56	131.99	94.91	10.42	115.26	30.70	812.75	12.74	587	175.19	112.48	21.17	13.71	800.04	92.23	4557	1313	3244	28.81%		1.86
015B-13 45	1619.03	133.13	96.05	10.42	115.26	31.16	853.80	13.19	617	181.23	113.64	21.64	13.71	792.42	91.10	4703	1308	3395	27.81%		2.17
015B-13 46	2019.49	171.01	125.79	13.89	147.53	40.78	1083.67	17.28	762	227.14	143.79	27.76	18.27	1033.70	121.84	5954	1704	4250	28.62%		2.79
306-13 1	1717.30	146.91	93.77	12.74	119.87	29.78	876.08	11.37	624	189.69	124.08	23.05	13.71	833.05	81.99	4897	1353	3544	27.64%		1.63
306-13 2	2127.59	183.63	117.78	15.05	152.14	37.57	1083.67	14.10	783	238.02	157.71	28.70	18.27	1048.94	103.62	6109	1705	4405	27.90%		1.99
306-13 3	1566.21	122.80	76.61	10.42	106.04	24.74	779.91	9.10	569	173.98	110.16	19.29	9.14	693.37	67.18	4338	1128	3210	26.01%		1.34
306-13 4	1713.62	146.91	93.77	12.74	119.87	29.78	877.25	11.37	619	192.10	125.24	22.58	13.71	840.67	81.99	4901	1361	3540	27.76%		1.59
306-13 5	1718.53	149.20	93.77	12.74	119.87	29.78	874.91	11.37	624	188.48	122.92	23.05	13.71	858.45	83.13	4924	1382	3542	28.07%		1.58



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 6	1775.04	144.61	92.62	12.74	119.87	29.32	896.02	10.92	640	196.94	125.24	22.58	13.71	825.44	80.85	4986	1340	3646	26.87%		1.58
306-13 7	1937.19	144.61	90.34	12.74	129.09	28.87	955.83	10.46	727	221.10	139.15	23.05	13.71	815.28	77.43	5326	1333	3993	25.03%		1.42
306-13 8	1649.74	135.43	84.62	11.58	110.65	27.03	831.52	10.46	598	183.65	118.28	21.17	13.71	756.86	75.15	4628	1235	3393	26.69%		1.38
306-13 9	1623.94	135.43	85.76	11.58	115.26	27.49	828.00	10.92	587	181.23	117.12	21.17	13.71	772.10	76.29	4607	1258	3349	27.31%		1.50
306-13 10	1720.99	143.46	91.48	11.58	119.87	29.32	872.56	10.92	617	189.69	122.92	22.58	13.71	822.90	81.99	4871	1336	3535	27.43%		1.51
306-13 11	1595.69	129.69	82.33	11.58	110.65	26.12	819.79	10.01	573	176.40	113.64	20.23	13.71	741.62	72.88	4497	1207	3290	26.85%		1.38
306-13 12	1560.07	129.69	82.33	10.42	106.04	26.12	795.16	10.01	559	173.98	111.32	20.23	13.71	741.62	74.02	4413	1204	3210	27.27%		1.43
306-13 13	1588.32	128.54	82.33	11.58	110.65	26.12	811.58	10.01	560	173.98	112.48	20.23	13.71	736.54	72.88	4459	1201	3258	26.94%		1.46
306-13 14	1879.45	151.50	97.20	13.89	129.09	31.16	964.04	11.83	667	206.60	132.19	23.52	13.71	871.15	86.54	5279	1416	3863	26.82%		1.61
306-13 15	1671.85	134.28	84.62	11.58	110.65	27.03	852.63	10.01	601	184.85	117.12	21.17	13.71	761.94	74.02	4676	1237	3439	26.46%		1.49
306-13 16	1545.33	122.80	77.76	10.42	106.04	24.74	802.20	9.55	554	172.77	110.16	19.29	9.14	703.52	68.32	4336	1141	3195	26.32%		1.36
306-13 17	1910.16	118.21	73.18	15.05	110.65	23.37	833.86	9.10	665	198.14	124.08	19.29	9.14	660.35	64.91	4834	1088	3746	22.51%		1.27
306-13 18	890.59	66.57	41.17	5.79	59.94	13.29	453.87	5.46	322	99.56	62.62	10.82	4.57	380.97	37.58	2455	620	1834	25.27%		0.74
306-13 19	1684.14	35.58	20.58	3.47	36.88	6.87	1186.87	2.73	392	149.82	49.86	6.12	3.43	238.74	18.22	3835	369	3466	9.63%		0.18
306-13 20	964.29	82.63	53.74	6.95	69.16	16.95	496.09	6.82	344	106.80	69.58	12.70	9.14	474.94	48.96	2763	775	1988	28.05%		0.97
306-13 21	1286.13	107.88	68.61	9.26	87.60	21.99	663.80	8.64	463	141.36	92.77	16.94	9.14	617.17	61.49	3656	999	2656	27.34%		1.28
306-13 22	1497.42	128.54	81.19	10.42	106.04	25.66	750.59	10.01	556	169.15	111.32	20.23	13.71	721.30	72.88	4275	1180	3095	27.59%		1.36
306-13 23	1359.84	112.47	69.75	9.26	96.82	22.45	666.15	8.64	511	154.65	100.89	17.88	9.14	629.87	63.77	3832	1031	2802	26.90%		1.28
306-13 24	1375.81	119.36	74.33	10.42	101.43	24.28	696.64	9.10	514	155.86	104.36	18.82	9.14	683.21	66.04	3963	1106	2857	27.90%		1.42
306-13 25	1055.20	94.11	58.32	8.11	78.38	18.79	546.52	7.28	390	118.40	80.01	14.58	9.14	535.90	53.52	3068	870	2198	28.36%		1.07
306-13 26	1132.58	91.82	60.61	8.11	78.38	19.24	557.08	6.82	429	124.44	82.33	15.06	9.14	507.96	56.94	3180	846	2334	26.60%		1.09
306-13 27	1304.56	107.88	70.90	9.26	92.21	22.45	641.52	8.19	490	142.57	93.93	17.41	9.14	617.17	67.18	3694	1013	2682	27.41%		1.28
306-13 28	2731.96	232.98	156.66	19.68	193.64	49.49	1345.20	18.19	1029	299.63	200.61	36.70	22.84	1358.79	142.34	7837	2212	5626	28.22%		2.81



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 29	3242.98	277.74	190.96	23.16	230.52	60.02	1592.66	21.83	1215	355.21	236.56	44.23	27.41	1645.79	171.94	9336	2670	6666	28.60%		3.43
306-13 30	971.66	71.16	46.88	5.79	64.55	15.12	472.64	5.91	358	104.39	67.26	11.76	9.14	424.15	46.69	2675	695	1980	25.99%		0.89
306-13 31	1153.47	89.52	59.46	8.11	73.77	18.79	579.36	7.28	418	123.24	78.85	14.11	9.14	546.06	58.07	3237	876	2361	27.07%		1.07
306-13 32	1572.35	123.95	81.19	11.58	106.04	26.12	761.15	9.55	595	171.56	111.32	19.76	13.71	749.24	78.57	4431	1208	3223	27.27%		1.51
306-13 33	6150.60	474.00	229.84	47.47	465.65	87.06	3281.49	17.74	2165	645.18	484.71	82.80	27.41	2842.04	150.31	17151	4377	12774	25.52%		1.31
306-13 34	1272.62	91.82	59.46	9.26	82.99	18.79	599.30	6.82	493	142.57	92.77	15.53	9.14	566.38	55.80	3517	907	2610	25.78%		1.05
306-13 35	1085.91	91.82	60.61	8.11	78.38	19.24	525.41	7.28	411	117.92	80.01	14.58	9.14	558.76	56.94	3125	897	2228	28.70%		1.08
306-13 36	1241.91	104.44	68.61	9.26	87.60	21.99	603.99	7.73	471	136.53	92.77	16.47	9.14	629.87	63.77	3565	1010	2556	28.32%		1.20
306-13 37	1357.38	112.47	73.18	9.26	92.21	23.37	660.29	8.64	510	147.40	99.73	17.88	9.14	680.67	69.46	3871	1087	2784	28.08%		1.31
306-13 38	1302.10	106.74	69.75	9.26	92.21	22.45	632.14	8.19	496	143.78	96.25	16.94	9.14	640.03	64.91	3710	1030	2679	27.78%		1.19
306-13 39	950.78	67.71	43.45	5.79	59.94	14.20	463.26	5.00	353	105.36	66.10	11.29	4.57	421.61	42.13	2615	670	1945	25.62%		0.78
306-13 40	902.87	67.71	42.31	5.79	59.94	14.20	456.22	5.00	335	99.07	63.78	10.82	4.57	419.07	42.13	2528	666	1862	26.33%		0.78
306-13 41	1056.42	80.34	53.74	6.95	69.16	16.95	531.28	6.37	377	112.12	71.90	12.70	9.14	495.26	50.10	2949	794	2155	26.91%		0.92
306-13 42	1639.91	134.28	91.48	11.58	110.65	28.87	823.31	10.92	598	178.81	114.80	21.64	13.71	848.29	84.26	4711	1344	3367	28.53%		1.61
306-13 43	1369.67	117.07	77.76	10.42	96.82	24.74	667.32	9.10	524	152.23	102.04	18.82	9.14	718.76	72.88	3970	1145	2825	28.84%		1.47
306-13 45	1325.44	113.62	75.47	9.26	92.21	23.83	653.25	8.64	502	146.19	98.57	17.88	9.14	688.29	69.46	3833	1099	2734	28.66%		1.38
306-13 46	1291.05	111.33	73.18	9.26	92.21	23.37	629.79	8.64	493	142.57	97.41	17.41	9.14	673.05	69.46	3741	1078	2663	28.81%		1.31
306-13 47	1352.47	112.47	74.33	9.26	96.82	23.83	663.80	8.64	503	147.40	98.57	17.88	9.14	693.37	68.32	3879	1105	2774	28.48%		1.32
306-13 48	1152.24	96.41	62.89	8.11	78.38	20.16	575.84	7.28	430	125.65	83.49	15.06	9.14	581.61	59.21	3306	930	2376	28.14%		1.15
306-13 49	1201.38	96.41	64.04	8.11	78.38	20.62	606.34	7.73	439	129.28	84.65	15.06	9.14	596.85	61.49	3418	950	2468	27.79%		1.13
306-13 50	1311.93	110.18	74.33	9.26	87.60	23.83	645.04	9.10	486	143.78	93.93	17.41	9.14	670.51	70.60	3763	1073	2690	28.51%		1.45
306-13 51	1691.51	126.25	83.48	10.42	115.26	27.03	829.17	10.92	619	182.44	113.64	19.76	13.71	734.00	80.85	4658	1211	3447	26.00%		1.53
306-13 52	1455.65	113.62	73.18	9.26	96.82	24.28	709.54	9.55	533	157.07	99.73	17.88	13.71	655.27	75.15	4044	1079	2964	26.69%		1.39



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 53	2738.10	242.16	152.09	20.84	198.25	49.94	1341.68	18.19	1026	294.80	197.13	37.17	22.84	1407.05	140.06	7887	2268	5619	28.75%		2.58
306-13 54	1857.34	158.38	96.05	12.74	138.31	32.07	907.75	10.92	681	198.14	133.35	24.94	13.71	954.96	85.40	5305	1515	3791	28.55%		1.49
306-13 55	4978.71	434.98	288.16	35.89	364.22	93.93	2406.59	35.02	1848	536.44	356.00	68.22	45.68	2494.08	267.59	14253	4092	10161	28.71%		5.27
306-13 56	3774.87	323.65	212.69	26.63	272.01	68.73	1833.09	25.93	1416	409.58	270.19	49.87	31.98	1869.29	198.13	10783	3052	7730	28.31%		3.78
306-13 57	2544.02	84.93	49.17	10.42	101.43	16.50	1396.80	5.46	776	251.31	115.96	15.53	9.14	497.80	43.27	5917	823	5094	13.91%		0.69
306-13 58	998.69	70.01	45.74	5.79	64.55	14.66	504.30	5.91	364	106.80	67.26	11.29	9.14	439.39	45.55	2753	706	2047	25.65%		0.84
306-13 59	1026.94	80.34	51.46	6.95	69.16	16.50	512.51	6.82	383	111.64	73.05	12.70	9.14	477.48	51.24	2889	775	2114	26.82%		0.85
306-13 60	1176.81	88.37	56.03	8.11	78.38	18.33	568.81	7.28	430	128.07	80.01	14.11	9.14	525.74	54.66	3244	852	2392	26.26%		0.96
306-13 61	862.34	70.01	44.60	5.79	59.94	15.12	425.73	5.91	320	94.72	60.30	10.82	9.14	419.07	46.69	2450	681	1768	27.81%		1.11
306-13 62	1180.49	87.23	54.89	8.11	73.77	17.87	575.84	6.82	443	128.07	81.17	13.64	9.14	523.20	54.66	3258	841	2417	25.82%		0.97
306-13 63	1292.28	75.75	48.03	6.95	69.16	15.58	662.63	5.46	437	135.32	75.37	12.23	9.14	474.94	44.41	3365	755	2610	22.43%		0.72
306-13 64	1444.60	111.33	70.90	9.26	101.43	23.83	690.78	9.10	544	157.07	100.89	17.88	9.14	665.43	69.46	4025	1078	2946	26.80%		1.24
306-13 65	982.72	80.34	53.74	6.95	64.55	16.95	490.23	6.82	355	104.87	67.26	12.70	9.14	490.18	53.52	2795	788	2007	28.20%		1.27
306-13 66	2004.75	168.71	110.92	13.89	142.92	36.20	975.77	14.10	739	212.64	139.15	26.35	18.27	998.14	105.90	5707	1622	4086	28.41%		2.15
306-13 67	1636.23	131.99	85.76	11.58	110.65	27.95	802.20	10.92	604	176.40	113.64	20.23	13.71	789.88	83.13	4618	1274	3344	27.59%		1.49
306-13 68	1908.93	79.19	48.03	8.11	73.77	16.04	1134.10	5.46	537	176.40	84.65	13.17	9.14	495.26	44.41	4633	784	3849	16.93%		0.69
306-13 69	1701.33	129.69	84.62	11.58	115.26	27.49	836.21	10.46	635	183.65	115.96	20.23	13.71	794.96	79.71	4759	1276	3483	26.81%		1.45
306-13 70	1350.01	102.15	66.32	9.26	87.60	21.54	673.19	8.64	492	144.98	89.29	16.00	9.14	629.87	66.04	3766	1007	2759	26.75%		1.19
306-13 71	1529.36	123.95	81.19	10.42	106.04	26.12	755.28	10.46	563	164.32	106.68	19.29	13.71	756.86	79.71	4347	1217	3129	28.01%		1.30
306-13 72	1463.02	119.36	78.90	10.42	101.43	25.20	729.48	10.01	540	155.86	102.04	18.35	13.71	736.54	76.29	4181	1180	3001	28.22%		1.54
306-13 73	1729.59	142.31	93.77	11.58	119.87	30.24	864.35	12.74	638	186.06	121.76	22.58	13.71	873.69	91.10	4951	1400	3551	28.28%		1.76
306-13 74	1299.65	104.44	67.47	8.11	87.60	22.45	641.52	8.64	472	138.94	90.45	16.00	9.14	634.95	67.18	3669	1018	2651	27.74%		1.27
306-13 75	1305.79	86.08	54.89	8.11	78.38	17.87	650.90	6.82	461	137.73	83.49	13.64	9.14	538.44	54.66	3507	860	2647	24.52%		0.93



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 76	1033.08	76.90	48.03	6.95	69.16	16.04	500.79	5.91	383	112.12	70.74	12.70	9.14	474.94	47.83	2867	761	2106	26.53%		0.89
306-13 77	1926.13	96.41	58.32	9.26	101.43	19.24	971.08	7.28	663	201.77	112.48	16.47	9.14	624.79	56.94	4873	990	3883	20.32%		1.01
306-13 78	1255.42	91.82	58.32	8.11	82.99	19.24	612.20	7.28	465	135.32	85.81	14.58	9.14	566.38	58.07	3470	908	2562	26.16%		1.03
306-13 79	1084.68	81.49	52.60	6.95	73.77	16.95	526.59	6.82	398	116.95	73.05	13.17	9.14	492.72	52.38	3005	799	2206	26.59%		0.97
306-13 80	2186.55	174.45	115.49	15.05	152.14	37.57	1062.56	14.55	802	233.18	150.75	28.23	18.27	1064.18	112.73	6168	1718	4451	27.85%		2.15
306-13 81	78.62	3.44	2.29	1.16	3.46	0.46	37.53	0.34	30	8.70	5.80	0.47	3.43	20.32	2.28	199	36	162	18.37%		0.01
306-13 82	1300.88	92.96	58.32	8.11	82.99	19.24	622.76	7.28	489	141.36	86.97	15.06	9.14	546.06	56.94	3537	888	2649	25.11%		1.03
306-13 83	1786.09	150.35	98.34	12.74	124.48	32.07	884.29	12.28	652	192.10	122.92	23.52	13.71	891.47	97.93	5094	1444	3650	28.35%		1.80
306-13 84	2079.68	169.86	112.06	13.89	147.53	36.20	1014.47	13.65	764	224.73	143.79	26.35	18.27	1010.84	110.45	5886	1645	4241	27.95%		2.03
306-13 85	1841.37	160.68	106.35	12.74	133.70	34.37	897.19	13.65	695	202.98	132.19	24.94	13.71	942.27	105.90	5317	1536	3782	28.88%		1.96
306-13 86	1060.11	81.49	51.46	6.95	73.77	16.95	509.00	6.82	394	114.05	71.90	12.70	9.14	485.10	53.52	2947	791	2156	26.84%		1.01
306-13 87	1240.68	97.55	62.89	8.11	82.99	20.62	607.51	8.19	461	134.11	86.97	15.53	9.14	589.23	64.91	3489	951	2538	27.26%		1.16
306-13 88	1160.84	83.78	53.74	6.95	73.77	17.41	569.98	6.82	415	120.82	75.37	13.64	9.14	505.42	53.52	3166	817	2349	25.81%		0.93
306-13 89	2756.53	237.57	157.80	19.68	193.64	50.86	1362.79	19.56	1022	296.01	194.81	37.17	22.84	1396.89	156.00	7924	2272	5652	28.68%		2.78
306-13 90	1291.05	105.59	69.75	9.26	92.21	22.91	642.69	8.64	472	137.73	90.45	16.94	9.14	634.95	69.46	3673	1030	2644	28.03%		1.31
306-13 91	1759.07	149.20	99.48	12.74	124.48	32.07	877.25	12.74	639	187.27	121.76	23.52	13.71	876.23	99.07	5028	1431	3597	28.45%		1.70
306-13 93	1528.13	110.18	70.90	10.42	101.43	22.91	722.44	9.10	569	167.94	102.04	17.88	9.14	652.73	70.60	4165	1065	3100	25.57%		1.08
306-13 94	2458.03	212.32	140.65	17.37	179.81	45.82	1213.85	17.74	913	265.80	173.94	33.87	22.84	1274.98	143.48	7114	2072	5042	29.12%		2.58
306-13 95	1240.68	97.55	64.04	8.11	82.99	20.62	611.03	8.19	454	132.90	84.65	15.53	9.14	596.85	63.77	3490	959	2531	27.47%		1.24
306-13 96	1487.59	117.07	76.61	10.42	101.43	25.20	729.48	10.01	532	157.07	100.89	18.82	9.14	711.14	77.43	4164	1147	3017	27.54%		1.42
306-13 97	1162.07	84.93	54.89	8.11	73.77	17.41	561.77	6.82	429	125.65	77.69	13.64	9.14	518.12	54.66	3198	833	2365	26.06%		0.96
306-13 98	954.47	73.45	46.88	5.79	64.55	15.12	477.33	6.37	338	101.97	63.78	11.76	9.14	447.00	47.83	2664	722	1942	27.11%		0.88
306-13 99	1004.83	73.45	45.74	6.95	64.55	15.12	499.61	6.37	367	107.29	67.26	11.76	9.14	449.54	47.83	2777	723	2053	26.05%		0.86



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 100	1299.65	96.41	61.75	9.26	87.60	20.16	641.52	7.73	479	140.15	86.97	15.53	9.14	584.15	61.49	3601	944	2657	26.21%		1.07
306-13 101	1316.84	90.67	58.32	8.11	82.99	18.79	652.08	6.82	478	140.15	84.65	14.58	9.14	540.98	56.94	3559	879	2680	24.70%		1.05
306-13 102	1896.65	110.18	66.32	10.42	115.26	21.99	910.09	7.73	694	204.19	115.96	18.35	9.14	634.95	63.77	4879	1048	3831	21.47%		1.07
306-13 103	1283.68	83.78	52.60	8.11	82.99	17.41	659.11	6.37	454	134.11	80.01	13.64	9.14	502.88	50.10	3438	819	2619	23.82%		0.92
306-13 104	1219.80	83.78	51.46	8.11	82.99	16.50	599.30	5.91	458	130.49	82.33	13.64	9.14	495.26	48.96	3306	808	2498	24.43%		0.88
306-13 105	1685.36	138.87	90.34	11.58	119.87	29.32	826.82	10.92	642	181.23	117.12	21.17	13.71	800.04	89.96	4778	1314	3464	27.51%		1.86
306-13 106	881.99	58.53	36.59	5.79	55.32	11.91	437.45	4.55	317	93.27	55.66	9.41	4.57	358.11	36.44	2367	575	1791	24.31%		0.69
306-13 107	1526.90	130.84	85.76	10.42	110.65	27.49	756.46	10.46	574	164.32	106.68	20.23	13.71	794.96	85.40	4418	1279	3139	28.96%		1.57
306-13 108	1361.07	112.47	73.18	9.26	96.82	23.83	674.36	9.10	512	144.98	95.09	17.41	9.14	695.91	72.88	3908	1111	2797	28.43%		1.46
306-13 109	1730.82	129.69	83.48	11.58	115.26	27.03	844.42	10.01	651	188.48	117.12	20.23	13.71	810.20	81.99	4835	1292	3543	26.71%		1.63
306-13 110	1584.64	125.10	81.19	10.42	110.65	26.58	782.26	10.01	586	169.15	107.84	19.76	13.71	800.04	81.99	4509	1269	3240	28.14%		1.62
306-13 111	1158.38	79.19	50.31	6.95	69.16	16.04	575.84	6.37	421	122.03	73.05	12.23	9.14	505.42	51.24	3156	799	2357	25.32%		1.00
306-13 112	1170.67	95.26	61.75	8.11	82.99	20.16	585.23	7.73	439	125.65	82.33	14.58	9.14	604.47	61.49	3368	958	2411	28.43%		1.26
306-13 113	1237.00	95.26	61.75	8.11	82.99	19.70	596.96	7.28	464	134.11	85.81	15.06	9.14	607.01	61.49	3486	960	2526	27.53%		1.18
306-13 114	1205.06	96.41	61.75	8.11	82.99	19.70	587.57	7.73	451	130.49	81.17	14.58	9.14	614.63	62.63	3433	970	2464	28.24%		1.22
306-13 115	1288.59	95.26	61.75	8.11	87.60	19.70	625.10	8.19	488	138.94	85.81	15.06	9.14	614.63	61.49	3607	973	2634	26.97%		1.27
306-13 116	1200.15	99.85	65.18	8.11	82.99	21.08	598.13	8.19	436	125.65	81.17	15.06	9.14	637.49	66.04	3454	1005	2449	29.09%		1.28
306-13 117	1491.28	123.95	81.19	10.42	106.04	26.12	731.83	10.01	554	159.48	102.04	18.82	13.71	787.34	80.85	4297	1248	3049	29.04%		1.55
306-13 118	1379.49	114.77	75.47	9.26	96.82	24.28	684.92	9.55	511	148.61	95.09	17.41	9.14	734.00	75.15	3985	1157	2828	29.02%		1.51
306-13 119	2105.48	177.89	116.64	13.89	147.53	37.57	1053.17	14.10	790	227.14	146.11	26.82	18.27	1147.99	115.01	6137	1802	4335	29.36%		2.36
306-13 120	1443.37	122.80	81.19	10.42	101.43	26.12	741.21	10.01	544	155.86	99.73	18.35	13.71	805.12	80.85	4254	1260	2994	29.61%		1.72
306-13 121	1412.66	67.71	42.31	6.95	69.16	13.75	721.27	5.91	507	149.82	81.17	11.29	4.57	452.08	45.55	3592	712	2879	19.83%		0.74
306-13 122	2073.54	176.75	114.35	13.89	152.14	37.57	1016.82	14.10	780	223.52	144.95	26.82	18.27	1120.05	113.87	6027	1774	4253	29.43%		2.34



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 123	1980.18	169.86	114.35	13.89	142.92	36.66	983.98	13.65	732	212.64	137.99	25.88	18.27	1094.65	111.59	5789	1728	4061	29.85%		2.35
306-13 124	1035.54	87.23	58.32	6.95	73.77	18.33	513.69	7.28	390	111.64	70.74	13.17	9.14	561.30	56.94	3014	885	2128	29.38%		1.16
306-13 125	3029.23	253.64	170.38	19.68	207.47	54.98	1523.47	20.92	1099	321.38	202.93	38.11	22.84	1648.33	170.81	8783	2587	6195	29.46%		3.51
306-13 126	3068.54	236.43	165.81	20.84	202.86	52.69	1545.75	20.92	1096	333.46	212.21	37.64	22.84	1422.29	156.00	8595	2317	6277	26.96%		3.21
306-13 127	2643.52	200.85	138.36	17.37	170.58	43.99	1358.10	17.74	940	286.34	179.74	31.05	22.84	1208.94	132.09	7392	1966	5425	26.60%		2.72
306-13 128	988.86	76.90	52.60	6.95	69.16	16.95	492.58	6.82	369	110.19	73.05	12.23	9.14	467.32	48.96	2800	760	2040	27.14%		1.00
306-13 129	937.27	65.42	42.31	5.79	59.94	13.75	479.68	5.46	338	101.01	64.94	10.82	4.57	434.31	39.85	2603	676	1927	25.98%		1.20
306-13 130	1397.92	103.29	65.18	9.26	92.21	21.54	738.86	8.19	504	151.03	90.45	16.47	9.14	665.43	62.63	3935	1044	2891	26.53%		1.00
306-13 131	1842.60	152.64	104.06	12.74	133.70	33.91	913.61	13.65	691	205.39	135.67	23.99	13.71	924.49	99.07	5300	1499	3801	28.29%		2.04
306-13 133	1490.05	123.95	83.48	10.42	110.65	26.58	751.76	10.92	568	165.52	107.84	18.82	13.71	718.76	78.57	4279	1185	3094	27.70%		1.65
306-13 134	1189.09	95.26	61.75	8.11	82.99	19.70	592.26	8.19	460	132.90	84.65	14.58	9.14	551.14	59.21	3369	902	2467	26.78%		1.62
306-13 135	1076.08	89.52	58.32	6.95	78.38	18.79	555.91	7.73	416	119.85	78.85	13.64	9.14	518.12	56.94	3105	851	2254	27.40%		1.19
306-13 136	947.10	75.75	49.17	6.95	69.16	16.04	473.81	6.37	364	104.39	68.42	11.76	9.14	449.54	46.69	2698	734	1965	27.19%		0.92
306-13 137	1539.19	123.95	83.48	10.42	110.65	26.12	791.64	10.46	572	166.73	109.00	18.82	13.71	751.78	77.43	4405	1216	3189	27.61%		1.46
306-13 138	1329.13	109.03	72.04	9.26	92.21	22.91	660.29	9.55	502	146.19	93.93	16.47	9.14	637.49	69.46	3779	1038	2740	27.48%		1.43
306-13 139	1303.33	96.41	64.04	9.26	87.60	20.62	643.87	8.19	493	142.57	91.61	15.06	9.14	571.46	60.35	3617	933	2684	25.79%		1.19
306-13 140	1153.47	92.96	61.75	8.11	78.38	19.70	592.26	7.73	427	124.44	81.17	14.11	9.14	558.76	58.07	3287	901	2386	27.40%		1.11
306-13 141	1198.92	88.37	58.32	8.11	78.38	18.79	591.09	7.73	453	131.74	83.49	13.64	9.14	530.82	55.80	3327	861	2466	25.88%		1.15
306-13 142	1673.08	141.17	93.77	12.74	124.48	30.24	836.21	11.83	652	187.33	125.24	21.64	13.71	853.37	87.68	4864	1378	3487	28.33%		1.57
306-13 143	1531.81	126.25	83.48	10.42	110.65	27.03	775.22	10.92	593	171.62	111.32	19.29	13.71	741.62	77.43	4403	1210	3193	27.49%		1.62
306-13 144	1502.33	103.29	66.32	9.26	96.82	21.54	740.04	8.64	572	168.00	104.36	16.47	9.14	622.25	62.63	4103	1007	3096	24.55%		1.28
306-13 145	1819.26	125.10	77.76	11.58	119.87	25.66	893.67	9.55	695	201.84	127.56	19.76	9.14	741.62	71.74	4949	1200	3749	24.25%		1.35
306-13 146	1932.27	135.43	85.76	12.74	129.09	28.41	938.24	10.46	760	217.55	139.15	21.64	13.71	812.74	79.71	5317	1317	4000	24.77%		1.59



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 147	1579.72	128.54	84.62	10.42	110.65	27.03	782.26	10.92	598	174.04	111.32	19.29	13.71	759.40	80.85	4491	1235	3256	27.50%		1.62
306-13 148	1670.62	141.17	94.91	11.58	119.87	30.24	849.11	12.28	632	184.92	120.60	21.17	13.71	850.83	89.96	4843	1374	3469	28.37%		1.76
306-13 149	1599.38	134.28	90.34	11.58	115.26	29.32	818.61	11.83	603	175.25	114.80	20.23	13.71	797.50	85.40	4621	1298	3323	28.09%		1.77
306-13 150	1772.58	149.20	99.48	12.74	129.09	31.62	894.85	12.74	667	193.38	126.40	22.58	13.71	881.31	94.51	5101	1434	3667	28.11%		1.89
306-13 151	888.13	70.01	48.03	5.79	59.94	15.58	465.60	7.28	339	101.52	60.30	10.82	9.14	401.29	48.96	2532	671	1861	26.50%		0.99
306-13 152	1518.30	128.54	86.91	10.42	110.65	28.41	811.58	10.92	580	174.04	105.52	20.23	13.71	744.16	83.13	4426	1227	3200	27.71%		1.72
306-13 153	2033.00	162.97	110.92	12.74	138.31	35.74	1070.77	14.10	773	232.05	135.67	25.88	18.27	937.19	107.04	5808	1550	4258	26.69%		2.05
306-13 154	2331.50	200.85	136.08	16.21	170.58	44.45	1227.92	17.28	911	269.52	166.98	31.99	18.27	1145.45	132.09	6820	1897	4923	27.82%		2.59
306-13 155	2278.68	198.55	136.08	16.21	165.97	43.99	1202.12	17.28	874	261.06	161.18	31.05	18.27	1132.75	129.81	6667	1874	4793	28.11%		2.53
306-13 156	3760.13	333.98	225.27	27.79	285.84	74.23	1967.96	28.65	1442	432.68	264.39	51.75	31.98	1864.21	218.63	11009	3115	7895	28.29%		4.19
306-13 157	2957.99	265.12	179.53	20.84	221.30	58.65	1544.58	23.20	1143	338.41	209.89	40.93	27.41	1473.08	174.22	8678	2463	6215	28.39%		3.27
306-13 158	1815.58	156.09	105.20	12.74	129.09	34.37	947.62	14.10	692	206.67	126.40	24.46	13.71	886.39	102.48	5267	1466	3801	27.83%		2.03
306-13 159	1176.81	84.93	57.18	6.95	73.77	18.79	635.66	7.28	432	130.53	73.05	13.64	9.14	497.80	53.52	3271	816	2455	24.95%		1.04
306-13 160	2353.61	205.44	137.22	16.21	175.20	45.36	1238.48	17.74	907	269.52	165.82	31.99	18.27	1160.69	132.09	6875	1924	4951	27.99%		2.70
306-13 161	2386.78	203.14	132.65	16.21	175.20	44.45	1238.48	16.83	928	275.56	170.46	32.46	18.27	1158.15	126.40	6923	1908	5016	27.55%		2.50
306-13 162	1740.64	136.58	89.19	11.58	124.48	29.78	915.96	11.83	679	200.63	121.76	21.64	13.71	784.80	87.68	4969	1300	3669	26.16%		1.65
306-13 163	1327.90	109.03	72.04	9.26	96.82	23.83	697.82	9.55	533	154.70	93.93	17.41	9.14	640.03	69.46	3864	1047	2817	27.10%		1.42
306-13 164	1569.90	140.02	93.77	10.42	115.26	31.16	837.38	12.28	605	180.08	110.16	21.64	13.71	794.96	89.96	4626	1313	3313	28.38%		1.85
306-13 165	534.35	45.91	30.87	3.47	36.88	10.08	277.95	4.09	209	62.85	38.27	7.06	3.43	256.52	28.47	1549	423	1126	27.33%		0.58
306-13 166	588.40	49.35	33.16	4.63	41.49	11.00	317.83	4.55	227	67.68	41.75	7.53	4.57	287.00	31.88	1718	471	1248	27.38%		0.53
306-13 167	1447.06	125.10	84.62	10.42	106.04	27.49	769.36	10.92	560	168.00	100.89	19.29	13.71	708.60	79.71	4231	1175	3056	27.78%		1.67
306-13 168	1320.53	102.15	66.32	9.26	92.21	21.99	687.26	8.64	518	152.28	91.61	16.00	9.14	589.23	63.77	3748	969	2779	25.86%		1.30
306-13 169	2422.40	206.59	139.51	17.37	175.20	46.28	1292.43	17.74	935	275.56	166.98	31.99	22.84	1191.17	134.37	7076	1966	5110	27.78%		2.81



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 170	2977.64	261.68	178.39	20.84	221.30	58.19	1565.69	22.74	1133	340.83	207.57	40.46	27.41	1480.70	171.94	8708	2463	6245	28.28%		3.73
306-13 171	3020.64	260.53	180.67	20.84	216.69	58.19	1614.95	22.74	1140	343.24	207.57	40.46	27.41	1498.48	170.81	8823	2476	6347	28.06%		3.62
306-13 172	2482.60	228.39	156.66	17.37	184.42	50.86	1324.09	20.47	956	282.81	175.10	35.29	22.84	1292.76	151.45	7382	2143	5238	29.03%		3.24
306-13 173	2695.11	230.69	156.66	18.53	193.64	51.32	1423.78	20.01	1038	306.98	185.54	35.76	22.84	1315.62	150.31	7845	2177	5668	27.75%		3.00
306-13 174	1988.78	174.45	122.35	13.89	142.92	38.95	1037.93	16.83	759	228.43	136.83	26.82	18.27	998.14	121.84	5826	1661	4165	28.50%		2.54
306-13 175	2937.10	255.94	172.67	20.84	212.08	57.28	1565.69	22.29	1120	337.20	205.25	39.52	27.41	1450.23	166.25	8589	2404	6186	27.98%		3.49
306-13 176	1854.88	161.83	112.06	12.74	133.70	33.91	955.83	13.65	720	203.04	129.88	24.94	13.71	949.89	111.59	5431	1555	3876	28.64%		2.12
306-13 177	1237.00	103.29	72.04	8.11	87.60	21.54	643.87	8.64	481	136.57	86.97	16.00	9.14	612.09	69.46	3593	1000	2593	27.83%		1.63
306-13 178	1012.20	80.34	54.89	6.95	69.16	16.50	523.07	6.82	387	110.71	69.58	12.70	9.14	485.10	54.66	2899	789	2110	27.23%		1.07
306-13 179	1806.98	152.64	105.20	12.74	133.70	32.53	927.68	12.28	701	198.21	127.56	23.52	13.71	932.11	102.48	5282	1508	3774	28.55%		2.27
306-13 180	1424.94	118.21	82.33	9.26	101.43	24.74	750.59	10.01	552	157.12	99.73	18.35	9.14	721.30	79.71	4159	1165	2993	28.02%		2.11
306-13 181	1325.44	101.00	69.75	8.11	87.60	21.08	696.64	9.10	502	142.61	86.97	15.53	9.14	619.71	71.74	3766	1005	2761	26.68%		1.59
306-13 182	1299.65	99.85	67.47	8.11	87.60	20.62	677.88	7.73	493	140.20	86.97	15.53	9.14	596.85	64.91	3676	970	2706	26.38%		1.24
306-13 183	1198.92	96.41	65.18	8.11	82.99	20.16	622.76	7.73	463	130.53	82.33	15.06	9.14	581.61	61.49	3445	940	2506	27.28%		1.30
306-13 184	1277.54	102.15	73.18	8.11	87.60	21.99	640.35	9.55	493	141.41	86.97	15.53	9.14	642.57	75.15	3685	1037	2648	28.14%		1.69
306-13 185	1251.74	92.96	65.18	8.11	82.99	19.70	634.48	8.19	478	136.57	81.17	14.58	9.14	581.61	66.04	3531	940	2590	26.63%		1.26
306-13 186	803.37	50.50	37.74	4.63	41.49	11.00	428.07	5.46	282	84.12	45.22	7.53	4.57	325.09	40.99	2172	524	1648	24.14%		1.01
306-13 187	2763.90	247.90	172.67	19.68	212.08	52.69	1415.57	20.47	1092	306.98	199.45	38.58	22.84	1495.94	169.67	8230	2433	5797	29.56%		3.53
306-13 188	1302.10	106.74	73.18	9.26	92.21	21.99	680.22	8.64	505	142.61	90.45	16.47	9.14	647.65	71.74	3777	1048	2730	27.74%		1.38
306-13 189	1638.69	136.58	96.05	11.58	115.26	28.87	840.90	11.37	636	178.87	112.48	21.17	13.71	812.74	93.37	4747	1329	3418	28.00%		1.88
306-13 190	1201.38	101.00	68.61	8.11	87.60	21.08	620.41	8.19	472	134.15	85.81	15.53	9.14	609.55	68.32	3511	989	2522	28.17%		1.39
306-13 191	1237.00	99.85	69.75	8.11	87.60	21.08	635.66	8.19	488	137.78	88.13	15.53	9.14	617.17	67.18	3590	995	2594	27.73%		1.42
306-13 192	1691.51	145.76	99.48	11.58	124.48	30.70	864.35	11.83	674	187.33	120.60	22.58	13.71	873.69	96.79	4969	1419	3550	28.56%		1.95



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 193	1342.64	109.03	76.61	9.26	92.21	22.91	696.64	9.10	521	148.66	92.77	16.94	9.14	662.89	75.15	3885	1074	2811	27.64%		1.49
306-13 194	1413.89	112.47	77.76	11.58	101.43	23.37	720.10	9.55	555	157.12	100.89	17.88	9.14	683.21	75.15	4069	1110	2959	27.28%		1.45
306-13 195	2208.66	189.37	134.93	15.05	161.36	40.32	1129.41	15.92	858	242.93	156.55	29.64	18.27	1140.37	129.81	6471	1860	4611	28.74%		2.58
306-13 196	2181.64	191.67	136.08	15.05	161.36	41.24	1128.23	16.37	858	241.72	156.55	29.64	18.27	1127.67	133.23	6437	1856	4582	28.83%		2.69
306-13 197	2363.44	210.03	148.66	17.37	175.20	44.90	1220.88	17.74	925	262.27	168.14	32.46	18.27	1244.50	145.75	6995	2038	4957	29.13%		2.77
306-13 198	1191.55	97.55	66.32	8.11	82.99	20.16	630.97	8.19	460	130.53	81.17	15.06	9.14	599.39	64.91	3466	964	2502	27.81%		1.31
306-13 199	1111.70	94.11	65.18	8.11	78.38	19.70	582.88	8.19	423	120.86	76.53	14.11	9.14	563.84	64.91	3241	918	2323	28.31%		1.39
306-13 200	1784.87	157.23	109.78	12.74	133.70	33.45	924.17	13.19	705	198.21	127.56	24.46	13.71	927.03	108.18	5273	1521	3752	28.84%		2.13
306-13 201	2288.51	199.70	137.22	16.21	161.36	44.90	1202.12	18.19	870	252.60	160.02	31.05	18.27	1173.39	130.95	6705	1915	4790	28.56%		2.84
306-13 202	2057.57	180.19	122.35	13.89	147.53	39.86	1086.01	16.37	776	226.01	141.47	27.76	18.27	1061.64	119.56	6034	1734	4301	28.73%		2.20
306-13 203	2395.38	210.03	146.37	16.21	170.58	47.19	1268.97	19.10	903	263.47	164.66	32.93	22.84	1272.44	141.20	7074	2063	5011	29.16%		3.15
306-13 204	1630.09	138.87	94.91	11.58	115.26	30.70	863.18	12.74	622	180.08	112.48	21.64	13.71	822.90	93.37	4763	1344	3419	28.22%		2.15
306-13 205	2190.24	185.93	126.93	15.05	152.14	41.24	1141.13	16.83	839	239.30	153.07	28.70	18.27	1094.65	122.98	6365	1788	4577	28.09%		2.61
306-13 206	1609.20	136.58	94.91	11.58	110.65	30.70	854.97	12.74	609	176.46	109.00	21.17	13.71	807.66	92.23	4690	1320	3370	28.15%		1.95
306-13 207	1890.51	162.97	110.92	12.74	129.09	36.20	995.71	14.55	708	207.88	128.72	25.41	18.27	962.58	108.18	5512	1568	3944	28.45%		2.46
306-13 208	1908.93	164.12	112.06	13.89	138.31	36.20	992.19	14.55	738	213.92	134.51	25.41	18.27	987.98	109.32	5608	1606	4002	28.64%		2.31
306-13 209	2365.90	213.47	144.08	16.21	170.58	46.74	1238.48	18.65	910	261.06	165.82	32.46	22.84	1259.74	138.92	7005	2047	4957	29.23%		3.09
306-13 210	1115.39	96.41	67.47	8.11	82.99	21.54	584.05	8.64	436	124.49	78.85	15.06	9.14	579.07	64.91	3292	945	2347	28.71%		1.39
306-13 211	2708.62	230.69	160.09	17.37	179.81	51.32	1524.64	20.92	977	288.76	175.10	35.29	22.84	1379.11	156.00	7928	2236	5692	28.20%		3.43
306-13 212	2724.59	241.02	169.24	18.53	193.64	54.98	1456.62	22.29	1021	298.43	185.54	37.17	27.41	1452.77	162.83	8066	2361	5704	29.28%		3.76
306-13 213	2358.53	190.52	130.36	15.05	161.36	42.15	1244.34	16.83	890	260.97	157.71	30.11	18.27	1130.21	124.12	6770	1844	4927	27.23%		2.65
306-13 214	1068.71	79.19	53.74	6.95	64.55	17.41	588.75	7.28	391	115.50	67.26	12.70	9.14	495.26	53.52	3031	793	2238	26.16%		0.99
306-13 215	1342.64	115.92	77.76	9.26	92.21	25.20	707.20	10.46	510	146.19	92.77	17.88	13.71	678.13	78.57	3918	1110	2808	28.33%		1.55



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 216	1517.07	131.99	89.19	10.42	110.65	28.87	793.99	11.83	586	167.94	107.84	20.70	13.71	794.96	87.68	4472	1290	3183	28.83%		1.63
306-13 217	937.27	73.45	49.17	5.79	64.55	16.04	496.09	6.82	356	102.94	62.62	11.76	9.14	447.00	47.83	2686	726	1960	27.02%		1.03
306-13 218	1534.27	133.13	91.48	11.58	110.65	29.32	805.71	11.83	591	169.15	107.84	20.70	13.71	802.58	87.68	4521	1301	3220	28.78%		1.89
306-13 219	1821.72	151.50	102.92	12.74	124.48	33.45	947.62	13.65	700	201.77	124.08	23.52	13.71	883.85	100.21	5255	1447	3808	27.54%		2.08
306-13 220	3386.70	296.11	201.26	23.16	235.13	65.98	1807.28	26.38	1263	372.13	230.76	46.11	31.98	1704.21	195.86	9886	2803	7083	28.35%		4.17
306-13 221	3381.79	302.99	208.12	24.32	239.74	67.36	1776.79	27.29	1287	374.54	237.72	46.11	31.98	1757.54	199.27	9962	2880	7082	28.91%		3.94
306-13 222	2851.12	251.35	176.10	19.68	202.86	56.82	1502.36	23.20	1081	315.34	197.13	39.05	27.41	1483.24	169.67	8397	2430	5967	28.94%		3.74
306-13 223	3892.80	327.09	228.70	25.47	262.79	72.85	1983.20	30.02	1404	403.54	252.79	50.81	31.98	1902.31	219.77	11088	3126	7962	28.19%		4.75
306-13 224	3320.37	297.25	205.83	23.16	235.13	66.44	1768.58	26.84	1250	362.46	228.44	46.11	31.98	1719.44	198.13	9781	2827	6953	28.91%		4.39
306-13 225	1121.53	90.67	61.75	8.11	78.38	20.16	575.84	8.19	441	125.65	78.85	14.11	9.14	523.20	61.49	3218	867	2351	26.95%		1.32
306-13 226	1058.88	79.19	57.18	6.95	73.77	17.87	547.70	7.73	406	120.34	73.05	13.17	9.14	459.70	56.94	2988	775	2213	25.93%		1.16
306-13 227	211.28	11.48	6.86	5.79	13.83	2.29	100.86	0.91	100	26.10	18.55	2.35	3.43	66.03	5.69	576	113	463	19.60%		0.03
306-13 228	733.35	29.84	18.30	4.63	36.88	5.96	384.68	2.73	274	83.12	42.91	5.65	3.43	180.33	19.36	1825	302	1523	16.57%		0.35
306-13 229	944.64	45.91	28.59	6.95	50.71	9.62	480.85	3.64	363	107.29	59.14	8.47	3.43	271.76	27.33	2411	449	1962	18.64%		0.41
306-13 230	894.28	37.87	18.30	9.26	55.32	7.33	402.27	1.82	395	109.22	66.10	8.00	3.43	208.26	13.66	2231	354	1877	15.87%		0.11
306-13 231	250.59	13.77	6.86	5.79	18.44	2.29	123.14	0.91	112	30.45	20.87	2.82	3.43	73.65	5.69	671	128	543	19.07%		0.03
306-13 232	725.98	47.06	30.87	6.95	50.71	10.54	364.74	4.09	296	84.09	53.34	8.47	3.43	274.30	29.61	1990	459	1531	23.06%		0.51
306-13 233	1535.50	129.69	93.77	10.42	110.65	29.78	810.40	12.74	580	170.36	109.00	21.17	13.71	761.94	92.23	4481	1266	3215	28.25%		2.00
306-13 234	2008.43	158.38	110.92	13.89	142.92	36.20	1034.41	15.01	772	227.14	141.47	26.35	18.27	916.87	109.32	5732	1534	4198	26.77%		2.32
306-13 235	3021.86	195.11	122.35	19.68	202.86	41.70	1430.82	13.65	1256	361.25	218.00	34.82	18.27	1066.72	103.62	8107	1799	6308	22.19%		1.80
306-13 236	921.30	55.09	30.87	5.79	59.94	11.00	431.59	3.64	386	111.64	68.42	9.88	3.43	289.54	27.33	2416	491	1925	20.31%		0.43
306-13 237	1060.11	79.19	56.03	6.95	69.16	17.87	571.15	8.19	387	115.50	69.58	13.17	9.14	480.02	58.07	3001	791	2211	26.35%		1.30
306-13 238	1594.46	119.36	83.48	10.42	110.65	27.03	820.96	10.92	601	181.23	109.00	19.76	13.71	713.68	80.85	4496	1179	3317	26.23%		1.69



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 239	1897.88	157.23	114.35	12.74	133.70	36.20	1012.13	15.46	714	210.23	132.19	25.41	18.27	934.65	111.59	5526	1547	3979	27.99%		2.54
306-13 240	1116.62	86.08	62.89	8.11	78.38	20.16	594.61	8.64	416	123.24	75.37	14.11	9.14	518.12	63.77	3196	861	2334	26.95%		1.36
306-13 241	2331.50	176.75	123.50	16.21	161.36	39.86	1178.66	15.92	881	260.97	161.18	29.17	18.27	1023.54	116.15	6534	1705	4829	26.09%		2.39
306-13 242	1395.46	107.88	77.76	9.26	96.82	24.74	722.44	10.46	524	154.65	95.09	17.88	13.71	642.57	75.15	3968	1067	2901	26.89%		1.66
306-13 243	1712.39	138.87	100.63	11.58	119.87	31.62	891.33	13.65	632	188.48	117.12	22.11	13.71	815.28	100.21	4909	1356	3553	27.62%		2.20
306-13 244	1477.77	112.47	78.90	10.42	101.43	25.66	755.28	10.46	562	164.32	103.20	18.82	13.71	655.27	76.29	4166	1093	3073	26.24%		1.57
306-13 245	943.41	71.16	45.74	6.95	69.16	15.12	460.91	6.37	388	111.15	71.90	12.23	4.57	403.83	45.55	2656	674	1983	25.36%		0.89
306-13 246	820.57	64.27	45.74	5.79	55.32	14.66	432.76	6.37	309	90.86	56.82	10.82	9.14	380.97	45.55	2349	633	1716	26.94%		1.01
306-13 247	695.27	50.50	35.45	4.63	46.10	11.46	368.26	5.46	257	76.84	45.22	8.47	4.57	304.78	37.58	1951	504	1447	25.85%		0.85
306-13 248	1206.29	96.41	69.75	8.11	82.99	21.99	635.66	9.55	443	131.69	82.33	15.06	9.14	576.53	68.32	3457	950	2507	27.47%		1.53
306-13 249	1474.08	103.29	73.18	9.26	96.82	23.37	759.97	9.55	552	164.32	97.41	17.41	9.14	637.49	70.60	4098	1041	3057	25.40%		1.61
306-13 250	1433.54	75.75	51.46	8.11	69.16	16.95	782.26	6.82	475	149.82	77.69	13.17	9.14	454.62	48.96	3672	746	2926	20.32%		1.04
306-13 251	1557.61	112.47	80.05	9.26	92.21	24.28	830.34	10.92	535	164.32	95.09	16.94	13.71	703.52	79.71	4326	1134	3192	26.21%		1.67
306-13 253	2518.22	211.18	150.94	16.21	170.58	45.82	1301.81	19.10	930	275.47	166.98	32.46	22.84	1315.62	149.17	7326	2118	5208	28.91%		3.00
306-13 255	2272.54	182.48	133.79	15.05	147.53	40.78	1179.84	17.28	816	246.47	148.43	28.23	18.27	1140.37	132.09	6520	1841	4679	28.24%		2.93
306-13 257	2207.43	182.48	132.65	15.05	142.92	40.32	1141.13	17.74	812	244.06	147.27	27.29	18.27	1114.97	130.95	6374	1808	4567	28.36%		2.85
306-13 258	858.65	65.42	45.74	5.79	55.32	14.20	445.66	5.91	309	94.24	55.66	10.35	4.57	401.29	45.55	2417	648	1769	26.82%		0.94
306-13 259	2481.37	203.14	140.65	17.37	165.97	43.99	1250.20	17.74	920	273.05	169.30	31.52	18.27	1201.33	137.78	7072	1960	5112	27.72%		2.69
306-13 260	1712.39	133.13	94.91	10.42	110.65	29.32	870.22	12.28	635	189.69	112.48	20.70	13.71	840.67	93.37	4878	1349	3530	27.65%		2.09
306-13 261	1353.70	103.29	72.04	9.26	82.99	21.99	720.10	9.55	484	146.19	85.81	16.00	9.14	632.41	72.88	3819	1020	2799	26.71%		1.53
306-13 262	3515.68	221.51	144.08	20.84	202.86	45.36	1738.09	16.83	1283	391.46	219.16	35.29	18.27	1358.79	128.67	9340	2172	7168	23.25%		2.49
306-13 263	2455.57	175.60	121.21	15.05	152.14	37.57	1244.34	15.46	905	270.64	158.87	27.29	18.27	1092.11	117.29	6807	1757	5050	25.81%		2.34
306-13 264	1035.54	44.76	27.44	5.79	50.71	8.71	489.06	3.64	380	118.40	61.46	8.00	3.43	292.08	26.19	2555	465	2090	18.19%		0.63



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	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide						oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)						Zr (%)
	oxide	oxide	oxide	oxide	Oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	oxide	TREO	TOTAL	TOTAL	HREO %		oxide
SAMPLE ID	Ce (ppm)	Dy (ppm)	Er (ppm)	Eu (ppm)	Gd (ppm)	Ho (ppm)	La (ppm)	Lu (ppm)	Nd (ppm)	Pr (ppm)	Sm (ppm)	Tb (ppm)	Tm (ppm)	Y (ppm)	Yb (ppm)		HREO	LREO			Zr (%)
306-13 265	598.23	34.43	24.01	3.47	32.27	7.33	296.72	3.64	230	69.11	38.27	5.65	3.43	215.88	25.05	1587	352	1236	22.16%		0.57
306-13 266	262.88	12.62	8.00	3.47	13.83	2.29	129.01	1.36	106	30.45	18.55	2.35	3.43	81.27	9.11	685	134	551	19.61%		0.13
306-13 267	843.91	57.39	40.02	5.79	50.71	12.37	418.69	5.46	328	96.17	56.82	9.41	4.57	365.73	42.13	2337	588	1749	25.15%		0.86
306-13 268	885.68	63.12	44.60	5.79	55.32	13.75	450.36	5.91	335	99.56	57.98	9.88	4.57	411.45	46.69	2489	655	1834	26.32%		0.97
306-13 269	1166.98	87.23	60.61	6.95	73.77	18.33	599.30	8.19	450	132.90	78.85	13.64	9.14	530.82	61.49	3298	863	2435	26.17%		1.22
Count	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671	671		671
Average	1577.18	126.44	85.76	10.21	106.48	27.37	803.61	11.04	583.58	171.01	108.37	19.73	12.71	738.46	82.31	4464.24	1210.28	3253.96	0.27		1.70
Median	1372.12	109.03	73.18	9.26	92.21	23.37	701.33	9.55	509.72	149.82	95.09	16.94	9.14	637.49	69.46	3889.17	1036.86	2828.74	0.27		1.43
Min	78.62	3.44	2.29	1.16	3.46	0.46	37.53	0.34	30.33	8.70	5.80	0.47	3.43	20.32	2.28	198.61	36.48	162.13	0.10		0.01
Max	6150.60	515.32	363.63	47.47	465.65	115.70	3281.49	47.30	2164.84	645.18	484.71	82.80	54.82	2854.74	330.22	17151.15	4761.40	12774.30	0.32		7.38
Correl	0.91	0.96	0.98	0.89	0.93	0.97	0.90	0.99	0.92	0.91	0.92	0.94	0.96	0.95	0.99	0.93	0.96	0.91	0.55		1.00

