

## **SECOND DEEP DRILL HOLE INTERCEPTS 1,000 METRES OF MINERALISATION GRADING 2.6% TREO**

### **HIGHLIGHTS**

**1,000 metres at 2.6% TREO in KGKDD009 with multiple standout intercepts including:**

- **805.26 metres @ 2.90% TREO from 152.85 metres, including**
  - **652.41 metres @ 3.0% TREO from 347.59 metres to end of hole (EOH), ~700 metres below base of current resource estimate, including**
  - **288 metres @ 3.5% TREO from 711 metres to EOH demonstrating higher grade mineralisation at depth**
- **Hole ends in high grade mineralisation**
  - **The intersection extends about 700 metres vertically below the base of the Mineral Resource Estimate envelope reported in August 2023**
  - **Average grade of rare earths critical metal elements neodymium-praseodymium (NdPr) of ~18.2% of TREO**
  - **In addition to the results from the second deep drill hole, assay results have been received for KGKRCDD083 of 325 metres @2.49% TREO and averaging ~20% NdPr; this has provided valuable information on the undrilled western boundary of the carbonatite, showing that mineralisation extends further west than originally thought (see figure 3)**
  - **The 2 deep holes drilled demonstrate the massive potential of the Kangankunde mineralised carbonatite system that remains open in all directions including depth**
  - **A phase 3 drill program has commenced and is designed as an infill program to define a portion of the current resource as Indicated resources for mine development feasibility studies**
  - **Results of the two deep drill holes will form the basis for an Exploration Target to be published in the near term**
  - **Update on Kangankunde Stage One Project workstreams are pending**

**Lindian’s Executive Chairman, Asimwe Kabunga commented:** “Kangankunde’s scale continues to grow and this is attracting the interest of a number of parties seeking to secure offtake from our planned Stage 1 operation. While we continue to advance discussions with a number of parties our efforts are now firmly on mine development works with an update on progress due in the near future. Whilst some follow up exploration is warranted at Kangankunde, which we will do in parallel with mine development works, our immediate focus is infill drilling to support the first stage of mine development. We are well into this workstream and will report on results as we update shareholders on mine development.”

**Lindian’s Chief Executive Officer, Alistair Stephens commented:** “These assays from the second deep drill hole reinforce all of Kangankunde’s key characteristics – high grade mineralisation consistent across very thick intercepts, a favourable NdPr ratio and a non-radioactive concentrate for transportation. A standout from this hole is the very high grade mineralisation at depth, and the fact that the hole ended at 1,000 metres in mineralisation exceeding 3.2% TREO; This adds to Kangankunde’s potential scale and the quality of its mineralisation. We will incorporate these results into our planned Exploration Target for Kangankunde.”

Lindian Resources Limited (**ASX:LIN**) (“Lindian” or “the Company”) is pleased to advise of the receipt of assay results from **KGKDD009**, the second of two holes in the Phase 2 depth extension exploration drilling program, and drill hole **KGKRCDD083**, at the Kangankunde Rare Earths Project, Malawi.

These Phase 2 deep drill holes demonstrate mineralisation extends below the envelope of the maiden Minerals Resource Estimate of 261 million tonnes at 2.19% TREO (refer ASX release dated 3<sup>rd</sup> August 2023).

### Kangankunde Rare Earths Project Mineral Resource Above 0.5% TREO Cut-off Grade

Resource Classification	Tonnes (millions)	TREO (%)	NdPr% of TREO** (%)	Tonnes Contained NdPr* (millions)
Inferred Resource	261	2.19	20.2	1.2

Rounding has been applied to 1.0Mt for tonnes and 0.1% NdPr% of TREO which may influence total calculation. Refer competent persons statement \* NdPr = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub>, \*\* NdPrO% / TREO% x 100.

## DRILLING RESULTS

Both holes reported in this release were planned to test the depth extensions of the mineralisation. KGKDD009 was successfully completed to its design dept of 1,000 metres. KGKRCDD083 was stopped at 325 metres due to excessive hole deviation. This hole was mineralised from surface and has provided valuable information on the undrilled western boundary of the carbonatite.

### KGKDD009

Hole KGKDD009 is a core hole drilled from surface on the northern end of the Kangankunde rare earth deposit central carbonatite. The hole was drilled on an azimuth of 182 at a dip of -65 degrees and designed to test the northern mineralisation of the deposit to a vertical depth of over 1,000 metres below the hilltop surface and 700 metres below the current mineral resource estimate depth limit. (Figure 1).

The hole was collared toward the base of the Kangankunde hill. The hole intersected mineralised breccia from surface with the initial 64.82 metre intersection consisting of mixed gneiss and carbonatite breccia averaging 2.04% TREO. This interval was followed by 129.92 metres of wall rock gneiss breccia with intermittent narrow high-grade zones of carbonatite, as veins, or carbonatite clasts within the breccia and averages 1.06% TREO. From 194.74 metres down hole the rock type becomes dominantly carbonatite, initially as a mixed breccia with

increasing carbonatite content and rare earth content with depth. This rock type is the main carbonatite core of the deposit and is highly mineralised, averaging 2.89% over 805.26 metre intersection to the end of hole (EOH). The grade increases in tenor and consistency with depth with the lower 288.08 metres from 711.92 metres to 1,000 metres (EOH) averaging 3.50% TREO.

Intersection details are listed in Table 1, and a cross section showing this hole with previously reported Phase 1 holes and the current MRE limit is shown in cross section Figure 1 and plan in Figure 3.

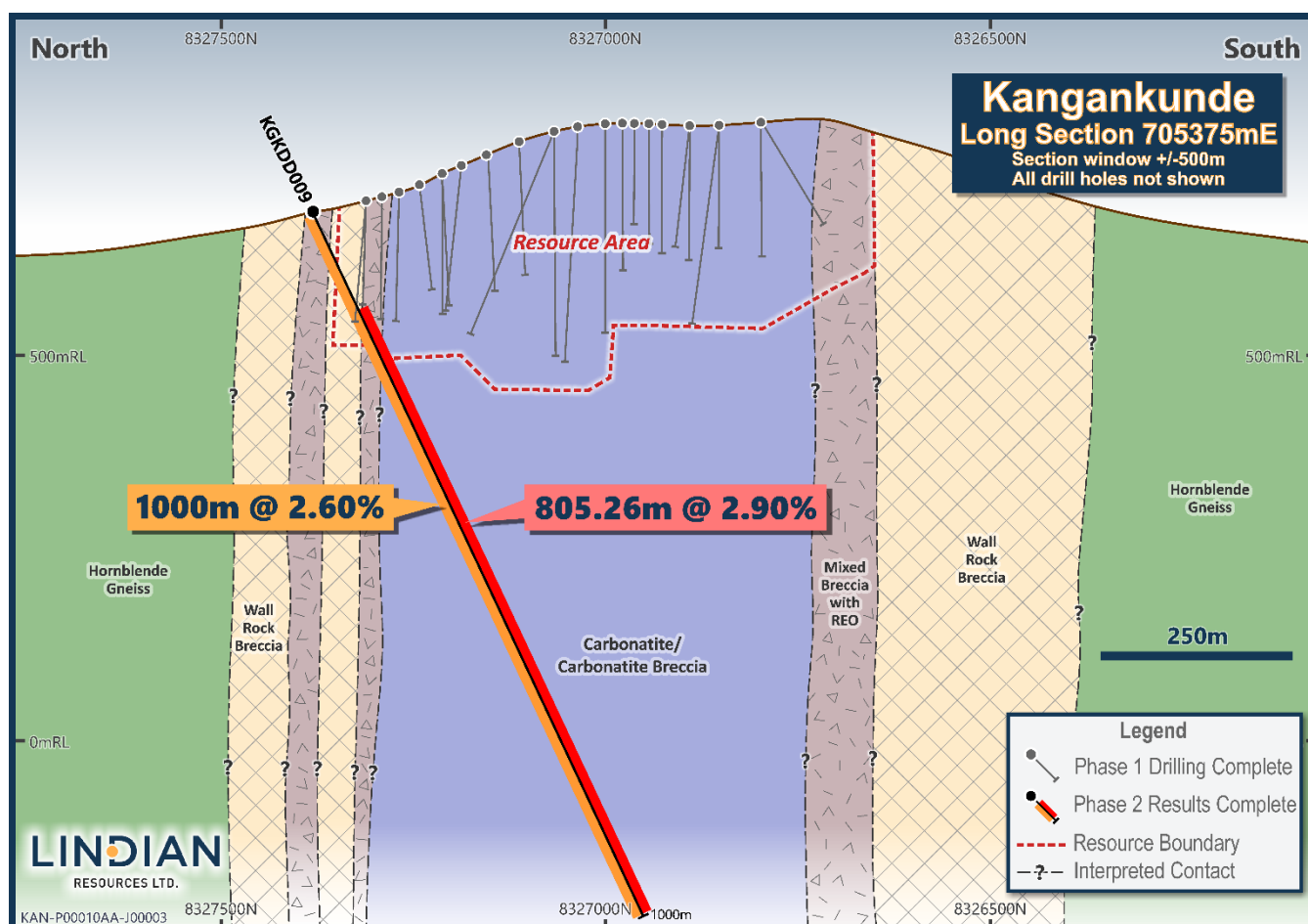
The variation in TREO grade relative to rock type and the increase in consistency and tenor of grade is demonstrated in Figure 2 below.

**Table 1 KGKDD009 Intersections Summary**

Hole ID	From (m)	To (m)	Intersection (m)	TREO %	NdPrO** ppm	NdPrO% of TREO***	Rock Type
<b>KGKDD009</b>	<b>0</b>	<b>1,000</b>	<b>1,000</b>	<b>2.60</b>	<b>4,726</b>	<b>18.2</b>	
including	0	64.82	64.82	2.04	3,605	17.7	Mixed breccia
	64.82	194.74	129.92	1.06	2,303	21.7	Wall rock breccia
	194.74	1,000	805.26	2.90	5,199	18.0	Carbonatite
including	711.92	1,000	288.08	3.50	6,097	17.4	Carbonatite

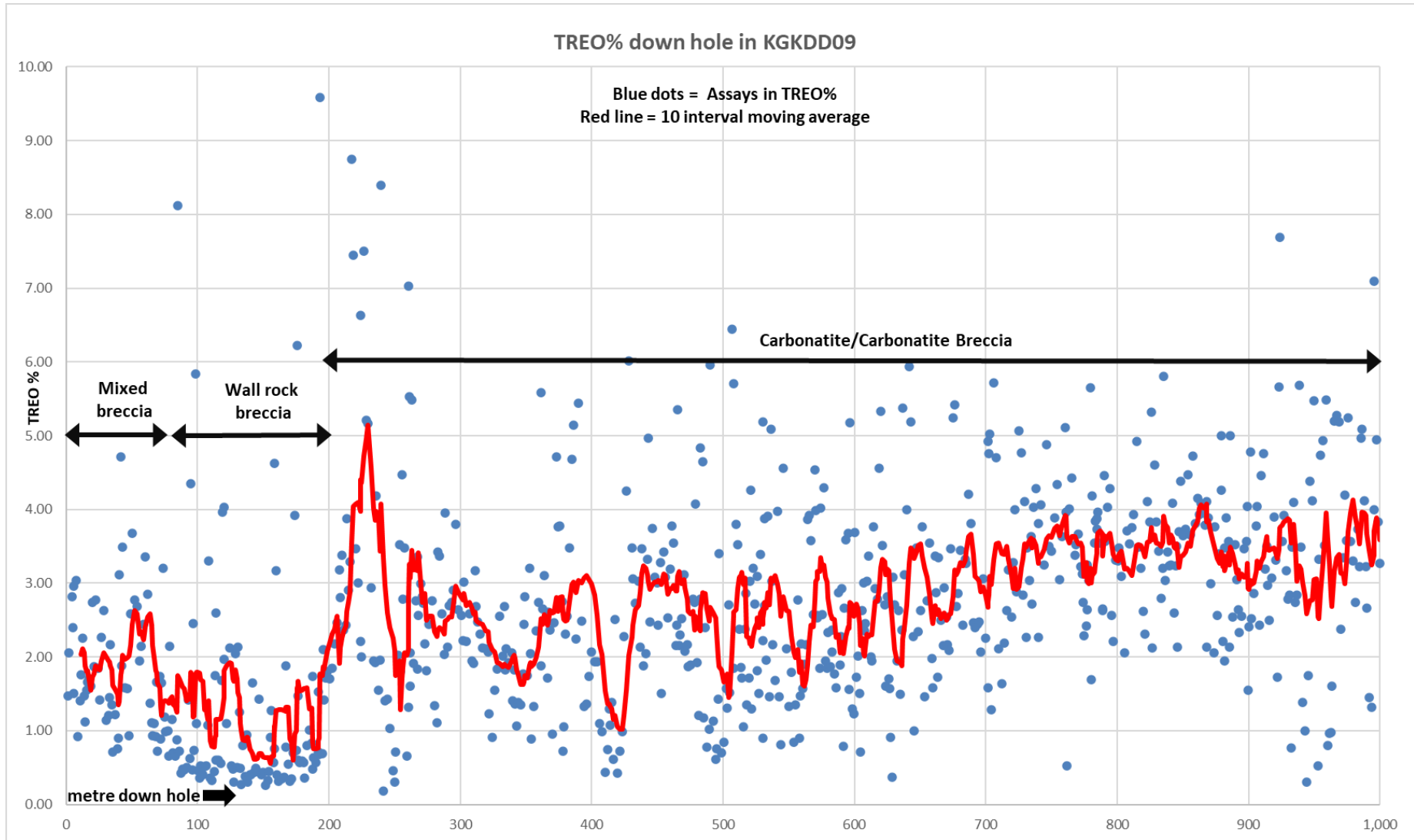
*Bold text entire hole no cut-off applied; internal intersections accumulated based on geological zonation no cutoff applied.*

\*\* NdPrO =  $Nd_2O_3 + Pr_6O_{11}$ , \*\*\* NdPrO% / TREO% x 100



**Figure 1: Section 705375mE showing KGKDD009 results and near surface drill traces with current MRE boundary**

**Figure 2 above:** Individual TREO % assays results (blue dots) from 0 to 1,000 metres from KGKDD009 with the 10 metre moving average showing trends related to rock type variation. Grade has an increasing trend downhole.



**KGKRCDD083**

KGKRCDD083 was planned to be drilled from west to east on an azimuth of 090 and dip of -50 degrees. The hole was terminated at 325 metres depth due to excessive hole deviation (Figure 3). This drilling included a 150 metre RC pre-collar that intersected a mineralised carbonatite wall rock breccia (mixed breccia) from surface (the pre-collar has been previously reported as 150 metres @ 2.41% TREO, refer ASX release dated 31 July 2023). This high-grade mineralisation has led to the western boundary of the mineralisation being extended 100 metres to the west of previous interpretation and was included in the current MRE. The core tail drilled from 150 to 325 metres (EOH) is mineralised in a mixed breccia and carbonatite rock types as bands including 132.51 metres at 2.84% TREO from 192.49 metres to EOH.

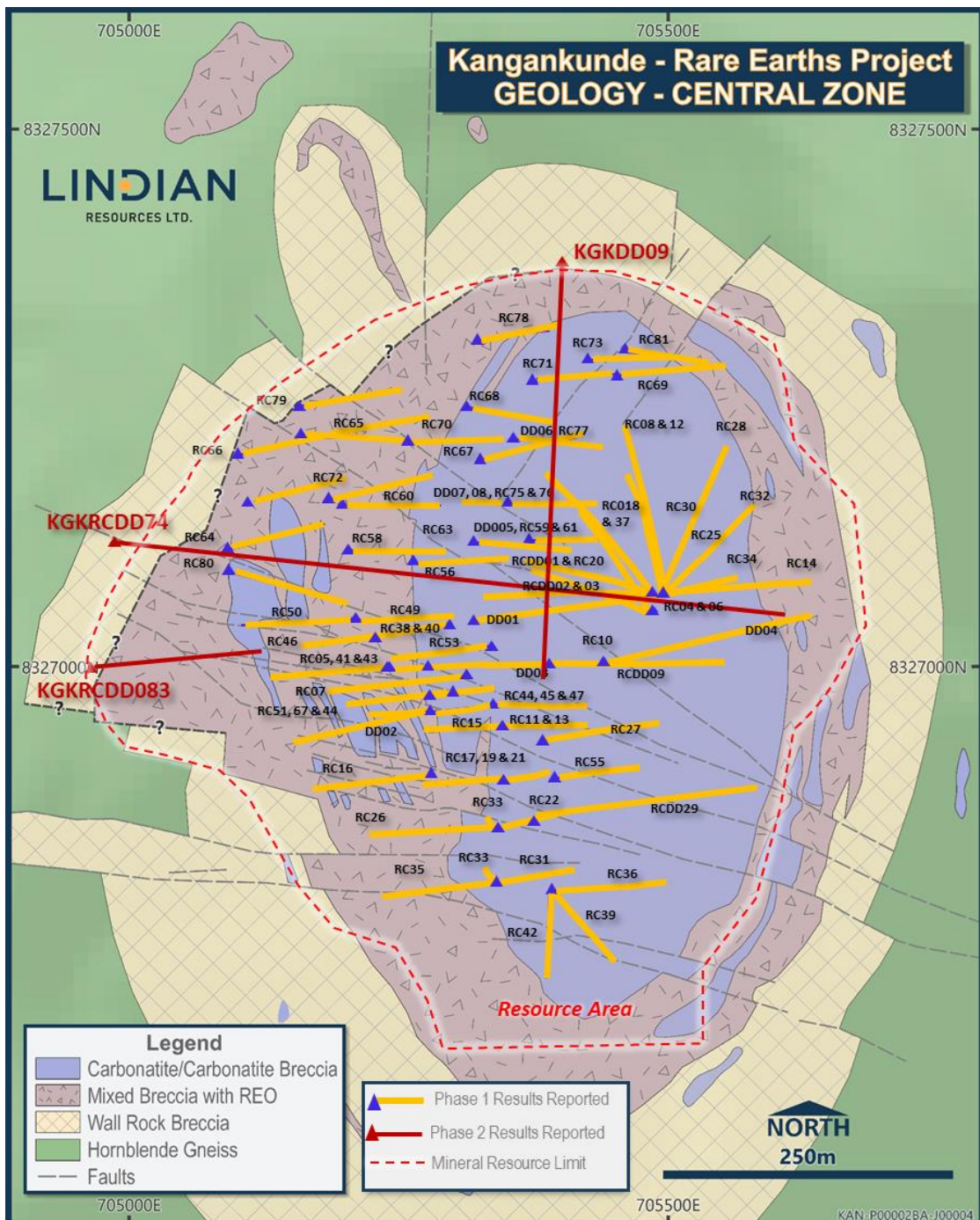


Figure 3 Kangankunde central carbonatite geology plan and drilling locations

**Table 2 KGKRCDD083 Assay intervals**

Hole ID	From (m)	To (m)	Intersection (m)	TREO %	NdPrO ** ppm	NdPrO% of TREO ***	Comment
<b>KGKRCDD083</b>	<b>0</b>	<b>325</b>	<b>325</b>	<b>2.49</b>	<b>4,913</b>	<b>19.7%</b>	
including	0	150	150	2.41	5,338	18.6%	RC precollar****
including	75	102	27	4.16	9,403	19.9%	RC precollar****
then	192.49	325	132.51	2.84	4,935	17.4%	Core tail

*Bold text entire hole no cut-off applied; internal intersections accumulated at > 2% TREO cut-off.*

*\*\* NdPrO = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub>, \*\*\* NdPrO% / TREO% x 100*

*\*\*\*\* Previously reported*

## PHASE 2 PROGRAM STATUS

All results from the Phase 2 program have been received.

**Table 3: Completed drill hole sampling and assay status at 18th September 2023**

Hole Number	Reported	ALS Geochemistry (Australia)	ALS Geochemistry (South Africa)	In transit (Malawi to South Africa)	At Kangankunde Site
KGKRC083 Pre-collar	✓				
KGKRC083 Core tail	✓				
KGKDD009 Core hole	✓				
KGKRCDD074 Entire hole	✓				

## PHASE 3 DRILLING

A phase 3 drill program has commenced and is designed as an infill program to define a portion of the current Inferred Resource as Indicated resources for mine development feasibility studies.

-ENDS-

This ASX announcement was authorised for release by the Board of Lindian Resources Limited.

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## Competent Person's Statement

The information in this Report that relates to drilling, sampling, and assay results is based on information compiled by Mr. Alistair Stephens, who is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Stephens is the Chief Executive Officer of Lindian Resources Limited. Mr. Stephens has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr. Stephens consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

Unless otherwise stated, where reference is made to previous releases of exploration results in this announcement, the Company conforms that it is not aware of any new information or data that materially affects the information included in those announcements and all material assumptions and technical parameters underpinning the exploration results included in those announcements continue to apply and have not materially changed.

The information in this report that relates to previous Exploration Results was prepared and first disclosed under the JORC Code 2012 and has been properly and extensively cross-referenced in the text to the date of the original announcement to the ASX.

The Competent Persons' consents remain in place for subsequent releases by the Company of the same information in the same form and context, until the consents are withdrawn or replaced by a subsequent report and accompanying consent. The Company is not aware of any new information or data that materially affects the information in the ASX announcement of 3 August 2023 originally referencing its resources estimate, and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

## Forward Looking Statements

This announcement may include forward-looking statements, based on Lindian's expectations and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Lindian, which could cause actual results to differ materially from such statements. Lindian makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of the announcement.

## About Lindian

### RARE EARTHS

**Lindian Resources Limited** has ownership of Malawian registered Rift Valley Resource Developments Limited that has 100% title to Exploration Licence EPL0514/18R and Mining Licence MML0290/22, supported by an Environmental and Social Impact Assessment Licence No.2:10:16. In August 2023, Lindian released its maiden Mineral Resource Estimate (MRE) for the Kangankunde Rare Earths Project in Malawi of *261 million tonnes averaging 2.19% TREO* above a 0.5% TREO, refer ASX announcement of 3 August 2023.

### MINERAL RESOURCE STATEMENTS – RARE EARTHS

A summary of the MRE for the Kangankunde Rare Earths Project is shown in Table 1 below.

#### Kangankunde Rare Earths Project Mineral Resource Above 0.5% TREO Cut-off Grade

Resource Classification	Tonnes (millions)	TREO (%)	NdPr% of TREO** (%)	Tonnes Contained NdPr* (millions)
<b>Inferred Resource</b>	<b>261</b>	<b>2.19</b>	<b>20.2</b>	<b>1.2</b>

Rounding has been applied to 1.0Mt for tonnes and 0.1% NdPr% of TREO which may influence total calculation.

\* NdPr = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub>, \*\* NdPrO% / TREO% x 100

The Company confirms that is not aware of any new information or data that materially affects the Mineral Resource Estimates of the Kangankunde Rare Earths Project, and that all material assumptions and technical parameters underpinning the estimates for each continue to apply and have not materially changed.

### BAUXITE

**Lindian** has over 1 billion tonnes of **Bauxite** resources in Guinea across its Gaoual, Lelouma and Woula projects. Guinean bauxite is known as the premier bauxite location in the world, having high grade and low impurity premium quality bauxite.

### MINERAL RESOURCE STATEMENTS- BAUXITE

A summary of the Mineral Resource Estimates contained within the assets in the Lindian Bauxite portfolio is shown in Table below.

#### Lindian Bauxite Projects – Mineral Resource Estimate (JORC 2012) Summary

	Resources (Mt)	Al <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	Category	Cut-off (Al <sub>2</sub> O <sub>3</sub> %)
Lelouma Project (75% Owned by Lindian)					

High Grade Resources	398	48.1	2.0	Measured + Indicated	>45
<b>Total Lelouma Resources</b>	<b>900</b>	<b>45.0</b>	<b>2.1</b>	<b>Measured, Indicated &amp; Inferred</b>	<b>&gt;40</b>
Gaoual Project (75% Owned by Lindian)					
High Grade Resources	83.8	51.2	11.0%	Indicated	>45
<b>Total Gaoual Resources</b>	<b>101.5</b>	<b>49.8</b>	<b>11.5%</b>	<b>Indicated</b>	<b>&gt;40</b>
Woula Project (61% Owned by Lindian)					
High Grade Resources	19.0	41.7	3.2%	Inferred	>40
<b>Total Woula Resources</b>	<b>64.0</b>	<b>38.7</b>	<b>3.1%</b>	<b>Inferred</b>	<b>&gt;34</b>

For the ASX announcement initially reporting the Mineral Resource Estimate of the Lelouma, Gaoual or Woula Bauxite Projects, refer to ASX announcement dated 6 October 2020, 15 July 2020 and 23 September 2020 respectively. The Competent Person(s) consent remains in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The Company confirms that is not aware of any new information or data that materially affects the Mineral Resource Estimates of either of Lelouma, Gaoual or Woula Bauxite Projects, and that all material assumptions and technical parameters underpinning the estimates for each continue to apply and have not materially changed.

#### Appendix 1: Kangankunde Rare Earths Project Hole Details (Datum UTM WGS84 Zone 36S)

Drill Hole ID	Drill Type	UTM East (m.)	UTM North (m.)	Elevation (m.a.s.l.)	Hole Length EOH (m.)	Azimuth TN (Ave.)	Inclination (Ave.)
KGKDD009	DD	705386	8327384	669	1000	182	-66
KGKRCDD083	RC/DD	704945	8326998	693	325	086	-49



## Appendix 2: Analytical Results This Release

Note: NS= No sample

-ve value = Below detection limit

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
KGKDD009	0.00	1.40	4445	7346	677	1954	133	22.0	43.2	3.9	14.2	1.4	2.1	0.2	1.0	0.2	35.6	1.47	42.8	0.5
	1.40	2.25	6122	10355	977	2823	184	30.8	53.4	4.6	14.6	1.5	2.4	0.2	1.4	0.2	38.1	2.06	42.3	1.5
	2.25	4.26	8515	14127	1329	3767	232	37.1	63.1	4.6	15.4	1.7	2.5	0.2	1.0	0.2	38.1	2.81	41.5	0.9
	4.26	5.34	7623	12001	1080	2998	177	29.1	46.9	3.8	12.2	1.4	2.4	0.2	0.9	0.1	31.8	2.40	31.5	0.6
	5.34	5.70	4797	7518	674	1872	119	20.8	36.1	2.8	9.1	1.0	1.8	0.2	0.7	0.1	24.1	1.51	24.8	0.4
	5.70	5.99	8339	15048	1480	4304	262	38.6	65.5	5.3	16.8	1.6	2.7	0.2	1.3	0.2	38.1	2.96	52.2	0.5
	5.99	7.56	9629	15294	1365	3744	227	36.2	62.6	4.7	15.4	1.6	2.4	0.2	0.8	0.1	39.4	3.04	42.7	1.2
	7.56	8.55	2850	4619	416	1165	82	15.6	27.6	2.4	7.6	0.9	1.6	0.2	0.8	0.1	20.3	0.92	27.9	0.9
	8.55	10.48	4492	7039	625	1715	112	18.3	33.7	2.7	9.3	0.9	1.6	0.1	0.6	0.1	22.9	1.41	25.3	1.0
	10.48	11.18	5536	8783	796	2234	143	24.7	42.2	3.2	10.3	1.2	1.8	0.2	0.8	0.1	27.9	1.76	32.4	1.6
	11.18	12.48	6708	11203	1084	3184	234	39.5	69.3	5.3	16.1	1.8	2.5	0.2	1.0	0.1	39.4	2.26	52.1	2.0
	12.48	13.54	4762	7297	646	1790	122	20.6	36.9	3.0	10.0	1.2	2.1	0.2	0.9	0.2	29.2	1.47	31.7	0.7
	13.54	14.26	3542	5589	503	1417	95	14.9	27.4	2.5	8.8	1.1	1.9	0.2	1.0	0.1	27.9	1.12	19.9	0.5
	14.26	15.40	4750	7641	713	2076	150	25.0	46.0	3.9	13.3	1.3	2.2	0.2	0.9	0.1	31.8	1.55	41.4	0.7
	15.40	16.41	5336	8243	733	2041	130	21.8	38.0	3.6	13.2	1.4	2.5	0.2	1.1	0.2	35.6	1.66	26.3	0.7
	16.41	17.15	5090	8599	808	2327	154	26.2	45.4	3.5	10.3	1.2	1.9	0.2	0.8	0.1	27.9	1.71	29.0	0.9
	17.15	18.83	4480	7985	793	2403	183	31.7	60.2	5.2	16.4	1.7	2.2	0.2	1.1	0.1	36.8	1.60	64.0	3.7
	18.83	19.90	7999	13635	1317	3896	284	50.0	93.4	8.2	25.6	2.6	4.0	0.3	1.4	0.2	59.7	2.74	126.0	1.9
	19.90	21.00	5911	9225	845	2391	162	28.6	55.2	5.6	20.2	2.3	3.9	0.3	1.6	0.2	55.9	1.87	50.1	1.6
	21.00	22.67	8608	13635	1275	3721	275	49.7	99.5	9.0	28.1	2.6	3.8	0.3	1.5	0.2	59.7	2.78	105.5	1.9
	22.67	24.07	5747	9213	845	2403	162	28.7	52.1	4.0	13.8	1.4	2.4	0.2	0.9	0.1	35.6	1.85	38.6	0.7
	24.07	25.28	4163	7137	680	1977	128	22.1	37.2	3.1	9.4	1.0	1.8	0.2	0.8	0.1	25.4	1.42	24.9	0.6
	25.28	26.52	7131	11203	1027	2916	202	33.9	65.1	5.6	16.9	1.7	2.7	0.2	1.0	0.1	40.6	2.26	62.8	2.4
	26.52	28.52	8561	12960	1151	3219	215	39.3	75.5	6.6	22.7	2.3	3.4	0.3	1.4	0.1	54.6	2.63	76.8	4.2
	28.52	30.52	3647	5651	506	1429	101	17.6	34.8	4.2	19.1	2.4	3.8	0.3	1.5	0.2	57.2	1.15	32.9	2.2
	30.52	32.18	3800	6007	538	1540	104	17.8	31.6	2.8	10.2	1.2	2.3	0.2	1.0	0.1	29.2	1.21	23.3	2.0
	32.18	33.10	4691	7211	629	1750	113	18.8	31.9	2.3	7.6	0.8	1.6	0.1	0.7	0.1	19.1	1.45	18.0	1.2
	33.10	33.78	6873	10736	974	2729	177	28.5	46.1	3.7	12.9	1.8	3.3	0.3	1.4	0.2	43.2	2.16	22.8	1.9
	33.78	35.05	4398	6695	588	1615	104	18.1	33.1	2.6	8.4	1.0	1.5	0.1	0.8	0.1	21.6	1.35	18.6	0.4
	35.05	35.49	2135	3513	332	980	72	12.3	21.2	1.4	4.5	0.5	0.9	0.1	0.6	0.1	11.4	0.71	11.6	0.7
	35.49	37.40	3941	6056	540	1516	100	18.1	32.5	2.6	7.5	0.9	1.6	0.1	0.7	0.1	19.1	1.22	19.2	1.5
	37.40	39.08	2404	3734	331	930	61	10.8	18.3	1.3	4.6	0.6	1.0	0.1	0.6	0.1	11.4	0.75	10.6	1.2
	39.08	39.69	2944	4459	385	1065	69	12.0	21.9	1.6	5.7	0.8	1.5	0.2	1.0	0.2	17.8	0.90	17.5	11.2
	39.69	40.06	8444	15662	1685	4736	343	59.3	100.2	6.6	19.7	2.2	3.8	0.3	1.5	0.2	49.5	3.11	63.7	4.0
	40.06	41.54	16185	23217	2090	5144	302	51.8	88.5	6.1	17.6	1.8	3.2	0.3	1.1	0.1	36.8	4.71	47.9	5.0
	41.54	42.14	6075	9336	832	2333	147	25.9	42.9	3.2	10.3	1.3	2.6	0.3	1.5	0.2	30.5	1.88	25.6	5.7
	42.14	42.92	11271	17320	1643	4222	257	44.0	74.1	5.5	17.7	2.0	3.3	0.3	1.5	0.2	43.2	3.49	45.4	5.7
	42.92	44.91	5067	7788	709	2006	141	25.4	47.8	3.7	11.9	1.3	2.1	0.2	0.9	0.1	27.9	1.58	47.3	6.1
	44.91	46.75	4879	7849	725	2076	138	23.3	39.9	2.7	9.1	1.0	1.8	0.2	0.9	0.1	22.9	1.58	27.6	7.6

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	46.75	47.55	2909	4631	422	1207	85	14.9	25.9	1.9	6.0	0.6	0.9	0.1	0.5	0.1	14.0	0.93	13.2	0.3
	47.55	49.16	8257	12960	1153	3173	199	34.0	57.2	4.1	12.7	1.4	2.1	0.2	0.9	0.1	29.2	2.59	30.0	1.2
	49.16	50.20	11669	18365	1728	4549	290	49.1	86.0	6.8	22.0	2.3	3.4	0.3	1.4	0.2	50.8	3.68	59.0	3.2
	50.20	51.98	8585	13881	1287	3628	234	37.5	64.7	4.3	12.6	1.5	2.5	0.2	1.3	0.2	33.0	2.78	37.1	5.1
	51.98	53.74	8245	13390	1269	3511	228	38.2	64.3	4.5	13.8	1.5	2.5	0.2	1.4	0.2	33.0	2.68	36.4	5.2
	53.74	55.62	5676	9545	935	2858	223	41.0	72.0	5.2	15.8	1.7	3.0	0.3	1.6	0.2	36.8	1.94	68.7	8.3
	55.62	56.93	6368	10773	1019	2951	198	35.0	58.8	4.2	14.4	1.7	2.7	0.3	1.6	0.3	36.8	2.15	31.3	4.8
	56.93	58.76	7424	12235	1155	3289	215	36.2	61.4	3.9	11.7	1.2	2.2	0.2	1.3	0.2	27.9	2.45	33.3	8.3
	58.76	60.16	9957	16829	1722	4596	302	50.1	83.0	5.2	14.9	1.6	2.3	0.2	1.0	0.2	31.8	3.36	46.2	5.5
	60.16	61.98	8104	14311	1504	4117	273	45.5	74.6	4.7	13.7	1.5	2.6	0.2	1.3	0.2	30.5	2.85	40.6	4.1
	61.98	63.97	3929	6891	663	1971	137	24.8	43.0	2.9	9.2	1.1	2.2	0.2	1.4	0.2	24.1	1.37	31.3	14.2
	63.97	64.82	2885	5491	571	1831	156	28.8	51.9	3.5	11.1	1.2	1.9	0.2	1.3	0.2	25.4	1.11	37.6	16.5
	64.82	65.49	2052	4422	507	1849	227	52.8	117.0	10.9	33.7	3.4	6.2	0.8	6.8	1.1	80.0	0.94	144.0	17.6
	65.49	66.84	2627	5196	563	1890	197	44.1	102.1	12.6	64.3	9.7	20.9	2.2	13.0	1.6	270.5	1.10	144.0	14.8
	66.84	68.01	2293	4275	452	1493	155	34.5	80.9	11.2	65.4	11.6	28.0	3.2	18.7	2.3	344.1	0.93	128.0	10.0
	68.01	69.00	4316	8120	854	2776	260	51.6	105.6	8.5	27.0	2.7	4.6	0.5	3.1	0.5	61.0	1.66	115.5	14.7
	69.00	69.30	1466	3120	349	1271	206	58.9	159.6	21.7	101.2	14.8	36.1	4.7	34.6	5.4	410.2	0.73	196.0	50.7
	69.30	71.30	4199	8488	934	3184	314	59.8	111.7	8.0	26.6	3.1	5.5	0.6	3.5	0.5	68.6	1.74	70.0	16.8
	71.30	71.74	2070	4115	463	1621	196	43.5	99.9	10.6	48.0	7.1	16.4	1.8	11.8	1.7	193.0	0.89	84.1	24.6
	71.74	72.70	4175	8267	870	2799	229	40.2	70.4	5.0	14.2	1.4	2.9	0.3	1.7	0.3	34.3	1.65	67.1	14.1
	72.70	73.66	9101	16338	1589	4409	327	57.3	103.9	7.7	22.0	2.2	3.8	0.3	1.9	0.3	53.3	3.20	80.2	15.5
	73.66	74.74	2838	5921	597	2041	198	39.3	82.1	7.7	30.0	3.8	8.2	1.0	7.1	0.9	105.4	1.19	99.9	13.6
	74.74	75.67	2269	4803	494	1744	201	43.0	95.7	9.4	36.4	4.7	10.3	1.3	8.8	1.4	129.5	0.99	110.5	15.8
	75.67	77.53	2780	5012	466	1510	137	25.6	51.2	3.7	10.7	1.1	2.2	0.2	1.5	0.2	27.9	1.00	54.6	8.5
	77.53	78.25	1032	2567	282	1105	170	47.6	144.7	27.1	168.7	29.1	75.1	9.1	57.1	7.6	894.0	0.66	286.0	26.3
	78.25	78.91	5841	11019	1027	3126	223	38.1	70.9	5.4	17.5	2.0	3.7	0.4	1.9	0.3	49.5	2.14	66.7	9.0
	78.91	80.79	3061	5761	562	1825	169	32.0	62.5	4.8	15.4	1.7	3.4	0.3	2.3	0.3	43.2	1.15	49.4	8.5
	80.79	81.16	1366	3366	372	1464	194	39.0	78.0	5.5	16.5	2.2	4.9	0.6	4.7	0.7	59.7	0.70	98.1	9.2
	81.16	82.99	1360	3231	344	1289	155	33.2	69.3	5.8	17.8	2.0	4.2	0.5	4.0	0.6	52.1	0.66	92.1	6.5
	82.99	84.15	2035	4324	442	1569	174	36.9	76.7	5.7	16.1	1.7	3.4	0.4	3.2	0.5	44.5	0.87	144.5	9.0
	84.15	85.08	23221	41520	3854	11361	685	110.5	192.5	14.1	46.8	5.1	8.5	0.7	3.2	0.4	119.4	8.11	134.0	26.4
	85.08	85.97	1618	3526	361	1312	148	32.8	74.1	6.6	21.4	2.6	5.8	0.7	5.2	0.8	71.1	0.72	106.0	9.3
	85.97	87.28	731	1750	195	809	148	38.6	100.3	13.1	63.2	9.6	24.0	3.0	21.9	3.1	301.0	0.42	162.5	21.5
	87.28	88.75	813	2168	263	1149	180	37.2	73.4	5.6	17.5	2.1	4.8	0.6	4.4	0.7	62.2	0.48	108.5	8.7
	88.75	89.92	929	2279	248	937	125	29.1	71.9	7.1	23.6	2.6	5.4	0.7	5.4	0.8	68.6	0.47	108.5	12.6
	89.92	91.46	956	2377	260	1016	143	33.5	83.3	7.8	25.3	2.6	5.6	0.7	6.0	1.0	71.1	0.50	112.5	7.3
	91.46	92.64	3108	7149	770	2706	250	47.1	91.9	7.4	24.0	2.4	4.8	0.5	3.2	0.4	58.4	1.42	99.2	5.0
	92.64	94.26	1208	2973	325	1260	172	37.9	83.8	8.0	34.1	4.8	10.8	1.4	9.1	1.2	135.9	0.63	72.0	10.8
	94.26	95.04	12256	22234	2126	6089	442	76.2	136.6	9.5	25.6	2.6	4.2	0.4	2.1	0.3	58.4	4.35	74.2	12.3
	95.04	95.84	798	2064	242	1023	178	43.1	100.3	10.8	45.6	6.7	15.3	1.6	10.8	1.4	190.5	0.47	32.5	13.0
	95.84	96.56	6216	12714	1305	3826	264	41.9	69.4	4.5	13.0	1.4	2.7	0.3	1.6	0.2	34.3	2.45	35.3	9.6
	96.56	97.42	1888	3796	358	1116	77	13.0	22.0	1.5	4.7	0.6	1.1	0.1	0.8	0.1	14.0	0.73	11.7	15.4
	97.42	98.68	15891	29850	2912	8806	566	93.4	162.5	11.2	34.1	3.6	6.0	0.5	3.0	0.3	81.3	5.84	102.0	15.6
	98.68	99.03	2791	5651	539	1761	129	20.6	34.7	2.3	7.1	0.8	1.6	0.2	0.9	0.2	19.1	1.10	21.0	9.4
	99.03	100.20	758	2082	242	991	154	36.0	81.6	8.4	37.2	5.5	12.8	1.4	8.8	1.3	158.7	0.46	46.3	4.5
	100.20	101.63	618	1671	198	808	108	22.7	43.5	3.1	12.2	1.8	5.4	0.8	5.8	0.8	58.4	0.36	59.2	5.6

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	101.63	102.13	866	2445	297	1225	164	33.7	70.3	6.6	27.0	3.8	8.6	1.0	6.5	0.9	109.2	0.53	75.8	6.0
	102.13	104.13	660	1695	199	860	155	40.5	100.9	11.4	53.0	8.1	19.1	2.3	14.4	1.9	242.6	0.41	104.0	8.9
	104.13	105.45	1094	2531	257	920	109	24.8	59.4	6.3	28.6	4.4	10.8	1.2	7.9	1.1	132.1	0.52	83.2	5.6
	105.45	106.24	887	2113	234	945	176	49.2	131.4	17.9	94.9	15.5	39.3	4.8	32.2	4.2	480.0	0.52	234.0	17.6
	106.24	107.87	3073	5122	501	1650	169	35.7	74.7	7.0	27.0	3.9	9.2	1.1	7.1	1.0	109.2	1.08	53.2	9.6
	107.87	108.37	8561	16583	1812	5365	399	68.6	119.3	7.8	20.0	2.1	3.3	0.3	1.5	0.2	45.7	3.30	47.4	11.7
	108.37	109.60	685	1578	186	729	109	25.9	63.4	6.9	31.0	4.8	11.7	1.4	8.0	1.1	143.5	0.36	40.3	7.2
	109.60	110.91	600	1400	162	650	110	28.6	71.0	7.6	34.9	5.4	12.4	1.4	8.2	1.1	156.2	0.32	37.3	5.8
	110.91	112.73	821	1990	237	938	136	29.5	67.4	7.1	30.8	4.8	11.2	1.4	7.7	1.1	141.0	0.44	46.8	6.9
	112.73	113.13	3964	8697	973	3336	278	45.9	79.5	5.1	15.4	1.8	3.2	0.3	1.9	0.3	41.9	1.74	52.4	9.4
	113.13	113.77	1290	2887	323	1155	128	26.8	57.2	5.5	24.6	3.8	8.8	1.0	6.6	1.0	111.8	0.60	46.0	11.8
	113.77	114.00	6673	13205	1462	4234	278	42.8	70.9	4.4	12.1	1.3	1.9	0.2	0.8	0.1	26.7	2.60	38.7	10.2
	114.00	115.77	1214	2825	329	1242	163	35.4	75.3	6.8	27.4	4.2	9.4	1.1	6.8	0.8	115.6	0.61	60.5	7.0
	115.77	117.45	1146	2580	294	1119	148	33.0	73.8	7.1	29.7	4.3	9.8	1.1	6.3	0.8	121.9	0.56	56.7	5.1
	117.45	118.12	4797	8488	814	2461	168	26.9	49.2	3.4	10.1	1.1	1.8	0.2	1.3	0.2	24.1	1.68	24.2	3.9
	118.12	118.96	10450	20023	2132	6310	430	69.6	115.8	7.4	19.7	2.1	3.5	0.4	1.9	0.3	45.7	3.96	66.1	10.2
	118.96	119.87	6145	9766	890	2566	168	26.8	45.9	3.0	8.3	0.9	1.6	0.1	0.7	0.1	20.3	1.96	21.7	8.4
	119.87	120.26	10989	20514	2126	6007	393	63.7	109.6	7.6	23.2	2.7	4.6	0.4	2.1	0.3	61.0	4.03	65.8	18.6
	120.26	122.26	3014	5503	540	1680	117	19.6	34.7	2.5	7.7	1.0	1.7	0.2	1.3	0.2	22.9	1.09	19.0	11.4
	122.26	124.26	5829	10638	1062	3266	232	37.5	64.8	4.3	11.5	1.4	2.3	0.3	1.5	0.2	30.5	2.12	39.5	15.0
	124.26	125.52	1102	2543	284	1005	107	22.5	48.8	4.7	19.6	3.0	7.1	0.9	5.4	0.8	85.1	0.52	29.3	16.2
	125.52	126.69	1024	2260	250	926	114	24.6	57.4	6.1	28.7	4.6	11.3	1.4	8.2	1.2	133.3	0.49	34.6	11.6
	126.69	127.65	678	1468	156	551	63	13.3	29.5	2.8	12.9	2.0	5.0	0.6	4.1	0.6	58.4	0.30	18.6	7.7
	127.65	129.08	5395	10233	1048	3359	263	44.9	80.9	5.6	18.3	2.1	4.0	0.4	2.4	0.3	53.3	2.05	47.4	8.8
	129.08	129.98	1072	2291	245	900	133	31.8	77.5	8.2	35.4	5.4	12.8	1.5	9.2	1.2	160.0	0.50	31.3	13.6
	129.98	130.88	6568	10540	975	2904	223	38.8	71.9	5.0	15.4	1.8	3.4	0.4	1.9	0.3	44.5	2.14	32.5	8.0
	130.88	131.87	3061	6130	672	2251	209	36.7	71.8	5.1	16.8	1.9	3.9	0.3	1.8	0.2	49.5	1.25	28.6	9.0
	131.87	132.51	910	2193	260	1022	152	36.9	92.6	9.9	43.7	6.5	13.7	1.5	8.0	1.0	181.6	0.49	28.5	7.8
	132.51	132.89	629	1345	140	461	45	8.8	18.4	1.5	5.6	0.9	1.9	0.3	1.6	0.2	22.9	0.27	12.8	5.4
	132.89	134.67	1953	3747	395	1365	157	35.3	81.4	8.2	34.7	5.4	12.0	1.4	8.1	1.1	147.3	0.80	45.3	9.2
	134.67	136.10	870	1707	176	623	90	22.7	61.2	7.3	35.5	5.7	14.1	1.7	10.3	1.4	167.6	0.38	41.1	10.9
	136.10	137.25	2533	4570	460	1528	159	31.4	62.2	5.0	19.6	2.8	6.6	0.8	5.5	0.8	81.3	0.95	40.8	9.1
	137.25	138.11	583	1235	147	595	111	30.2	81.8	9.6	43.4	7.0	16.6	2.1	13.0	1.9	209.5	0.31	65.7	13.4
	138.11	139.74	762	1806	199	778	128	32.2	80.2	9.0	41.0	6.2	14.4	1.6	9.8	1.4	174.0	0.40	35.7	9.7
	139.74	140.70	768	1879	211	815	122	27.6	63.3	6.9	32.0	4.8	11.0	1.3	8.1	1.0	135.9	0.41	21.7	4.7
	140.70	141.75	4046	8230	848	2811	261	50.0	101.1	8.8	33.5	4.6	10.3	1.2	6.7	0.8	127.0	1.65	64.2	11.7
	141.75	142.81	817	1947	213	811	135	35.1	89.3	10.6	47.9	7.5	16.9	1.8	9.9	1.3	207.0	0.44	29.1	9.3
	142.81	144.23	1179	2346	219	742	101	25.1	62.1	7.1	33.7	5.1	11.9	1.5	9.0	1.0	146.0	0.49	30.1	7.0
	144.23	145.63	930	2076	221	829	129	31.4	77.3	8.5	37.4	5.4	12.1	1.5	8.4	1.0	149.9	0.45	21.6	10.6
	145.63	146.90	3917	7014	668	2164	218	44.9	91.4	8.3	30.9	4.1	8.4	0.9	4.7	0.6	106.7	1.43	29.1	10.3
	146.90	148.44	858	1861	190	707	114	28.6	71.2	8.1	37.3	5.6	13.2	1.4	8.3	0.9	154.9	0.41	25.0	11.5
	148.44	149.64	785	2039	229	891	135	32.4	76.4	8.3	35.4	5.4	12.1	1.2	7.5	0.9	144.8	0.44	26.8	9.3
	149.64	151.64	524	1146	131	489	79	19.9	51.9	5.9	28.2	4.4	11.0	1.2	7.5	1.0	124.5	0.26	22.4	14.8
	151.64	153.64	606	1468	163	643	105	26.4	66.6	7.5	35.6	5.6	13.0	1.4	8.3	1.1	156.2	0.33	24.6	12.6
	153.64	154.35	817	2045	233	902	147	35.4	85.6	8.7	38.2	5.7	12.4	1.4	8.2	1.0	152.4	0.45	31.2	11.2
	154.35	155.24	2023	4521	488	1744	171	29.2	48.2	3.1	9.3	1.1	2.2	0.3	1.6	0.2	27.9	0.91	26.9	6.3

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	155.24	156.24	3143	6486	648	2065	173	33.0	64.8	5.6	21.6	3.1	6.8	0.7	4.4	0.6	80.0	1.27	35.6	10.4
	156.24	158.10	1249	2862	285	984	109	23.6	53.8	5.6	24.2	3.5	8.2	1.0	5.4	0.7	99.1	0.57	19.8	7.3
	158.10	158.38	12373	23708	2368	7092	467	76.8	126.8	7.5	20.5	2.1	3.3	0.3	1.5	0.2	43.2	4.63	57.2	19.6
	158.38	158.77	1918	3882	375	1184	91	16.3	28.5	1.9	6.1	0.8	1.4	0.2	1.0	0.1	16.5	0.75	17.6	10.8
	158.77	159.75	8597	16461	1637	4502	298	49.1	83.5	5.5	14.2	1.4	2.2	0.2	1.0	0.1	30.5	3.17	46.1	8.9
	159.75	160.53	801	1898	199	731	101	25.8	63.9	7.2	34.4	5.3	12.5	1.4	8.4	1.1	144.8	0.40	20.7	11.5
	160.53	161.82	569	1388	156	622	109	28.6	71.5	8.2	38.9	6.0	13.5	1.5	8.8	1.1	162.6	0.32	19.0	7.0
	161.82	163.83	652	1572	169	656	109	28.3	70.7	7.9	36.5	5.3	12.4	1.4	8.2	1.0	146.0	0.35	16.4	8.5
	163.83	165.82	695	1603	179	686	119	32.2	83.3	9.6	42.7	6.4	14.3	1.6	9.5	1.2	172.7	0.37	17.3	13.6
	165.82	166.97	1935	3771	378	1277	144	31.4	71.5	7.1	30.8	4.6	10.8	1.2	6.8	0.9	120.6	0.78	29.9	15.6
	166.97	167.36	4984	9803	921	2776	193	32.3	56.0	3.8	10.8	1.2	2.1	0.2	1.0	0.2	25.4	1.88	27.1	6.2
	167.36	169.26	1290	2653	257	882	111	25.5	61.6	6.5	30.8	4.4	10.6	1.2	7.6	1.0	129.5	0.55	28.7	12.8
	169.26	170.10	572	1388	154	610	99	25.6	66.4	7.6	35.6	5.4	12.1	1.4	8.3	1.0	151.1	0.31	25.3	14.6
	170.10	171.47	644	1560	170	660	107	27.7	69.7	7.7	34.2	5.0	11.4	1.3	7.6	0.9	142.2	0.34	26.0	13.0
	171.47	172.73	1759	3476	335	1102	119	25.9	60.5	6.6	29.7	4.5	10.5	1.2	6.8	0.8	127.0	0.71	24.4	11.0
	172.73	173.74	10684	20269	2006	5599	372	60.2	103.2	6.4	17.7	1.8	3.1	0.2	1.0	0.2	36.8	3.92	51.2	8.1
	173.74	175.44	1888	3820	364	1131	82	13.8	24.0	1.6	5.1	0.6	1.1	0.1	0.9	0.1	15.2	0.73	13.4	13.0
	175.44	176.00	16302	31938	3298	9716	587	95.6	156.2	9.7	26.3	2.6	4.2	0.3	1.4	0.2	53.3	6.22	87.3	10.4
	176.00	176.22	1104	3010	350	1271	139	29.1	61.0	4.7	15.8	1.9	4.4	0.5	3.0	0.4	49.5	0.60	43.1	10.0
	176.22	176.54	3436	7506	816	2683	208	34.9	56.4	3.4	9.5	1.0	1.7	0.2	1.0	0.1	21.6	1.48	24.1	12.2
	176.54	177.89	1052	2592	298	1141	173	42.6	101.8	10.8	46.5	6.8	14.9	1.7	9.3	1.2	181.6	0.57	28.7	18.2
	177.89	179.54	1140	2825	325	1225	168	37.9	76.5	6.2	25.1	3.6	8.5	1.1	7.0	1.0	100.3	0.59	49.1	15.0
	179.54	181.06	1124	2702	309	1184	170	37.8	75.6	5.7	21.1	2.9	6.4	0.9	4.9	0.8	74.9	0.57	57.8	6.8
	181.06	181.34	604	1493	179	737	155	41.3	105.9	11.4	51.0	7.7	18.2	2.2	13.3	1.8	208.3	0.36	76.1	13.8
	181.34	183.34	2035	3697	385	1376	193	44.0	89.9	7.1	24.9	3.3	7.3	0.8	4.9	0.7	92.7	0.80	88.0	7.4
	183.34	185.34	2662	4864	495	1662	189	40.1	75.6	5.7	18.6	2.4	5.3	0.6	4.0	0.5	62.2	1.01	60.8	7.4
	185.34	186.90	1982	4054	445	1540	173	34.2	63.2	4.5	14.9	1.9	4.2	0.5	3.4	0.4	49.5	0.84	41.7	5.5
	186.90	187.32	4750	8857	861	2589	186	33.0	55.1	3.3	8.7	0.9	1.3	0.1	0.6	0.1	19.1	1.74	32.0	14.8
	187.32	187.55	893	2316	273	1021	130	27.2	52.6	3.9	12.2	1.5	3.3	0.4	2.5	0.3	39.4	0.48	27.3	7.0
	187.55	188.40	1172	2899	342	1330	221	51.1	108.2	9.1	36.0	5.2	12.2	1.5	9.6	1.2	152.4	0.64	65.8	9.9
	188.40	189.96	1101	2690	309	1162	162	34.5	68.2	5.2	18.8	2.5	5.7	0.8	4.7	0.7	71.1	0.56	47.2	8.9
	189.96	191.84	1513	3562	394	1394	143	27.0	49.6	3.3	10.0	1.2	2.3	0.3	1.6	0.2	26.7	0.71	26.5	8.0
	191.84	192.19	3976	7825	785	2368	166	28.0	46.8	3.0	9.5	1.1	2.1	0.2	1.3	0.2	22.9	1.52	21.4	2.2
	192.19	192.75	1566	3378	353	1219	117	22.9	42.2	3.0	9.4	1.2	2.5	0.3	1.4	0.2	27.9	0.67	15.1	7.8
	192.75	193.00	26740	48767	4881	14172	831	130.8	216.1	13.1	33.2	3.4	4.5	0.4	1.7	0.2	67.3	9.59	123.0	7.5
	193.00	194.74	1402	3378	384	1406	164	33.0	60.2	4.2	13.5	1.6	3.1	0.3	1.9	0.3	35.6	0.69	29.8	7.4
	194.74	195.49	6474	10564	946	2706	177	30.5	54.9	3.9	12.4	1.4	2.2	0.2	0.9	0.1	27.9	2.10	31.1	5.1
	195.49	196.43	4457	7149	636	1755	120	21.5	41.2	3.2	10.3	1.1	1.9	0.2	0.9	0.2	26.7	1.42	28.4	8.7
	196.43	197.58	5442	8685	760	2070	136	23.7	41.6	3.0	9.4	1.1	2.1	0.2	0.9	0.1	24.1	1.72	27.9	10.4
	197.58	198.87	5254	9176	845	2449	161	25.9	45.6	3.0	8.6	0.9	1.8	0.2	0.9	0.1	21.6	1.80	24.3	7.8
	198.87	200.44	5242	8587	765	2140	146	26.1	47.3	3.4	10.9	1.2	1.9	0.2	0.9	0.1	25.4	1.70	31.9	8.5
	200.44	202.44	5407	9348	867	2554	192	34.7	65.6	4.9	14.8	1.5	2.4	0.2	1.0	0.1	31.8	1.85	46.5	4.2
	202.44	204.44	6908	11019	953	2613	163	27.0	49.8	3.8	13.3	1.4	2.1	0.2	0.9	0.1	30.5	2.18	33.3	7.1
	204.44	206.44	7705	12407	1108	3079	206	36.1	64.7	4.5	12.9	1.3	1.9	0.2	0.9	0.1	29.2	2.47	48.7	5.7
	206.44	207.70	9558	16092	1522	4257	263	41.3	68.1	4.3	11.7	1.2	2.3	0.2	1.0	0.1	30.5	3.19	37.1	9.2
	207.70	208.63	7987	14188	1383	4082	264	40.8	62.7	4.2	11.9	1.3	2.4	0.2	1.3	0.1	31.8	2.81	36.9	7.9

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	208.63	210.14	9981	16952	1655	4677	304	48.4	76.7	5.2	14.5	1.6	2.9	0.2	1.4	0.2	33.0	3.38	39.4	4.8
	210.14	211.32	7459	11793	1080	3009	187	30.1	50.7	3.4	10.2	1.1	1.7	0.1	0.8	0.1	22.9	2.36	32.7	6.9
	211.32	213.00	7178	12345	1161	3348	213	33.1	54.4	3.6	9.9	1.1	1.6	0.1	0.7	0.1	21.6	2.44	29.2	6.9
	213.00	213.49	10977	19777	1951	5505	342	54.8	87.4	5.5	13.8	1.3	1.8	0.2	0.9	0.1	27.9	3.87	46.1	2.7
	213.49	215.00	9042	14557	1335	3779	231	36.6	59.0	3.9	11.7	1.1	1.8	0.2	0.9	0.1	25.4	2.91	33.6	5.5
	215.00	216.29	10567	16399	1480	4047	239	38.8	63.7	4.4	13.5	1.4	2.4	0.2	0.8	0.1	33.0	3.29	36.1	5.8
	216.29	217.41	28147	43485	3939	10906	634	100.2	160.2	10.3	26.5	2.6	4.1	0.2	1.0	0.1	55.9	8.75	91.4	3.8
	217.41	218.46	23808	36975	3371	9378	566	91.2	147.0	9.9	25.4	2.6	3.8	0.3	1.3	0.1	54.6	7.44	84.7	3.5
	218.46	220.44	10954	17259	1619	4409	282	46.8	79.0	5.6	15.8	1.7	2.6	0.2	1.0	0.1	34.3	3.47	47.6	5.7
	220.44	222.44	9382	15048	1365	3814	237	38.2	67.4	4.9	15.6	1.5	2.5	0.2	1.0	0.1	35.6	3.00	42.9	8.2
	222.44	223.87	6966	11006	1003	2799	177	30.7	54.5	4.8	15.2	1.7	2.4	0.2	0.9	0.1	40.6	2.21	40.6	8.1
	223.87	224.32	21990	32921	2984	7698	437	71.6	125.1	9.6	28.9	2.9	4.4	0.3	1.1	0.1	61.0	6.63	74.2	4.8
	224.32	225.00	6403	9999	892	2449	148	24.6	42.7	3.4	11.0	1.3	1.9	0.2	1.0	0.1	27.9	2.00	30.5	7.9
	225.00	226.83	24394	37221	3359	9156	531	86.3	144.7	10.6	28.0	2.8	4.1	0.3	1.1	0.1	61.0	7.50	90.4	6.0
	226.83	228.66	15891	26165	2489	6858	427	66.8	108.2	7.2	19.3	2.1	3.0	0.2	1.1	0.1	44.5	5.21	62.7	6.3
	228.66	229.81	15246	26165	2537	7068	428	66.1	106.6	7.2	19.6	1.9	3.1	0.2	0.8	0.1	38.1	5.17	64.4	6.6
	229.81	231.81	9160	14741	1353	3779	237	39.5	68.7	5.4	16.4	1.7	2.3	0.2	0.7	0.1	36.8	2.94	54.5	8.5
	231.81	233.81	5970	9741	899	2566	170	30.8	56.6	5.0	15.8	1.7	2.4	0.2	0.8	0.1	34.3	1.95	50.5	6.3
	233.81	235.50	6157	9569	860	2356	146	24.9	43.2	3.8	13.8	1.5	2.5	0.2	0.8	0.1	35.6	1.92	38.1	14.2
	235.50	235.76	13135	20944	1939	5225	322	52.5	87.8	6.6	19.3	2.1	4.0	0.3	1.9	0.2	50.8	4.18	47.5	4.1
	235.76	237.42	4832	7702	706	1983	125	21.1	36.2	2.8	10.0	1.1	2.3	0.2	1.3	0.1	30.5	1.55	22.5	8.8
	237.42	238.75	6099	9839	890	2519	155	25.9	45.3	3.7	11.4	1.1	1.8	0.2	0.8	0.1	26.7	1.96	35.5	7.0
	238.75	239.28	26271	42257	3890	10556	617	101.9	174.0	13.1	34.3	3.1	4.0	0.2	1.0	0.1	59.7	8.40	152.5	28.3
	239.28	241.30	557	918	85	240	19	4.3	9.2	1.3	6.2	1.0	2.6	0.4	2.5	0.4	30.5	0.19	21.2	7.6
	241.30	242.64	4375	7051	640	1820	118	20.4	35.5	3.0	9.8	1.1	2.1	0.1	0.9	0.1	26.7	1.41	25.8	11.5
	242.64	244.64	4328	7051	666	1930	146	26.4	48.3	3.9	12.9	1.4	2.2	0.2	1.0	0.1	30.5	1.42	37.8	8.8
	244.64	246.64	2967	5000	483	1481	138	28.7	60.1	5.4	20.0	2.6	5.8	0.6	3.2	0.4	71.1	1.03	31.8	10.4
	246.64	248.59	897	2131	246	911	125	28.6	68.9	7.4	34.3	5.3	11.9	1.5	7.9	1.0	157.5	0.46	24.8	12.1
	248.59	250.00	549	1241	148	582	103	28.1	71.7	8.7	41.2	6.4	14.9	1.6	9.0	1.2	189.2	0.30	29.6	7.9
	250.00	250.92	1906	3599	346	1066	92	17.6	34.2	2.9	11.1	1.6	3.4	0.4	2.5	0.3	39.4	0.71	12.6	11.0
	250.92	252.44	5571	10269	1004	3009	216	38.2	65.9	4.7	13.7	1.6	3.0	0.2	1.4	0.2	36.8	2.02	48.4	9.9
	252.44	253.90	10872	17750	1601	4549	305	52.0	89.3	6.2	17.6	1.7	2.7	0.2	0.9	0.1	36.8	3.53	53.2	3.7
	253.90	254.54	5829	9029	784	2158	133	23.0	39.7	3.0	8.7	0.9	1.4	0.1	0.7	0.1	20.3	1.80	26.0	7.0
	254.54	255.53	14132	22480	2036	5517	348	57.4	97.7	6.7	18.3	2.0	3.4	0.3	1.3	0.2	44.5	4.47	53.0	4.1
	255.53	256.42	8878	14065	1232	3348	206	34.7	59.9	4.3	12.2	1.3	2.2	0.2	0.9	0.2	30.5	2.79	40.3	5.8
	256.42	257.59	10989	17505	1553	4281	257	41.9	69.6	4.5	11.9	1.3	2.1	0.2	0.8	0.1	27.9	3.47	40.5	8.1
	257.59	259.12	1835	3268	307	927	80	17.0	37.0	3.7	15.8	2.5	6.2	0.7	4.1	0.6	68.6	0.66	17.4	15.3
	259.12	260.29	3988	6572	603	1738	125	21.2	40.1	3.2	9.9	1.1	2.1	0.3	1.4	0.2	27.9	1.31	31.4	12.2
	260.29	260.59	21345	35009	3323	9553	659	115.8	193.6	11.9	31.7	3.2	4.7	0.3	1.7	0.2	64.8	7.03	84.0	2.9
	260.59	261.00	17592	27639	2477	6812	451	78.2	130.8	9.1	23.8	2.4	3.3	0.3	1.1	0.2	47.0	5.53	61.2	4.7
	261.00	261.55	5043	8058	724	2030	137	24.0	42.3	3.1	10.7	1.1	2.1	0.2	1.0	0.2	26.7	1.61	29.3	13.6
	261.55	261.79	6533	10269	909	2554	171	29.0	53.9	4.1	13.0	1.4	2.2	0.2	0.9	0.1	30.5	2.06	32.0	8.7
	261.79	263.02	16712	27639	2561	7115	467	77.8	131.4	8.9	25.4	2.8	4.2	0.3	1.6	0.2	57.2	5.48	69.1	5.1
	263.02	264.52	6181	9582	831	2286	144	24.2	42.0	3.3	11.1	1.3	2.1	0.2	0.8	0.1	29.2	1.91	30.3	9.2
	264.52	265.90	8855	13942	1192	3278	199	33.1	54.1	4.2	12.5	1.4	2.3	0.2	1.0	0.1	30.5	2.76	36.2	4.3
	265.90	267.30	10426	16829	1540	4257	282	48.3	83.2	5.8	14.8	1.4	2.2	0.2	0.9	0.1	34.3	3.35	49.8	4.9

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	267.30	267.58	5829	9188	811	2234	144	24.7	42.1	3.0	9.6	1.1	1.7	0.2	1.0	0.1	26.7	1.83	29.8	14.6
	267.58	267.87	8327	12837	1112	3033	183	30.8	52.3	4.0	12.2	1.3	2.2	0.2	1.0	0.2	30.5	2.56	34.5	9.5
	267.87	269.59	9382	15171	1341	3686	225	36.9	62.5	4.2	11.5	1.3	2.2	0.2	1.0	0.2	26.7	3.00	40.0	8.8
	269.59	270.80	8796	14127	1269	3546	222	37.1	66.0	4.8	14.2	1.6	2.6	0.3	1.5	0.2	36.8	2.81	44.4	8.2
	270.80	271.65	8597	13820	1208	3324	209	33.6	56.5	3.8	10.6	1.2	1.7	0.2	0.7	0.1	25.4	2.73	32.4	11.1
	271.65	272.67	6708	10933	986	2811	183	31.0	52.3	3.5	10.4	1.3	2.2	0.2	0.8	0.1	29.2	2.18	29.9	5.5
	272.67	274.32	5371	9274	847	2426	155	24.9	40.5	2.5	7.6	0.9	1.5	0.2	0.7	0.1	20.3	1.82	20.1	2.9
	274.32	276.32	6978	12468	1182	3429	224	37.5	60.9	4.3	11.7	1.2	1.7	0.2	0.8	0.1	25.4	2.44	38.2	3.4
	276.32	278.32	8104	14065	1305	3744	239	38.2	64.6	4.2	12.6	1.3	1.9	0.2	0.8	0.1	26.7	2.76	33.2	2.7
	278.32	280.09	3870	6756	640	1884	136	24.9	45.3	3.6	13.0	1.7	3.9	0.4	2.3	0.3	43.2	1.34	22.8	4.4
	280.09	282.04	2979	5552	542	1668	132	25.2	50.9	4.3	15.7	2.2	4.6	0.6	2.9	0.4	55.9	1.10	30.4	4.8
	282.04	283.02	9195	17566	1764	5167	332	53.0	90.1	6.7	19.6	2.0	3.2	0.3	1.6	0.3	44.5	3.42	77.0	7.0
	283.02	284.14	9300	17075	1782	5027	310	47.5	80.8	5.2	15.6	1.6	2.7	0.3	1.1	0.2	35.6	3.37	38.8	2.9
	284.14	286.14	7400	12898	1329	3756	253	41.9	75.5	5.3	16.1	1.6	2.6	0.3	1.1	0.2	33.0	2.58	43.6	2.5
	286.14	287.68	5559	10257	1015	3161	221	36.2	59.5	3.6	10.3	1.0	1.7	0.1	0.8	0.1	22.9	2.03	28.8	2.5
	287.68	288.14	10461	20146	2157	6135	388	60.0	100.5	6.1	16.8	1.5	2.5	0.2	1.4	0.2	34.3	3.95	62.6	2.4
	288.14	290.14	5747	10810	1077	3313	235	38.4	67.8	4.8	12.4	1.2	1.8	0.1	0.9	0.1	25.4	2.13	50.4	1.7
	290.14	291.81	7670	13574	1377	3931	260	41.8	74.2	5.3	16.9	1.7	2.7	0.2	1.3	0.2	38.1	2.70	46.2	4.4
	291.81	293.10	7506	13820	1438	4082	285	48.3	87.8	6.9	22.7	2.5	4.4	0.4	2.6	0.3	63.5	2.74	70.3	8.2
	293.10	294.75	8386	14557	1492	4152	268	41.8	72.3	5.2	16.3	1.7	2.9	0.2	1.1	0.2	39.4	2.90	50.5	7.6
	294.75	296.49	10438	19163	1994	5785	397	63.3	112.0	7.5	21.1	2.0	3.1	0.2	0.9	0.1	43.2	3.80	77.9	5.5
	296.49	298.49	7318	13267	1353	4036	275	43.2	76.9	5.7	17.3	1.7	2.6	0.2	0.9	0.1	35.6	2.64	54.1	4.1
	298.49	300.49	7213	12898	1293	3779	248	38.1	66.5	4.4	14.5	1.5	2.5	0.2	1.0	0.2	34.3	2.56	37.8	4.9
	300.49	302.18	6169	11166	1083	3371	239	39.1	69.0	4.9	15.8	1.8	3.4	0.4	2.1	0.3	44.5	2.22	37.5	6.0
	302.18	302.74	8057	15232	1637	4747	320	50.5	87.1	5.8	15.8	1.5	2.3	0.2	0.8	0.1	30.5	3.02	73.3	3.2
	302.74	304.74	5794	11092	1153	3593	260	44.1	75.5	5.6	16.9	2.0	3.8	0.4	2.1	0.3	49.5	2.21	44.6	4.5
	304.74	306.74	7013	12960	1402	3977	283	46.7	82.8	5.9	17.3	2.0	3.4	0.4	1.9	0.3	44.5	2.58	45.9	4.3
	306.74	308.74	5383	9704	976	3044	217	35.6	62.6	4.5	14.0	1.6	3.3	0.3	1.8	0.2	40.6	1.95	36.1	4.7
	308.74	310.16	5160	9606	971	3044	223	37.1	71.1	5.7	17.9	1.9	3.5	0.3	1.7	0.2	43.2	1.92	63.4	5.9
	310.16	311.14	8362	16092	1704	4957	341	54.5	101.3	7.9	27.1	3.1	5.8	0.6	3.3	0.5	81.3	3.17	86.7	3.0
	311.14	311.91	6791	13512	1468	4467	351	60.7	120.5	10.5	33.3	3.0	4.8	0.4	1.7	0.2	69.8	2.69	136.5	2.9
	311.91	313.07	6181	12407	1377	4199	317	51.5	94.1	6.9	22.5	2.4	4.0	0.4	2.1	0.2	55.9	2.47	80.4	3.2
	313.07	315.07	6110	11670	1226	3593	267	44.0	74.0	5.5	16.4	2.0	3.5	0.3	1.7	0.2	41.9	2.31	45.8	4.1
	315.07	317.07	5594	10749	1130	3301	252	43.1	72.4	5.3	16.0	2.0	3.5	0.3	1.7	0.3	41.9	2.12	41.3	5.4
	317.07	319.07	5536	10663	1118	3348	257	41.9	70.0	4.9	13.7	1.6	2.7	0.3	1.5	0.2	31.8	2.11	37.5	4.4
	319.07	320.98	5641	10429	1075	3103	231	38.6	66.6	5.3	16.9	2.3	4.6	0.5	2.6	0.3	53.3	2.07	36.9	4.3
	320.98	322.10	3073	6019	633	2094	204	41.2	82.3	8.0	32.1	4.8	10.4	1.2	6.5	0.8	120.6	1.23	59.2	9.0
	322.10	324.10	2275	4410	455	1516	151	31.4	64.6	6.7	27.2	4.3	9.2	1.1	6.7	0.9	109.2	0.91	43.9	4.6
	324.10	326.10	3999	7751	802	2578	217	37.6	69.4	5.5	18.7	2.5	4.8	0.5	2.7	0.3	58.4	1.55	32.8	6.2
	326.10	328.10	4808	9287	963	2881	226	37.6	64.6	4.9	13.9	1.7	2.9	0.3	1.7	0.2	35.6	1.83	32.9	4.4
	328.10	330.10	6579	12960	1377	4047	302	51.0	86.1	6.4	19.4	2.3	3.9	0.4	2.1	0.3	49.5	2.55	51.1	4.5
	330.10	332.10	5325	10220	1061	3114	233	38.7	67.8	5.0	15.0	1.8	3.1	0.3	1.9	0.2	39.4	2.01	37.2	4.7
	332.10	333.52	7060	13635	1432	4234	321	54.1	90.6	6.5	17.8	2.0	3.0	0.3	1.4	0.2	38.1	2.69	49.4	5.5
	333.52	334.42	4902	9152	909	2846	221	35.0	68.9	5.4	18.1	2.2	4.8	0.5	2.9	0.4	54.6	1.82	36.3	4.8
	334.42	334.95	5618	10687	1110	3254	250	41.6	71.8	5.6	16.5	2.1	4.2	0.4	1.9	0.3	47.0	2.11	34.2	4.3
	334.95	336.95	5113	9766	1020	2974	212	34.2	53.8	3.6	9.8	1.1	2.1	0.2	0.9	0.1	22.9	1.92	28.7	4.6

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	336.95	338.89	5407	10478	1092	3184	223	35.9	58.0	3.8	11.0	1.2	2.1	0.2	0.9	0.1	24.1	2.05	32.3	5.4
	338.89	339.79	3659	7174	720	2245	161	27.0	44.8	3.2	9.4	1.1	2.2	0.2	0.9	0.2	24.1	1.41	27.1	6.1
	339.79	340.87	4726	9238	952	2928	220	35.6	59.0	4.0	10.3	1.2	1.8	0.2	0.9	0.1	24.1	1.82	31.8	6.2
	340.87	341.53	3601	6953	691	2146	157	25.8	44.0	3.1	7.9	1.0	1.6	0.2	0.7	0.1	20.3	1.37	24.9	4.3
	341.53	343.00	2651	5380	558	1779	138	22.7	36.8	2.5	7.0	0.8	1.4	0.2	0.7	0.1	16.5	1.06	21.8	5.6
	343.00	344.38	3448	7002	725	2321	180	30.1	50.7	3.7	10.4	1.2	1.8	0.2	1.1	0.1	25.4	1.38	41.9	4.6
	344.38	346.14	3683	6891	674	2035	140	22.0	37.5	2.8	8.0	1.0	2.5	0.6	1.3	0.5	19.1	1.35	22.2	6.4
	346.14	347.59	4914	9090	882	2589	169	26.4	41.6	3.0	7.5	0.8	1.4	0.2	0.8	0.1	17.8	1.77	28.1	6.8
	347.59	348.50	6650	12530	1269	3581	241	38.1	61.9	4.2	10.8	1.2	1.9	0.2	0.9	0.1	22.9	2.44	36.3	5.5
	348.50	348.79	7611	14557	1480	4117	253	36.8	58.7	3.9	10.4	1.2	2.2	0.2	1.0	0.1	25.4	2.82	29.0	2.2
	348.79	350.79	4691	8808	880	2776	222	38.0	63.1	4.5	11.9	1.3	1.9	0.2	0.8	0.1	26.7	1.75	44.1	5.5
	350.79	352.69	9781	16215	1504	4106	263	42.8	73.1	6.3	20.0	2.2	3.2	0.3	1.3	0.2	48.3	3.21	62.2	5.4
	352.69	353.68	6427	10306	904	2543	168	28.1	52.9	6.2	21.7	2.3	3.1	0.2	0.9	0.2	47.0	2.05	53.3	4.5
	353.68	354.17	2850	4447	385	1080	73	13.2	26.5	3.2	10.8	1.1	1.4	0.1	0.6	0.1	22.9	0.89	34.9	3.4
	354.17	356.07	4339	6597	568	1569	103	18.6	36.8	3.6	13.3	1.3	3.9	0.4	0.9	0.3	27.9	1.33	32.4	1.9
	356.07	357.46	7178	11744	1107	3079	220	37.1	62.0	5.5	16.8	1.8	2.5	0.2	0.9	0.2	38.1	2.35	59.3	2.5
	357.46	359.46	8104	13820	1275	3697	276	49.7	85.0	7.0	25.9	2.6	4.5	0.3	1.7	0.2	66.0	2.74	87.3	1.6
	359.46	361.15	18648	27762	2368	6345	412	70.4	122.8	9.4	33.5	3.5	5.0	0.3	1.1	0.1	76.2	5.59	105.5	1.7
	361.15	361.71	6016	9471	809	2228	153	26.1	46.1	3.3	13.3	1.5	2.6	0.2	1.0	0.1	34.3	1.88	43.0	0.9
	361.71	362.59	8397	13451	1156	3149	196	33.9	59.7	4.7	16.5	1.8	2.7	0.2	0.8	0.1	40.6	2.65	60.3	4.2
	362.59	364.11	10004	15662	1347	3604	224	38.3	69.0	5.3	19.3	2.2	3.7	0.2	1.1	0.1	47.0	3.10	64.0	2.9
	364.11	366.11	5571	8734	710	1895	117	21.1	37.9	3.4	12.3	1.4	2.5	0.2	1.0	0.1	31.8	1.71	41.1	1.2
	366.11	367.12	8573	13082	1092	2928	187	32.2	59.0	4.7	18.1	2.0	3.3	0.2	1.4	0.1	43.2	2.60	51.9	1.3
	367.12	368.28	7389	12087	1029	2811	172	29.9	53.7	4.2	15.6	1.6	2.4	0.2	0.7	0.1	34.3	2.36	48.9	1.1
	368.28	369.83	2498	4938	466	1411	105	18.5	31.8	2.2	7.0	0.8	1.4	0.1	0.3	0.1	16.5	0.95	33.9	0.7
	369.83	371.22	7694	12407	1130	3033	190	29.2	57.5	5.0	18.5	2.1	3.0	0.2	1.0	0.1	45.7	2.46	53.5	1.5
	371.22	373.11	15774	23585	1994	5237	311	53.7	89.0	7.1	25.7	2.9	4.2	0.3	1.1	0.2	61.0	4.71	76.1	1.7
	373.11	374.59	11904	19102	1643	4456	285	48.8	86.0	6.5	21.1	2.3	3.9	0.3	1.1	0.1	54.6	3.76	86.0	1.3
	374.59	375.88	12021	19102	1643	4467	271	46.7	81.5	6.9	23.2	2.4	3.8	0.3	1.1	0.2	54.6	3.77	80.0	1.5
	375.88	377.31	8796	13881	1202	3231	193	33.7	59.8	5.3	18.7	1.9	3.2	0.3	0.9	0.2	43.2	2.75	56.7	1.1
	377.31	378.00	2170	3734	318	857	52	9.8	18.7	2.0	7.8	0.9	1.7	0.2	0.9	0.1	22.9	0.72	23.5	1.1
	378.00	379.00	3108	5454	462	1283	81	15.8	29.9	3.3	12.7	1.4	2.6	0.2	1.0	0.2	35.6	1.05	46.8	3.2
	379.00	379.79	7189	11756	1023	2788	176	31.3	51.2	3.9	13.8	1.4	2.1	0.1	0.8	0.1	27.9	2.31	41.4	1.1
	379.79	381.49	8210	12898	1095	2951	176	30.6	58.0	5.2	18.5	2.1	3.2	0.3	1.3	0.2	47.0	2.55	59.1	1.1
	381.49	383.09	12021	17320	1414	3616	219	40.0	69.5	5.3	17.9	1.8	2.7	0.2	1.3	0.1	39.4	3.48	57.6	1.1
	383.09	385.06	15891	23401	1945	5039	312	54.8	97.3	7.3	24.1	2.5	4.0	0.3	1.4	0.2	55.9	4.68	76.3	1.2
	385.06	386.07	16478	26042	2235	6030	372	62.9	104.9	6.8	23.2	2.4	3.7	0.3	1.3	0.2	50.8	5.14	79.5	1.2
	386.07	388.07	7213	11350	963	2543	168	31.0	57.9	5.0	18.0	1.9	2.9	0.3	1.1	0.2	44.5	2.24	66.2	1.1
	388.07	390.07	18882	27148	2193	5622	330	56.9	98.7	6.8	21.4	2.0	2.9	0.2	1.0	0.1	41.9	5.44	65.9	1.1
	390.07	392.07	8022	12591	1066	2904	189	31.6	53.8	4.1	13.4	1.4	2.6	0.2	0.9	0.1	35.6	2.49	31.2	0.8
	392.07	394.07	4011	6916	587	1586	101	17.6	33.5	2.9	10.7	1.1	1.7	0.2	0.7	0.1	26.7	1.33	24.3	0.8
	394.07	396.07	4152	7014	599	1627	106	16.7	29.7	2.3	9.1	1.0	1.6	0.1	0.6	0.1	21.6	1.36	20.6	0.7
	396.07	398.07	5583	8758	742	2076	136	22.7	39.3	2.9	10.4	1.0	1.5	0.1	0.6	0.1	21.6	1.74	28.1	0.7
	398.07	400.07	6697	10454	887	2344	148	24.3	39.7	2.8	9.9	1.2	1.9	0.1	0.9	0.1	26.7	2.06	24.0	0.8
	400.07	402.07	6040	9839	847	2327	155	24.2	41.7	3.1	10.4	1.3	2.1	0.2	0.8	0.1	29.2	1.93	20.8	0.8
	402.07	404.08	6357	9790	814	2181	135	22.2	35.4	2.3	8.2	0.9	1.3	0.2	0.5	0.1	20.3	1.94	21.6	0.8

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	404.08	406.08	3460	5602	503	1295	80	13.1	22.6	2.2	9.0	1.2	2.3	0.2	1.0	0.2	29.2	1.10	13.8	1.3
	406.08	408.08	3108	5000	445	1151	73	11.8	20.4	1.7	5.7	0.7	1.4	0.1	0.7	0.1	17.8	0.98	11.2	1.5
	408.08	410.08	1331	2279	200	518	34	5.9	9.8	0.9	2.9	0.4	0.8	0.1	0.7	0.1	8.9	0.44	6.1	1.4
	410.08	412.07	2328	3820	338	883	57	9.8	16.3	1.5	5.1	0.7	1.4	0.2	1.1	0.2	17.8	0.75	9.4	2.9
	412.07	413.64	4117	6535	565	1551	93	13.7	24.7	1.8	5.4	0.7	1.3	0.1	0.7	0.1	15.2	1.29	14.0	1.6
	413.64	413.88	3378	5479	488	1248	73	11.6	19.4	1.6	4.0	0.4	0.9	0.1	0.5	0.1	10.2	1.07	12.4	1.1
	413.88	415.26	4292	7039	636	1650	104	17.6	29.7	2.3	7.5	1.0	1.9	0.2	1.1	0.2	24.1	1.38	16.8	2.6
	415.26	416.46	1794	3132	298	819	62	11.5	20.8	1.7	5.6	0.7	1.4	0.1	0.7	0.1	16.5	0.62	8.4	2.2
	416.46	417.44	7916	12714	1196	2986	192	31.7	51.6	3.8	9.9	1.1	1.9	0.2	1.0	0.2	25.4	2.51	26.1	1.1
	417.44	419.44	1296	2168	193	510	36	6.3	11.0	1.1	3.6	0.5	1.1	0.2	0.7	0.1	12.7	0.42	6.8	5.4
	419.44	421.44	2211	3710	337	898	59	10.0	18.0	1.6	5.3	0.7	1.7	0.2	1.0	0.2	20.3	0.73	10.6	5.3
	421.44	423.44	3049	5098	460	1196	74	12.2	20.5	1.6	4.6	0.5	1.0	0.1	0.6	0.1	11.4	0.99	13.1	6.6
	423.44	424.41	6873	11719	1110	2764	162	26.2	42.3	3.1	7.6	0.8	1.4	0.1	0.7	0.1	17.8	2.27	23.9	7.6
	424.41	426.41	12901	21743	2060	5272	295	48.8	77.8	6.0	14.9	1.6	2.5	0.2	1.0	0.2	33.0	4.25	42.8	1.7
	426.41	428.41	17416	31201	3008	7815	414	65.1	100.2	7.5	18.3	1.8	3.1	0.2	1.0	0.1	38.1	6.01	53.6	1.4
	428.41	430.41	10051	18057	1758	4491	253	40.0	63.5	5.1	13.9	1.4	2.4	0.2	0.8	0.1	30.5	3.48	46.2	1.5
	430.41	431.47	8878	15846	1553	3977	228	36.0	58.3	4.8	13.4	1.5	2.4	0.2	0.8	0.2	31.8	3.06	38.8	2.5
	431.47	433.47	7670	14311	1420	3593	203	31.6	50.1	4.3	11.9	1.2	1.9	0.1	0.8	0.1	26.7	2.73	37.1	4.0
	433.47	435.47	8550	15662	1571	4059	249	41.5	71.7	6.7	20.3	2.2	3.4	0.3	1.5	0.2	45.7	3.03	54.7	3.0
	435.47	436.99	6040	11117	1099	2788	166	26.1	42.5	3.3	8.6	1.0	1.6	0.2	0.7	0.1	21.6	2.13	26.7	8.4
	436.99	438.17	9981	17873	1764	4619	267	43.5	70.2	5.0	14.0	1.4	2.3	0.2	0.9	0.1	29.2	3.47	35.9	1.8
	438.17	439.40	5184	9778	967	2589	171	29.4	49.2	3.9	12.1	1.4	2.6	0.2	1.3	0.2	33.0	1.88	28.4	6.8
	439.40	441.21	5536	10699	1110	2846	171	27.2	43.0	3.3	9.0	1.0	1.8	0.2	0.8	0.1	22.9	2.05	21.3	6.0
	441.21	442.15	9054	17320	1752	4689	257	39.8	61.6	4.4	10.9	1.1	1.9	0.2	0.8	0.2	24.1	3.32	31.8	6.8
	442.15	443.32	13546	25674	2598	7243	405	62.1	95.9	7.0	19.9	2.0	3.4	0.3	1.1	0.2	45.7	4.97	58.0	3.2
	443.32	444.44	6685	12898	1323	3441	213	35.3	59.7	5.3	15.2	1.4	2.3	0.2	0.8	0.1	30.5	2.47	60.1	3.0
	444.44	446.44	10192	19409	1957	5319	311	50.0	83.9	7.9	23.1	2.2	3.3	0.3	1.0	0.2	48.3	3.74	80.7	1.5
	446.44	447.85	8292	15969	1649	4374	253	42.2	79.5	9.1	28.6	2.8	4.2	0.3	1.6	0.2	62.2	3.08	108.0	3.4
	447.85	449.59	8327	15662	1589	4036	233	37.2	59.9	5.0	14.1	1.4	2.1	0.2	0.8	0.1	30.5	3.00	51.4	4.8
	449.59	450.70	7131	12407	1161	3278	213	33.5	57.4	4.4	13.1	1.4	2.2	0.2	0.8	0.1	30.5	2.43	52.2	2.2
	450.70	452.66	9711	16829	1553	4316	256	39.4	65.9	5.6	18.9	2.0	3.1	0.2	1.1	0.2	44.5	3.28	53.3	2.2
	452.66	453.02	4257	7739	742	2111	120	18.1	27.8	1.9	6.3	0.8	1.3	0.2	0.7	0.1	19.1	1.50	14.0	2.2
	453.02	454.54	9957	17505	1661	4689	276	40.6	65.5	5.1	16.2	1.8	2.6	0.2	1.0	0.2	40.6	3.43	40.7	1.9
	454.54	455.86	9699	15601	1389	3767	232	37.9	64.8	5.2	15.2	1.6	2.1	0.2	0.8	0.1	33.0	3.08	53.2	2.6
	455.86	457.86	7377	12960	1214	3406	194	30.0	48.5	3.5	10.6	1.2	2.2	0.2	0.8	0.1	26.7	2.53	28.3	1.8
	457.86	459.86	9324	16215	1553	4374	255	39.1	67.4	5.4	15.8	1.6	2.4	0.2	0.9	0.1	33.0	3.19	74.5	1.8
	459.86	461.01	10872	19286	1849	5249	307	45.9	71.6	5.0	13.3	1.5	2.4	0.2	0.7	0.1	30.5	3.77	40.7	2.1
	461.01	462.02	10379	18057	1710	4817	289	41.1	67.1	4.5	13.1	1.5	2.2	0.2	0.9	0.1	30.5	3.54	35.2	1.8
	462.02	463.97	5676	10970	1118	3348	240	39.6	67.8	4.9	14.0	1.4	2.4	0.2	0.9	0.2	31.8	2.15	59.1	0.8
	463.97	464.61	7060	12407	1190	3383	193	28.6	44.5	3.5	11.0	1.1	1.9	0.1	0.6	0.1	26.7	2.44	23.1	1.9
	464.61	465.37	16126	27393	2610	6788	368	55.6	89.9	6.3	17.6	1.7	2.9	0.2	0.8	0.2	35.6	5.35	48.9	1.8
	465.37	466.34	6521	10957	1015	2788	159	25.5	42.2	3.0	9.5	0.9	1.8	0.2	0.7	0.1	24.1	2.15	34.3	4.6
	466.34	467.45	6990	11633	1070	2951	183	31.2	61.8	5.6	15.4	1.6	2.3	0.2	0.8	0.2	33.0	2.30	90.3	2.3
	467.45	468.34	6579	12837	1311	3896	278	47.9	92.2	8.2	27.4	3.2	5.8	0.6	3.3	0.4	82.5	2.52	127.5	2.1
	468.34	470.08	9687	15785	1420	3837	223	36.8	66.0	5.0	14.7	1.5	3.5	0.4	1.1	0.3	34.3	3.11	61.7	4.3
	470.08	470.93	6626	10429	929	2531	157	27.8	55.9	5.2	16.5	1.7	2.9	0.2	0.9	0.1	40.6	2.08	78.2	15.2



Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	470.93	472.59	6192	10957	1050	3091	221	39.1	72.3	5.8	17.0	1.7	3.0	0.3	1.0	0.2	38.1	2.17	84.6	12.6
	472.59	473.29	5606	9471	880	2473	154	26.5	51.3	4.1	14.2	1.8	3.2	0.3	1.5	0.3	44.5	1.87	69.1	7.5
	473.29	475.29	5946	9606	847	2292	137	22.9	45.6	4.3	13.8	1.4	2.2	0.2	0.8	0.1	31.8	1.90	67.8	13.1
	475.29	477.29	8561	14127	1293	3546	201	31.8	59.8	4.8	15.3	1.7	2.4	0.2	0.9	0.1	40.6	2.79	72.9	8.3
	477.29	478.12	8444	13881	1263	3488	212	34.0	61.9	5.1	13.8	1.4	1.9	0.1	0.8	0.1	33.0	2.74	67.9	6.4
	478.12	478.68	13546	20207	1764	4712	296	50.3	92.8	6.9	19.5	2.0	3.0	0.3	0.9	0.2	41.9	4.07	66.1	3.1
	478.68	479.94	6075	9631	866	2368	147	25.5	50.9	4.4	13.3	1.3	1.9	0.1	0.7	0.1	29.2	1.92	79.4	4.4
	479.94	481.52	3601	6031	567	1604	109	19.9	37.9	3.6	13.2	1.7	2.9	0.3	1.5	0.2	43.2	1.20	52.9	4.7
	481.52	482.39	7283	14127	1426	4374	332	54.8	100.7	7.8	25.0	2.8	4.9	0.5	2.5	0.4	69.8	2.78	89.8	3.2
	482.39	482.86	12784	24322	2573	7675	605	98.5	169.4	11.2	33.5	3.6	6.3	0.6	2.6	0.4	87.6	4.84	103.5	2.4
	482.86	484.22	15246	23094	2030	5470	358	59.6	110.1	9.3	28.0	3.2	5.5	0.5	2.4	0.3	73.7	4.65	81.5	3.9
	484.22	485.18	3671	5896	529	1476	102	18.6	39.3	4.2	13.8	1.4	2.6	0.2	1.1	0.2	36.8	1.18	73.0	4.6
	485.18	486.42	6274	12272	1244	3744	256	40.6	71.8	5.0	15.2	1.9	2.9	0.3	1.1	0.2	39.4	2.40	61.2	3.8
	486.42	487.70	2404	3845	371	1056	67	12.7	27.8	2.7	10.9	1.2	2.2	0.2	1.0	0.1	30.5	0.78	48.2	9.2
	487.70	489.69	3178	5024	477	1371	93	17.6	31.7	2.9	11.7	1.5	2.5	0.2	1.5	0.1	36.8	1.02	45.1	6.4
	489.69	490.38	17944	29236	3021	8456	544	93.2	160.2	11.6	32.0	3.2	4.9	0.4	1.7	0.2	74.9	5.96	134.0	4.0
	490.38	492.38	3507	5552	530	1540	100	18.1	30.4	2.7	9.8	1.3	1.8	0.1	1.3	0.1	29.2	1.13	39.2	8.3
	492.38	494.38	1841	2997	285	835	59	11.5	19.4	1.7	6.4	0.8	1.7	0.1	0.9	-0.1	21.6	0.61	22.0	11.6
	494.38	495.23	2416	3710	343	946	62	11.4	19.4	1.6	6.1	0.9	1.6	0.1	1.0	-0.1	22.9	0.75	15.3	11.4
	495.23	496.55	4421	6990	689	2000	128	21.5	36.3	2.8	9.3	1.2	1.9	0.1	0.8	-0.1	27.9	1.43	31.7	5.9
	496.55	496.84	9289	16706	1818	5599	392	67.9	115.3	7.9	20.9	2.0	2.5	0.1	0.8	-0.1	40.6	3.41	131.5	1.6
	496.84	498.84	2088	3476	336	994	70	12.5	22.6	2.1	9.0	1.0	2.1	0.1	0.9	-0.1	26.7	0.70	25.0	5.4
	498.84	500.84	2568	4189	385	1109	75	13.7	24.3	2.5	9.3	1.1	1.9	0.2	0.9	-0.1	27.9	0.84	29.6	8.7
	500.84	502.45	5172	7641	708	1995	122	21.5	40.9	3.8	14.4	1.8	3.2	0.2	1.5	0.1	44.5	1.58	44.4	4.2
	502.45	503.35	4199	6302	603	1709	111	19.3	36.0	3.0	9.9	1.1	1.9	0.1	0.9	-0.1	25.4	1.30	39.2	7.6
	503.35	504.42	8292	13267	1311	3802	250	43.9	75.5	5.9	17.0	1.6	2.4	0.1	0.8	-0.1	33.0	2.71	67.5	4.1
	504.42	504.65	5008	7334	678	1901	110	19.7	34.9	2.9	9.4	1.0	1.6	0.1	0.8	-0.1	21.6	1.51	46.7	10.6
	504.65	506.59	21814	31079	2900	7873	477	82.6	141.8	10.9	30.5	3.0	4.5	0.2	1.4	0.2	61.0	6.45	116.5	4.0
	506.59	507.94	18999	27516	2670	7162	442	75.3	129.7	9.2	25.8	2.5	3.4	0.2	1.3	-0.1	49.5	5.71	89.6	3.2
	507.94	508.31	5993	9066	834	2321	130	23.3	43.2	4.0	13.7	1.4	2.3	0.1	0.9	-0.1	31.8	1.85	51.1	8.3
	508.31	509.69	12373	18487	1734	4852	297	51.5	93.4	7.9	23.5	2.1	2.7	0.1	1.0	0.1	44.5	3.80	99.0	4.4
	509.69	511.02	11294	17259	1619	4561	274	47.5	84.4	6.9	20.9	2.3	3.3	0.2	1.6	0.1	48.3	3.52	73.2	13.6
	511.02	512.18	7541	11596	1110	3184	195	33.6	56.7	4.7	13.0	1.3	1.8	0.1	0.9	-0.1	31.8	2.38	52.0	9.8
	512.18	513.48	5770	9078	886	2543	159	25.8	45.6	3.3	9.9	1.1	1.8	0.1	0.8	-0.1	22.9	1.85	39.5	13.4
	513.48	514.32	5207	8439	829	2391	151	25.5	42.3	3.0	9.2	1.0	1.7	0.1	0.8	-0.1	21.6	1.71	29.1	12.4
	514.32	515.59	3073	5208	522	1540	99	17.6	30.7	2.5	7.8	0.9	1.8	0.1	0.9	-0.1	21.6	1.05	22.5	15.8
	515.59	516.41	7389	11621	1128	3243	194	34.0	59.0	4.5	13.5	1.3	1.9	0.1	0.8	-0.1	30.5	2.37	62.8	4.3
	516.41	517.60	8597	14127	1408	4024	252	43.1	72.5	5.3	14.0	1.2	1.5	0.1	0.5	-0.1	22.9	2.86	57.6	1.8
	517.60	518.04	4034	6658	657	1913	117	20.2	36.0	2.8	8.6	0.9	1.1	-0.1	0.6	-0.1	16.5	1.35	39.1	8.8
	518.04	519.95	5137	8439	837	2461	148	24.0	39.1	2.4	7.0	0.8	1.4	0.1	0.7	-0.1	16.5	1.71	22.9	13.8
	519.95	520.64	9265	14925	1462	4187	259	42.8	69.0	4.5	13.8	1.4	2.1	0.1	0.9	-0.1	29.2	3.03	37.4	8.1
	520.64	520.87	13898	20760	1945	5482	342	58.7	101.7	7.5	20.9	2.0	2.9	0.2	0.9	-0.1	43.2	4.27	59.1	2.4
	520.87	521.40	3988	6363	621	1808	109	19.7	34.4	2.5	7.1	0.8	1.0	-0.1	0.6	-0.1	15.2	1.30	28.0	11.8
	521.40	522.69	9746	16461	1468	3919	248	43.0	77.8	6.6	20.4	2.1	2.6	0.2	1.0	0.2	45.7	3.20	60.6	3.1
	522.69	524.28	7600	14127	1341	3732	237	38.8	66.3	5.1	14.5	1.4	1.9	0.2	0.8	0.1	29.2	2.72	50.9	5.1
	524.28	525.84	4820	9496	884	2624	165	28.1	47.6	3.8	11.3	1.3	1.8	0.2	0.9	0.1	26.7	1.81	38.1	13.8

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	525.84	526.04	7846	16276	1631	4666	299	47.5	78.2	5.9	16.8	1.7	2.2	0.2	0.9	0.1	35.6	3.09	62.0	7.6
	526.04	527.33	3941	7886	752	2239	137	22.5	38.7	3.0	9.2	1.1	1.6	0.1	0.8	0.1	22.9	1.51	34.7	12.4
	527.33	528.56	9054	17812	1740	4887	279	44.0	70.1	5.0	12.9	1.4	1.9	0.2	0.8	0.1	26.7	3.39	44.8	8.9
	528.56	530.00	5899	11621	1130	3208	208	34.2	56.8	4.1	11.5	1.2	1.6	0.1	0.7	0.1	25.4	2.22	41.0	2.2
	530.00	530.27	2381	4680	441	1306	84	13.8	23.2	1.7	5.5	0.7	1.1	0.2	0.7	0.1	16.5	0.90	13.4	12.6
	530.27	530.59	14015	26902	2586	7675	464	76.0	125.1	8.9	24.0	2.3	2.7	0.2	0.8	0.1	44.5	5.19	86.5	2.6
	530.59	531.38	6955	14188	1420	4012	241	38.2	60.9	4.2	10.8	1.1	1.8	0.2	0.8	0.1	25.4	2.70	34.0	7.6
	531.38	531.77	10860	20146	1909	5389	320	51.4	83.2	5.4	13.9	1.3	1.8	0.2	0.7	0.1	26.7	3.88	52.9	3.8
	531.77	532.47	5125	10306	1006	2834	170	27.6	45.1	3.5	11.1	1.2	1.9	0.2	1.0	0.1	27.9	1.96	36.2	7.9
	532.47	534.31	10602	20391	1975	5610	339	55.0	90.4	6.3	17.0	1.7	2.3	0.2	0.7	0.1	33.0	3.91	57.7	2.6
	534.31	535.52	3835	7665	729	2187	138	22.9	40.9	3.8	11.3	1.2	1.8	0.2	0.8	0.1	27.9	1.47	36.3	15.0
	535.52	536.59	13370	26411	2586	7687	499	82.4	140.6	9.5	26.6	2.5	3.2	0.2	1.1	0.2	48.3	5.09	119.0	8.5
	536.59	537.22	8010	15785	1553	4397	278	45.7	82.3	6.6	18.6	1.7	2.3	0.2	1.0	0.2	35.6	3.02	88.2	11.9
	537.22	537.54	5794	11350	1087	3009	187	33.5	73.8	9.1	29.2	2.8	3.7	0.3	1.6	0.2	63.5	2.16	138.0	2.9
	537.54	539.45	4316	8869	847	2543	159	25.8	43.7	3.3	9.0	1.0	1.5	0.2	0.7	0.1	20.3	1.68	25.9	11.6
	539.45	541.25	10321	20821	2048	6007	363	58.5	94.4	7.0	18.7	1.9	2.5	0.2	0.8	0.1	38.1	3.98	64.9	7.0
	541.25	542.51	3812	7641	726	2193	144	24.2	41.4	3.4	11.1	1.4	2.4	0.2	1.4	0.2	34.3	1.46	21.9	26.2
	542.51	544.00	2152	4226	404	1207	80	13.6	24.4	1.9	5.9	0.8	1.5	0.2	0.9	0.1	19.1	0.81	15.6	27.5
	544.00	545.97	12784	23585	2229	6392	379	61.5	102.2	7.3	18.9	2.0	2.5	0.2	0.7	0.1	35.6	4.56	75.9	2.2
	545.97	547.97	5653	11068	1085	3056	183	28.8	48.1	3.3	9.6	1.1	1.7	0.2	0.9	0.1	24.1	2.12	27.3	18.9
	547.97	549.97	3530	6953	649	1907	118	19.2	33.3	2.7	8.7	1.0	1.7	0.2	0.9	0.2	24.1	1.32	24.3	23.6
	549.97	551.97	4468	9422	942	2776	177	28.3	44.7	3.1	9.1	0.9	1.4	0.1	0.8	0.1	20.3	1.79	27.7	22.1
	551.97	553.97	2222	4398	412	1225	80	13.0	22.8	2.0	5.9	0.7	1.1	0.1	0.8	0.1	16.5	0.84	23.8	30.3
	553.97	555.24	3589	7100	668	1971	119	19.6	31.8	2.2	6.5	0.7	1.3	0.2	0.7	0.1	16.5	1.35	23.3	30.5
	555.24	556.71	7588	14249	1444	4036	259	41.5	70.7	5.8	16.0	1.7	2.7	0.2	1.0	0.1	34.3	2.77	59.3	2.1
	556.71	558.06	2545	4631	428	1260	78	12.7	21.7	2.1	7.1	0.8	1.6	0.1	1.1	0.1	21.6	0.90	21.0	27.0
	558.06	558.83	4152	7616	692	2018	125	20.2	32.2	2.6	7.6	0.9	1.7	0.1	0.9	0.1	21.6	1.47	23.4	19.0
	558.83	559.20	5805	11289	1130	3208	202	33.8	59.6	4.9	14.7	1.6	2.2	0.2	1.0	0.1	33.0	2.18	72.4	3.5
	559.20	560.59	4562	8046	732	2146	135	21.8	40.5	3.6	11.9	1.2	1.9	0.2	0.9	0.1	27.9	1.57	42.0	18.0
	560.59	561.81	5266	9839	912	2671	168	26.3	45.9	4.0	11.7	1.2	1.8	0.2	0.8	0.1	25.4	1.90	47.4	18.4
	561.81	563.36	5981	11191	1097	3103	196	32.7	59.4	5.6	17.0	1.7	2.5	0.2	1.0	0.1	38.1	2.17	75.2	14.8
	563.36	564.43	11189	19900	1885	5190	315	50.5	87.6	7.6	21.6	2.0	2.6	0.2	0.7	0.1	41.9	3.87	88.9	4.6
	564.43	565.64	10708	19962	2018	5925	362	56.0	93.4	7.3	22.7	2.4	3.3	0.3	1.5	0.2	50.8	3.92	80.4	5.6
	565.64	566.59	10215	18365	1764	4992	291	47.6	82.0	6.9	19.5	1.9	2.5	0.2	1.0	0.1	39.4	3.58	87.0	10.0
	566.59	568.54	7002	13328	1335	3721	235	37.3	64.1	5.3	15.2	1.5	2.2	0.2	0.9	0.1	31.8	2.58	59.7	12.8
	568.54	569.81	12490	23155	2271	6777	424	67.3	109.5	8.1	20.7	2.0	2.3	0.2	0.7	0.1	35.6	4.54	76.2	2.3
	569.81	570.71	11189	20453	1957	5715	350	56.3	89.3	6.4	15.8	1.5	1.9	0.1	0.7	0.1	27.9	3.99	60.7	5.6
	570.71	571.71	7037	13021	1281	3558	232	36.6	61.4	4.4	12.4	1.4	2.5	0.3	1.4	0.2	31.8	2.53	31.2	9.9
	571.71	572.05	7353	13082	1269	3523	225	35.9	59.0	4.3	11.4	1.4	2.3	0.2	1.1	0.1	29.2	2.56	24.9	6.8
	572.05	573.78	5231	9532	883	2589	164	25.4	42.2	3.1	8.6	1.0	1.8	0.2	1.0	0.1	21.6	1.85	19.4	16.2
	573.78	574.47	11282	20514	2000	5809	357	55.4	89.1	5.9	14.7	1.5	2.2	0.2	0.7	0.1	25.4	4.02	38.3	4.5
	574.47	575.72	7400	13267	1275	3453	209	33.2	54.2	3.6	9.5	1.0	1.5	0.1	0.7	0.1	17.8	2.57	24.5	12.8
	575.72	576.45	12197	22050	2090	6065	346	52.8	82.3	5.3	13.1	1.3	1.8	0.1	0.7	0.1	22.9	4.29	38.7	2.9
	576.45	577.72	5618	10048	910	2636	162	25.7	42.4	3.0	8.3	1.0	1.8	0.2	0.7	0.1	21.6	1.95	19.6	14.1
	577.72	579.18	5196	9545	899	2578	152	23.7	37.5	2.6	6.7	0.8	1.4	0.1	0.8	0.1	16.5	1.85	17.4	18.0
	579.18	579.79	6321	12149	1220	3371	196	29.4	46.8	3.2	8.4	1.0	1.6	0.2	0.9	0.1	20.3	2.34	19.0	1.4

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	579.79	581.59	5184	9655	904	2671	165	25.5	40.3	2.9	7.5	0.9	1.3	0.1	0.8	0.1	17.8	1.87	21.8	21.3
	581.59	582.74	5700	10712	1045	2916	172	26.4	41.4	2.9	7.6	0.9	1.3	0.1	0.7	0.1	16.5	2.06	21.0	13.0
	582.74	583.00	6486	12235	1202	3394	209	33.0	51.6	3.3	7.9	0.8	1.4	0.1	0.6	0.1	15.2	2.36	23.4	5.7
	583.00	584.59	4984	9164	852	2496	151	23.7	38.8	2.6	6.8	0.7	1.1	0.1	0.7	0.1	16.5	1.77	17.8	18.2
	584.59	585.88	4398	8206	771	2274	140	21.9	35.2	2.4	6.8	0.7	1.4	0.1	0.8	0.1	16.5	1.59	16.4	18.6
	585.88	587.59	8128	14802	1438	3954	235	37.3	60.5	4.1	11.5	1.4	2.5	0.3	1.8	0.2	31.8	2.87	28.6	9.3
	587.59	589.06	5430	9790	928	2554	152	24.0	37.8	2.7	6.7	0.8	1.4	0.1	0.8	0.1	16.5	1.89	18.0	22.5
	589.06	589.63	6298	11780	1149	3243	205	33.4	54.2	3.9	9.6	1.2	1.8	0.3	1.3	0.2	21.6	2.28	24.2	14.0
	589.63	590.51	8128	15171	1498	4117	260	38.7	60.9	3.8	9.8	1.0	1.6	0.2	0.6	0.1	19.1	2.93	30.0	11.0
	590.51	591.36	2105	4054	388	1184	82	13.2	21.4	1.7	5.5	0.6	1.1	0.1	0.8	0.1	14.0	0.79	22.2	24.9
	591.36	591.96	7588	13881	1305	3558	213	32.4	53.5	4.2	12.5	1.4	2.4	0.2	1.0	0.2	30.5	2.67	36.6	9.1
	591.96	593.59	9652	18487	1830	5354	344	54.4	90.6	7.1	20.5	2.0	3.4	0.3	1.4	0.2	44.5	3.59	72.8	1.0
	593.59	595.29	10508	18856	1764	5109	317	49.1	77.7	5.3	13.8	1.4	2.2	0.2	0.8	0.1	27.9	3.67	39.6	2.0
	595.29	595.64	4281	8095	755	2210	136	20.4	30.7	2.3	6.3	0.7	1.3	0.1	0.7	0.1	15.2	1.56	17.4	11.8
	595.64	596.78	14953	26288	2489	7325	468	76.9	123.3	8.0	20.5	2.0	2.9	0.2	1.1	0.1	38.1	5.18	59.0	2.0
	596.78	597.87	7471	13451	1287	3616	233	36.0	56.7	3.8	10.6	1.2	1.8	0.2	0.8	0.1	22.9	2.62	28.1	3.7
	597.87	598.43	3554	6768	638	1872	117	18.0	28.1	1.9	5.1	0.6	1.1	0.1	0.8	0.1	12.7	1.30	15.9	7.7
	598.43	599.59	3366	6339	602	1802	127	21.2	39.4	3.3	10.0	0.9	1.3	0.1	0.7	0.1	20.3	1.23	58.1	11.0
	599.59	600.35	10602	18979	1776	5016	290	46.6	80.2	6.9	18.1	1.8	3.0	0.3	1.4	0.2	36.8	3.69	101.5	8.0
	600.35	601.37	4926	8906	808	2327	146	22.1	37.7	3.1	9.3	1.0	1.7	0.2	0.8	0.1	21.6	1.72	33.2	9.0
	601.37	602.59	5770	10343	975	2706	175	28.1	46.9	3.5	10.8	1.2	1.9	0.2	0.9	0.1	24.1	2.01	44.0	12.0
	602.59	604.14	4246	7751	719	2105	136	21.8	41.4	4.0	12.7	1.3	2.1	0.2	0.8	0.2	29.2	1.51	60.2	13.6
	604.14	604.45	2035	3673	336	966	59	8.9	15.2	1.3	3.9	0.5	1.0	0.1	0.7	0.1	11.4	0.71	16.0	29.0
	604.45	605.59	7471	13635	1293	3546	218	35.1	63.2	5.7	17.5	1.6	2.1	0.2	0.9	0.1	31.8	2.63	78.5	5.2
	605.59	607.19	8995	15416	1420	3814	232	36.6	62.9	5.3	16.1	1.7	2.7	0.2	1.3	0.2	34.3	3.00	48.2	2.0
	607.19	607.68	6837	12210	1132	3103	188	30.8	53.7	4.8	13.7	1.3	1.7	0.1	0.5	0.1	22.9	2.36	63.2	1.8
	607.68	608.15	7131	12653	1197	3243	190	28.0	46.6	3.3	9.9	1.1	1.7	0.2	0.8	0.1	21.6	2.45	25.3	5.6
	608.15	609.63	8913	15662	1444	3896	228	33.7	52.3	3.6	9.4	0.9	1.6	0.1	0.6	0.1	17.8	3.03	23.1	1.3
	609.63	610.85	10098	17382	1589	4281	248	37.1	59.0	4.0	10.3	1.1	1.8	0.2	0.9	0.1	21.6	3.37	25.5	2.3
	610.85	612.61	5782	10319	970	2648	159	25.0	38.6	2.7	7.1	0.9	1.6	0.2	0.7	0.1	17.8	2.00	20.3	8.4
	612.61	612.95	5712	10048	921	2543	150	22.9	35.4	2.4	6.4	0.8	1.6	0.2	0.8	0.1	17.8	1.95	15.8	10.2
	612.95	614.59	11341	19286	1746	4852	283	43.8	68.8	4.8	13.3	1.4	2.2	0.2	0.9	0.1	27.9	3.77	34.5	1.4
	614.59	615.55	8573	15109	1414	3814	219	32.9	51.4	3.6	9.3	1.0	1.7	0.2	0.9	0.1	21.6	2.93	21.1	2.1
	615.55	617.53	7963	14372	1365	3744	224	33.6	55.3	3.9	10.9	1.2	2.1	0.2	1.0	0.2	25.4	2.78	32.0	4.5
	617.53	618.71	13780	23278	2114	5949	334	49.7	76.5	5.1	13.0	1.4	2.3	0.2	0.8	0.1	25.4	4.56	42.0	3.7
	618.71	620.00	17416	26779	2314	6264	354	54.5	87.7	6.4	16.9	1.7	2.3	0.2	0.7	0.1	31.8	5.33	44.9	1.6
	620.00	621.32	10790	17750	1613	4537	299	47.6	77.6	5.4	14.2	1.4	1.9	0.2	0.7	0.1	26.7	3.52	43.3	0.7
	621.32	622.83	8550	13697	1214	3289	213	34.7	56.1	3.8	10.1	1.0	1.4	0.1	0.5	0.1	17.8	2.71	24.5	1.0
	622.83	623.97	5031	7985	729	2088	133	22.9	37.5	3.0	8.4	1.0	1.6	0.2	1.0	0.2	20.3	1.61	21.0	0.8
	623.97	625.00	8784	14004	1341	3674	238	41.1	66.9	5.0	13.5	1.5	2.4	0.2	1.1	0.2	29.2	2.82	32.7	1.2
	625.00	626.43	4902	8685	830	2403	141	22.0	34.7	2.3	6.3	0.7	1.3	0.1	0.8	0.1	14.0	1.70	16.4	7.6
	626.43	626.74	4504	8058	768	2205	129	20.2	31.8	2.3	6.1	0.7	1.3	0.1	0.6	0.1	14.0	1.57	12.8	1.4
	626.74	627.36	2568	4619	448	1330	91	15.8	28.4	2.6	8.4	1.2	2.3	0.2	1.5	0.2	27.9	0.91	14.9	18.5
	627.36	628.63	738	1634	187	705	103	25.9	65.8	7.5	33.2	5.2	10.4	1.2	6.8	0.8	128.3	0.37	31.2	15.9
	628.63	629.54	9277	15478	1492	4141	283	49.7	81.6	6.0	16.5	1.9	2.9	0.2	1.4	0.2	35.6	3.09	36.2	1.5
	629.54	630.76	7799	13758	1365	3744	229	37.8	56.4	4.1	10.4	1.1	1.6	0.1	0.6	0.1	20.3	2.70	26.5	6.0

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	630.76	632.23	5395	9962	1009	2869	179	28.6	44.0	3.3	8.5	0.9	1.5	0.1	0.7	0.1	17.8	1.95	26.0	6.8
	632.23	633.33	7295	13451	1377	3826	237	37.3	57.5	4.2	11.1	1.2	1.8	0.1	0.9	0.1	22.9	2.63	41.6	2.0
	633.33	635.04	4163	7604	742	2175	135	21.3	34.5	2.8	7.9	0.9	1.5	0.1	0.8	0.1	20.3	1.49	21.7	10.1
	635.04	636.17	6509	12087	1238	3464	212	34.7	53.9	4.1	11.5	1.3	1.9	0.1	0.8	0.1	24.1	2.36	40.1	4.6
	636.17	636.44	15540	27270	2658	7593	431	69.5	102.7	7.2	17.2	1.7	2.4	0.2	0.9	0.1	30.5	5.37	58.4	2.1
	636.44	637.83	9066	15908	1577	4246	242	37.8	58.4	4.3	11.5	1.3	2.1	0.2	1.0	0.2	26.7	3.12	33.3	5.8
	637.83	639.64	11247	20269	2042	5914	334	52.7	80.8	6.1	16.4	1.6	2.4	0.2	1.0	0.1	31.8	4.00	57.4	0.7
	639.64	641.59	17182	30219	2912	8375	451	69.8	104.5	7.0	17.5	1.7	2.3	0.2	0.7	0.1	31.8	5.94	57.4	1.1
	641.59	643.17	15188	26779	2477	6858	377	58.1	96.7	6.2	16.1	1.5	2.3	0.2	0.9	0.1	29.2	5.19	50.5	1.9
	643.17	644.45	6357	11608	1188	3266	202	32.9	50.7	3.7	9.1	1.0	1.6	0.1	0.7	0.1	19.1	2.27	24.4	2.3
	644.45	645.27	2744	4975	483	1464	112	21.4	43.1	4.5	17.7	2.7	5.6	0.6	3.6	0.5	67.3	0.99	26.1	7.9
	645.27	646.97	9734	17566	1776	5237	318	53.2	82.6	5.8	14.9	1.6	2.4	0.2	0.9	0.1	30.5	3.48	44.9	1.5
	646.97	648.49	6791	11977	1178	3173	188	30.7	49.7	4.1	12.4	1.7	3.3	0.3	2.3	0.3	38.1	2.34	25.8	5.6
	648.49	650.17	7506	13451	1329	3674	222	36.1	57.6	4.6	13.0	1.6	2.6	0.2	1.4	0.2	33.0	2.63	32.6	6.2
	650.17	651.75	10966	19163	1867	5225	285	44.2	66.9	4.8	11.6	1.2	1.8	0.1	0.9	0.1	25.4	3.77	37.6	5.0
	651.75	653.62	4034	7444	731	2187	139	23.3	36.7	2.9	7.9	1.0	1.9	0.2	1.1	0.2	21.6	1.46	21.7	12.6
	653.62	655.20	7916	14311	1359	3674	221	35.1	59.7	4.2	13.1	1.5	2.3	0.2	1.1	0.2	30.5	2.76	34.5	4.1
	655.20	657.05	10086	17935	1782	5132	305	50.8	77.6	5.4	14.6	1.6	2.4	0.1	1.0	0.1	30.5	3.54	39.8	3.0
	657.05	659.05	5383	10073	1034	2963	191	30.8	48.0	3.4	9.4	1.0	1.7	0.1	0.8	0.1	21.6	1.98	29.6	8.2
	659.05	659.88	4304	8095	806	2414	152	25.4	40.1	3.1	8.8	1.0	1.5	0.1	0.7	0.1	20.3	1.59	25.0	10.0
	659.88	661.38	9054	17136	1770	5190	320	51.4	77.9	5.3	12.5	1.3	1.7	0.1	0.8	0.2	24.1	3.36	43.2	3.2
	661.38	662.23	7611	14864	1601	4257	270	41.7	68.4	4.2	10.7	1.0	1.6	0.1	0.6	0.1	19.1	2.88	31.3	4.3
	662.23	663.35	5043	8881	845	2309	139	21.3	35.9	2.4	6.5	0.8	1.3	0.1	0.6	0.1	15.2	1.73	16.8	10.5
	663.35	664.00	10895	16768	1577	3872	235	39.4	68.8	5.0	14.7	1.4	2.2	0.2	0.9	0.1	27.9	3.35	30.1	5.2
	664.00	665.57	7013	12775	1347	3488	228	36.7	63.5	4.1	11.7	1.2	1.9	0.2	0.9	0.1	25.4	2.50	34.1	9.1
	665.57	667.53	6134	11031	1132	2951	192	31.0	54.1	3.8	11.5	1.3	2.4	0.2	1.1	0.2	29.2	2.16	27.8	10.2
	667.53	668.44	8644	14741	1426	4117	275	43.9	72.6	4.2	11.7	1.2	1.8	0.2	0.8	0.1	24.1	2.94	34.5	3.8
	668.44	670.05	7224	13021	1329	3453	216	34.4	58.9	3.7	10.0	1.1	1.8	0.2	0.9	0.1	20.3	2.54	28.9	8.5
	670.05	671.03	6110	11043	1148	3044	205	32.7	57.2	3.9	11.0	1.2	2.2	0.2	1.0	0.1	25.4	2.17	29.9	5.0
	671.03	671.75	5758	10724	1128	2986	197	32.0	54.5	3.5	10.1	1.1	1.9	0.2	0.9	0.1	22.9	2.09	27.8	11.4
	671.75	673.07	10051	17689	1770	4677	271	42.8	71.4	4.9	14.1	1.4	2.2	0.2	0.9	0.1	29.2	3.46	40.2	7.0
	673.07	674.89	15774	27025	2428	6648	347	53.7	90.7	6.5	18.7	2.0	3.3	0.3	1.1	0.2	43.2	5.24	48.6	1.6
	674.89	676.05	16302	26902	2670	7570	472	71.3	124.5	7.8	20.2	2.0	2.6	0.2	0.8	0.1	36.8	5.42	64.8	2.3
	676.05	677.56	7682	13820	1402	3604	216	33.5	55.2	3.7	10.6	1.1	1.9	0.2	0.8	0.1	24.1	2.69	28.7	6.2
	677.56	678.90	8139	14741	1504	3884	238	36.7	62.8	4.0	10.8	1.1	1.9	0.2	0.8	0.1	22.9	2.86	32.9	10.5
	678.90	680.90	10074	17628	1770	4549	259	39.8	67.0	5.0	15.6	1.6	2.5	0.2	1.0	0.1	33.0	3.44	43.8	4.3
	680.90	682.76	6638	12591	1305	3429	217	33.7	55.8	3.9	11.1	1.1	2.1	0.2	0.9	0.1	25.4	2.43	30.7	3.4
	682.76	684.08	9687	16952	1716	4444	271	41.6	70.2	4.7	12.4	1.3	2.2	0.2	0.9	0.2	25.4	3.32	34.9	1.6
	684.08	684.94	9324	16706	1722	4502	270	42.5	68.0	4.6	12.6	1.4	2.1	0.2	0.9	0.1	26.7	3.27	32.8	2.5
	684.94	686.78	11904	21251	2193	6159	377	55.1	90.5	5.3	14.6	1.4	2.2	0.2	0.7	0.1	26.7	4.21	41.0	1.4
	686.78	688.47	10837	19470	1981	5319	302	46.8	74.5	4.6	12.1	1.2	2.1	0.2	0.9	0.1	22.9	3.81	39.3	4.8
	688.47	690.31	6837	12653	1323	3464	212	33.8	56.1	3.7	10.4	1.1	1.8	0.2	0.9	0.1	22.9	2.46	30.8	5.2
	690.31	692.06	6556	12345	1317	3429	213	33.0	55.4	3.9	10.9	1.2	2.1	0.2	0.9	0.1	24.1	2.40	27.9	7.9
	692.06	693.67	6744	12530	1214	3581	212	33.7	52.7	3.1	9.3	0.9	1.5	0.1	0.7	0.1	21.6	2.44	26.2	2.9
	693.67	694.97	6662	12837	1257	3709	216	35.4	55.3	3.4	10.6	1.0	1.8	0.1	0.7	0.1	24.1	2.48	29.3	12.4
	694.97	696.00	5770	10724	997	2893	168	27.6	42.4	2.3	6.9	0.8	1.4	0.1	0.6	0.1	17.8	2.07	20.6	2.5

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	696.00	697.79	8620	15785	1510	4304	240	37.9	58.4	3.1	9.6	0.9	1.8	0.1	0.8	0.1	21.6	3.06	27.3	4.7
	697.79	699.60	6415	11621	1089	3138	180	27.6	42.7	2.2	7.5	0.8	1.4	0.1	0.8	-0.1	19.1	2.25	20.9	12.0
	699.60	701.37	4328	8144	770	2309	143	24.4	40.2	2.4	7.7	0.9	1.5	0.1	0.8	0.1	19.1	1.58	19.0	11.6
	701.37	701.70	14191	25305	2332	6695	438	67.4	109.5	3.8	16.2	1.4	2.2	0.2	0.5	0.1	26.7	4.92	60.7	0.9
	701.70	702.53	13370	24691	2302	6579	428	64.7	102.4	3.7	15.8	1.6	2.6	0.2	0.8	0.1	30.5	4.76	71.3	2.8
	702.53	702.79	14777	25796	2344	6602	422	66.5	108.6	4.0	16.0	1.6	2.4	0.2	0.8	0.1	27.9	5.02	65.8	2.0
	702.79	704.31	3542	6658	621	1802	113	17.7	28.9	1.2	6.2	0.8	1.3	0.2	0.7	0.1	15.2	1.28	13.6	18.2
	704.31	706.30	16830	29482	2670	7465	456	70.9	114.8	4.2	17.7	1.8	2.6	0.2	1.0	0.1	34.3	5.71	65.2	3.8
	706.30	707.92	13604	24322	2223	6275	380	56.5	93.8	3.3	14.9	1.4	2.4	0.2	1.0	0.1	29.2	4.70	54.4	4.4
	707.92	709.92	5911	10896	1032	2974	190	27.7	46.1	1.9	7.7	0.8	1.4	0.1	0.7	0.1	17.8	2.11	22.2	11.2
	709.92	711.92	4504	8464	805	2333	152	23.3	40.0	1.7	7.5	0.9	1.5	0.2	0.8	0.1	19.1	1.64	22.8	15.2
	711.92	713.77	6192	11301	1051	3021	193	29.4	49.0	2.1	9.0	1.0	1.8	0.2	0.7	0.1	21.6	2.19	27.0	11.6
	713.77	715.73	7529	13635	1250	3546	220	33.7	54.4	2.3	10.4	1.1	1.9	0.2	0.7	0.1	24.1	2.63	30.6	1.2
	715.73	717.31	8796	16461	1553	4514	291	45.4	71.8	2.5	11.9	1.2	1.8	0.2	0.9	0.1	22.9	3.18	33.3	1.2
	717.31	717.69	4	5	1	2	0	0.2	0.4	0.1	0.3	0.1	0.2	0.1	0.2	0.1	3.8	0.00	0.0	0.0
	717.69	719.59	7142	13144	1238	3593	226	34.4	55.2	2.1	10.2	1.1	1.7	0.1	0.7	0.1	21.6	2.55	32.7	1.0
	719.59	721.07	8995	17075	1607	4654	286	41.7	64.2	1.9	10.0	1.0	1.7	0.2	0.8	0.1	19.1	3.28	28.5	0.4
	721.07	722.11	11364	20699	1927	5494	341	51.1	81.4	2.8	13.1	1.3	2.1	0.1	0.9	0.1	24.1	4.00	40.1	0.6
	722.11	723.51	8432	14925	1359	3826	227	33.7	53.7	2.1	9.0	1.0	1.7	0.1	0.8	0.1	19.1	2.89	23.4	1.0
	723.51	725.12	14895	26165	2374	6660	394	57.1	90.3	3.3	15.7	1.6	2.5	0.2	0.8	0.1	31.8	5.07	47.7	1.2
	725.12	727.10	14250	24568	2205	6112	366	54.8	87.9	3.2	14.7	1.6	2.6	0.2	0.9	0.1	30.5	4.77	40.9	1.1
	727.10	728.23	8374	14618	1335	3744	222	32.7	52.4	1.8	9.0	1.0	1.6	0.2	0.8	0.1	20.3	2.84	23.7	9.0
	728.23	729.28	12197	21190	1903	5272	304	44.8	71.0	2.2	11.7	1.3	2.1	0.2	0.9	0.2	26.7	4.10	29.7	1.0
	729.28	730.66	6357	11670	1098	3208	208	31.8	50.6	2.0	9.1	1.0	1.6	0.2	0.7	0.1	17.8	2.27	22.9	4.5
	730.66	731.59	10133	17935	1643	4642	278	40.9	64.4	2.0	9.9	1.1	1.8	0.1	0.7	0.1	20.3	3.48	29.4	2.3
	731.59	733.16	8737	15724	1444	4106	252	37.5	59.0	2.1	9.9	1.0	1.7	0.2	0.9	0.1	20.3	3.04	27.3	0.9
	733.16	734.59	10391	18795	1728	4946	303	45.3	72.3	2.5	11.1	1.1	1.8	0.2	0.9	0.1	22.9	3.63	32.2	0.5
	734.59	734.95	7928	13881	1281	3697	248	39.1	67.9	3.0	12.6	1.4	2.5	0.2	1.0	0.2	27.9	2.72	31.1	0.5
	734.95	736.46	11470	20883	1927	5459	328	49.9	80.6	2.7	13.1	1.4	2.4	0.2	0.9	0.1	27.9	4.02	32.8	0.9
	736.46	738.28	12314	22173	2042	5797	344	51.3	80.3	2.4	12.2	1.3	2.3	0.2	0.8	0.1	25.4	4.28	34.4	1.5
	738.28	739.76	6650	11694	1072	3009	178	26.5	41.3	1.4	7.0	0.7	1.4	0.1	0.7	0.1	15.2	2.27	17.5	2.8
	739.76	740.14	11963	19470	1679	4584	276	43.1	72.8	3.2	13.3	1.5	2.4	0.2	0.9	0.2	27.9	3.81	35.5	0.4
	740.14	742.14	12138	20821	1927	5249	303	46.3	71.9	4.5	12.9	1.4	2.4	0.2	0.9	0.1	26.7	4.06	34.0	0.9
	742.14	744.14	9629	16645	1559	4281	244	37.3	56.4	3.9	11.3	1.3	2.6	0.2	1.3	0.2	29.2	3.25	25.8	0.9
	744.14	746.14	14836	24937	2271	6182	351	56.4	85.8	5.6	15.8	1.6	2.9	0.2	1.1	0.2	34.3	4.88	46.0	0.5
	746.14	748.14	10309	17873	1722	4701	270	41.3	62.0	3.9	11.5	1.1	1.8	0.2	0.9	0.1	22.9	3.50	29.1	1.0
	748.14	750.14	10098	17566	1655	4607	266	40.5	60.6	3.9	11.7	1.2	2.1	0.2	0.7	0.1	24.1	3.43	27.6	0.6
	750.14	752.13	11376	19962	1891	5144	298	46.9	73.9	4.6	14.2	1.4	2.2	0.2	0.9	0.1	29.2	3.88	34.2	1.4
	752.13	754.13	12959	22234	2048	5657	344	52.7	82.5	4.6	12.4	1.2	2.2	0.2	0.8	0.1	22.9	4.34	37.6	1.0
	754.13	756.13	8890	15662	1462	4106	238	36.0	56.3	3.3	10.2	1.0	1.9	0.2	0.8	0.1	21.6	3.05	22.8	0.9
	756.13	758.13	10907	18549	1758	4747	271	42.0	60.2	4.0	10.8	1.1	1.7	0.2	0.7	0.1	21.6	3.64	28.1	0.9
	758.13	760.13	15774	26042	2374	6334	354	53.2	79.4	5.2	14.5	1.5	2.3	0.3	0.8	0.2	29.2	5.11	36.4	0.9
	760.13	761.32	12373	20023	1818	4992	290	47.9	75.3	4.7	15.4	1.7	2.7	0.2	1.0	0.2	34.3	3.97	35.5	1.6
	761.32	761.66	1366	2383	242	818	104	25.5	65.4	7.6	33.3	5.0	11.0	1.1	6.0	0.8	132.1	0.52	30.6	7.0
	761.66	763.60	12197	20330	1915	5155	306	49.3	77.5	5.1	15.8	1.7	2.6	0.3	1.4	0.2	38.1	4.01	33.9	1.3
	763.60	765.60	13311	22480	2102	5855	337	52.1	79.8	5.0	14.5	1.4	2.5	0.2	0.9	0.1	30.5	4.43	35.8	1.7

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	765.60	767.59	10063	17320	1625	4397	262	41.7	65.7	4.1	12.4	1.3	2.3	0.2	1.0	0.1	26.7	3.38	27.9	1.1
	767.59	768.32	10579	17996	1691	4549	261	41.3	63.3	3.9	11.5	1.1	1.8	0.2	0.7	0.1	22.9	3.52	31.2	1.7
	768.32	770.29	10637	18733	1812	5016	297	46.9	70.4	4.7	11.9	1.2	1.8	0.2	0.7	0.1	25.4	3.67	34.3	2.9
	770.29	772.06	9183	16583	1595	4444	261	39.4	58.6	3.7	11.4	1.1	1.9	0.2	0.9	0.1	22.9	3.22	28.0	2.7
	772.06	773.34	9148	16031	1516	4211	244	38.4	58.4	3.7	11.9	1.4	2.1	0.2	1.0	0.1	27.9	3.13	28.0	1.8
	773.34	774.19	8057	14065	1311	3628	208	32.2	49.6	3.1	8.5	0.9	1.4	0.1	0.7	0.1	19.1	2.74	21.8	3.1
	774.19	774.64	6708	11633	1110	3114	182	28.4	44.1	3.0	9.1	1.0	1.8	0.2	0.9	0.1	21.6	2.29	20.5	1.3
	774.64	776.51	6896	12468	1186	3324	196	29.5	48.1	3.2	9.2	1.1	1.8	0.2	0.9	0.1	22.9	2.42	21.6	6.1
	776.51	776.98	7916	13390	1244	3499	201	30.9	49.0	3.1	9.8	1.2	2.1	0.2	1.1	0.1	24.1	2.64	26.7	10.5
	776.98	777.32	9981	16399	1504	4211	253	40.9	61.4	4.1	10.6	1.1	2.1	0.2	0.9	0.1	24.1	3.25	30.4	2.5
	777.32	778.45	8925	15478	1468	4094	245	39.5	61.1	4.0	10.6	1.2	1.8	0.2	0.9	0.1	22.9	3.04	29.5	5.0
	778.45	779.55	17768	28499	2586	6975	399	66.0	102.2	6.4	17.5	1.7	2.6	0.2	1.0	0.1	33.0	5.65	53.9	0.9
	779.55	780.38	5020	8611	799	2222	141	23.4	37.9	2.8	9.1	1.2	2.1	0.2	1.3	0.2	22.9	1.69	20.3	6.5
	780.38	780.98	12666	21313	2060	5377	306	45.0	72.4	4.4	11.7	1.2	1.9	0.2	0.8	0.1	25.4	4.19	28.4	1.2
	780.98	782.73	10485	18180	1698	4701	273	42.5	65.1	4.3	11.9	1.2	2.1	0.2	0.9	0.1	22.9	3.55	29.8	1.4
	782.73	783.29	11728	19532	1788	4934	293	49.7	79.0	5.1	13.3	1.4	2.2	0.2	0.8	0.1	26.7	3.85	33.0	0.7
	783.29	784.29	11247	20084	1812	5121	311	50.7	78.0	2.9	12.6	1.2	2.1	0.2	0.8	0.1	25.4	3.87	36.3	2.1
	784.29	784.79	11341	19224	1716	4689	270	41.7	62.1	2.0	9.5	0.9	1.6	0.1	0.6	0.1	17.8	3.74	32.6	1.4
	784.79	785.25	12138	20269	1794	4981	298	46.8	71.7	2.5	10.8	1.1	1.9	0.1	0.8	0.1	24.1	3.96	31.7	1.6
	785.25	786.76	10438	18303	1643	4596	290	46.3	73.9	3.1	12.9	1.5	2.4	0.2	1.0	0.2	29.2	3.54	31.2	1.0
	786.76	788.59	7811	13512	1208	3383	209	33.5	53.0	2.2	10.2	1.1	1.9	0.2	0.8	0.1	24.1	2.63	23.0	3.0
	788.59	788.92	8010	13512	1232	3476	212	34.3	52.6	2.0	9.3	1.1	2.1	0.2	0.9	0.1	21.6	2.66	26.4	2.3
	788.92	790.21	13429	22971	2042	5634	330	51.0	78.5	2.6	12.6	1.3	2.2	0.2	0.9	0.1	27.9	4.46	38.7	1.2
	790.21	790.74	10555	18303	1655	4677	288	45.7	70.1	2.5	11.3	1.0	1.9	0.1	0.7	0.1	22.9	3.56	32.7	3.2
	790.74	792.74	12784	20453	1788	4852	278	44.4	67.8	2.5	10.2	1.2	1.9	0.2	0.9	0.1	21.6	4.03	32.2	2.4
	792.74	794.74	13018	21988	1945	5389	317	51.1	78.8	3.1	12.4	1.4	2.2	0.2	0.7	0.1	26.7	4.28	33.6	1.4
	794.74	795.94	7694	13205	1176	3254	190	29.8	46.3	1.9	8.3	1.0	1.7	0.2	0.8	0.2	20.3	2.56	20.9	2.7
	795.94	796.87	6533	11350	1035	2916	177	29.5	47.4	1.9	8.7	1.0	1.9	0.2	0.9	0.1	20.3	2.21	19.3	1.5
	796.87	798.75	9957	17075	1522	4187	242	37.3	56.5	1.8	9.5	1.1	1.9	0.1	0.8	0.1	21.6	3.31	26.0	4.9
	798.75	800.73	10180	16891	1486	4094	241	38.3	61.3	2.2	10.0	1.1	1.8	0.2	0.8	0.1	24.1	3.30	28.3	2.6
	800.73	801.38	10356	17935	1601	4444	266	41.1	62.0	2.2	10.1	1.0	1.5	0.1	0.8	0.1	21.6	3.47	31.0	5.6
	801.38	803.38	9382	15969	1408	3849	227	36.6	57.1	2.3	9.3	1.0	1.8	0.1	0.9	0.1	22.9	3.10	24.4	2.6
	803.38	805.38	6204	10527	938	2601	155	25.2	38.7	1.6	7.0	0.8	1.6	0.2	0.9	0.1	19.1	2.05	17.3	4.4
	805.38	807.38	11669	18979	1643	4456	261	42.6	65.9	2.5	10.6	1.1	1.8	0.2	0.7	0.1	21.6	3.72	30.2	2.1
	807.38	809.38	10977	18119	1565	4257	248	39.4	60.9	2.3	10.0	1.1	1.9	0.2	0.7	0.1	22.9	3.53	29.1	3.3
	809.38	810.90	11599	19286	1673	4596	259	42.5	63.4	2.3	10.7	1.1	2.1	0.2	0.9	0.1	24.1	3.76	26.7	2.0
	810.90	812.59	12197	20146	1764	4806	282	45.4	71.7	2.7	11.7	1.2	1.9	0.2	0.8	0.1	25.4	3.94	32.6	3.7
	812.59	814.59	15540	25059	2169	5890	346	54.7	83.1	2.8	12.4	1.2	2.3	0.2	0.8	0.1	26.7	4.92	42.1	1.3
	814.59	816.05	10719	17996	1553	4199	234	38.1	57.8	2.4	10.3	1.2	2.4	0.2	1.3	0.2	30.5	3.48	27.2	1.9
	816.05	817.92	10121	16399	1414	3791	214	33.9	51.5	2.3	9.6	1.0	2.3	0.2	1.0	0.2	25.4	3.21	24.8	2.4
	817.92	819.70	8303	13390	1151	3103	179	29.3	46.1	2.0	8.8	1.0	2.1	0.2	1.0	0.1	22.9	2.62	21.1	1.7
	819.70	821.00	7342	11756	1004	2729	159	26.8	44.0	2.1	9.6	1.3	2.4	0.2	1.5	0.2	31.8	2.31	20.0	2.7
	821.00	822.69	12666	21067	1836	5027	289	46.8	73.4	2.9	12.6	1.3	2.3	0.2	0.9	0.2	29.2	4.11	37.8	4.2
	822.69	824.59	12021	19532	1704	4642	274	44.6	71.8	3.0	13.5	1.6	2.6	0.2	1.3	0.2	34.3	3.83	33.0	4.3
	824.59	826.06	16771	27148	2344	6380	375	60.6	93.7	3.5	16.3	1.6	2.7	0.2	1.1	0.2	36.8	5.32	43.7	3.7
	826.06	826.54	6145	10896	1003	2881	185	30.5	49.9	2.3	9.9	1.2	2.4	0.2	1.1	0.2	29.2	2.12	26.0	4.3

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	826.54	828.23	14601	22971	2084	5762	369	57.9	89.8	3.5	16.0	1.6	2.6	0.2	1.3	0.2	35.6	4.60	43.5	3.9
	828.23	829.76	12197	19224	1728	4677	278	42.7	67.2	2.8	12.9	1.4	2.4	0.2	0.9	0.2	29.2	3.83	28.7	4.0
	829.76	831.61	10848	17320	1553	4187	248	39.3	60.4	2.5	11.0	1.2	1.8	0.2	0.9	0.1	24.1	3.43	27.6	4.6
	831.61	833.59	8761	14065	1287	3534	209	33.0	51.1	2.1	10.1	1.2	1.9	0.2	0.8	0.1	22.9	2.80	25.5	6.8
	833.59	834.56	10051	16092	1474	4059	252	40.0	62.8	2.7	11.7	1.3	2.3	0.4	1.3	0.3	25.4	3.21	28.9	5.7
	834.56	835.44	18530	29113	2610	7127	455	70.5	111.7	4.5	20.0	1.8	3.2	0.3	1.3	0.2	38.1	5.81	54.5	5.1
	835.44	836.59	9640	15171	1377	3791	228	36.2	55.7	2.3	10.4	1.1	1.8	0.2	0.9	0.1	22.9	3.03	28.4	5.4
	836.59	838.27	10919	17013	1540	4269	276	43.5	71.1	3.1	13.3	1.4	2.6	0.2	1.3	0.2	31.8	3.42	35.5	1.2
	838.27	839.59	10790	16092	1402	3697	225	35.4	54.2	2.2	9.4	1.0	1.5	0.2	0.8	0.2	19.1	3.23	26.4	2.3
	839.59	841.12	9805	16338	1534	4339	290	47.4	74.2	3.3	15.0	1.6	2.6	0.3	1.4	0.2	36.8	3.25	38.5	1.7
	841.12	841.96	12549	20637	1891	5284	342	54.7	84.4	3.5	15.4	1.5	2.5	0.2	1.1	0.2	33.0	4.09	39.2	1.1
	841.96	843.08	8632	12898	1118	2986	180	28.1	45.4	1.6	8.0	0.9	1.3	0.2	0.6	0.1	16.5	2.59	21.0	1.0
	843.08	844.79	10168	16338	1474	4024	247	38.2	60.2	2.5	10.9	1.1	1.9	0.2	0.8	0.1	22.9	3.24	27.2	2.2
	844.79	845.10	10766	17566	1625	4549	297	48.3	76.3	3.4	15.8	1.9	3.1	0.3	1.7	0.2	39.4	3.50	37.5	3.0
	845.10	845.76	6708	10687	980	2694	169	26.6	40.7	1.9	8.4	1.0	1.7	0.2	1.0	0.1	20.3	2.13	18.6	1.4
	845.76	847.00	11411	18672	1716	4724	284	44.1	68.9	2.7	12.9	1.3	2.4	0.3	1.0	0.2	26.7	3.70	27.8	4.6
	847.00	848.31	13194	22295	2084	5774	340	51.0	77.0	2.6	12.6	1.3	2.3	0.2	1.0	0.2	26.7	4.39	31.8	3.4
	848.31	850.06	11095	18487	1722	4701	276	41.5	62.1	2.2	10.6	1.0	1.8	0.1	0.8	0.1	21.6	3.64	26.5	2.2
	850.06	851.78	11318	18979	1752	4852	286	44.6	65.9	2.5	11.7	1.2	1.9	0.2	0.8	0.1	22.9	3.73	28.2	1.2
	851.78	853.65	13663	22664	2096	5762	353	55.0	83.2	3.2	14.7	1.4	2.6	0.2	0.9	0.2	31.8	4.47	37.3	1.1
	853.65	855.65	11165	18549	1704	4701	291	46.3	72.0	3.0	13.1	1.4	2.3	0.2	0.9	0.2	26.7	3.66	31.8	1.5
	855.65	857.64	14953	23708	2145	5867	357	56.6	86.6	3.4	14.9	1.4	2.4	0.2	0.8	0.1	27.9	4.72	40.9	1.5
	857.64	859.55	11963	19163	1746	4794	306	46.9	76.2	3.3	13.9	1.4	2.1	0.2	0.7	0.1	26.7	3.81	33.9	1.4
	859.55	861.00	12842	20944	1915	5307	320	50.3	75.8	2.8	13.1	1.3	2.2	0.1	0.7	0.1	25.4	4.15	34.0	1.4
	861.00	862.46	11904	19839	1855	5190	329	50.7	77.1	2.7	12.6	1.3	2.1	0.2	0.7	0.1	25.4	3.93	33.5	1.3
	862.46	864.00	12608	20637	1903	5260	320	48.6	76.2	2.9	12.6	1.3	2.2	0.2	0.7	0.1	25.4	4.09	33.3	2.0
	864.00	865.32	12197	19962	1836	5051	303	47.4	72.4	2.6	12.7	1.2	1.7	0.1	0.6	0.1	22.9	3.95	29.5	2.4
	865.32	866.59	11963	19102	1716	4701	285	44.4	66.0	2.5	11.0	1.1	1.9	0.2	0.8	0.1	22.9	3.79	30.7	1.6
	866.59	868.04	12666	20699	1921	5319	328	50.3	74.5	2.7	12.1	1.2	1.9	0.2	0.8	0.1	22.9	4.11	35.2	1.4
	868.04	868.37	6533	10761	994	2753	172	26.6	43.0	2.2	10.6	1.3	2.7	0.3	1.5	0.2	34.3	2.13	16.6	5.6
	868.37	869.59	11845	19777	1836	4957	298	46.8	75.8	4.9	13.5	1.5	2.3	0.3	0.7	0.2	29.2	3.89	33.7	2.2
	869.59	871.47	8538	15478	1450	4129	239	36.1	58.6	3.4	9.5	1.1	1.8	0.3	1.0	0.2	22.9	3.00	25.0	3.8
	871.47	873.44	5946	10564	990	2823	168	24.9	38.4	2.4	7.6	0.8	1.5	0.2	0.9	0.2	17.8	2.06	17.4	8.4
	873.44	874.54	11622	19102	1752	4782	271	42.4	69.4	4.0	12.6	1.3	2.3	0.2	1.0	0.2	29.2	3.77	29.4	2.2
	874.54	876.13	7447	13205	1238	3488	192	29.4	43.9	2.5	7.4	0.8	1.5	0.2	0.7	0.1	17.8	2.57	16.8	2.5
	876.13	877.84	10133	17382	1619	4526	262	41.3	63.6	3.9	11.1	1.2	2.1	0.2	0.7	0.1	24.1	3.41	26.0	1.2
	877.84	879.07	15598	25305	2290	6229	377	60.0	97.7	5.8	15.0	1.6	2.1	0.2	0.8	0.1	29.2	5.00	56.3	1.5
	879.07	879.39	12666	21743	2042	5657	324	48.6	76.7	4.4	12.2	1.0	2.2	0.1	0.7	0.1	22.9	4.26	31.9	3.7
	879.39	880.52	6744	11252	1016	2834	168	27.2	42.8	2.5	7.4	0.8	1.3	0.1	0.7	0.1	16.5	2.21	17.2	0.8
	880.52	881.59	10274	17873	1667	4584	253	38.9	58.6	3.2	8.7	1.0	1.7	0.1	0.8	0.1	20.3	3.48	22.7	2.7
	881.59	881.96	5758	9889	918	2601	151	23.5	38.3	2.3	7.6	0.9	1.9	0.2	1.1	0.2	22.9	1.94	20.6	7.2
	881.96	883.18	11681	19839	1849	5062	292	44.8	69.0	3.9	10.4	1.1	1.7	0.2	0.7	0.1	21.6	3.89	29.7	1.6
	883.18	884.59	10555	18119	1740	4794	276	41.8	64.7	3.7	10.7	1.2	1.8	0.2	0.8	0.1	24.1	3.56	26.7	1.8
	884.59	885.57	6169	10982	1027	2904	167	25.7	42.8	2.6	8.7	1.0	1.7	0.2	0.9	0.1	21.6	2.14	18.0	4.4
	885.57	886.06	15422	25428	2314	6287	364	58.9	97.5	6.0	16.4	1.7	2.9	0.3	1.0	0.2	33.0	5.00	41.2	1.6
	886.06	888.00	7834	12898	1162	3184	190	31.6	48.8	3.2	8.8	1.0	1.9	0.2	1.0	0.1	22.9	2.54	22.4	1.3

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	888.00	890.00	11153	17812	1595	4304	260	41.9	69.4	4.5	12.2	1.3	2.1	0.2	1.0	0.1	26.7	3.53	32.0	0.9
	890.00	890.81	9617	15355	1383	3767	218	34.3	55.2	3.4	9.5	1.0	1.7	0.2	0.9	0.1	20.3	3.05	28.4	4.2
	890.81	892.32	7916	13451	1263	3453	206	32.9	53.0	3.6	9.5	1.1	1.9	0.2	0.9	0.2	22.9	2.64	23.7	2.0
	892.32	892.74	6943	11977	1085	2998	180	28.6	44.7	2.8	7.6	0.8	1.5	0.1	0.7	0.1	17.8	2.33	22.9	3.4
	892.74	894.69	7506	13082	1208	3394	199	31.6	52.0	3.3	9.4	1.1	2.1	0.2	0.8	0.1	24.1	2.55	22.5	2.5
	894.69	896.65	10168	17750	1710	4642	283	45.7	74.3	4.4	12.4	1.3	1.9	0.2	0.8	0.1	25.4	3.47	31.6	1.0
	896.65	898.50	10872	18180	1673	4537	255	40.8	64.6	3.7	10.4	1.1	1.7	0.2	1.0	0.1	22.9	3.57	28.7	0.8
	898.50	899.08	12197	20760	1897	5121	291	44.4	71.5	4.0	12.4	1.4	2.1	0.2	0.9	0.1	26.7	4.04	30.8	1.3
	899.08	899.50	4668	7874	727	2006	136	23.0	40.1	2.6	7.9	0.9	1.4	0.1	0.8	0.1	17.8	1.55	19.0	7.5
	899.50	900.44	7729	12161	1075	2904	172	27.3	45.2	2.9	9.2	1.0	1.7	0.1	0.8	0.1	20.3	2.41	17.8	0.9
	900.44	901.38	15774	23892	2084	5517	325	53.4	88.6	5.2	14.2	1.4	2.2	0.2	0.7	0.1	27.9	4.78	46.9	0.7
	901.38	901.90	7752	12775	1156	3196	198	32.5	54.3	3.8	11.7	1.5	2.7	0.3	1.5	0.2	31.8	2.52	27.5	4.1
	901.90	903.73	9183	14372	1263	3453	208	34.7	60.3	4.4	13.8	1.8	3.7	0.4	1.9	0.3	43.2	2.86	28.2	2.6
	903.73	905.58	12314	18795	1758	4456	263	42.5	68.2	4.2	12.6	1.2	2.2	0.2	0.3	0.1	24.1	3.77	34.7	0.8
	905.58	906.32	12784	20453	1915	4841	271	40.6	61.4	3.9	12.3	1.3	2.2	0.2	0.6	0.1	27.9	4.04	32.6	0.8
	906.32	908.20	7623	12223	1153	3056	175	27.8	43.2	2.8	7.8	1.0	1.7	0.2	0.2	0.1	20.3	2.43	19.6	0.5
	908.20	909.79	14015	22295	2114	5680	353	55.1	83.3	5.4	13.8	1.4	2.1	0.2	0.2	0.1	27.9	4.46	49.1	0.6
	909.79	911.59	15657	23647	2175	5622	321	49.7	75.8	4.7	11.9	1.2	1.8	0.2	-0.2	0.1	24.1	4.76	46.4	0.5
	911.59	912.83	10239	16031	1456	3826	218	33.9	52.8	3.3	9.0	0.9	1.4	0.1	0.2	0.1	17.8	3.19	27.2	0.4
	912.83	913.72	10063	17750	1806	4876	305	48.1	73.1	4.7	12.6	1.4	2.1	0.2	0.6	0.2	29.2	3.50	32.4	0.7
	913.72	914.59	8198	15232	1547	4327	266	39.0	60.9	3.7	10.8	1.1	1.7	0.2	0.3	0.1	24.1	2.97	25.6	1.1
	914.59	915.74	6955	12837	1293	3558	211	32.0	48.5	3.1	9.0	0.9	1.7	0.1	0.2	0.1	17.8	2.50	21.3	1.3
	915.74	917.59	9535	15478	1444	3861	259	42.8	70.1	4.7	15.4	1.6	3.3	0.3	0.9	0.2	38.1	3.08	52.4	1.2
	917.59	919.36	11904	19593	1867	5027	346	58.7	92.8	6.2	15.2	1.4	2.3	0.1	0.2	0.1	26.7	3.89	64.4	0.9
	919.36	920.68	10250	16645	1571	4269	284	46.1	75.8	4.9	12.7	1.1	1.9	0.1	0.5	0.1	24.1	3.32	55.7	1.1
	920.68	921.64	5629	8525	781	2059	133	22.4	37.6	2.7	8.4	0.9	1.6	0.2	0.5	0.1	21.6	1.72	20.0	0.4
	921.64	923.00	17240	28499	2743	7395	459	74.7	121.0	7.3	20.0	1.9	3.4	0.2	0.9	0.2	40.6	5.66	64.2	1.0
	923.00	923.92	23925	38695	3600	9751	593	93.4	138.9	8.5	21.6	2.1	3.0	0.2	0.5	0.1	40.6	7.69	76.0	1.4
	923.92	925.43	11318	17689	1691	4467	303	51.8	85.5	5.7	17.0	1.9	3.5	0.3	1.1	0.2	40.6	3.57	62.3	1.4
	925.43	927.14	12197	20023	1722	4759	304	49.7	80.8	3.6	15.3	1.5	2.6	0.2	1.0	0.2	35.6	3.92	74.9	0.5
	927.14	928.74	9617	16215	1444	4036	255	42.5	66.5	2.8	11.5	1.2	2.3	0.2	0.8	0.2	27.9	3.17	52.0	0.9
	928.74	930.00	8444	14188	1257	3546	242	39.7	64.4	2.9	11.1	1.1	1.8	0.2	0.8	0.2	22.9	2.78	49.6	0.5
	930.00	930.90	8737	14434	1275	3558	233	39.0	63.1	2.9	13.0	1.2	2.3	0.2	1.1	0.2	27.9	2.84	52.5	1.3
	930.90	932.19	2111	3808	362	1110	99	20.7	43.7	3.7	17.7	2.5	5.5	0.6	3.4	0.5	69.8	0.77	27.2	4.3
	932.19	933.20	10344	17996	1613	4561	277	43.2	67.7	2.6	11.7	1.2	1.9	0.2	0.8	0.1	25.4	3.49	40.1	1.6
	933.20	934.24	12490	20821	1849	5202	342	57.2	91.2	4.4	19.3	2.3	4.0	0.3	1.8	0.2	49.5	4.09	61.7	2.2
	934.24	935.59	8092	14004	1275	3663	248	41.6	66.7	2.8	11.6	1.2	2.1	0.2	0.8	0.1	25.4	2.74	39.1	0.8
	935.59	936.76	7999	14618	1377	3989	259	40.5	63.5	2.5	10.6	1.0	1.5	0.1	0.6	0.1	21.6	2.84	31.5	0.8
	936.76	938.50	16947	28990	2984	7313	417	62.9	100.5	6.4	15.4	1.5	2.1	0.1	0.7	0.1	26.7	5.69	43.4	1.6
	938.50	939.93	10590	17935	1583	4362	253	40.4	63.3	2.8	13.0	1.5	3.0	0.3	1.6	0.2	38.1	3.49	31.2	3.4
	939.93	941.36	4234	7002	617	1738	120	22.1	40.9	2.8	14.0	2.0	4.8	0.6	3.3	0.5	55.9	1.39	24.6	5.5
	941.36	943.05	2897	5049	457	1353	105	20.8	42.8	3.5	17.9	2.7	6.3	0.7	4.3	0.6	76.2	1.00	20.8	7.1
	943.05	944.26	781	1419	144	485	61	15.3	37.2	3.9	19.4	2.9	6.4	0.7	4.0	0.5	83.8	0.31	25.6	5.7
	944.26	945.30	5172	8820	806	2315	167	30.1	54.2	4.0	19.3	2.6	5.7	0.6	3.8	0.5	69.8	1.75	32.4	6.9
	945.30	946.52	13311	22480	1987	5529	333	53.4	82.2	3.0	13.3	1.2	1.7	0.1	0.6	0.1	24.1	4.38	50.0	1.0
	946.52	948.31	12138	21251	1921	5400	329	53.0	81.1	3.2	14.4	1.5	2.3	0.2	1.0	0.1	30.5	4.12	45.8	0.9



Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	948.31	950.00	16478	28130	2513	6975	431	68.9	107.3	4.1	18.3	1.8	2.7	0.3	1.3	0.2	38.1	5.48	67.9	1.3
	950.00	951.73	8902	15171	1359	3837	253	42.8	74.2	4.1	18.6	2.3	4.7	0.5	2.5	0.3	55.9	2.97	45.7	3.7
	951.73	952.89	1460	2555	244	771	80	18.3	41.0	4.1	19.7	2.9	6.1	0.7	3.5	0.4	81.3	0.53	23.9	6.0
	952.89	953.59	10872	16338	1534	3989	273	48.1	89.6	6.9	20.9	2.4	4.6	0.5	2.2	0.4	57.2	3.32	55.8	1.7
	953.59	954.92	15481	23340	2296	5645	377	64.2	112.8	7.5	18.8	1.9	2.9	0.3	1.1	0.1	39.4	4.74	74.8	0.5
	954.92	956.59	15716	24814	2151	6007	411	69.6	114.0	5.2	21.4	2.1	3.2	0.2	1.3	0.2	41.9	4.94	82.6	-0.3
	956.59	957.88	11658	17628	1468	3977	256	44.9	73.2	3.8	14.9	1.6	2.3	0.2	0.9	0.2	31.8	3.52	48.1	-0.3
	957.88	959.28	18354	26902	2622	6334	405	68.8	120.5	8.0	21.6	2.1	3.1	0.3	1.3	0.2	45.7	5.49	85.1	0.6
	959.28	960.28	2316	3845	394	1150	113	24.4	57.1	5.8	23.8	3.3	7.7	0.9	4.7	0.6	92.7	0.80	31.5	12.6
	960.28	961.47	2909	4692	466	1306	117	24.7	56.5	5.5	22.5	3.2	7.3	0.8	3.8	0.5	83.8	0.97	30.0	7.6
	961.47	962.59	2744	4815	451	1359	129	26.2	54.9	4.8	23.2	3.2	7.1	0.8	4.3	0.5	94.0	0.97	31.4	7.2
	962.59	963.34	4679	7997	745	2234	188	37.4	71.4	5.8	25.9	3.6	7.7	0.8	4.8	0.6	95.2	1.61	43.2	6.4
	963.34	965.34	15891	26288	2350	6695	450	76.7	121.6	5.2	21.6	2.2	3.4	0.3	1.4	0.2	45.7	5.20	80.8	0.4
	965.34	967.34	16478	26779	2326	6590	390	63.9	103.3	6.1	18.1	1.9	2.6	0.2	1.0	0.1	39.4	5.28	61.3	0.4
	967.34	968.97	16302	26165	2290	6439	397	66.7	108.9	5.8	17.8	1.7	2.6	0.2	1.0	0.1	36.8	5.18	71.9	0.3
	968.97	970.01	7307	12051	1040	2998	194	35.8	60.7	4.6	16.2	2.0	4.5	0.4	2.2	0.3	53.3	2.38	36.2	2.5
	970.01	972.00	10532	16829	1486	4199	256	44.6	73.9	4.7	15.3	1.6	2.9	0.2	1.3	0.2	41.9	3.35	48.5	0.7
	972.00	973.42	13077	21190	1836	5249	328	53.8	88.8	5.3	17.8	2.0	3.8	0.3	1.9	0.2	50.8	4.19	54.9	0.4
	973.42	974.38	10555	18365	1667	4771	274	42.8	65.5	3.8	12.2	1.2	2.3	0.2	0.9	0.1	29.2	3.58	32.6	1.6
	974.38	976.00	16888	26288	2284	6404	365	60.8	95.9	5.1	14.9	1.3	1.8	0.2	0.7	0.1	29.2	5.24	56.0	0.6
	976.00	977.59	11353	17873	1565	4479	267	45.2	74.8	4.4	14.5	1.4	2.6	0.2	1.1	0.2	35.6	3.57	39.4	0.6
	977.59	979.48	10098	16645	1504	4351	266	44.0	70.2	4.2	13.4	1.5	2.4	0.2	1.1	0.1	31.8	3.30	44.6	0.6
	979.48	981.42	8198	13881	1263	3651	244	42.6	73.0	4.7	14.1	1.5	2.7	0.3	1.3	0.2	36.8	2.74	36.3	-0.3
	981.42	983.25	11036	18917	1716	5062	337	57.8	96.2	6.1	17.9	1.8	2.5	0.2	1.4	0.2	38.1	3.73	58.3	-0.3
	983.25	984.49	10016	16276	1450	4059	273	48.8	84.3	5.2	16.2	1.7	2.6	0.2	1.0	0.1	35.6	3.23	56.6	-0.3
	984.49	985.89	15364	24937	2229	6462	413	76.9	124.5	7.7	23.2	2.3	3.5	0.3	1.3	0.1	48.3	4.97	87.9	-0.3
	985.89	986.52	16243	25428	2217	6310	401	71.1	121.6	7.7	22.2	2.4	3.2	0.2	1.0	0.1	47.0	5.09	87.3	-0.3
	986.52	987.93	12959	20576	1824	5260	346	59.1	97.7	5.8	17.5	1.7	2.5	0.2	1.1	0.2	35.6	4.12	66.1	-0.3
	987.93	989.26	8995	16276	1577	4817	332	55.8	90.1	5.4	16.2	1.6	2.5	0.2	1.0	0.1	35.6	3.22	50.8	1.2
	989.26	990.00	7846	13574	1250	3581	215	37.8	64.3	4.2	13.3	1.4	2.5	0.3	1.3	0.2	34.3	2.66	31.8	4.5
	990.00	992.00	4210	7432	674	1989	128	21.9	36.8	2.4	8.3	0.9	1.9	0.1	1.0	0.1	24.1	1.45	20.2	7.8
	992.00	993.63	3776	6670	609	1843	124	23.2	41.6	3.2	10.8	1.3	2.5	0.2	1.5	0.2	34.3	1.31	20.0	8.2
	993.63	995.30	12666	20084	1758	4934	327	57.1	98.3	6.5	19.7	1.9	3.0	0.2	1.1	0.1	43.2	4.00	66.2	0.5
	995.30	995.72	22987	35501	3057	8561	517	89.4	142.9	8.6	23.2	2.1	3.1	0.2	0.9	0.1	44.5	7.09	114.5	0.4
	995.72	997.40	15540	24691	2163	6357	393	68.8	113.1	6.7	19.9	1.9	2.9	0.2	1.0	0.1	40.6	4.94	74.4	0.6
	997.40	998.59	11705	19409	1740	4957	306	51.2	82.3	4.8	13.9	1.4	2.2	0.2	0.8	0.1	30.5	3.83	41.4	0.4
	998.59	1000	10192	16461	1462	4152	257	43.3	71.9	4.3	12.4	1.3	1.9	0.1	0.7	0.1	26.7	3.27	34.1	0.4
KGKRCDD083	0.00	1.00	5841	10515	1142	3523	298	52.9	89.7	6.6	19.9	2.1	3.3	0.3	1.6	0.2	48.3	2.15	54.5	0.9
	1.00	2.00	8503	15109	1607	4946	427	79.3	144.7	12.0	40.1	4.3	7.1	0.6	3.2	0.5	100.3	3.10	108.5	1.5
	2.00	3.00	4797	9139	998	3138	276	50.4	87.0	6.3	18.1	1.8	2.9	0.2	1.1	0.1	39.4	1.86	63.7	0.8
	3.00	4.00	4515	8771	963	3033	245	42.8	74.7	5.3	15.5	1.5	2.5	0.2	1.0	0.1	31.8	1.77	57.8	0.7
	4.00	5.00	3096	5466	568	1744	158	29.6	52.7	3.9	11.9	1.3	1.8	0.1	0.7	0.1	27.9	1.12	36.6	0.4
	5.00	6.00	3601	6314	654	2041	194	35.6	62.1	4.6	13.2	1.4	2.4	0.2	1.0	0.1	31.8	1.30	39.8	0.6
	6.00	7.00	3296	5896	625	1989	187	34.2	58.7	4.2	12.4	1.3	2.2	0.2	0.9	0.1	29.2	1.21	36.7	0.5
	7.00	8.00	4703	8476	889	2776	242	43.9	73.3	5.2	15.5	1.6	2.5	0.2	0.9	0.1	33.0	1.73	48.3	0.9
	8.00	9.00	4375	7960	853	2683	238	41.3	71.1	4.8	13.7	1.4	2.2	0.2	0.8	0.1	27.9	1.63	41.2	0.5

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	9.00	10.00	1859	3452	369	1178	109	20.8	37.0	2.9	10.1	1.4	2.9	0.3	1.9	0.3	31.8	0.71	22.7	0.4
	10.00	11.00	4468	8636	918	3009	249	42.5	73.8	5.2	15.2	1.6	2.4	0.2	1.1	0.1	36.8	1.75	46.0	0.6
	11.00	12.00	3448	6547	714	2286	206	37.5	62.6	4.2	13.3	1.5	2.2	0.2	1.0	0.2	30.5	1.34	39.7	0.3
	12.00	13.00	4234	7923	865	2753	250	43.7	75.6	5.1	15.3	1.5	2.6	0.2	1.0	0.1	33.0	1.62	43.7	0.4
	13.00	14.00	2803	5233	573	1872	186	33.7	57.6	3.9	11.7	1.3	2.1	0.2	0.8	0.2	26.7	1.08	34.1	0.4
	14.00	15.00	2639	5761	668	2222	200	34.6	58.8	4.2	12.4	1.5	2.3	0.2	1.1	0.2	29.2	1.16	35.3	-0.3
	15.00	16.00	1554	3403	389	1306	128	24.3	42.3	2.9	9.2	1.0	1.6	0.2	0.9	0.1	22.9	0.69	26.4	-0.3
	16.00	17.00	2111	5012	607	2094	212	39.4	69.5	4.8	13.3	1.3	2.2	0.2	1.0	0.2	26.7	1.02	53.8	-0.3
	17.00	18.00	2258	5147	608	2030	199	37.2	68.4	5.6	20.2	2.3	4.0	0.4	2.6	0.3	55.9	1.04	45.5	0.4
	18.00	19.00	970	2402	290	990	91	16.6	28.9	2.3	9.2	1.2	2.7	0.3	1.7	0.2	31.8	0.48	17.8	0.3
	19.00	20.00	2733	6375	750	2473	213	38.2	65.9	5.4	20.4	2.7	5.7	0.6	3.5	0.5	62.2	1.27	36.9	0.4
	20.00	21.00	1906	4361	515	1697	155	29.2	52.3	4.2	15.6	2.0	4.5	0.4	2.4	0.3	47.0	0.88	31.1	-0.3
	21.00	22.00	3049	7112	840	2904	271	43.3	77.5	5.8	21.4	2.9	5.4	0.6	3.4	0.5	69.8	1.44	50.5	0.4
	22.00	23.00	3167	7555	875	2904	228	33.1	54.4	3.7	11.6	1.5	2.6	0.3	1.7	0.2	33.0	1.49	34.8	0.4
	23.00	24.00	6779	14741	1673	5377	448	72.7	125.6	9.0	28.4	3.2	4.5	0.4	2.2	0.3	71.1	2.93	86.6	0.8
	24.00	25.00	4550	8525	888	2823	241	38.7	68.1	5.0	14.6	1.7	2.4	0.2	1.0	0.1	36.8	1.72	37.4	-0.3
	25.00	26.00	3143	6756	755	2496	216	33.7	56.5	4.1	12.7	1.3	2.1	0.2	1.0	0.2	30.5	1.35	31.7	0.4
	26.00	27.00	5043	11510	1335	4234	335	51.2	84.6	5.7	17.1	1.8	2.6	0.2	1.0	0.1	36.8	2.27	52.5	0.7
	27.00	28.00	3929	8869	993	3231	257	39.8	68.1	4.6	13.5	1.5	2.3	0.2	1.3	0.2	33.0	1.74	39.8	0.5
	28.00	29.00	4785	9741	1054	3383	281	44.8	78.4	5.7	17.1	1.8	3.3	0.3	1.7	0.2	44.5	1.94	44.8	0.7
	29.00	30.00	9382	18856	1994	5879	412	62.8	104.8	8.0	24.1	2.6	3.4	0.2	1.4	0.1	54.6	3.68	63.7	1.3
	30.00	31.00	8139	16153	1704	5074	366	56.3	98.2	7.8	24.3	2.7	3.7	0.3	1.3	0.1	55.9	3.17	66.5	1.3
	31.00	32.00	8081	14864	1522	4432	336	54.5	94.2	7.5	22.8	2.4	3.4	0.3	1.5	0.2	53.3	2.95	68.5	1.0
	32.00	33.00	11564	24814	2682	8270	562	83.4	132.6	9.0	26.5	3.0	4.6	0.3	1.8	0.2	63.5	4.82	83.9	1.8
	33.00	34.00	14367	31693	3407	10568	725	108.3	170.0	11.3	32.0	3.3	4.7	0.4	1.9	0.2	69.8	6.12	116.0	2.5
	34.00	35.00	8409	18057	1981	6194	459	69.5	113.5	7.3	20.1	2.1	3.0	0.2	1.1	0.1	41.9	3.54	71.6	1.3
	35.00	36.00	4410	8550	911	2904	241	37.5	61.7	4.0	10.4	1.2	1.5	0.2	0.7	0.1	22.9	1.72	31.4	0.7
	36.00	37.00	5407	10196	1062	3313	267	40.5	68.0	4.2	12.2	1.3	2.3	0.2	1.0	0.1	29.2	2.04	34.5	0.9
	37.00	38.00	6497	11056	1066	3208	263	43.3	74.0	5.1	13.9	1.4	2.1	0.2	0.9	0.1	29.2	2.23	39.0	0.6
	38.00	39.00	5723	10073	992	3033	253	39.8	68.7	4.6	12.7	1.3	1.7	0.2	0.8	0.1	27.9	2.02	36.5	1.1
	39.00	40.00	5254	10527	1112	3499	274	43.1	71.2	5.1	13.4	1.5	2.2	0.2	0.9	0.1	30.5	2.08	41.3	1.4
	40.00	41.00	9218	19102	2054	6509	473	71.8	113.8	7.2	20.0	2.2	3.5	0.3	1.5	0.2	45.7	3.76	67.2	1.2
	41.00	42.00	6427	12591	1347	4036	305	47.8	82.8	5.9	16.5	1.7	2.4	0.2	0.8	0.1	34.3	2.49	58.4	0.7
	42.00	43.00	5301	9483	945	2858	223	35.6	61.6	4.3	13.4	1.5	2.1	0.1	0.9	0.1	30.5	1.90	40.2	0.4
	43.00	44.00	5946	11215	1137	3488	269	43.1	77.1	6.2	18.8	2.0	2.9	0.2	0.9	0.1	43.2	2.22	57.2	0.8
	44.00	45.00	5934	11965	1299	3954	305	46.7	79.1	6.2	21.1	2.3	3.7	0.3	1.5	0.2	52.1	2.37	47.7	1.0
	45.00	46.00	17475	35869	3782	11606	791	118.1	193.1	15.4	53.5	6.4	9.3	0.7	3.3	0.3	142.2	7.01	122.5	3.2
	46.00	47.00	10755	18917	1849	5295	382	60.7	108.0	8.4	26.7	2.8	4.2	0.3	1.7	0.2	66.0	3.75	72.7	1.4
	47.00	48.00	8444	15109	1510	4397	339	56.2	104.5	8.9	27.3	2.8	3.5	0.3	1.1	0.1	59.7	3.01	92.0	1.4
	48.00	49.00	6955	13512	1462	4432	355	56.2	100.7	7.6	24.5	2.7	4.2	0.4	1.4	0.2	61.0	2.70	72.1	1.0
	49.00	50.00	10438	20391	2132	6450	456	72.7	130.8	11.8	38.3	4.2	6.0	0.5	2.1	0.3	100.3	4.02	112.5	1.8
	50.00	51.00	6662	12014	1205	3558	269	43.7	76.2	6.0	18.9	2.1	3.0	0.3	1.3	0.1	47.0	2.39	51.6	0.8
	51.00	52.00	7705	15416	1655	4981	357	55.4	91.1	6.7	20.8	2.1	3.3	0.4	1.7	0.2	49.5	3.03	53.3	1.0
	52.00	53.00	5266	9741	1025	3219	273	44.7	74.6	5.1	15.2	1.6	2.2	0.2	0.8	0.1	31.8	1.97	40.5	0.7
	53.00	54.00	2967	5773	620	1989	170	27.3	45.1	3.1	8.6	0.9	1.5	0.1	0.8	0.1	19.1	1.16	21.4	-0.3
	54.00	55.00	10027	19654	2078	6205	451	68.7	109.3	6.9	20.2	2.1	3.4	0.3	1.4	0.2	43.2	3.87	64.4	0.8

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	55.00	56.00	5606	10798	1149	3639	304	48.4	76.0	4.8	13.3	1.4	2.2	0.2	0.9	0.1	26.7	2.17	38.1	-0.3
	56.00	57.00	2826	5208	550	1755	157	25.2	42.9	2.8	8.0	0.9	1.4	0.1	0.6	0.1	17.8	1.06	24.1	-0.3
	57.00	58.00	3941	7088	725	2251	191	31.6	52.8	3.7	11.4	1.2	1.9	0.2	0.9	0.2	25.4	1.43	32.7	0.3
	58.00	59.00	4210	8550	918	2928	230	36.1	56.5	3.8	11.7	1.3	1.8	0.2	0.9	0.1	25.4	1.70	31.7	0.4
	59.00	60.00	3495	6719	718	2327	201	32.4	54.6	3.6	11.5	1.2	1.6	0.2	0.6	0.1	22.9	1.36	45.1	0.3
	60.00	61.00	12138	24077	2537	7850	554	82.9	128.5	8.3	25.7	2.6	4.4	0.4	2.2	0.3	55.9	4.75	71.2	1.2
	61.00	62.00	3425	6142	627	1977	171	27.6	44.8	2.9	8.3	0.9	1.3	0.1	0.6	0.1	17.8	1.24	21.4	-0.3
	62.00	63.00	5594	10208	1066	3383	289	45.2	71.2	4.6	12.6	1.2	1.8	0.1	0.6	-0.1	24.1	2.07	35.0	-0.3
	63.00	64.00	3741	6560	679	2129	183	29.3	47.3	3.1	8.6	0.9	1.4	0.1	0.6	0.1	17.8	1.34	20.6	-0.3
	64.00	65.00	3636	6179	604	1837	155	24.7	42.3	2.7	7.7	0.8	1.3	0.1	0.6	0.1	17.8	1.25	18.4	-0.3
	65.00	66.00	5348	10613	1172	3499	298	48.1	81.5	5.1	14.8	1.5	2.3	0.2	0.9	0.1	30.5	2.11	48.9	0.4
	66.00	67.00	8526	17996	2006	6590	474	81.6	137.7	8.8	25.4	2.3	3.3	0.3	1.3	0.2	47.0	3.59	113.5	1.1
	67.00	68.00	4081	8992	1068	3464	289	49.1	83.6	5.1	15.2	1.5	2.5	0.2	1.4	0.2	30.5	1.81	53.0	0.5
	68.00	69.00	4398	8181	904	2788	233	40.5	68.5	4.3	12.4	1.2	1.8	0.2	0.8	0.1	22.9	1.67	32.7	-0.3
	69.00	70.00	3706	6732	723	2228	177	31.6	54.6	3.7	11.5	1.1	2.9	0.3	0.9	0.3	22.9	1.37	26.3	-0.3
	70.00	71.00	2909	5565	609	2006	165	28.0	49.0	3.2	9.4	0.9	1.6	0.1	0.6	0.1	17.8	1.14	26.4	-0.3
	71.00	72.00	2293	4385	474	1610	136	23.5	39.3	2.5	7.9	0.8	1.4	0.1	0.7	0.1	16.5	0.90	20.1	-0.3
	72.00	73.00	2498	4631	486	1645	142	24.9	43.1	2.9	8.7	0.9	1.5	0.1	0.7	0.1	17.8	0.95	22.3	-0.3
	73.00	74.00	1859	3427	356	1196	103	18.5	31.5	2.1	7.1	0.7	1.6	0.1	0.8	0.1	16.5	0.70	15.3	-0.3
	74.00	75.00	3425	6719	744	2403	191	32.0	53.4	3.2	9.4	1.0	1.8	0.1	0.7	0.1	19.1	1.36	24.3	-0.3
	75.00	76.00	8479	17996	2054	6835	481	78.9	128.5	8.1	23.6	2.2	3.4	0.2	0.9	0.2	41.9	3.61	100.0	0.6
	76.00	77.00	5325	11117	1287	4327	340	59.6	102.4	6.6	18.8	1.6	2.6	0.2	0.9	0.1	34.3	2.26	72.4	0.3
	77.00	78.00	3636	7186	817	2566	204	34.0	56.9	3.6	10.9	1.0	1.6	0.1	0.7	0.1	20.3	1.45	32.8	0.3
	78.00	79.00	7459	14495	1589	5086	358	56.7	90.1	5.7	16.8	1.5	2.5	0.2	0.8	0.1	31.8	2.92	53.7	0.3
	79.00	80.00	2510	4717	493	1621	135	23.6	42.3	2.9	8.0	0.8	1.5	0.1	0.7	0.1	16.5	0.96	22.9	-0.3
	80.00	81.00	3741	6842	737	2269	180	31.0	53.3	3.8	10.7	1.0	1.6	0.1	0.7	0.1	20.3	1.39	32.8	0.3
	81.00	82.00	4246	8169	825	2659	210	35.9	55.8	3.6	10.8	1.0	1.7	0.1	0.7	0.1	22.9	1.62	31.8	0.3
	82.00	83.00	8292	16092	1728	5540	404	66.1	102.4	6.9	22.3	2.3	3.5	0.2	1.1	0.1	49.5	3.23	66.2	0.6
	83.00	84.00	10696	19900	2072	6415	456	77.7	124.5	8.9	27.0	2.5	4.1	0.3	1.4	0.2	55.9	3.98	89.5	0.9
	84.00	85.00	9875	19654	2114	6777	515	90.7	138.3	9.5	29.6	3.1	5.3	0.5	2.2	0.3	68.6	3.93	98.4	1.4
	85.00	86.00	16712	36238	3890	12655	914	152.8	235.1	14.6	45.3	4.5	6.9	0.6	2.7	0.3	94.0	7.10	186.0	2.2
	86.00	87.00	15129	33904	3770	12306	915	151.1	227.6	14.1	42.0	3.6	5.6	0.5	2.3	0.3	76.2	6.65	151.0	1.8
	87.00	88.00	10543	24384	2767	9390	715	119.3	182.1	12.1	36.6	3.5	5.0	0.4	2.2	0.3	71.1	4.82	115.0	1.9
	88.00	89.00	19644	40292	4217	13355	876	145.9	222.5	14.7	45.1	4.3	6.9	0.5	2.6	0.3	91.4	7.89	179.5	2.4
	89.00	90.00	17827	36483	3782	11956	757	119.3	176.9	11.9	34.7	3.5	5.8	0.4	2.4	0.3	77.5	7.12	121.0	1.9
	90.00	91.00	18706	38572	3999	12947	845	137.2	204.0	13.0	39.7	3.8	6.3	0.5	2.5	0.3	83.8	7.56	127.5	2.4
	91.00	92.00	20817	41643	4313	13589	909	146.5	226.5	14.9	43.2	4.3	7.3	0.6	3.1	0.4	94.0	8.18	154.0	2.5
	92.00	93.00	31666	61543	6283	20062	1252	192.8	278.9	17.5	50.2	4.9	8.6	0.7	3.2	0.4	107.9	12.15	161.0	2.5
	93.00	94.00	10414	20821	2139	6718	462	73.6	113.7	6.7	20.1	2.0	3.1	0.3	1.1	0.1	40.6	4.08	63.7	1.0
	94.00	95.00	12197	22111	2235	6835	464	76.5	120.5	7.9	22.2	2.0	3.4	0.3	1.1	0.2	43.2	4.41	68.7	1.2
	95.00	96.00	6509	12775	1353	4129	305	50.4	77.9	5.4	14.5	1.4	2.2	0.2	0.9	0.1	29.2	2.53	44.9	0.7
	96.00	97.00	4269	8439	870	2846	221	38.2	58.8	4.1	12.6	1.3	2.2	0.2	1.1	0.2	27.9	1.68	33.5	0.4
	97.00	98.00	4339	8906	992	3091	241	39.6	61.9	3.8	11.7	1.2	1.9	0.2	0.9	0.1	25.4	1.77	32.2	0.6
	98.00	99.00	5841	11707	1250	3849	290	50.0	75.3	5.1	14.9	1.4	2.3	0.2	1.0	0.1	30.5	2.31	45.1	0.5
	99.00	100.00	6274	12837	1414	4339	328	54.4	84.0	5.3	15.3	1.5	2.3	0.2	1.0	0.1	31.8	2.54	43.6	0.3
	100.00	101.00	8937	19347	2145	7278	528	85.1	126.8	7.4	22.0	2.1	3.4	0.3	1.3	0.2	44.5	3.85	61.8	0.7

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	101.00	102.00	5641	11596	1299	4024	305	48.4	74.2	4.9	14.7	1.5	2.4	0.2	1.3	0.2	33.0	2.30	42.5	0.7
	102.00	103.00	4351	9115	1026	3243	254	42.4	66.9	4.6	13.8	1.3	2.2	0.2	1.0	0.1	29.2	1.81	39.3	0.6
	103.00	104.00	3788	7592	789	2624	215	37.2	58.6	3.9	11.0	1.1	1.7	0.1	0.8	0.1	22.9	1.51	30.5	0.4
	104.00	105.00	4328	8488	905	2951	240	41.1	64.9	4.2	11.5	1.1	1.9	0.1	0.7	0.1	24.1	1.71	32.4	0.3
	105.00	106.00	2955	5896	613	2035	172	30.8	50.4	3.3	9.2	0.9	1.4	0.1	0.7	0.1	20.3	1.18	24.7	-0.3
	106.00	107.00	2117	4324	462	1545	130	24.2	39.1	2.7	8.3	0.9	1.6	0.1	0.9	0.1	20.3	0.87	20.2	-0.3
	107.00	108.00	3601	6646	675	2175	177	32.4	52.7	3.4	9.6	0.9	1.5	0.1	0.6	0.1	19.1	1.34	27.1	-0.3
	108.00	109.00	6662	12960	1359	4094	321	54.7	88.1	5.7	16.3	1.7	2.9	0.2	1.4	0.2	36.8	2.56	51.4	0.6
	109.00	110.00	9418	19040	1987	6345	482	80.4	131.4	7.8	25.8	2.8	4.9	0.5	2.1	0.3	61.0	3.76	76.0	1.8
	110.00	111.00	6626	13574	1456	4467	327	54.2	82.1	5.4	15.5	1.7	3.0	0.3	1.7	0.3	36.8	2.67	41.7	1.0
	111.00	112.00	4011	8157	869	2799	221	35.1	58.4	4.1	10.7	1.2	1.9	0.2	1.0	0.1	24.1	1.62	26.5	0.5
	112.00	113.00	3143	6093	637	2076	179	29.5	50.8	3.3	10.1	1.0	1.5	0.2	0.9	0.1	20.3	1.22	24.9	0.3
	113.00	114.00	9347	17259	1800	5225	417	68.6	121.0	8.6	24.3	2.4	3.8	0.4	1.7	0.2	48.3	3.43	80.9	0.7
	114.00	115.00	10027	20023	2199	6940	551	85.2	138.9	8.5	23.3	2.2	3.5	0.3	1.4	0.2	45.7	4.00	59.7	0.4
	115.00	116.00	4820	9655	1033	3429	284	44.5	73.1	4.7	13.4	1.4	2.5	0.2	0.8	0.1	29.2	1.94	34.2	0.4
	116.00	117.00	4175	7690	789	2554	228	39.5	67.8	4.8	14.4	1.5	2.4	0.2	1.0	0.1	30.5	1.56	43.5	0.3
	117.00	118.00	8608	14864	1480	4176	326	53.2	94.5	6.7	19.4	1.8	3.0	0.3	1.4	0.2	39.4	2.97	58.0	2.3
	118.00	119.00	11071	20084	2060	5867	443	71.8	121.6	9.0	26.2	2.7	4.2	0.4	1.7	0.3	57.2	3.98	72.3	1.9
	119.00	120.00	6321	11522	1156	3581	292	47.6	82.8	5.8	16.1	1.6	2.5	0.2	0.8	0.1	31.8	2.31	49.6	0.6
	120.00	121.00	10860	20453	2096	5937	412	66.1	110.1	7.9	21.1	2.2	3.5	0.2	1.3	0.2	41.9	4.00	64.3	1.2
	121.00	122.00	11517	21743	2259	6520	450	70.3	113.0	7.7	21.9	2.1	4.0	0.3	1.6	0.2	45.7	4.28	55.7	1.2
	122.00	123.00	6791	14188	1559	4631	340	52.9	87.6	6.1	17.8	1.8	3.0	0.3	1.4	0.2	39.4	2.77	49.3	0.9
	123.00	124.00	4844	9655	1003	3149	249	40.4	73.7	5.0	14.2	1.4	2.3	0.2	0.8	0.1	29.2	1.91	49.3	0.5
	124.00	125.00	4539	9188	967	3103	244	39.4	68.4	4.9	14.6	1.4	2.4	0.2	0.7	0.1	29.2	1.82	40.0	0.4
	125.00	126.00	3612	7432	802	2683	224	36.2	61.7	4.5	12.9	1.3	1.9	0.2	0.8	0.1	26.7	1.49	42.0	0.3
	126.00	127.00	1771	3685	393	1306	110	18.3	34.2	2.5	7.8	0.9	1.7	0.2	1.1	0.2	20.3	0.74	19.5	-0.3
	127.00	128.00	7834	15478	1637	4701	328	51.6	87.1	6.4	17.9	1.7	2.6	0.2	1.0	0.1	33.0	3.02	56.3	0.7
	128.00	129.00	5313	11080	1179	3767	302	47.4	81.3	5.3	14.5	1.4	2.2	0.2	0.9	0.1	30.5	2.18	44.6	0.7
	129.00	130.00	6849	13758	1468	4327	314	49.1	84.4	5.9	15.8	1.5	2.6	0.2	1.0	0.1	31.8	2.69	52.2	1.4
	130.00	131.00	4046	7923	805	2473	190	31.5	56.4	4.1	11.9	1.3	2.2	0.2	1.1	0.1	27.9	1.56	28.8	0.5
	131.00	132.00	4879	9520	976	3009	248	42.8	79.9	6.2	19.3	2.1	3.9	0.3	1.9	0.3	49.5	1.88	45.3	3.6
	132.00	133.00	1970	4189	458	1540	154	30.2	63.2	6.4	29.2	4.2	9.6	1.1	6.6	0.8	121.9	0.86	52.8	8.7
	133.00	134.00	4187	8329	871	2741	214	34.2	60.3	4.4	15.2	1.7	3.3	0.4	2.1	0.3	43.2	1.65	27.7	2.3
	134.00	135.00	4199	8329	854	2718	214	34.0	59.0	4.1	12.9	1.4	2.3	0.2	1.3	0.2	29.2	1.65	29.9	0.8
	135.00	136.00	3471	6965	735	2344	187	30.1	53.0	3.5	11.0	1.2	1.8	0.2	0.8	0.2	22.9	1.38	27.5	0.4
	136.00	137.00	3507	7026	741	2403	204	32.0	55.9	3.8	11.4	1.2	1.9	0.2	0.8	0.1	22.9	1.40	31.3	0.4
	137.00	138.00	2803	5896	640	2123	183	28.8	50.7	3.6	9.9	1.0	1.8	0.1	0.8	0.1	21.6	1.18	28.7	0.4
	138.00	139.00	2967	6289	674	2193	181	29.9	52.3	3.5	10.2	1.1	1.7	0.2	0.8	0.1	21.6	1.24	28.2	0.4
	139.00	140.00	2967	6253	672	2205	179	29.2	50.9	3.4	10.1	1.1	1.7	0.2	0.8	0.1	20.3	1.24	27.8	0.3
	140.00	141.00	3178	6732	702	2298	178	27.9	49.0	3.3	9.8	1.0	1.5	0.3	0.8	0.2	20.3	1.32	25.7	0.3
	141.00	142.00	3272	7051	749	2508	196	31.4	53.5	3.4	10.4	1.0	1.7	0.2	0.9	0.1	21.6	1.39	28.1	0.5
	142.00	143.00	2439	5245	556	1849	150	24.6	43.3	3.0	8.6	0.9	1.4	0.2	0.8	0.1	19.1	1.03	22.2	0.3
	143.00	144.00	1812	3919	410	1394	124	22.0	42.8	3.7	15.2	2.1	4.4	0.5	2.9	0.4	53.3	0.78	26.2	7.8
	144.00	145.00	2522	5319	555	1884	160	28.4	52.0	4.1	14.2	1.6	3.1	0.4	1.9	0.3	38.1	1.06	27.8	4.1
	145.00	146.00	1912	4152	437	1487	122	19.8	35.4	2.6	8.6	0.9	1.6	0.2	0.9	0.1	20.3	0.82	18.4	0.8
	146.00	147.00	2275	4840	504	1691	138	22.0	41.4	2.9	9.4	1.0	1.8	0.2	1.0	0.1	21.6	0.95	21.9	0.5

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	147.00	148.00	2885	6216	660	2216	177	28.1	48.3	3.3	10.6	1.1	2.1	0.2	1.0	0.1	26.7	1.23	26.5	0.5
	148.00	149.00	3225	6854	730	2426	189	30.2	52.3	3.5	10.7	1.2	1.9	0.2	1.1	0.1	25.4	1.36	28.4	0.7
	149.00	150.00	3366	7235	774	2531	202	32.5	57.6	4.0	12.2	1.3	2.3	0.2	1.1	0.1	27.9	1.42	29.7	0.4
	150.00	151.87	4292	8820	890	2823	210	35.9	58.7	4.1	11.7	1.3	1.9	0.2	0.9	0.1	25.4	1.72	30.2	0.4
	151.87	153.10	3331	7149	739	2356	179	30.8	51.9	3.7	11.4	1.2	2.1	0.2	1.0	0.1	27.9	1.39	26.8	0.6
	153.10	154.10	3307	7112	753	2426	188	33.4	60.1	4.5	14.2	1.5	2.4	0.2	1.3	0.2	31.8	1.39	40.6	1.7
	154.10	155.74	3155	5896	574	1785	146	29.1	57.1	5.2	19.3	2.5	5.5	0.6	3.2	0.5	63.5	1.17	33.7	12.6
	155.74	157.29	2803	5098	488	1505	132	25.8	51.6	4.4	16.8	2.3	5.0	0.6	2.9	0.5	61.0	1.02	28.6	10.0
	157.29	158.24	3307	6265	613	1901	144	26.3	47.8	3.7	12.6	1.6	3.7	0.4	2.4	0.3	39.4	1.24	25.2	2.1
	158.24	159.32	1343	2752	269	862	73	13.7	24.9	2.0	7.4	1.0	2.2	0.3	1.5	0.2	24.1	0.54	16.8	0.6
	159.32	161.21	2955	5638	558	1755	148	27.7	52.8	4.6	17.5	2.3	5.0	0.5	3.2	0.4	58.4	1.12	26.4	8.5
	161.21	162.95	3026	5810	580	1825	150	27.3	48.3	3.7	11.9	1.4	2.6	0.3	1.5	0.2	31.8	1.15	28.5	2.0
	162.95	164.74	4457	8574	835	2531	182	31.5	53.0	3.8	10.6	1.1	1.7	0.2	0.8	0.1	24.1	1.67	32.0	0.9
	164.74	166.40	3542	6609	626	1849	123	20.8	35.4	2.4	7.5	0.8	1.6	0.1	0.8	0.1	19.1	1.28	23.5	0.5
	166.40	167.37	4281	7985	764	2304	161	28.5	48.9	3.6	11.7	1.4	2.9	0.2	1.5	0.2	31.8	1.56	33.3	1.6
	167.37	168.21	9910	19102	1891	5330	334	53.7	88.8	5.9	18.5	2.0	3.1	0.2	1.4	0.2	44.5	3.68	64.2	2.0
	168.21	169.00	1122	2389	234	726	56	10.4	18.4	1.4	5.3	0.7	1.3	0.1	0.8	0.1	15.2	0.46	11.6	0.4
	169.00	169.73	7811	14864	1456	4444	332	57.7	102.0	8.4	28.7	2.8	3.7	0.2	1.0	0.2	57.2	2.92	70.5	1.6
	169.73	170.74	3589	6854	667	2006	136	22.9	37.5	2.9	9.3	1.0	1.9	0.2	0.8	0.1	24.1	1.34	25.0	1.7
	170.74	171.69	4504	7874	733	2123	138	22.9	39.3	2.8	8.8	1.0	1.6	0.2	0.8	0.1	20.3	1.55	25.1	3.8
	171.69	173.53	9793	18180	1776	5027	342	59.8	96.5	6.7	19.6	2.3	3.3	0.3	1.7	0.2	47.0	3.54	70.7	2.0
	173.53	174.00	5348	9950	941	2764	186	31.2	52.0	3.7	11.1	1.2	2.1	0.2	1.1	0.1	27.9	1.93	32.1	2.9
	174.00	174.61	10837	19900	1975	5645	420	74.7	128.5	9.1	26.6	2.9	4.1	0.3	1.8	0.3	58.4	3.91	76.5	2.4
	174.61	175.49	7963	15171	1486	4526	335	58.4	99.5	6.9	19.6	1.9	2.7	0.2	0.9	0.2	38.1	2.97	64.5	2.1
	175.49	176.80	9898	17996	1752	5086	369	62.4	106.6	7.0	21.6	2.1	3.4	0.2	1.1	0.1	41.9	3.53	66.5	3.0
	176.80	177.36	4070	8365	849	2636	198	33.2	57.1	4.6	15.3	1.8	3.0	0.2	1.1	0.1	38.1	1.63	48.4	2.4
	177.36	178.57	1618	3550	354	1116	86	14.9	27.2	2.5	8.8	1.0	1.5	0.1	0.7	-0.1	22.9	0.68	62.2	20.7
	178.57	179.74	1314	2678	259	795	63	11.4	19.0	1.6	5.7	0.7	1.3	0.1	0.7	0.1	15.2	0.52	51.4	18.3
	179.74	180.29	17182	30833	3033	9063	689	122.2	213.2	14.8	43.2	4.5	7.2	0.6	3.2	0.4	95.2	6.13	112.5	4.2
	180.29	181.69	2064	4140	408	1277	98	17.1	28.5	2.0	6.7	0.7	1.4	0.1	0.8	0.1	15.2	0.81	26.8	4.7
	181.69	182.26	9934	18119	1752	5027	379	67.2	115.0	8.3	25.5	3.0	5.5	0.5	3.2	0.4	71.1	3.55	61.1	1.9
	182.26	183.00	4398	8181	781	2368	173	30.5	49.1	3.3	9.6	1.1	1.8	0.2	0.8	0.1	22.9	1.60	30.2	1.1
	183.00	185.00	2604	4901	460	1388	103	18.1	30.9	2.2	6.5	0.8	1.3	0.2	0.7	0.1	17.8	0.95	20.1	1.2
	185.00	187.00	4163	7383	744	2164	159	28.6	49.3	3.5	9.2	0.9	1.7	0.1	0.6	0.2	20.3	1.47	32.5	2.0
	187.00	189.00	3131	5687	585	1732	131	22.2	40.1	2.6	8.3	0.9	1.6	0.1	0.8	0.1	19.1	1.14	23.7	1.2
	189.00	190.63	4808	8820	910	2694	200	35.9	63.3	4.6	13.0	1.3	1.7	0.2	0.9	0.1	26.7	1.76	37.2	1.7
	190.63	192.49	4961	8132	799	2292	173	33.8	63.7	5.1	18.0	2.3	4.1	0.4	2.2	0.3	53.3	1.65	33.7	9.2
	192.49	193.23	11212	19347	1969	5447	385	70.9	124.5	8.4	25.0	2.6	4.4	0.5	2.6	0.3	55.9	3.87	73.3	2.6
	193.23	194.12	8749	13267	1200	3184	202	36.1	66.0	5.1	16.8	1.9	4.0	0.4	2.3	0.4	49.5	2.68	32.1	6.5
	194.12	195.30	5360	8193	754	2053	145	26.1	48.0	3.7	10.4	1.1	1.7	0.2	0.8	0.2	25.4	1.66	24.7	5.0
	195.30	196.62	6263	11191	1135	3324	259	43.1	76.5	5.6	18.6	2.1	3.2	0.3	1.6	0.2	41.9	2.24	47.0	6.8
	196.62	197.96	6263	9913	936	2566	182	33.0	62.2	4.8	16.3	2.0	3.2	0.3	1.7	0.2	47.0	2.00	31.9	7.8
	197.96	199.02	7975	12837	1214	3324	226	39.5	71.0	5.1	15.8	1.7	3.2	0.3	1.6	0.2	40.6	2.58	32.8	4.4
	199.02	199.51	5958	9508	883	2414	157	28.3	52.1	4.0	12.4	1.4	2.4	0.2	0.9	0.2	31.8	1.91	27.3	1.0
	199.51	201.25	7717	11473	1035	2776	186	32.1	58.3	4.4	14.7	1.7	3.2	0.3	1.7	0.2	40.6	2.33	30.8	3.4
	201.25	202.61	14777	24199	2404	6590	491	88.2	159.6	11.6	34.2	3.6	5.3	0.5	2.4	0.3	78.7	4.88	109.0	2.9

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	202.61	203.36	8092	12345	1132	3056	199	35.8	65.9	4.9	15.0	1.7	2.6	0.2	1.0	0.1	35.6	2.50	38.0	1.7
	203.36	205.36	5407	9139	911	2671	198	35.7	62.0	4.0	11.5	1.1	1.7	0.1	0.6	0.1	24.1	1.85	36.3	1.1
	205.36	207.36	6321	10540	1020	2904	213	38.0	65.8	4.5	12.7	1.2	1.8	0.1	0.6	0.1	25.4	2.11	38.0	1.2
	207.36	209.36	8432	13144	1220	3348	230	37.9	67.8	4.4	12.6	1.2	1.6	0.1	0.7	0.1	27.9	2.65	40.2	1.0
	209.36	211.34	7154	11400	1092	3068	223	38.4	67.4	4.5	11.7	1.3	1.6	0.1	0.7	0.1	25.4	2.31	38.5	1.4
	211.34	213.34	7002	11842	1185	3441	264	47.6	88.1	6.9	23.2	2.9	5.8	0.7	3.4	0.4	71.1	2.40	52.2	10.6
	213.34	215.33	6239	11178	1149	3348	254	45.2	81.5	5.8	18.4	2.1	4.0	0.4	2.3	0.3	50.8	2.24	48.3	10.1
	215.33	216.11	6333	11817	1226	3558	254	44.6	75.2	4.9	14.6	1.5	2.2	0.2	1.3	0.2	33.0	2.34	40.1	3.8
	216.11	217.60	3554	5921	585	1709	143	28.8	58.7	5.3	20.7	2.9	6.0	0.8	4.7	0.7	77.5	1.21	34.8	19.8
	217.60	218.78	14660	24015	2356	6380	442	75.7	133.1	9.2	26.4	2.8	4.6	0.5	2.5	0.4	61.0	4.82	76.2	4.1
	218.78	219.61	3530	5700	550	1569	124	26.2	54.1	4.6	16.9	2.2	4.4	0.4	2.2	0.3	53.3	1.16	18.2	6.1
	219.61	220.79	8128	12591	1170	3219	225	39.1	70.2	4.9	14.5	1.5	2.2	0.2	0.9	0.1	31.8	2.55	34.7	2.0
	220.79	222.15	5289	8795	874	2578	213	39.8	81.0	7.1	25.9	3.6	7.2	0.7	3.3	0.4	90.2	1.80	27.6	6.5
	222.15	223.87	5606	8881	818	2193	154	30.1	59.6	5.3	20.2	2.9	5.5	0.6	3.4	0.4	69.8	1.79	26.5	12.6
	223.87	225.09	7389	12186	1157	3243	231	41.6	76.7	5.8	17.5	2.0	3.5	0.3	1.8	0.2	47.0	2.44	48.1	7.1
	225.09	225.86	6744	12259	1238	3488	227	37.2	61.3	4.1	13.3	1.4	2.4	0.3	1.4	0.2	33.0	2.41	33.1	4.1
	225.86	226.14	5090	9360	958	2823	206	34.0	62.6	4.1	12.5	1.4	2.4	0.3	1.0	0.2	30.5	1.86	32.4	9.7
	226.14	226.91	26153	42011	3770	10638	645	110.5	176.4	11.3	30.4	2.8	4.1	0.3	1.3	0.2	59.7	8.36	83.7	4.2
	226.91	228.44	4679	7972	729	2140	152	29.1	51.9	3.8	12.9	1.6	2.9	0.3	1.6	0.2	35.6	1.58	27.0	6.6
	228.44	230.04	6662	11842	1119	3289	239	43.1	73.2	5.5	17.2	1.8	2.7	0.2	1.3	0.2	38.1	2.33	45.7	6.1
	230.04	230.50	7025	14127	1438	4561	330	56.5	92.7	6.1	17.7	1.8	3.2	0.3	1.7	0.3	41.9	2.77	57.9	1.7
	230.50	232.14	7389	13390	1275	3872	275	48.2	79.6	5.2	14.5	1.4	2.2	0.2	0.7	0.1	27.9	2.64	42.2	1.4
	232.14	233.51	7834	12960	1172	3406	228	40.6	68.1	4.4	12.9	1.2	1.7	0.2	0.8	0.1	26.7	2.58	34.4	4.5
	233.51	234.72	7084	11461	1017	2939	191	33.6	56.6	4.0	12.2	1.3	2.4	0.2	1.0	0.1	30.5	2.28	29.7	1.4
	234.72	235.16	5254	9225	848	2531	178	31.2	53.9	3.9	11.5	1.1	1.8	0.1	0.6	0.1	25.4	1.82	28.8	1.4
	235.16	235.50	12314	21804	2078	5890	355	56.3	87.4	5.9	16.9	2.0	3.7	0.3	1.6	0.2	44.5	4.27	54.1	2.0
	235.50	236.25	4081	7334	694	2059	152	27.6	47.0	3.4	10.6	1.2	1.9	0.2	1.0	0.2	25.4	1.44	23.2	1.3
	236.25	237.41	10649	16706	1426	3931	245	43.8	75.8	5.6	17.1	1.9	2.9	0.2	1.3	0.2	39.4	3.31	39.8	1.3
	237.41	238.60	11622	17750	1498	4071	252	43.4	73.7	5.4	15.4	1.8	2.6	0.2	1.0	0.1	36.8	3.54	39.4	3.3
	238.60	239.38	11646	18795	1661	4747	317	55.1	92.2	6.3	18.7	1.9	2.7	0.2	1.3	0.1	39.4	3.74	48.1	1.8
	239.38	239.73	12725	21866	2072	6019	423	74.5	127.4	8.7	24.7	2.6	4.0	0.3	1.5	0.2	52.1	4.34	70.0	1.9
	239.73	241.65	8890	14925	1353	3919	260	49.1	82.8	6.1	19.3	2.2	3.7	0.3	1.5	0.2	49.5	2.96	48.4	3.6
	241.65	242.71	5864	9446	838	2473	186	37.2	73.1	6.3	23.0	3.0	6.2	0.6	3.5	0.4	77.5	1.90	29.8	10.2
	242.71	244.71	7764	13512	1244	3651	259	46.7	79.9	5.9	18.1	1.9	3.3	0.3	1.4	0.2	40.6	2.66	48.5	3.2
	244.71	246.71	7482	12714	1172	3511	254	44.8	77.3	5.8	17.6	2.0	3.1	0.2	1.1	0.2	41.9	2.53	46.0	3.7
	246.71	248.45	6732	11756	1087	3196	221	39.7	69.4	5.3	16.6	1.9	2.9	0.3	1.4	0.2	40.6	2.32	39.7	5.1
	248.45	249.21	9887	16583	1504	4316	290	52.2	91.6	6.8	22.7	2.4	4.4	0.3	1.6	0.2	54.6	3.28	53.0	3.7
	249.21	249.91	20817	31816	2743	7267	402	69.5	111.8	7.6	21.1	2.1	3.0	0.2	1.1	0.1	44.5	6.33	62.5	1.2
	249.91	251.20	7494	12468	1115	3184	209	36.8	63.6	4.3	12.5	1.4	1.9	0.1	0.8	0.1	26.7	2.46	35.7	1.6
	251.20	251.70	3342	5958	562	1697	125	23.2	38.7	3.0	11.7	1.4	1.9	0.2	0.8	0.1	29.2	1.18	23.0	1.3
	251.70	252.42	9101	16645	1607	4817	341	57.3	91.9	5.9	16.1	1.6	2.3	0.2	0.9	0.1	29.2	3.27	54.4	1.3
	252.42	253.38	4973	9041	857	2578	181	32.0	51.6	3.6	10.1	0.9	1.5	0.1	0.5	0.1	20.3	1.77	29.9	3.4
	253.38	255.09	7002	13021	1250	3872	263	44.8	73.7	4.7	12.2	1.3	2.1	0.2	0.9	0.1	25.4	2.56	39.9	0.8
	255.09	256.58	14719	26411	2513	7103	452	75.0	121.0	8.3	22.3	2.3	3.2	0.3	1.4	0.1	47.0	5.15	83.3	1.0
	256.58	257.71	15774	24445	2114	5599	325	56.6	91.8	6.5	18.4	1.8	3.2	0.2	1.4	0.2	41.9	4.85	51.2	1.0
	257.71	258.45	3976	7334	724	2263	163	28.4	48.5	3.5	12.6	1.5	3.0	0.3	1.5	0.2	35.6	1.46	31.0	0.9

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	258.45	259.12	6908	13267	1371	4281	314	51.4	85.0	5.4	16.9	2.1	3.9	0.5	2.2	0.3	50.8	2.64	52.6	0.7
	259.12	260.74	8749	15109	1468	4327	306	51.1	88.9	5.6	14.9	1.6	2.6	0.2	0.8	0.1	33.0	3.02	52.0	0.9
	260.74	261.60	6298	9766	877	2403	150	26.5	45.5	2.9	8.3	0.9	1.1	0.1	0.6	0.1	17.8	1.96	18.9	0.5
	261.60	263.02	9875	16092	1492	4152	262	43.0	70.0	4.6	13.5	1.5	2.3	0.2	1.0	0.1	30.5	3.20	35.6	0.6
	263.02	264.14	5266	9238	913	2683	197	35.6	59.9	4.1	12.4	1.4	2.3	0.2	1.1	0.2	31.8	1.84	31.4	0.3
	264.14	265.00	5852	9520	881	2531	176	30.8	51.9	3.5	9.1	0.9	1.3	0.1	0.6	-0.1	21.6	1.91	24.1	0.4
	265.00	266.04	5219	8451	784	2251	159	28.4	49.8	3.2	9.1	1.0	1.6	0.1	0.5	0.1	20.3	1.70	22.4	-0.3
	266.04	267.47	7729	12591	1182	3418	235	41.1	69.9	4.3	11.4	1.3	1.9	0.2	0.8	0.1	26.7	2.53	36.5	0.5
	267.47	268.66	27678	43363	3999	11302	724	121.6	200.0	12.2	31.7	3.2	4.0	0.3	1.6	0.1	64.8	8.75	94.0	1.2
	268.66	269.74	15657	24937	2326	6427	417	69.6	115.8	7.1	19.3	2.0	2.7	0.2	1.1	0.2	40.6	5.00	58.2	1.1
	269.74	271.12	18999	27025	2338	6019	365	61.5	103.0	7.3	23.6	2.7	4.0	0.3	1.5	0.2	61.0	5.50	61.4	1.0
	271.12	272.98	24160	32798	2827	7033	392	67.9	115.0	8.1	23.1	2.4	3.2	0.3	1.1	0.2	50.8	6.75	54.7	1.1
	272.98	274.27	23280	29482	2350	5645	289	48.4	83.6	6.0	17.7	2.0	2.6	0.3	0.8	0.1	43.2	6.13	34.3	1.1
	274.27	275.25	19410	27270	2404	6159	372	65.5	109.3	7.7	23.4	2.8	3.9	0.3	1.4	0.2	54.6	5.59	55.9	1.1
	275.25	276.77	15012	21927	1963	5319	351	59.4	96.7	6.6	20.0	2.3	3.7	0.3	1.7	0.2	53.3	4.48	52.0	0.9
	276.77	278.60	16536	23217	1987	5307	318	55.1	92.3	6.1	18.1	2.2	3.1	0.2	1.5	0.2	45.7	4.76	40.6	0.9
	278.60	280.13	5442	8513	761	2123	136	24.7	40.6	2.7	7.8	0.9	1.4	0.1	0.5	0.1	19.1	1.71	21.0	0.3
	280.13	280.62	8948	15109	1426	4094	257	44.1	72.2	4.5	13.3	1.7	2.7	0.3	1.7	0.3	38.1	3.00	38.1	0.4
	280.62	282.18	7049	11252	1032	2858	184	31.8	52.2	3.3	8.7	1.0	1.3	0.1	0.6	0.1	17.8	2.25	23.0	0.4
	282.18	282.53	12959	18979	1698	4724	308	52.7	89.7	5.8	14.2	1.5	1.9	0.2	0.6	0.1	27.9	3.89	42.6	0.5
	282.53	283.12	17006	25305	2308	6229	426	71.8	124.5	7.9	21.8	2.2	2.9	0.2	0.9	0.1	41.9	5.15	54.6	0.6
	283.12	284.00	5618	8525	747	2030	129	21.8	36.1	2.5	7.5	0.8	1.4	0.1	0.7	0.1	16.5	1.71	18.6	-0.3
	284.00	284.34	14953	20883	1746	4502	262	45.2	74.1	5.0	14.5	1.6	2.2	0.2	0.8	0.2	33.0	4.25	35.0	0.4
	284.34	284.74	9089	13512	1177	3173	201	35.4	60.3	4.0	11.1	1.3	1.5	0.1	0.7	0.1	24.1	2.73	27.5	0.7
	284.74	285.37	7459	11264	986	2636	161	27.2	47.5	3.3	9.2	1.0	1.6	0.1	0.7	-0.1	21.6	2.26	20.9	0.5
	285.37	287.00	3518	5675	517	1441	98	16.9	28.1	1.9	6.0	0.7	1.1	0.1	0.5	0.1	15.2	1.13	13.8	-0.3
	287.00	288.38	5841	9188	841	2333	149	25.0	44.3	3.1	8.6	1.0	1.3	0.1	0.6	-0.1	22.9	1.85	19.6	0.3
	288.38	290.04	7119	11301	1031	2846	177	30.0	50.6	3.3	9.9	1.2	1.5	0.2	0.6	0.1	24.1	2.26	21.6	-0.3
	290.04	291.43	4668	7248	645	1767	116	19.3	35.2	2.3	7.4	0.8	1.4	0.1	0.6	0.1	17.8	1.45	17.2	-0.3
	291.43	292.81	6767	10540	947	2624	176	30.7	54.3	3.5	9.6	1.0	1.6	0.1	0.6	0.1	20.3	2.12	27.0	0.3
	292.81	293.44	10180	16031	1480	4071	261	48.1	84.1	6.0	17.5	1.8	2.6	0.2	0.9	0.1	35.6	3.22	39.9	0.7
	293.44	293.90	5055	8058	767	2129	145	26.3	44.6	3.2	10.9	1.3	2.5	0.2	1.3	0.2	27.9	1.63	23.6	0.4
	293.90	294.82	16771	21927	1843	4327	240	42.7	72.3	5.5	18.7	2.1	3.1	0.3	1.3	0.1	44.5	4.53	32.1	0.9
	294.82	296.00	10614	15724	1414	3814	253	45.4	79.9	5.7	18.7	2.1	3.5	0.3	1.6	0.2	48.3	3.20	53.2	0.9
	296.00	296.86	15364	24691	2416	6392	416	72.7	123.3	7.9	23.1	2.4	4.1	0.3	1.5	0.2	50.8	4.96	71.1	0.6
	296.86	297.48	14484	24384	2501	6823	449	75.7	125.1	7.7	21.8	2.3	3.9	0.3	1.6	0.2	47.0	4.89	67.6	1.2
	297.48	298.08	5805	9152	829	2263	147	26.2	44.0	3.0	7.8	0.8	1.1	0.1	0.5	0.1	19.1	1.83	20.8	0.3
	298.08	299.40	7928	12898	1206	3313	213	37.2	63.1	4.5	15.6	1.7	2.7	0.2	1.0	0.1	35.6	2.57	38.1	0.6
	299.40	301.30	11036	17750	1655	4456	269	45.5	74.8	4.8	13.9	1.4	1.9	0.2	0.6	0.1	29.2	3.53	41.3	0.7
	301.30	303.13	8327	14249	1389	3977	270	47.2	82.3	5.5	16.5	1.7	2.5	0.2	0.8	0.1	34.3	2.84	41.5	0.4
	303.13	305.00	9124	13881	1214	3138	178	29.8	53.4	3.5	11.0	1.0	1.7	0.1	0.5	-0.1	22.9	2.77	20.3	-0.3
	305.00	306.30	9523	14986	1371	3732	249	45.2	77.9	5.5	15.0	1.5	2.1	0.2	0.8	0.1	31.8	3.00	40.7	0.4
	306.30	307.36	6955	10491	942	2473	147	25.6	45.1	3.1	8.8	0.9	1.5	0.1	0.3	0.1	17.8	2.11	18.6	0.3
	307.36	307.92	8421	13574	1269	3488	221	37.2	62.5	4.5	13.8	1.4	1.9	0.2	0.7	0.1	30.5	2.71	37.9	1.1
	307.92	308.39	8010	11510	1000	2543	138	23.3	38.5	2.7	8.7	1.0	1.8	0.2	0.9	0.1	21.6	2.33	15.0	0.6
	308.39	310.27	4234	6511	580	1528	87	15.1	25.6	1.9	6.1	0.8	1.5	0.2	0.7	0.1	17.8	1.30	12.3	3.7

Hole ID	From m	To m	La <sub>2</sub> O <sub>3</sub> ppm	CeO <sub>2</sub> ppm	Pr <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>2</sub> O <sub>3</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm
	310.27	310.97	20934	33290	3178	8445	446	74.0	122.2	8.3	26.9	3.0	5.2	0.4	1.8	0.2	73.7	6.66	48.8	2.5
	310.97	311.95	9230	15294	1438	4164	245	36.9	63.5	4.9	16.1	1.8	3.3	0.4	1.9	0.3	45.7	3.05	45.3	2.0
	311.95	312.49	11552	18610	1794	5004	322	53.0	91.1	6.5	19.7	2.1	3.9	0.4	2.5	0.4	53.3	3.75	49.1	1.7
	312.49	314.23	3624	5552	493	1376	86	14.7	26.2	2.1	7.1	0.9	1.7	0.2	0.9	0.2	20.3	1.12	16.6	6.0
	314.23	315.61	6333	10515	1021	3056	223	38.1	68.6	4.7	13.4	1.4	2.7	0.3	1.4	0.2	31.8	2.13	37.1	7.8
	315.61	316.19	3342	5454	515	1557	128	25.2	54.4	4.8	18.6	2.6	5.6	0.6	2.9	0.4	69.8	1.12	18.1	10.0
	316.19	317.22	4515	7211	687	2018	140	23.4	40.7	2.8	8.8	1.0	1.9	0.2	1.0	0.2	24.1	1.47	19.4	10.2
	317.22	318.50	6298	9115	788	2135	118	18.5	30.7	2.6	9.9	1.1	2.2	0.2	0.8	0.1	26.7	1.85	16.8	2.4
	318.50	320.06	8198	11658	980	2531	132	21.3	37.5	3.1	11.5	1.4	2.3	0.2	0.9	0.1	31.8	2.36	18.2	1.3
	320.06	320.39	11963	16583	1377	3593	199	33.0	55.7	4.6	16.8	1.8	3.2	0.2	1.3	0.1	44.5	3.39	30.1	1.9
	320.39	322.00	4715	7112	639	1767	100	15.5	25.7	2.1	7.4	1.0	1.7	0.2	0.9	0.1	22.9	1.44	12.8	2.0
	322.00	323.81	5489	8697	805	2304	147	23.3	41.0	3.2	11.5	1.3	2.5	0.2	1.0	0.1	33.0	1.76	25.4	3.1
	323.81	324.52	10543	17382	1722	4782	302	49.9	82.0	5.7	15.6	1.7	2.6	0.3	1.0	0.1	38.1	3.49	48.2	1.7
	324.52	325.00	4644	8058	799	2426	171	28.6	49.3	3.7	12.2	1.5	2.7	0.2	1.4	0.1	34.3	1.62	28.6	1.5



## JORC Code, 2012 Edition – Table 1 report

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>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.</i></li> </ul>	<p><b>Reverse Circulation Drilling</b></p> <p>Reverse circulation drilling sampled on 1 metre intervals.</p> <p>Riffle split sample mass averaging 1.5kg crushed, pulverized using standard laboratory procedures with subsample assayed using appropriate methods for rare earth element total digestion and analysis.</p> <p><b>Diamond Core Drilling</b></p> <p>Drill core was collected from a core barrel and placed in appropriately marked core trays. Down hole core run depths were measured and marked with core blocks. Core was measured for core loss and core photography and geological logging completed.</p> <p>Sample lengths were determined by geological boundaries with a maximum sample length of 2 metre and minimum of 0.2 metre applied.</p> <p>Core was cut using a core saw and sampled on site at Kangankunde.</p> <p>Core was initially cut in half then one half was further cut in half to give quarter core.</p> <p>Quarter core was submitted to ALS for chemical analysis using industry standard sample preparation and analytical techniques.</p>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>• <i>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).</i></li> </ul>	<p><b>Reverse Circulation Drilling</b></p> <p>Standard reverse circulation drilling using 5 ¼ inch face sampling hammer.</p> <p><b>Diamond Core Drilling</b></p> <p>Core size was HQ triple tube with a nominal diameter of 61.1mm on KGKRCDD083 and to 210 metres for KGKDD009 after which NQ core was drilled</p>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade and</i></li> </ul>	<p><b>Reverse Circulation Drilling</b></p> <p>Samples collected on a 1 drilled metre interval. Rock cuttings collected in large plastic bags marked with hole ID and interval from-to via a standard sample collection cyclone.</p>

Criteria	JORC Code explanation	Commentary
	<p><i>whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	<p>All 1 metre interval bags are weighed in the field after removal from the sample collection cyclone. Collected sample mass is measured on a tared digital scale and recorded in drill hole data files.</p> <p>Sample recovery is maximized by:</p> <ul style="list-style-type: none"> <li>• Installing PVC collar pipe in the upper fractured rock zone of the hole to a depth where air loss is minimised and sample return is consistent.</li> <li>• Sample cyclone is sealed to plastic sample collection bags do not leak</li> </ul> <p>Sample return was variable with:</p> <ul style="list-style-type: none"> <li>• Occasional natural voids of up to 7 metres having &lt;10%, often 0% return</li> <li>• Intervals of rock fracturing and loss of air circulation having recoveries averaging 30-60%</li> <li>• Competent rock proved good sample recovery averaging &gt;90%</li> </ul> <p>No relationship exists between sample recovery and grade.</p> <p><b>Diamond Core Drilling</b></p> <p>Core recovery was calculated by measuring actual core length versus drillers core run lengths. Core recovery ranged from 0% in instances where voids or structures caused complete core loss to 100% and averaged 92%.</p> <ul style="list-style-type: none"> <li>• No relationship exists between core recovery and grade.</li> </ul>
<p><i>Logging</i></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<p>All RC chips and core has been geologically logged by the onsite geologist and chip and core trays retained and photographed</p> <p>Logging is qualitative with fields including shade, colour, weathering, grainsize, texture, lithology, veining, mineralisation and alteration.</p> <p>Additional non-geological qualitative logging includes comments for sample recovery, moisture, and hardness for each logged interval.</p>
<p><i>Sub-sampling techniques and sample preparation</i></p>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> </ul>	<p><b>Reverse Circulation Drilling</b></p> <p>Plastic sample collection bags have been split using a 2-tier riffle splitter to achieve a ¼ sub sample of the original mass.</p> <p>This split is then halved in a single tier splitter to give 2 equal samples of approximately 1kg to 2kg in mass. These are denoted split A and split B</p>

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	<ul style="list-style-type: none"> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>Each interval is provided with a unique sample number which is written on the subsample bags and corresponding numbered sample tickets are placed within the sub sample bags and stapled into the rolled top of each bag.</p> <p>Both split A and split B samples are weighed with mass recorded in the drill hole file for database upload.</p> <p>Split A samples are dispatched for laboratory analysis. Split B samples are retained in storage at Kangankunde for future reference as required.</p> <p>Sample weights were recorded prior to sample dispatch. Sample mass is considered appropriate for the grain size of the material being sampled.</p> <p><b>Diamond Core Drilling</b></p> <p>Samples were collected from core trays by hand and placed in individually numbered bags. These bags were dispatched to the assay laboratory for analysis with no further field preparation.</p> <p>Sample weights were recorded prior to sample dispatch. Sample mass is considered appropriate for the grain size of the material being sampled.</p> <p>Field duplicate sampling was conducted at a ratio of 1:20 samples. Duplicates were created by lengthways halving the ¼ core primary sample into 2 identical portions. Duplicate samples were allocated separate sample numbers and submitted with the same analytical batch as the primary sample.</p>																				
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<p><b>Assay and Laboratory Procedures – All Samples</b></p> <p>Samples were dispatched by air freight direct to ALS laboratory Johannesburg South Africa for sample preparation.</p> <table border="1" data-bbox="1173 1107 1854 1463"> <thead> <tr> <th>ALS Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>WEI-21</td> <td>Received sample weight</td> </tr> <tr> <td>LOG-22</td> <td>Sample Login w/o Barcode</td> </tr> <tr> <td>DRY-21</td> <td>High temperature drying</td> </tr> <tr> <td>CRU-31</td> <td>Fine crushing – 70% &lt;2mm</td> </tr> <tr> <td>SPL-21</td> <td>Split sample – Riffle splitter</td> </tr> <tr> <td>PUL-31</td> <td>Pulverise 250g to 85% passing 75 micron</td> </tr> <tr> <td>CRU-QC</td> <td>Crushing QC Test</td> </tr> <tr> <td>PUL-QC</td> <td>Pulverising QC test</td> </tr> <tr> <td>LOG-24</td> <td>Pulp Login w/o Barcode</td> </tr> </tbody> </table>	ALS Code	Description	WEI-21	Received sample weight	LOG-22	Sample Login w/o Barcode	DRY-21	High temperature drying	CRU-31	Fine crushing – 70% <2mm	SPL-21	Split sample – Riffle splitter	PUL-31	Pulverise 250g to 85% passing 75 micron	CRU-QC	Crushing QC Test	PUL-QC	Pulverising QC test	LOG-24	Pulp Login w/o Barcode
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		<p>Following sample preparation, a 30 gram pulverized subsample is shipped by airfreight to ALS Perth for analysis</p> <p>The assay technique used for REE was Lithium Borate Fusion ICP-MS (ALS code ME-MS81h). This is a recognised industry standard analysis technique for REE suite and associated elements. Elements analysed at ppm levels:</p> <table border="1" data-bbox="1330 456 1980 555"> <tr> <td>Ce</td><td>Dy</td><td>Er</td><td>Eu</td><td>Gd</td><td>Hf</td><td>Ho</td><td>La</td> </tr> <tr> <td>Lu</td><td>Nb</td><td>Nd</td><td>Pr</td><td>Rb</td><td>Sm</td><td>Sn</td><td>Ta</td> </tr> <tr> <td>Tb</td><td>Th</td><td>Tm</td><td>U</td><td>W</td><td>Y</td><td>Yb</td><td>Zr</td> </tr> </table> <p>Analysis for other metals is conducted by four acid digest and ICP-MS (ALS code ME-4ACD81). The elements analysed using this technique are:</p> <table border="1" data-bbox="1330 651 1980 718"> <tr> <td>Ag</td><td>As</td><td>Cd</td><td>Co</td><td>Cu</td><td>Li</td><td>Mo</td><td>Ni</td> </tr> <tr> <td>Pb</td><td>Sc</td><td>Tl</td><td>Zn</td><td></td><td></td><td></td><td></td> </tr> </table> <p>The sample preparation and assay techniques used are industry standard and provide a total analysis.</p> <p>All laboratories used are ISO 17025 accredited.</p> <p><b>QAQC</b></p> <p><b>Analytical Standards</b></p> <p>CRM AMIS0356 and OREAS 463 were included in sample batches at a ratio of 1:20 to drill samples submitted. This is an acceptable ratio.</p> <p>The assay results for the standards were consistent with the certified levels of accuracy and precision and no bias is evident.</p> <p><b>Blanks</b></p> <p>A blank sourced from local barren rock was included in sample batches at a ratio of 1:20 to drill samples submitted for analysis. This is an acceptable ratio.</p> <p>No laboratory contamination or bias is evident from results for the blank samples.</p> <p><b>Duplicates</b></p> <p>Field duplicate sampling was conducted at a ratio of 1:20 samples. Duplicates were created by replicating the sampling process from the primary sample. Duplicate samples were allocated separate sample numbers and submitted with the same analytical batch as the primary sample.</p> <p>Variability between duplicate results is considered acceptable and no sampling bias is</p>	Ce	Dy	Er	Eu	Gd	Hf	Ho	La	Lu	Nb	Nd	Pr	Rb	Sm	Sn	Ta	Tb	Th	Tm	U	W	Y	Yb	Zr	Ag	As	Cd	Co	Cu	Li	Mo	Ni	Pb	Sc	Tl	Zn				
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		<p>evident.</p> <p><b>Alternative Analysis Technique</b> No alternative analytical method analysis has been undertaken.</p>																								
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<p>No independent verification of significant intersection undertaken.</p> <p>One RC drill pair were twinned, KGKRC40 and KGKRC046, with assay results acceptably comparable over similar depths.</p> <p>Sampling protocols for sampling and QAQC were documented and held on site by the responsible geologist. No procedures for data storage and management have been compiled yet.</p> <p>Data collected in the field by hand and entered into Excel spreadsheet. Data are then compiled with assay results compiled and stored in a secure database managed by Geobase Australia a professional provider of database services. Data verification is conducted on data entry including hole depths, sample intervals and sample numbers. Sample numbers from assay data are verified prior to entry into the database.</p> <p>Assay data was received in digital format from the laboratory and merged with the sampling data in the database.</p> <p>Data validation of assay data and sampling data have been conducted to ensure data entry is correct.</p> <p>All assay data received from the laboratory in element form is unadjusted for data entry.</p> <p>Conversion of elemental analysis (REE) to stoichiometric oxide (REO) was undertaken by spreadsheet using defined conversion factors.(Source:<a href="https://www.jcu.edu.au/advanced-analytical-centre/services-and-resources/resources-and-extras/element-to-stoichiometric-oxide-conversion-factors">https://www.jcu.edu.au/advanced-analytical-centre/services-and-resources/resources-and-extras/element-to-stoichiometric-oxide-conversion-factors</a>)</p> <table border="1" data-bbox="1379 1168 1924 1460"> <thead> <tr> <th>Element ppm</th> <th>Conversion Factor</th> <th>Oxide Form</th> </tr> </thead> <tbody> <tr> <td>Ce</td> <td>1.2284</td> <td>CeO<sub>2</sub></td> </tr> <tr> <td>Dy</td> <td>1.1477</td> <td>Dy<sub>2</sub>O<sub>3</sub></td> </tr> <tr> <td>Er</td> <td>1.1435</td> <td>Er<sub>2</sub>O<sub>3</sub></td> </tr> <tr> <td>Eu</td> <td>1.1579</td> <td>Eu<sub>2</sub>O<sub>3</sub></td> </tr> <tr> <td>Gd</td> <td>1.1526</td> <td>Gd<sub>2</sub>O<sub>3</sub></td> </tr> <tr> <td>Ho</td> <td>1.1455</td> <td>Ho<sub>2</sub>O<sub>3</sub></td> </tr> <tr> <td>La</td> <td>1.1728</td> <td>La<sub>2</sub>O<sub>3</sub></td> </tr> </tbody> </table>	Element ppm	Conversion Factor	Oxide Form	Ce	1.2284	CeO <sub>2</sub>	Dy	1.1477	Dy <sub>2</sub> O <sub>3</sub>	Er	1.1435	Er <sub>2</sub> O <sub>3</sub>	Eu	1.1579	Eu <sub>2</sub> O <sub>3</sub>	Gd	1.1526	Gd <sub>2</sub> O <sub>3</sub>	Ho	1.1455	Ho <sub>2</sub> O <sub>3</sub>	La	1.1728	La <sub>2</sub> O <sub>3</sub>
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<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<p>Drill hole collar locations reported have been surveyed by hand held GPS and consider accurate to 5 metres.</p> <p>Datum WGS84 Zone 36 South was used for location data planning, collection and storage. This is the appropriate datum for the project area. No grid transformations were applied to the data.</p> <p>Downhole surveys were acquired using non-magnetic gyroscope survey</p> <p>Topography is derived from LiDAR survey conducted by Lindian.</p>																								
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<p>Individual holes target for depth extension purposes.</p> <p>No sample compositing has been used.</p>																								

Criteria	JORC Code explanation	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>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.</i></li> </ul>	The relationship between mineralisation and drill orientation is not known.
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<p>After collection, the samples were transported by Company representatives via road to Lilongwe and dispatched via airfreight to ALS Johannesburg South Africa. Sample shipments are managed by a professional cargo freight company and remain secure during transport.</p> <p>Following sample preparation subsamples are shipped to Perth Australia by ALS using DHL. Samples are received in Australia and subject to customs inspection and quarantine treatment.</p> <p>Samples were subsequently transported from Australian customs to ALS Perth via road freight and inspected on arrival by a Company representative.</p>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	No audits or reviews have been undertaken

## Section 2 Reporting of 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>	<ul style="list-style-type: none"> <li>• <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.</i></li> <li>• <i>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.</i></li> </ul>	<p>The Kangankunde Project comprising granted Exploration Licence EPL0514/18R and Mining Licence MML0290/22 is 100% owned by Rift Valley Resource Developments (RVRD) a Malawian registered company. Lindian Resources currently holds 67% of RVRD with a binding share purchase agreement in place to progressively acquire 100 % of RVRD.</p>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<p>Previous exploration includes:</p> <p>1952-1958: Eight trenches excavated. No data records known to exist.</p> <p>1959: Geological mapping, ten trenches excavated, seven drill holes drilled below main trenches. Data not sighted.</p> <p>1972-1981: Trench mapping and sampling, adit driven 300 metres north to south with several crosscuts. Diamond drilling from crosscuts. Pilot plant operated producing strontianite and monazite concentrate. Limited data available in hard copy only.</p> <p>1987- 1990: Feasibility study activities including surface core drilling, processing studies, geotechnical and groundwater studies, estimation of “geological reserves” (Not JORC compliant). Limited data available in hard copy reports.</p> <p>Historical data is largely not available or not readily validated and is currently not reported.</p>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p>Intrusive carbonatite containing monazite as the main rare earth bearing mineral.</p> <p>The Kangankunde carbonatite complex is characterized by an elliptic structure centring Kangankunde Hill. The diameters in N-S and E-W directions are 900m and 700m, respectively.</p> <p>In the ellipse, the following rocks are zonally arranged from the centre to the outer part; carbonatites, carbonatized breccias, wall rock / carbonatite breccias and basement rocks.</p> <p>The carbonatites are dolomitic, sideritic and ankerite and at surface are distributed widely on the northern and western slopes of the Kangankunde Hill. Manganese carbonatite is found at the top and on the eastern slope of the hill.</p> <p>Monazite is found in all carbonatite types in varying quantities. Other associated minerals are strontianite, barite and apatite.</p>



Criteria	JORC Code explanation	Commentary
Drill hole Information	<ul style="list-style-type: none"> <li>• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> </ul> </li> <li>• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	The material information for drill holes relating to this announcement are contained in Appendix 1.
Data aggregation methods	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<p>Reported intersections are length weighted averages.</p> <p>No maximum or minimum grade cutting has been applied.</p> <p>All reported intercepts are drilled within the orebody and are rare earth mineralised with the lowest grade of 0.35% TREO reported. No geological natural cut-off has been observed and an economic cut-off is not appropriate at this stage of the project.</p> <p>Mineralised zones of higher grade within a fully mineralised hole have been highlighted using a threshold of 2% TREO with a maximum of 5 metres of contiguous internal waste used in the calculation. This cut-off is consistent with other similar deposits.</p> <p>No metal equivalents values are used.</p>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	Down hole lengths reported, true widths are not known.
Diagrams	<ul style="list-style-type: none"> <li>• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These</li> </ul>	Refer to diagrams in body of text.

Criteria	JORC Code explanation	Commentary
	<i>should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	This report contains all drilling results that are consistent with the JORC guidelines. Where data may have been excluded, it is considered not material.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <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></li> </ul>	Multi element analysis has been conducted including potential radionuclides uranium (U) and thorium (Th) which are both reported in Appendix 2
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <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></li> <li>• <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></li> </ul>	Future work programs are intended to evaluate the economic opportunity of the project including extraction optimization, and resource definition.