

# FIRST DEEP DRILL HOLE INTERCEPTS 854 METRES OF MINERALISATION GRADING 2.73% TREO

**KANGANKUNDE'S HIGH GRADE RARE EARTHS MINERALISATION CONTINUES TO DEPTH**

## HIGHLIGHTS

- Assay results received for first Phase 2 deep diamond drill hole drilled to 980.6 metres
- 853.6 metres @ 2.73% TREO from 52 metres including:
  - Standout intersection of 554.6 metres @ 2.52% TREO from 351 metres demonstrates consistent mineralisation and high grades at depth and over very broad intercepts
  - 156 metres @ 3.61% TREO from 124 metres
  - 56 metres @ 3.83% TREO from 289.13 metres
- Average grade of rare earths critical metal elements neodymium-praseodymium (NdPr) of 19.0% of TREO
- Material is non-radioactive
- Mineralisation present from start to end of hole
- Western boundary of mineralisation extended 100 metres west
- Upper portion of this hole will form part of the Maiden Mineral Resource Estimate (MRE) which will be reported in the coming days
- Next Phase 2 drill hole KGKDD009 drilled to 1,000 metres currently in-transit to laboratories – assay results expected late August or September

**Lindian's Executive Chairman, Asimwe Kabunga commented:** “The results of these assays not only reinforce Kangankunde’s massive scale and grade, it demonstrates that the project will play an important role in the rare earths industry to stabilise and balance supply for multiple generations. We are now firmly focused on bringing the mine into production and delivering a new, stable supply of rare earths concentrate to market.”

**Lindian's Chief Executive Officer, Alistair Stephens commented:**

“The assay results from this drill hole is stunning and confirms that Kangankunde’s mineralisation extends at least 850 metres vertically. The consistency of mineralisation is astonishing. This assay interval is one of Lindian’s most material developments and undoubtedly establishes Kangankunde as one of the greatest, most significant and unique rare earths projects in the world, underpinned by excellent grade and uniquely non-radioactive. The receipt of these assay results allows the upper portion of this hole to be incorporated into the maiden Mineral Resource Estimate expected to be finalised and released in the coming days. Congratulations to our team for bringing this hole to completion, which culminates in a major resource development for the rare earths industry.”

**Lindian Resources Limited (ASX:LIN) (“Lindian” or “the Company”)** is pleased to advise of the receipt of assay results from **KGKRCDD074** the first of its two deep holes in the Phase 2 depth extension exploration drilling program at the Kangankunde Rare Earths Project in Malawi.

In addition, we report the results of **KGKRCDD083**, an additional hole that was to have formed part of the Phase 2 Drill program but was terminated due to unacceptable orientation deviation.

## DRILLING RESULTS

The holes being reported in this announcement are both drilled from west to east and were planned to test the Kangankunde deposit to a vertical depth of over 850 metres below the surface and over 600 metres below the previously reported Phase 1 resource definition drilling, (Figure 1 and Figure 2). Both holes were drilled with a 150 metre RC pre-collar followed by core drilling to their planned depth. The following summarises results of each hole.

### Drill Hole KGKRCDD074

KGKRCDD074 was drilled from west to east through the Kangankunde carbonatite at a planned azimuth of 090 and dip of -49 degrees to a depth of 980.59 metres.

The hole was collared near the base of the Kangankunde hill with the 150 metre RC pre-collar drilled in what was previously considered to be unmineralised wall rock (under cover). The pre-collar intersected TREO mineralisation in a carbonatite/wall rock breccia from 52 metres down hole. Mineralisation assays are relatively consistently from 52 metres to 905.59 metres down hole. Beyond this depth to the EOH the rock is a weakly mineralised wall rock breccia with occasional narrow rare earths rich veins.

The highly mineralised portion of the hole intersected grade distribution consistent with the shallower Phase 1 definition drilling. Overall geological boundaries are also shown to be near vertical with those intersected in the Phase 1 drilling. This consistency of grade and geological zonation is remarkable given the large depth difference of up to 600 vertical metres from the base of the Phase 1 drilling.

Intersection details are listed in Table 1 and a cross section showing this hole with previously reported Phase 1 holes is shown in Figure 1 and Figure 2.

Table 1 KGKRCDD074 Intersections Summary

Hole ID	From (m)	To (m)	Intersection (m)	TREO %	NdPrO** ppm	NdPrO% of TREO***
KGKRCDD074	0	52	52	0.58	1,392	24.0
	52	161	109	2.21	4,353	19.7
	161	223.7	62.7	4.50	7,925	17.6
	223.7	280	56.3	3.34	6,055	18.1
	280	351	71	3.14	5,493	17.5
	351	909.3	558.3	2.52	4,927	18.9
	909.3	980.6	71.3	0.72	1,455	20.2

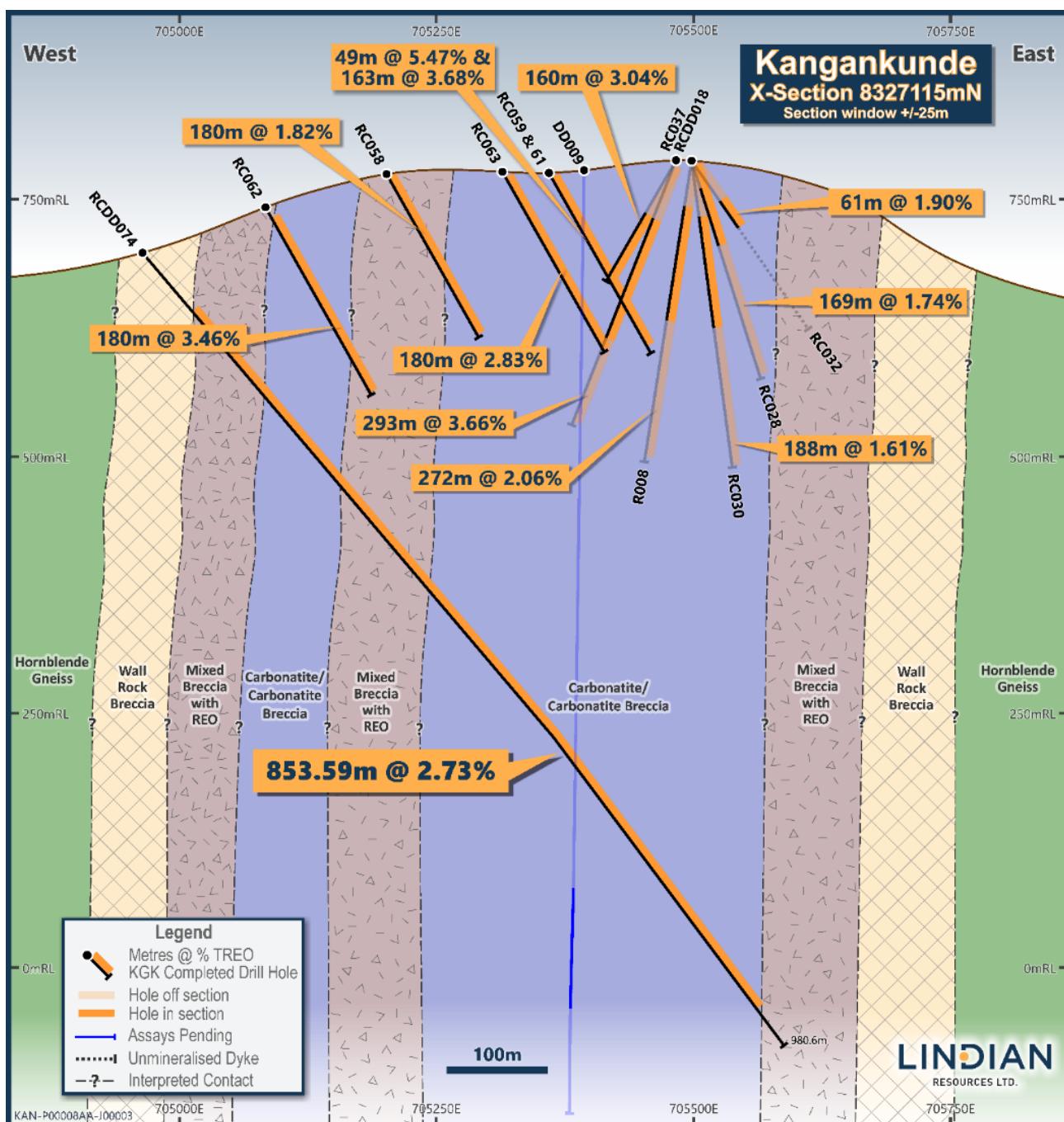
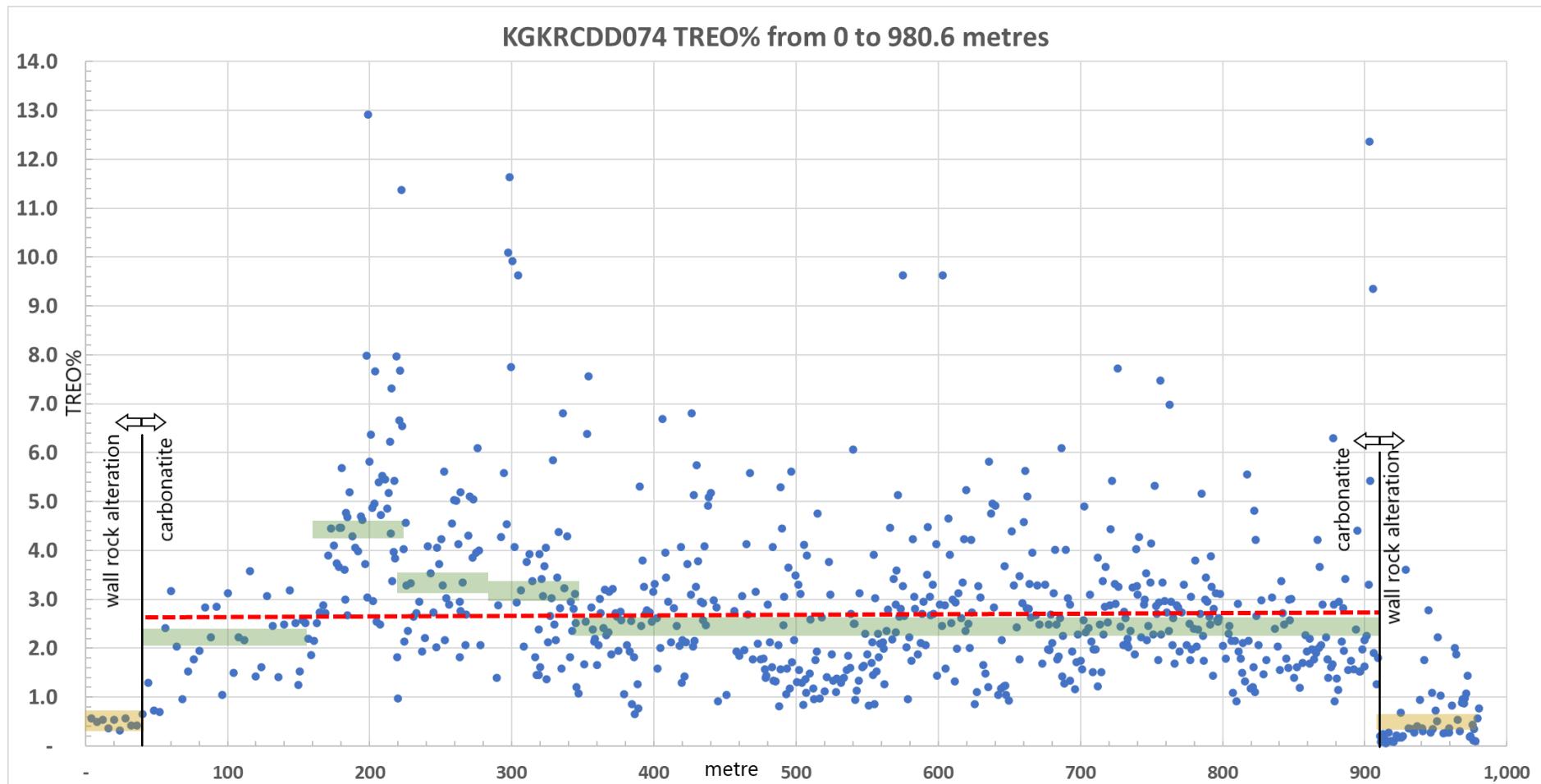


Figure 1: Section 8327115mN showing KGKRCDD074 results and near surface Phase 1 drilling results

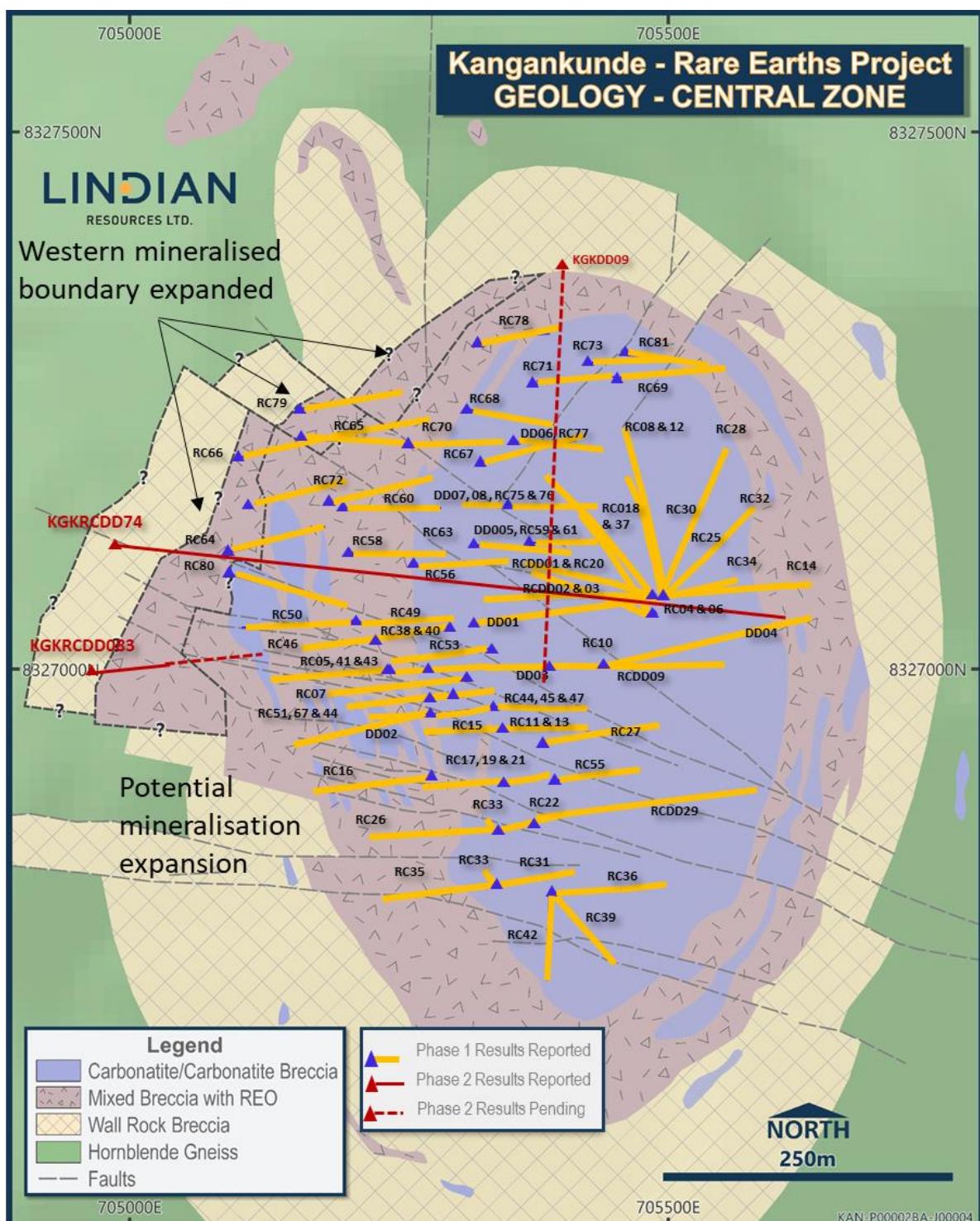


**Figure 2 above:** The assays for intervals (blue dots) from 0 to 980.5 metres for KGKRCDD074 showing wall rock alteration mineralisation (left and right) in relation to carbonatite mineralisation (centre). The red dashed line is the average TREO% grade from 52 to 909.3 metres. The colour bars (yellow and green) represent and typical average grade within relevant sections of mineralisation. Refer Appendix 2 for assay details.

**KGKRCDD083 (Pre-collar Only)**

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 precollar that was assumed to be collared in unmineralised hornblende gneiss wall rock (under soil cover). The pre-collar intersected a mineralised carbonatite wall rock breccia (mixed breccia) from surface with precollar assay results summarised in Table 2. This high-grade mineralisation has led to the western boundary of the mineralisation being extended 100 metres to the west of previous interpretation in the area of KGKRCDD074 and KGKDRCDD083.



**Figure 3 Kangankunde central carbonatite geology plan and drilling locations.**

**Table 2 KGKRCDD083 (RC precollar only)**

Hole ID	From (m)	To (m)	Intersection	TREO %	NdPrO** ppm	NdPrO% of TREO***
KGKRCDD083	0	150	150	2.41	5,338	18.6%
including	75	102	27	4.16	9,403	19.9%

## MINERAL RESOURCE ESTIMATION

The geological and assay data from these initial Phase 2 results have been included in the maiden mineral resource estimate (where statistically relevant).

## PHASE 2 PROGRAM STATUS

The first drill hole (KGKRCDD074) from the western side of the Central Carbonatite was completed at a depth of 980.5 metres. The second drill hole (KGKRC009) drilled from the northern end of the Central Carbonatite has been completed to a depth of 1,000 metres and currently in transit for assay with results expected in September.

The status of the drill hole sampling and assay is as follows:

**Table 3: Completed drill hole sampling and assay status at 14th March 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					Sampling in progress
KGKDD009 Core hole		✓	✓	✓	
KGKRCDD074 Entire hole	✓				

-ENDS-

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

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## 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. The Exploration and Mining Licences have an Environmental and Social Impact Assessment Licence No.2:10:16.

### BAUXITE

Lindian Resources Limited has over 1 billion tonnes of Bauxite resources (refer company website for access to resources statements and competent persons statements) in Guinea with the Gaoual, Lelouma and Woula projects. Guinean bauxite is known as the premier bauxite location in the world, having high grade and low impurities premium quality bauxite.

## 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.

## Competent Persons Statements

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 confirms 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.

### 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.)
KGKRCDD074	RC/DD	704975	8327119	683	980.59	095	-49
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
<b>KGKRCDD074</b>	0.00	4.00	1349	2825	308	1022	92	15.3	28.2	2.2	7.2	1.1	2.4	0.3	1.8	0.2	27.9	0.57	18.2	0.8
	4.00	8.00	1161	2494	269	900	84	14.5	27.1	2.3	7.9	1.1	2.5	0.3	1.8	0.2	29.2	0.50	16.6	0.3
	8.00	12.00	1084	2604	300	1054	109	18.6	35.4	3.0	10.6	1.6	3.7	0.4	2.7	0.4	39.4	0.53	24.4	0.3
	12.00	16.00	728	1818	201	696	69	12.0	24.2	2.1	8.2	1.3	3.1	0.4	2.3	0.3	35.6	0.36	16.2	-0.3
	16.00	20.00	1162	2702	298	1030	96	15.5	30.1	2.5	9.9	1.5	3.3	0.4	2.4	0.4	39.4	0.54	20.5	-0.3
	20.00	24.00	653	1640	182	637	60	11.0	21.0	1.8	6.7	1.0	2.4	0.3	1.7	0.2	26.7	0.32	13.9	-0.3
	24.00	28.00	1190	2788	312	1092	103	17.6	33.3	2.7	9.8	1.4	3.3	0.4	2.6	0.4	39.4	0.56	22.1	-0.3
	28.00	32.00	834	2094	237	833	90	16.6	33.3	2.9	10.4	1.5	3.3	0.4	2.1	0.3	40.6	0.42	23.8	-0.3
	32.00	36.00	783	2082	240	862	102	19.5	39.5	3.4	11.6	1.6	3.3	0.4	2.4	0.3	44.5	0.42	29.3	-0.3
	36.00	40.00	1372	3231	362	1306	135	23.2	43.2	3.1	9.2	1.1	1.9	0.2	1.3	0.2	26.7	0.65	33.3	-0.3
	40.00	44.00	3249	6719	679	2123	155	24.8	43.7	3.3	8.8	1.1	1.6	0.2	0.8	0.1	24.1	1.30	25.1	-0.3
	44.00	48.00	1718	3697	381	1248	99	17.0	30.3	2.4	7.5	1.0	1.9	0.2	1.1	0.2	24.1	0.72	16.2	-0.3
	48.00	52.00	1730	3599	364	1166	86	13.7	23.5	2.0	6.1	0.8	1.7	0.2	1.1	0.2	20.3	0.70	12.3	0.4
	52.00	56.00	6192	12468	1317	3837	266	41.2	69.9	4.9	12.3	1.3	1.9	0.2	0.8	0.1	26.7	2.42	30.6	0.6
	56.00	60.00	8984	16031	1577	4631	319	51.0	89.9	6.3	17.1	1.9	2.9	0.2	1.0	0.1	38.1	3.17	52.6	0.4
	60.00	64.00	5805	10319	1026	2893	215	35.7	64.0	4.8	13.4	1.4	2.1	0.2	0.7	0.1	29.2	2.04	39.1	0.3
	64.00	68.00	2451	4926	498	1540	114	18.2	31.6	2.3	6.5	0.7	1.1	0.1	0.6	0.1	15.2	0.96	17.4	0.4
	68.00	72.00	3917	7886	800	2368	159	24.7	41.8	3.0	8.5	0.9	1.6	0.1	0.6	0.1	20.3	1.52	22.7	0.3
	72.00	76.00	4785	9139	934	2659	174	27.1	45.6	3.3	8.7	0.9	1.4	0.1	0.6	0.1	17.8	1.78	21.6	-0.3
	76.00	80.00	5125	10073	1028	2963	197	30.1	51.3	3.6	9.6	1.0	1.7	0.2	0.7	0.1	21.6	1.95	28.0	0.3
	80.00	84.00	7752	14741	1456	3989	244	35.9	59.6	4.3	10.7	1.1	1.7	0.1	0.6	0.1	24.1	2.83	28.9	0.4
	84.00	88.00	6239	11436	1125	3138	204	30.9	54.8	3.8	9.6	1.1	1.8	0.1	0.8	0.1	25.4	2.23	24.2	0.3
	88.00	92.00	7494	14679	1492	4444	275	42.0	68.9	4.7	12.3	1.3	2.1	0.2	0.9	0.1	27.9	2.85	33.0	-0.3
	92.00	96.00	2838	5356	528	1592	117	19.8	33.7	2.5	7.1	0.7	1.4	0.1	0.6	0.1	16.5	1.05	17.0	-0.3
	96.00	100.00	8749	15969	1559	4596	270	44.7	73.8	5.2	14.5	1.4	2.5	0.2	0.9	0.2	30.5	3.13	37.9	-0.3
	100.00	104.00	4058	7555	738	2269	176	29.5	55.3	4.1	10.9	1.3	2.1	0.2	0.9	0.1	27.9	1.49	31.6	0.3
	104.00	108.00	6251	11314	1124	3231	227	36.8	64.1	4.8	12.7	1.4	2.2	0.2	0.9	0.2	30.5	2.23	28.9	-0.3
	108.00	112.00	6310	10945	1061	3033	219	39.4	68.1	5.3	15.6	1.7	3.0	0.3	1.1	0.2	38.1	2.17	34.2	-0.3
	112.00	116.00	9699	18365	1812	5435	317	51.0	79.2	5.4	14.9	1.5	2.6	0.2	0.8	0.1	31.8	3.58	43.2	-0.3
	116.00	120.00	4011	7235	679	2047	154	24.6	43.6	3.4	10.0	1.2	2.2	0.2	1.0	0.2	27.9	1.42	21.2	-0.3
	120.00	124.00	4539	8181	809	2356	172	30.1	53.3	3.9	11.9	1.2	2.1	0.2	0.9	0.2	26.7	1.62	25.9	-0.3
	124.00	128.00	9042	15539	1486	4164	274	43.3	77.8	5.7	14.6	1.6	2.5	0.3	0.8	0.1	33.0	3.07	29.7	-0.3
	128.00	132.00	7037	12530	1214	3383	231	39.5	67.7	5.3	15.4	1.6	2.6	0.3	1.1	0.2	36.8	2.46	32.3	-0.3
	132.00	136.00	3823	7137	701	2152	162	26.3	46.7	3.5	9.5	1.1	1.8	0.2	0.9	0.1	24.1	1.41	24.2	-0.3
	136.00	140.00	6849	12591	1250	3639	255	42.2	73.4	5.2	13.4	1.5	2.2	0.2	0.9	0.1	30.5	2.48	34.7	-0.3
	140.00	144.00	9805	16031	1504	4176	257	43.7	71.5	5.2	15.0	1.5	2.6	0.2	0.9	0.1	33.0	3.19	30.7	0.3
	144.00	148.00	7201	12775	1250	3569	254	40.0	70.5	5.4	14.0	1.6	2.2	0.2	1.0	0.1	31.8	2.52	36.8	0.3
	148.00	150.00	3589	6326	587	1779	133	22.1	41.5	3.3	10.1	1.3	2.5	0.2	1.3	0.2	31.8	1.25	18.4	5.2
	150.00	151.00	4304	7530	735	2344	187	37.2	70.0	6.5	23.2	3.0	7.2	0.8	4.6	0.6	83.8	1.53	45.0	30.6

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
	151.00	153.00	7260	12960	1257	3896	255	43.7	68.4	4.8	12.5	1.3	2.2	0.2	0.8	0.1	27.9	2.58	35.0	2.4
	153.00	155.00	6732	12653	1281	4059	275	45.4	69.4	4.7	13.5	1.4	2.3	0.2	0.9	0.1	30.5	2.52	36.3	1.9
	155.00	157.00	5442	10982	1172	3942	285	46.6	72.6	4.8	13.3	1.2	2.4	0.2	1.1	0.1	29.2	2.20	47.1	1.5
	157.00	159.00	4726	9311	952	3161	223	38.6	62.9	4.7	16.0	1.9	4.5	0.4	2.6	0.3	50.8	1.86	31.2	5.1
	159.00	161.00	5606	10785	1116	3604	247	43.1	67.1	5.0	13.5	1.7	3.2	0.3	1.7	0.2	38.1	2.15	33.4	3.7
	161.00	163.00	6556	12653	1287	4129	271	44.8	70.0	4.9	14.2	1.6	2.7	0.3	1.6	0.2	35.6	2.51	40.0	2.8
	163.00	165.00	7166	13697	1420	4491	297	50.1	79.4	5.6	16.0	1.7	3.2	0.3	1.6	0.2	39.4	2.73	43.0	2.4
	165.00	167.46	8280	14495	1389	4222	273	44.9	69.2	4.5	13.1	1.3	2.3	0.2	0.9	0.1	27.9	2.88	38.0	2.4
	167.46	169.00	8362	13574	1238	3674	230	40.3	63.4	5.0	14.0	1.4	2.7	0.2	1.0	0.1	35.6	2.72	33.8	0.8
	169.00	171.00	11095	19716	1957	5634	333	52.6	84.1	6.3	18.4	1.9	3.5	0.2	1.4	0.2	45.7	3.89	46.8	0.6
	171.00	173.00	13722	22295	2102	5855	325	53.4	82.3	5.8	16.6	1.8	3.3	0.3	1.3	0.2	43.2	4.45	40.7	0.6
	173.00	175.00	12314	20453	1987	5669	332	55.5	85.6	5.7	16.5	1.7	3.2	0.3	1.3	0.2	40.6	4.10	45.3	1.0
	175.00	177.00	11177	18733	1788	5144	308	51.9	81.3	5.5	15.3	1.5	2.6	0.2	1.1	0.2	34.3	3.73	40.5	0.5
	177.00	178.37	11106	18426	1758	4946	286	45.6	69.7	4.7	13.5	1.3	2.4	0.2	1.0	0.2	27.9	3.67	34.9	0.5
	178.37	179.00	13663	22480	2102	5879	327	53.3	83.1	5.9	15.8	1.7	3.4	0.3	1.6	0.2	41.9	4.47	45.3	0.6
	179.00	180.00	13311	22418	2181	6170	342	55.1	81.7	5.4	13.1	1.2	1.9	0.1	0.7	0.1	25.4	4.46	38.3	0.4
	180.00	180.53	17768	28622	2658	7185	375	61.3	92.3	6.4	15.8	1.4	2.5	0.2	0.7	0.1	34.3	5.68	38.1	0.6
	180.53	182.37	11235	18057	1698	4619	267	44.7	66.4	4.5	11.8	1.3	2.2	0.1	0.8	0.1	26.7	3.60	35.5	0.5
	182.37	182.67	7740	15171	1577	4981	319	51.0	75.5	4.8	11.8	1.1	1.8	0.2	0.9	0.1	24.1	3.00	37.1	-0.3
	182.67	183.31	14895	23770	2217	6159	373	63.9	100.1	7.4	18.8	1.8	3.3	0.2	0.9	0.1	43.2	4.77	51.2	0.5
	183.31	184.10	14660	23585	2145	5797	397	63.5	102.1	6.8	17.6	1.8	2.7	0.2	0.8	0.1	35.6	4.68	50.2	0.4
	184.10	184.53	8268	13390	1220	3593	217	36.7	57.4	3.9	10.1	0.9	1.5	0.1	0.6	0.1	21.6	2.68	28.2	0.3
	184.53	186.00	16595	26042	2380	6357	324	52.0	79.6	5.4	13.8	1.4	2.5	0.2	1.0	0.1	31.8	5.19	39.6	0.5
	186.00	188.00	13604	21374	2012	5447	311	51.8	79.9	5.6	14.8	1.4	2.5	0.2	0.9	0.1	31.8	4.29	38.6	0.5
	188.00	190.00	12959	20207	1836	5144	288	47.1	72.5	4.9	14.2	1.3	2.4	0.2	0.9	0.1	30.5	4.06	33.5	0.4
	190.00	192.00	12666	19900	1830	5039	284	46.9	73.1	5.2	14.9	1.7	2.7	0.2	1.3	0.1	36.8	3.99	37.5	0.6
	192.00	193.77	14895	23524	2151	5890	324	54.4	83.0	6.0	14.7	1.5	2.5	0.2	0.8	0.1	33.0	4.70	40.1	0.5
	193.77	194.74	14367	23155	2157	5937	334	54.9	84.1	6.0	16.4	1.8	3.3	0.3	1.5	0.2	43.2	4.62	40.1	0.4
	194.74	196.62	11787	18610	1704	4689	264	45.5	70.4	5.0	14.0	1.5	2.7	0.2	1.3	0.2	36.8	3.72	31.8	0.6
	196.62	197.62	25919	40169	3455	9518	523	84.6	134.9	8.9	24.2	2.7	4.1	0.4	1.9	0.2	58.4	7.99	70.4	0.9
	197.62	198.29	9746	15294	1383	3581	209	33.9	54.6	3.9	11.7	1.4	2.7	0.2	1.6	0.2	36.8	3.04	28.1	0.6
	198.29	199.04	41634	64982	5606	15513	874	138.4	237.4	15.5	42.2	4.3	6.3	0.5	2.1	0.2	87.6	12.91	130.5	1.0
	199.04	200.00	18237	29359	2610	7290	429	69.8	110.8	7.4	22.7	2.7	4.9	0.5	2.6	0.3	66.0	5.82	41.2	0.8
	200.00	200.74	19879	32061	2851	8130	465	74.2	114.7	7.4	21.1	2.3	3.7	0.4	1.9	0.3	53.3	6.37	51.0	0.7
	200.74	201.59	15246	24568	2217	6147	341	53.5	80.8	5.3	15.6	1.8	3.1	0.3	1.5	0.2	43.2	4.87	33.1	0.8
	201.59	202.45	8913	15048	1432	3802	223	35.6	55.6	3.7	10.2	1.1	1.7	0.2	0.9	0.1	25.4	2.96	25.3	1.2
	202.45	203.45	15305	25059	2253	6427	359	59.1	91.2	5.9	16.1	1.7	3.0	0.3	1.1	0.2	40.6	4.96	37.1	0.5
	203.45	203.84	24160	38572	3443	9646	547	87.9	136.0	7.9	20.4	1.8	2.3	0.2	0.7	0.1	35.6	7.67	46.0	0.4
	203.84	204.93	7658	13021	1189	3254	198	31.4	49.9	3.2	9.2	1.0	1.7	0.1	0.7	0.1	22.9	2.54	20.0	0.4
	204.93	206.42	16654	27270	2441	6987	397	64.2	98.3	6.1	15.4	1.5	2.2	0.2	0.8	0.1	31.8	5.40	35.2	-0.3
	206.42	207.31	6615	12653	1287	3814	260	43.1	66.5	4.1	11.5	1.2	1.9	0.2	1.0	0.1	25.4	2.48	35.7	0.3
	207.31	208.00	14543	23708	2157	6170	368	62.1	93.8	6.0	16.2	1.8	3.0	0.3	1.4	0.2	40.6	4.72	42.8	-0.3
	208.00	208.80	16830	28008	2549	7278	437	71.4	109.2	6.3	16.5	1.6	2.1	0.2	0.7	0.1	29.2	5.53	43.3	0.3
	208.80	210.80	16771	27516	2513	7150	427	70.5	108.5	6.7	17.0	1.7	2.4	0.2	0.9	0.1	33.0	5.46	45.7	0.7
	210.80	212.45	14836	24445	2253	6427	357	55.8	84.3	5.2	13.5	1.3	1.8	0.1	0.6	0.1	27.9	4.85	37.6	0.4

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
	212.45	213.45	16595	26165	2308	6217	329	52.5	79.3	5.1	14.1	1.5	2.3	0.2	0.9	0.1	33.0	5.18	36.1	-0.3
	213.45	214.16	21228	31079	2610	6835	322	51.4	81.1	5.7	17.3	2.0	3.2	0.3	1.5	0.2	45.7	6.23	40.9	-0.3
	214.16	214.90	13487	22050	1975	5517	295	46.0	70.9	4.4	11.7	1.2	1.9	0.1	0.6	0.1	25.4	4.35	29.9	-0.3
	214.90	215.28	22635	37343	3347	9156	473	69.5	103.9	6.2	15.2	1.5	2.2	0.2	0.6	0.1	30.5	7.32	39.1	-0.3
	215.28	216.05	10532	17075	1534	4234	225	36.1	57.3	3.8	10.2	1.2	1.8	0.2	0.8	0.1	25.4	3.37	25.9	0.3
	216.05	216.85	12256	20084	1836	5109	289	45.9	68.2	4.3	11.1	1.2	1.8	0.1	0.8	0.1	25.4	3.97	30.6	-0.3
	216.85	217.39	16536	27516	2513	7173	392	60.8	89.7	5.2	13.5	1.4	1.9	0.1	0.6	0.1	27.9	5.43	40.2	0.6
	217.39	217.95	12197	19409	1716	4712	246	40.5	61.6	4.1	12.2	1.4	2.4	0.2	1.4	0.2	31.8	3.84	26.8	0.7
	217.95	218.81	20524	40783	4156	12947	850	137.8	212.7	12.2	30.5	2.8	3.5	0.2	1.1	0.1	52.1	7.97	75.4	0.7
	218.81	219.39	4679	9299	964	2811	192	31.5	50.0	3.1	9.2	1.0	1.9	0.2	1.1	0.1	25.4	1.81	20.8	0.3
	219.39	219.95	2686	4987	480	1464	108	19.2	34.8	2.9	11.3	1.5	2.9	0.3	1.8	0.2	40.6	0.98	9.2	0.3
	219.95	220.95	21697	33658	2924	7733	373	57.9	87.5	5.7	16.1	1.7	2.7	0.2	1.3	0.1	36.8	6.66	41.6	0.5
	220.95	221.49	27092	38203	3069	7850	358	55.1	84.1	5.5	14.5	1.7	2.5	0.2	1.3	0.1	36.8	7.68	39.9	1.0
	221.49	222.15	40813	56506	4410	11244	504	77.9	129.1	9.0	23.8	2.4	3.9	0.3	1.5	0.2	50.8	11.38	63.4	0.9
	222.15	222.68	21345	33167	2815	7570	368	54.7	90.1	6.6	18.6	2.0	3.5	0.4	1.8	0.3	44.5	6.55	49.1	0.6
	222.68	223.68	12197	20453	1879	5330	295	44.1	72.2	4.7	12.5	1.2	2.1	0.2	0.9	0.1	25.4	4.03	32.0	0.4
	223.68	224.12	6216	10945	1023	2939	194	28.8	46.0	3.3	9.8	1.1	2.4	0.2	1.1	0.2	26.7	2.14	23.4	0.6
	224.12	225.10	14132	23401	2132	5529	305	44.8	69.2	5.1	13.5	1.6	2.6	0.2	1.4	0.2	34.3	4.57	35.7	0.5
	225.10	226.00	9945	16768	1559	4176	242	35.3	54.4	4.0	10.7	1.2	2.1	0.2	1.0	0.1	26.7	3.28	25.8	0.5
	226.00	227.00	6861	12038	1139	3161	201	31.7	49.5	3.6	9.3	1.1	1.7	0.1	0.8	0.1	21.6	2.35	24.5	-0.3
	227.00	229.00	9852	17136	1679	4269	256	41.1	65.5	4.4	11.1	1.1	1.9	0.2	0.7	0.1	25.4	3.33	27.4	-0.3
	229.00	231.00	7764	13635	1287	3453	204	30.2	47.8	3.1	8.0	0.9	1.5	0.1	0.5	0.1	19.1	2.65	22.3	0.6
	231.00	233.00	7999	13942	1335	3604	219	31.6	49.6	3.3	9.0	1.0	1.6	0.2	0.7	0.1	20.3	2.72	22.8	-0.3
	233.00	235.00	8702	15048	1438	3942	239	36.4	56.4	4.1	10.1	1.3	1.8	0.2	0.7	0.1	25.4	2.95	27.2	-0.3
	235.00	237.00	5676	9925	929	2613	169	25.9	42.1	3.0	8.0	0.9	1.4	0.1	0.7	0.1	19.1	1.94	23.1	2.9
	237.00	239.00	6415	11338	1067	2963	190	28.3	46.3	3.3	9.3	1.0	1.6	0.1	0.7	0.1	22.9	2.21	23.2	1.8
	239.00	241.00	12021	21006	1969	5319	311	46.3	67.8	4.7	13.5	1.4	2.3	0.2	0.9	0.1	30.5	4.08	30.8	1.0
	241.00	243.00	10485	18057	1716	4666	279	41.8	64.6	4.4	11.7	1.3	2.2	0.2	0.8	0.2	25.4	3.54	30.5	0.4
	243.00	245.00	7576	14004	1402	3942	275	43.5	70.2	4.7	13.7	1.6	2.4	0.2	1.0	0.2	30.5	2.74	40.2	-0.3
	245.00	246.91	5747	10343	979	2799	182	26.9	42.0	2.8	8.0	0.9	1.4	0.1	0.6	-0.1	17.8	2.02	20.5	-0.3
	246.91	247.41	12021	20637	1969	5470	348	51.5	81.4	5.2	12.9	1.4	2.2	0.2	0.8	0.1	26.7	4.06	35.7	0.4
	247.41	249.00	10766	18979	1824	5109	326	48.1	74.6	4.8	12.2	1.3	2.1	0.2	0.6	0.1	26.7	3.72	34.7	0.6
	249.00	250.55	12549	21743	2030	5482	317	47.4	68.5	4.7	12.6	1.3	2.2	0.2	0.7	0.1	26.7	4.23	31.4	0.6
	250.55	251.42	10321	16645	1498	3931	237	36.2	58.4	4.2	11.4	1.3	2.1	0.2	0.9	0.1	26.7	3.28	29.7	-0.3
	251.42	252.26	17651	28376	2513	6940	379	58.7	98.8	6.9	18.7	1.8	2.6	0.2	0.8	0.1	38.1	5.61	46.1	0.4
	252.26	252.87	6263	11166	1048	2846	166	26.2	43.5	3.0	8.5	0.8	1.5	0.1	0.6	0.1	19.1	2.16	21.4	-0.3
	252.87	254.00	8702	15601	1474	4094	229	33.9	55.9	3.9	11.0	1.2	1.9	0.2	0.8	0.1	25.4	3.02	26.1	0.4
	254.00	256.00	8221	14864	1426	4117	224	33.5	53.8	3.5	10.2	1.0	1.7	0.1	0.8	0.1	22.9	2.90	24.1	0.5
	256.00	258.00	13546	23278	2132	6054	318	46.0	76.4	4.9	13.1	1.2	1.9	0.2	0.8	0.1	25.4	4.55	30.9	-0.3
	258.00	259.43	15481	25551	2290	6450	327	48.2	75.6	4.7	12.2	1.1	1.8	0.1	0.7	0.1	22.9	5.03	29.4	-0.3
	259.43	261.00	14308	25796	2398	7010	358	53.3	83.1	5.1	13.2	1.3	2.2	0.2	0.9	0.1	26.7	5.01	32.5	-0.3
	261.00	262.35	12021	21128	2018	5692	310	45.2	73.0	4.9	12.4	1.3	2.2	0.2	0.8	0.1	26.7	4.13	29.0	0.4
	262.35	263.14	8386	15109	1456	4141	244	37.2	62.8	4.4	11.4	1.1	1.9	0.2	0.9	0.2	25.4	2.95	25.9	1.5
	263.14	263.38	4937	9410	939	2648	159	25.1	39.4	2.6	7.5	0.8	1.3	0.2	0.6	0.1	17.8	1.82	16.2	-0.3
	263.38	263.67	7647	14311	1377	3942	216	34.3	52.3	3.3	8.8	1.0	1.5	0.2	0.7	0.1	19.1	2.76	20.3	-0.3

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
	263.67	263.92	14953	26779	2477	7127	358	51.9	76.9	4.4	11.7	1.2	2.2	0.2	1.1	0.1	27.9	5.19	34.6	-0.3
	263.92	265.25	9676	17198	1607	4642	238	35.1	53.4	3.2	8.8	0.9	1.6	0.2	0.7	0.1	20.3	3.35	20.9	1.3
	265.25	267.25	5794	10699	1015	2811	163	25.6	40.6	2.6	8.0	1.0	1.7	0.2	0.8	0.1	20.3	2.06	17.8	6.2
	267.25	268.07	7600	14004	1311	3604	204	33.0	51.5	3.6	10.9	1.2	2.2	0.2	1.0	0.1	27.9	2.69	20.9	0.4
	268.07	269.27	12432	22111	2072	5972	306	46.8	68.4	4.1	10.6	1.1	1.5	0.1	0.6	-0.1	21.6	4.30	27.3	0.3
	269.27	270.35	14425	26533	2477	7185	354	52.8	76.8	4.5	11.8	1.2	1.9	0.2	0.9	-0.1	24.1	5.11	29.0	-0.3
	270.35	272.30	11306	19777	1830	5284	274	41.8	63.3	3.9	11.3	1.2	1.9	0.2	0.9	0.1	26.7	3.86	24.7	0.3
	272.30	273.11	15716	25551	2290	6439	328	52.3	81.1	5.3	14.2	1.6	2.5	0.2	1.1	0.1	34.3	5.05	38.0	1.8
	273.11	275.00	11904	20023	1836	5260	276	44.5	68.5	4.4	12.3	1.3	2.1	0.2	0.7	-0.1	26.7	3.95	28.9	0.8
	275.00	275.95	20055	30464	2586	7185	365	58.2	89.6	5.6	14.7	1.5	2.3	0.2	0.9	0.1	30.5	6.09	49.4	0.7
	275.95	276.93	11787	20330	1897	5540	300	46.9	71.8	4.5	12.4	1.3	2.1	0.2	0.8	0.1	27.9	4.00	31.5	0.4
	276.93	278.00	6310	10491	941	2566	147	24.6	39.8	2.9	8.8	1.1	1.8	0.2	0.9	0.1	22.9	2.06	16.0	0.3
	278.00	280.00	1402	2457	227	727	61	12.7	25.8	2.4	9.2	1.3	2.5	0.3	1.5	0.1	31.8	0.50	9.5	12.0
	280.00	282.00	1220	2334	229	752	68	14.5	30.5	3.0	11.1	1.6	3.0	0.3	1.3	0.1	38.1	0.47	4.7	0.5
	282.00	284.00	795	1843	190	666	68	15.1	32.9	3.2	12.3	1.7	3.4	0.3	1.6	0.2	41.9	0.37	3.9	0.3
	284.00	286.00	733	1671	172	591	60	14.1	30.5	3.1	12.6	1.8	3.8	0.3	1.9	0.2	47.0	0.33	4.9	4.3
	286.00	287.94	629	1314	132	448	45	10.2	21.7	2.2	8.6	1.2	2.5	0.3	1.5	0.1	30.5	0.26	3.1	0.3
	287.94	289.13	4304	7125	625	1790	111	18.5	31.2	2.2	6.9	0.8	1.6	0.2	0.9	0.1	19.1	1.40	12.9	0.4
	289.13	290.55	8773	14679	1347	3639	210	34.2	54.1	3.6	9.6	1.1	1.8	0.2	0.8	-0.1	22.9	2.88	20.4	0.6
	290.55	292.55	12842	21620	2000	5785	333	53.6	82.6	5.2	14.2	1.5	2.3	0.2	0.9	0.1	31.8	4.28	33.7	0.5
	292.55	294.55	16830	28253	2573	7453	423	67.5	105.2	6.9	18.5	2.0	3.3	0.3	1.0	0.1	41.9	5.58	37.7	0.6
	294.55	296.53	13663	22910	2102	6065	356	58.1	93.8	6.4	18.8	2.1	3.5	0.3	1.6	0.1	47.0	4.53	33.8	1.6
	296.53	297.53	29906	51593	4712	13647	763	118.7	178.7	10.3	26.5	2.6	3.9	0.3	1.0	0.1	54.6	10.10	70.8	-0.3
	297.53	298.53	32604	61420	5352	15571	924	147.6	234.0	13.6	36.3	3.6	4.7	0.3	1.3	0.1	67.3	11.64	95.9	-0.3
	298.53	299.53	22400	39432	3685	10964	657	106.5	164.3	10.0	25.1	2.4	3.2	0.3	1.0	0.1	47.0	7.75	65.1	0.4
	299.53	300.18	28851	50487	4760	13880	824	127.4	202.9	11.7	29.3	2.8	3.5	0.2	0.8	0.1	50.8	9.92	81.0	-0.3
	300.18	302.00	12373	20637	1885	5389	296	47.1	73.3	4.6	12.9	1.3	1.9	0.2	0.7	-0.1	26.7	4.07	27.6	0.5
	302.00	303.23	8726	15048	1408	3896	232	37.2	57.6	3.6	10.2	1.0	1.6	0.1	0.7	-0.1	22.9	2.94	20.6	0.5
	303.23	304.15	28734	48767	4495	13064	776	123.3	196.5	12.0	29.8	2.8	3.7	0.3	0.8	0.2	52.1	9.63	71.0	-0.3
	304.15	306.15	9547	16092	1480	4362	267	44.9	74.7	5.3	17.0	1.8	3.2	0.3	1.6	0.2	43.2	3.19	28.3	2.4
	306.15	308.21	6016	10331	951	2659	176	29.3	50.3	3.6	10.8	1.3	2.2	0.2	1.0	0.2	27.9	2.03	18.0	1.6
	308.21	310.21	11364	18979	1716	5039	297	49.1	83.1	5.9	18.1	2.1	3.4	0.4	1.6	0.2	47.0	3.76	30.4	0.5
	310.21	312.61	12197	19716	1788	5051	293	46.9	77.0	5.7	17.8	1.9	3.0	0.3	1.1	0.2	41.9	3.92	34.4	0.7
	312.61	314.57	10215	17013	1559	4514	262	41.8	69.2	4.6	13.5	1.5	2.5	0.2	1.0	0.1	34.3	3.37	24.3	0.6
	314.57	316.26	5348	9274	851	2391	154	25.9	45.8	3.3	10.3	1.2	1.9	0.2	0.8	0.1	25.4	1.81	14.8	-0.3
	316.26	317.54	4163	7321	667	2059	152	27.9	54.4	4.8	18.6	2.6	5.5	0.6	3.3	0.4	68.6	1.45	29.1	3.0
	317.54	318.67	4128	7284	662	2053	155	29.9	60.4	5.4	20.0	3.0	6.4	0.7	3.9	0.5	74.9	1.45	28.0	3.0
	318.67	318.91	7213	12137	1122	3044	187	31.5	55.0	4.0	12.2	1.4	2.3	0.2	0.9	0.1	29.2	2.38	17.4	0.9
	318.91	319.64	12021	19839	1800	5051	286	44.5	71.9	4.3	11.4	1.1	1.6	0.1	0.7	0.1	21.6	3.92	28.3	0.4
	319.64	320.11	4961	8218	712	2111	139	23.5	39.4	3.1	9.2	1.1	1.8	0.2	1.0	0.2	22.9	1.62	15.8	0.5
	320.11	321.00	10743	17198	1498	4316	234	36.4	56.9	3.4	9.1	0.9	1.4	0.1	0.5	0.1	17.8	3.41	24.7	1.1
	321.00	322.00	9441	15478	1408	4012	239	38.1	62.1	4.1	10.7	1.1	1.8	0.2	0.8	0.1	22.9	3.07	25.4	0.3
	322.00	323.00	11329	18610	1667	4759	257	40.2	64.9	4.2	10.4	1.0	1.6	0.1	0.6	0.1	20.3	3.68	24.0	0.4
	323.00	324.00	12608	20453	1800	5144	285	47.1	78.2	4.9	13.8	1.4	2.2	0.2	0.7	0.1	27.9	4.05	28.8	0.6
	324.00	324.42	4386	6879	609	1668	98	16.8	30.5	2.1	5.7	0.6	0.9	0.1	0.5	0.1	12.7	1.37	10.8	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
	324.42	325.60	6533	10810	975	2601	154	24.0	40.0	2.7	7.4	0.8	1.5	0.1	0.6	0.1	16.5	2.12	18.0	1.9
	325.60	326.73	8620	13390	1172	3103	181	29.4	51.2	3.6	10.3	1.1	1.9	0.2	0.8	0.1	24.1	2.66	19.2	-0.3
	326.73	327.68	9500	15355	1383	3732	217	33.1	54.4	3.6	9.4	0.9	1.5	0.1	0.6	0.1	20.3	3.03	23.4	1.3
	327.68	328.68	18706	29359	2561	7232	394	62.2	99.4	5.9	15.8	1.6	2.3	0.2	0.9	0.1	33.0	5.85	45.2	0.3
	328.68	329.74	8057	12591	1098	2904	170	27.3	46.5	3.2	9.1	0.9	1.5	0.1	0.6	0.1	20.3	2.49	17.6	-0.3
	329.74	330.74	7037	10957	941	2438	137	22.4	37.7	2.6	7.9	0.8	1.5	0.1	0.7	0.1	17.8	2.16	15.5	0.4
	330.74	331.74	11106	17320	1510	4047	230	37.9	62.9	4.5	13.3	1.5	2.4	0.2	1.0	0.1	31.8	3.44	25.3	-0.3
	331.74	332.74	13780	22111	1945	5424	277	43.9	71.0	5.0	16.1	1.9	3.3	0.3	1.7	0.2	43.2	4.37	35.5	0.5
	332.74	333.74	8655	14372	1305	3488	209	33.7	56.9	4.3	14.5	1.7	3.7	0.3	1.7	0.2	43.2	2.82	28.9	0.6
	333.74	334.74	4691	8120	733	2105	133	22.0	39.3	3.1	11.7	1.6	3.2	0.3	1.8	0.2	40.6	1.59	17.6	0.5
	334.74	335.92	21814	34150	2984	8316	449	70.2	112.0	7.3	20.7	2.2	3.5	0.2	1.3	0.2	44.5	6.80	57.2	0.3
	335.92	336.84	10262	16276	1450	3919	221	35.0	57.3	3.6	9.5	0.9	1.4	0.1	0.5	0.1	17.8	3.23	22.8	0.3
	336.84	338.84	13077	21804	1933	5610	304	46.8	76.3	4.9	13.4	1.5	2.2	0.2	0.7	0.1	30.5	4.29	30.9	0.3
	338.84	340.84	5805	9287	778	2146	119	22.2	33.9	2.2	6.0	0.8	1.4	0.1	0.7	0.1	17.8	1.82	14.2	0.4
	340.84	341.65	9511	14986	1263	3464	184	31.4	47.0	3.1	7.8	0.8	1.4	0.1	0.6	0.1	17.8	2.95	18.8	0.7
	341.65	342.65	7611	11915	997	2764	150	25.2	38.8	2.6	7.1	0.8	1.1	0.2	0.8	0.1	17.8	2.35	14.8	1.0
	342.65	343.65	9957	13881	1067	2834	155	27.8	49.0	3.9	10.9	1.3	2.3	0.2	1.0	0.2	30.5	2.80	24.3	0.9
	343.65	344.65	11013	15478	1192	3114	158	27.7	47.5	3.4	8.5	1.0	1.9	0.2	0.8	0.1	22.9	3.11	21.7	0.6
	344.65	345.05	9054	12530	963	2449	123	20.8	34.5	2.2	5.1	0.5	0.8	0.1	0.3	-0.1	10.2	2.52	14.4	0.5
	345.05	345.66	4011	5995	492	1336	73	12.7	22.4	1.6	5.6	0.6	1.4	0.1	0.5	0.1	15.2	1.20	10.4	0.3
	345.66	346.67	3401	5491	469	1324	77	13.9	23.2	1.7	4.1	0.6	1.0	0.1	0.5	0.1	12.7	1.08	9.3	0.4
	346.67	347.67	298	477	42	121	11	2.8	6.0	0.7	3.0	0.4	0.9	0.1	0.7	0.1	11.4	0.10	1.3	0.3
	347.67	348.67	511	782	65	185	13	3.2	6.6	0.8	2.9	0.5	1.3	0.2	0.9	0.1	15.2	0.16	2.3	0.4
	348.67	349.55	989	1437	115	309	19	3.6	6.1	0.5	0.8	0.1	0.3	-0.1	-0.2	-0.1	3.8	0.29	2.8	0.3
	349.55	350.00	1871	2776	216	573	34	7.1	13.1	1.1	4.0	0.5	1.0	0.1	0.7	0.1	12.7	0.55	5.4	0.5
	350.00	351.00	5817	8378	665	1732	90	16.6	26.2	1.8	5.1	0.5	0.9	0.1	0.5	0.1	12.7	1.67	11.4	2.4
	351.00	351.90	8210	12898	1091	2974	161	27.3	44.3	2.9	7.1	0.7	1.4	0.1	0.7	0.1	17.8	2.54	17.1	1.3
	351.90	352.90	20231	32553	2851	7605	392	66.4	103.0	6.6	16.5	1.6	2.4	0.2	0.7	0.1	34.3	6.39	43.1	1.0
	352.90	353.75	24042	38449	3323	9121	455	76.3	114.7	6.9	16.9	1.6	2.5	0.2	0.8	0.1	31.8	7.56	41.0	0.3
	353.75	355.75	8937	14495	1226	3383	194	32.9	52.7	3.3	8.8	1.0	1.6	0.2	0.9	0.1	22.9	2.84	19.4	0.4
	355.75	357.16	7541	12161	1039	2881	162	29.1	47.5	3.1	8.0	0.8	1.4	0.1	0.6	0.1	19.1	2.39	16.2	0.5
	357.16	358.10	7025	10761	895	2438	137	25.7	46.0	3.3	10.1	1.2	2.2	0.3	1.1	0.1	29.2	2.14	15.1	2.6
	358.10	358.46	6685	11178	980	2823	172	31.2	54.3	3.7	10.9	1.1	1.9	0.2	0.8	0.1	26.7	2.20	20.0	0.8
	358.46	359.69	5430	8341	695	1936	113	21.5	38.8	2.9	9.1	1.1	2.3	0.2	1.1	0.1	27.9	1.66	12.2	2.9
	359.69	360.69	6439	10466	896	2531	155	28.1	51.3	3.8	11.7	1.4	2.9	0.3	1.4	0.2	36.8	2.06	14.4	1.7
	360.69	361.69	9382	15355	1323	3744	209	34.9	55.9	3.5	9.2	1.0	1.9	0.2	0.8	0.1	24.1	3.01	18.8	0.8
	361.69	362.59	8327	13942	1214	3406	197	35.9	61.8	4.3	11.7	1.3	2.6	0.2	1.3	0.1	29.2	2.72	19.5	2.1
	362.59	364.59	7318	12407	1068	3033	172	30.1	49.1	3.1	9.0	1.0	1.7	0.1	0.8	0.1	22.9	2.41	17.9	0.4
	364.59	365.32	9910	16399	1402	3884	219	38.6	63.4	4.2	10.8	1.1	2.1	0.2	0.8	0.1	24.1	3.20	23.2	-0.3
	365.32	366.66	6826	11670	1029	2928	168	30.5	49.6	3.2	9.1	1.0	1.8	0.2	1.1	0.2	24.1	2.27	15.2	-0.3
	366.66	367.77	7131	11621	1080	2986	183	35.4	63.3	5.6	19.2	2.4	4.6	0.5	1.8	0.2	54.6	2.32	17.2	-0.3
	367.77	368.29	9441	16092	1480	4129	234	42.7	68.2	5.3	14.5	1.5	2.7	0.3	1.5	0.2	33.0	3.15	21.1	-0.3
	368.29	369.70	5747	9422	863	2391	139	26.1	42.5	3.3	10.3	1.1	2.1	0.2	1.0	0.1	22.9	1.87	14.4	-0.3
	369.70	370.70	10110	16153	1456	4036	225	40.2	64.9	4.6	13.8	1.5	2.6	0.2	1.0	0.1	31.8	3.21	22.9	0.9
	370.70	372.70	9007	13574	1179	3173	171	29.8	46.2	3.0	8.4	0.9	1.6	0.1	0.7	0.1	16.5	2.72	19.0	1.5

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
	372.70	374.00	8292	13328	1201	3301	181	31.6	47.6	3.3	8.3	0.8	1.1	0.1	0.5	0.1	15.2	2.64	20.2	1.9
	374.00	375.00	6310	9704	861	2356	132	23.6	38.0	2.7	6.8	0.7	1.3	0.1	0.6	0.1	15.2	1.95	15.1	1.8
	375.00	376.28	8339	13942	1293	3639	194	32.2	47.3	3.1	8.4	0.8	1.4	0.1	0.6	0.1	16.5	2.75	21.4	2.1
	376.28	376.95	8491	12714	1125	3103	177	32.0	50.5	3.6	10.7	1.1	2.1	0.2	1.0	0.1	22.9	2.57	18.7	0.3
	376.95	378.95	3389	5258	474	1341	87	16.4	29.5	2.5	9.1	1.1	2.3	0.2	1.1	0.2	26.7	1.06	11.6	3.8
	378.95	381.00	6791	10196	900	2438	141	25.6	41.8	2.9	8.4	0.9	1.8	0.2	0.7	0.1	19.1	2.06	18.6	3.5
	381.00	383.00	6134	9643	875	2414	135	24.2	37.1	2.6	7.2	0.7	1.5	0.1	0.7	0.1	16.5	1.93	15.8	4.8
	383.00	384.12	7752	12960	1206	3336	194	32.8	50.3	3.4	8.8	0.9	1.4	0.2	0.6	0.1	17.8	2.56	20.1	1.5
	384.12	384.43	2568	4349	398	1141	71	13.0	20.3	1.5	4.8	0.6	1.3	0.1	0.7	0.1	11.4	0.86	7.7	0.5
	384.43	386.00	5571	9115	858	2391	136	24.6	38.5	2.9	8.2	0.9	1.7	0.2	0.9	0.1	20.3	1.82	16.0	3.2
	386.00	386.48	1742	3194	313	976	86	20.8	41.7	4.5	19.7	2.8	6.2	0.7	3.4	0.4	68.6	0.65	27.8	6.2
	386.48	388.36	3823	6289	586	1703	123	25.5	47.7	4.3	15.5	2.1	4.5	0.5	2.5	0.4	52.1	1.27	31.5	5.9
	388.36	389.03	2187	3833	366	1067	82	17.1	34.2	3.5	14.2	2.2	5.2	0.6	2.9	0.4	54.6	0.77	31.7	3.9
	389.03	389.76	16771	26656	2501	6590	366	62.8	99.1	6.7	16.8	1.5	2.4	0.2	0.8	0.1	30.5	5.31	52.3	2.6
	389.76	390.76	6943	12407	1226	3558	212	35.7	55.8	3.8	9.4	1.1	2.1	0.2	1.0	0.2	22.9	2.45	20.9	0.9
	390.76	391.87	10684	19102	1975	5669	355	57.9	85.6	5.4	14.0	1.3	2.3	0.2	1.3	0.1	25.4	3.80	42.6	0.8
	391.87	392.90	10520	16215	1450	3942	224	38.4	61.6	4.3	11.8	1.2	2.3	0.2	1.1	0.2	26.7	3.25	28.6	2.4
	392.90	393.80	7963	13758	1317	3732	214	35.3	53.8	3.5	9.5	1.0	1.6	0.2	0.8	0.1	19.1	2.71	22.4	2.0
	393.80	395.00	8468	14004	1305	3663	212	37.5	57.1	3.9	10.2	1.1	1.6	0.2	1.0	0.1	20.3	2.78	21.7	1.2
	395.00	397.00	8010	13942	1335	3802	211	35.3	53.5	3.3	9.0	0.9	1.3	0.2	0.8	0.1	16.5	2.74	19.0	1.1
	397.00	398.21	7412	13021	1244	3546	195	31.5	47.4	3.0	8.0	0.7	1.4	0.1	0.6	0.1	14.0	2.55	17.2	1.0
	398.21	399.32	9476	15969	1522	4152	231	39.3	59.4	4.2	10.4	1.0	1.5	0.1	0.7	0.1	19.1	3.15	22.8	1.0
	399.32	400.32	10133	16768	1534	4292	242	40.2	60.4	3.8	10.4	0.9	1.8	0.2	0.7	0.1	19.1	3.31	24.1	1.1
	400.32	401.87	7705	13390	1287	3523	219	32.0	50.0	3.5	9.0	0.9	1.6	0.2	0.7	0.1	19.1	2.62	19.8	1.3
	401.87	402.67	4773	7997	753	2170	132	22.9	35.3	2.5	7.5	0.9	1.9	0.2	1.3	0.2	20.3	1.59	12.9	1.3
	402.67	404.38	6310	10048	915	2601	158	25.2	41.0	2.7	7.5	0.8	1.3	0.1	0.6	0.1	15.2	2.01	14.6	2.6
	404.38	406.00	20993	33412	3093	8655	480	74.6	118.7	7.2	18.9	1.7	2.7	0.2	0.9	0.1	33.0	6.69	62.0	0.7
	406.00	407.93	11716	20084	1939	5272	312	48.8	78.5	5.1	12.6	1.3	2.3	0.2	0.9	0.2	24.1	3.95	40.3	0.8
	407.93	408.50	10321	17505	1619	4467	279	45.2	72.8	4.2	11.7	1.2	1.8	0.2	0.8	0.1	22.9	3.44	30.9	1.3
	408.50	410.00	9136	14802	1347	3826	234	37.8	61.6	3.9	10.3	1.0	1.5	0.1	0.7	0.1	19.1	2.95	23.8	1.4
	410.00	412.00	6403	10712	986	2834	168	27.6	44.5	2.9	7.9	0.9	1.5	0.2	0.7	0.1	17.8	2.12	17.6	0.3
	412.00	414.00	7999	14372	1383	4059	252	39.5	61.9	3.6	10.0	1.0	1.8	0.1	0.8	0.1	19.1	2.82	25.0	3.0
	414.00	416.00	7353	12345	1166	3406	220	34.9	57.8	4.1	10.4	1.2	2.2	0.2	0.9	0.2	25.4	2.46	21.4	1.9
	416.00	418.00	5817	10392	991	2963	183	28.7	47.1	2.9	7.6	0.9	1.5	0.2	0.7	0.1	17.8	2.05	20.9	3.8
	418.00	418.73	12021	20453	1987	5634	369	57.4	97.3	6.3	15.4	1.6	2.6	0.2	0.9	0.1	33.0	4.07	38.6	1.2
	418.73	419.51	3706	6535	628	1913	128	22.0	36.8	2.6	8.5	1.1	2.2	0.2	0.9	0.2	24.1	1.30	14.2	4.5
	419.51	420.11	6415	10871	1011	2939	199	33.8	56.9	3.8	10.6	1.1	1.8	0.2	0.9	0.1	24.1	2.16	23.0	0.7
	420.11	421.30	3952	7272	710	2146	141	22.9	40.7	2.8	9.2	1.2	2.3	0.2	1.3	0.2	26.7	1.43	14.4	1.3
	421.30	422.59	6122	10736	1020	3009	183	27.2	43.8	2.7	7.0	0.7	1.3	0.2	0.7	0.1	15.2	2.12	15.8	1.3
	422.59	423.69	10872	18917	1861	5109	308	49.0	77.3	4.8	12.2	1.3	2.1	0.2	0.9	0.1	25.4	3.72	28.6	0.9
	423.69	425.84	9195	15662	1456	4164	266	43.5	71.9	4.7	13.3	1.4	2.4	0.2	1.0	0.1	27.9	3.09	35.7	1.9
	425.84	426.27	21286	33535	3178	9191	601	99.2	165.4	10.2	26.6	2.5	3.5	0.3	0.9	0.2	48.3	6.81	68.2	1.0
	426.27	427.64	6415	10147	924	2624	165	26.4	43.6	2.8	7.5	0.9	1.4	0.1	0.7	0.1	16.5	2.04	17.7	2.5
	427.64	428.00	14484	26411	2561	7208	415	62.8	97.6	5.8	18.0	1.8	2.9	0.2	1.3	0.1	36.8	5.13	59.9	0.6
	428.00	428.59	6169	10810	1054	3114	198	29.9	49.8	3.1	8.2	0.9	1.4	0.1	0.7	0.1	17.8	2.15	18.6	0.6

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
	428.59	429.55	9570	16461	1565	4596	295	46.6	73.7	4.7	11.3	1.1	1.7	0.1	0.8	0.1	21.6	3.26	28.8	2.2
	429.55	430.15	16888	29236	2755	7803	484	78.0	124.5	7.6	20.4	1.9	2.9	0.2	0.7	0.1	35.6	5.74	51.3	0.9
	430.15	431.00	11458	19163	1782	4911	321	52.8	88.2	5.3	14.5	1.4	2.2	0.2	0.8	0.1	26.7	3.78	48.0	0.9
	431.00	433.00	8644	14925	1402	4129	262	40.5	66.3	4.3	11.0	1.1	1.8	0.1	0.7	0.1	21.6	2.95	26.0	0.8
	433.00	434.27	7752	15109	1559	4386	274	43.0	69.3	4.3	11.6	1.2	2.1	0.2	0.9	0.1	25.4	2.92	34.9	3.1
	434.27	434.70	8796	12530	1083	3009	202	35.3	59.7	4.0	10.1	1.0	1.5	0.1	0.5	0.1	19.1	2.58	24.2	0.4
	434.70	435.68	13956	20023	1740	4654	306	50.4	90.4	6.1	16.3	1.8	3.1	0.2	1.3	0.2	35.6	4.09	38.7	0.5
	435.68	436.41	7565	12407	1137	3266	197	30.1	51.6	3.3	8.3	0.9	1.8	0.1	0.6	0.1	19.1	2.47	21.9	0.7
	436.41	437.90	15891	24015	2253	6182	422	73.4	129.7	9.2	25.0	2.6	3.8	0.3	0.9	0.2	50.8	4.91	61.7	2.0
	437.90	438.65	15305	25305	2477	6963	509	88.1	151.0	9.2	24.0	2.4	3.5	0.3	1.0	0.2	40.6	5.09	82.8	0.5
	438.65	439.98	14777	25674	2525	7943	573	91.8	157.3	10.0	23.8	2.4	3.3	0.3	1.3	0.2	44.5	5.18	82.4	1.1
	439.98	442.00	8186	15232	1504	4491	245	34.2	53.1	3.3	8.6	1.0	1.6	0.2	0.8	0.1	21.6	2.98	25.2	0.9
	442.00	444.00	7846	14434	1414	4211	239	34.6	55.6	3.5	8.5	1.0	1.5	0.2	0.8	0.1	19.1	2.83	25.2	1.7
	444.00	444.93	2580	4508	414	1254	112	22.7	51.3	5.2	19.1	2.8	6.3	0.7	4.3	0.6	77.5	0.91	37.3	5.2
	444.93	447.00	1272	2273	224	752	89	20.4	50.5	5.8	23.4	3.9	9.2	1.0	5.6	0.7	105.4	0.48	24.8	9.1
	447.00	449.00	1724	3022	295	967	106	22.7	57.2	6.4	27.3	4.4	10.2	1.1	6.6	0.8	120.6	0.64	21.6	9.4
	449.00	451.00	2662	5172	510	1668	158	32.0	72.5	7.6	30.5	4.7	10.8	1.2	6.4	0.7	127.0	1.05	53.4	8.8
	451.00	453.00	2023	3747	359	1148	111	22.5	51.4	5.7	22.5	3.6	8.0	0.9	4.8	0.6	94.0	0.76	49.9	9.9
	453.00	455.15	2340	3894	353	1077	94	19.0	43.6	4.6	18.4	2.9	6.6	0.7	4.2	0.5	80.0	0.79	23.1	9.0
	455.15	456.26	7400	14188	1402	4246	239	34.4	54.6	3.7	9.6	1.2	2.1	0.2	1.0	0.1	25.4	2.76	26.8	1.9
	456.26	458.00	5031	10011	1048	2963	178	25.1	40.1	2.5	5.6	0.6	1.1	0.1	0.6	0.1	14.0	1.93	15.6	1.9
	458.00	460.00	4750	9618	1004	2904	176	25.1	39.2	2.5	5.7	0.7	1.1	0.1	0.7	0.1	15.2	1.85	15.4	4.0
	460.00	462.00	8022	15785	1595	4864	270	37.1	57.1	3.5	8.0	0.9	1.4	0.1	0.6	0.1	17.8	3.07	25.9	3.4
	462.00	463.42	5067	10208	1064	2998	183	26.3	41.4	2.7	6.0	0.7	1.0	0.1	0.5	0.1	14.0	1.96	17.8	3.4
	463.42	464.89	11845	21313	2012	5727	292	41.8	67.3	4.5	11.1	1.3	2.2	0.2	0.9	0.1	25.4	4.13	33.2	1.1
	464.89	466.08	7025	13820	1414	4316	227	30.8	45.3	2.9	7.5	0.9	1.5	0.1	0.7	0.1	17.8	2.69	21.4	2.0
	466.08	467.75	15012	28622	2827	8596	468	66.9	105.1	7.8	21.8	2.4	3.7	0.3	1.5	0.2	52.1	5.58	62.2	1.6
	467.75	469.75	4844	9225	948	2589	146	20.4	33.4	2.2	5.6	0.7	1.3	0.1	0.7	0.1	15.2	1.78	14.0	3.2
	469.75	471.75	8421	16215	1613	4876	264	36.8	58.4	3.6	9.1	1.0	1.7	0.1	0.8	0.1	21.6	3.15	26.1	2.8
	471.75	472.90	5559	10798	1097	3313	173	24.2	36.9	2.4	7.0	0.9	1.5	0.2	0.7	0.1	19.1	2.10	14.2	1.5
	472.90	474.90	4668	9188	951	2683	161	22.7	37.6	2.7	6.4	0.8	1.5	0.1	0.7	0.1	17.8	1.77	16.9	3.5
	474.90	476.90	4726	9360	952	2671	152	21.2	33.0	2.3	5.5	0.7	1.3	0.1	0.6	0.1	15.2	1.79	14.4	6.1
	476.90	477.84	4093	8144	843	2403	147	20.8	34.5	2.5	7.0	0.8	1.4	0.1	0.7	0.1	19.1	1.57	21.2	9.6
	477.84	478.52	3636	7186	750	2158	132	18.5	30.9	2.6	7.5	1.0	1.5	0.1	0.8	0.1	20.3	1.39	21.8	12.2
	478.52	479.16	4070	7223	701	2205	136	22.7	36.2	2.8	10.3	1.2	1.9	0.2	1.0	0.2	25.4	1.44	24.8	6.7
	479.16	479.95	7811	14679	1474	4444	274	42.7	74.1	6.0	16.9	1.7	2.4	0.2	0.8	0.1	35.6	2.89	59.1	2.3
	479.95	481.51	5805	10503	1050	3406	238	38.3	61.0	4.4	14.9	1.5	2.2	0.2	0.8	0.1	30.5	2.12	51.4	4.7
	481.51	482.80	4351	8304	835	2333	146	22.1	37.3	2.7	7.5	0.9	1.5	0.1	0.8	0.1	20.3	1.61	19.2	9.3
	482.80	483.76	11529	20821	2000	5809	318	48.5	78.6	5.6	13.7	1.4	2.3	0.2	1.0	0.1	30.5	4.07	40.3	4.9
	483.76	484.13	3554	6965	684	1965	119	16.7	25.8	1.7	5.3	0.7	1.1	0.1	0.7	0.1	14.0	1.34	12.0	8.8
	484.13	485.28	3319	6768	694	2135	163	26.4	45.5	3.4	11.0	1.3	2.4	0.2	1.1	0.2	29.2	1.32	19.8	9.4
	485.28	487.47	5629	10773	1039	2951	170	24.8	36.0	2.5	7.4	0.9	1.7	0.2	0.8	0.1	19.1	2.07	17.1	4.4
	487.47	488.22	2234	4263	414	1172	71	10.5	16.1	1.3	3.9	0.6	1.0	0.1	0.7	0.1	12.7	0.82	10.7	12.8
	488.22	488.83	15950	27148	2477	6835	378	55.9	84.6	5.9	16.9	1.6	2.3	0.1	0.6	0.1	30.5	5.30	40.6	1.5
	488.83	489.13	4504	8157	756	2094	125	17.4	28.2	2.0	6.0	0.7	1.3	0.1	0.5	0.1	15.2	1.57	13.8	8.8

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
	489.13	490.05	12256	22848	2235	6497	422	67.3	110.1	8.0	24.0	2.5	3.4	0.2	1.0	0.1	48.3	4.45	73.4	1.0
	490.05	490.94	6896	12775	1226	3476	220	33.8	57.3	5.1	16.3	1.7	2.3	0.2	0.7	0.1	31.8	2.47	57.0	2.2
	490.94	491.71	8808	15662	1528	4152	267	41.3	70.2	5.8	19.1	1.9	3.0	0.2	0.8	0.1	40.6	3.06	57.2	1.1
	491.71	493.16	2780	5430	541	1621	115	17.8	30.0	2.1	7.5	0.9	1.6	0.2	0.8	0.2	19.1	1.06	19.0	8.0
	493.16	493.60	4515	8218	770	2181	134	19.9	30.3	2.3	6.8	0.7	1.4	0.1	0.8	0.1	15.2	1.59	16.0	6.6
	493.60	494.62	10895	18795	1740	4596	267	40.3	65.5	5.3	16.3	1.7	2.5	0.2	0.9	0.1	33.0	3.65	47.0	3.7
	494.62	495.28	3296	6007	570	1621	103	15.8	25.2	2.0	5.7	0.8	1.1	0.1	0.7	0.1	15.2	1.17	15.8	4.9
	495.28	496.61	16361	28990	2694	7523	417	62.3	95.8	7.5	22.8	2.4	3.3	0.3	0.9	0.1	50.8	5.62	72.6	1.8
	496.61	497.23	4855	8869	832	2327	140	20.4	32.6	2.5	8.4	1.0	1.7	0.2	0.8	0.1	21.6	1.71	19.2	7.3
	497.23	498.41	6134	11191	1058	2986	182	27.3	44.6	3.8	11.5	1.3	1.8	0.2	0.7	0.1	25.4	2.17	30.9	3.9
	498.41	499.47	10637	17812	1637	4397	277	43.7	72.0	6.0	18.5	2.0	2.9	0.2	0.9	0.1	41.9	3.49	39.5	2.2
	499.47	500.54	3601	6732	645	1872	121	18.5	30.2	2.5	8.0	0.9	1.4	0.1	0.6	0.1	19.1	1.31	20.3	11.8
	500.54	501.65	9007	17136	1698	4689	275	40.0	60.6	5.3	17.7	1.9	2.6	0.2	0.8	0.1	39.4	3.30	42.2	2.1
	501.65	502.02	4269	8021	772	2199	135	20.2	31.8	2.5	7.8	0.8	1.5	0.1	0.5	0.1	17.8	1.55	16.6	10.8
	502.02	502.88	8034	15846	1673	4922	395	65.5	111.3	8.2	23.9	2.4	3.3	0.2	1.0	0.2	45.7	3.11	77.8	3.0
	502.88	504.00	3448	6707	663	1930	121	18.1	28.4	2.1	6.5	0.7	1.3	0.1	0.5	0.1	15.2	1.29	18.8	6.4
	504.00	504.97	2181	4287	439	1324	94	14.0	23.4	1.7	4.5	0.6	1.0	0.1	0.6	0.1	12.7	0.84	12.4	4.3
	504.97	505.54	11705	21251	2066	5657	354	53.5	85.1	6.1	17.7	1.7	2.3	0.1	0.6	0.1	31.8	4.12	61.3	4.5
	505.54	506.41	3694	7076	692	2059	134	20.0	33.0	2.5	7.7	0.9	1.1	0.1	0.6	0.1	19.1	1.37	20.6	8.5
	506.41	507.16	2826	5675	568	1703	110	15.3	24.0	1.7	5.4	0.7	1.1	0.1	0.7	0.1	15.2	1.09	10.3	10.8
	507.16	507.58	10426	20146	2024	5750	353	51.8	78.8	6.3	19.2	2.1	3.0	0.2	0.8	0.1	45.7	3.89	44.6	2.7
	507.58	508.64	1120	2346	234	716	50	8.3	13.6	1.2	4.7	0.6	1.3	0.1	0.7	0.1	16.5	0.45	6.6	4.8
	508.64	509.32	4058	7579	739	2181	143	21.5	34.8	2.6	7.8	0.8	1.4	0.1	0.7	0.1	17.8	1.48	16.8	9.4
	509.32	509.81	7119	13390	1275	3674	228	34.6	59.0	5.7	22.2	2.4	3.2	0.2	1.1	0.2	54.6	2.59	48.2	2.1
	509.81	511.81	3049	6019	609	1837	130	19.6	34.2	2.7	8.3	1.0	1.4	0.1	0.7	0.1	21.6	1.17	23.4	8.3
	511.81	512.68	2404	4975	500	1522	102	16.4	26.4	1.8	5.3	0.6	1.1	0.1	0.8	-0.1	14.0	0.96	12.5	7.6
	512.68	513.62	4574	9041	900	2729	181	29.4	51.3	3.7	11.6	1.2	2.1	0.1	0.9	0.1	26.7	1.76	31.4	6.2
	513.62	514.71	5559	9987	932	2683	167	26.8	47.3	3.5	10.2	1.1	1.8	0.1	0.8	-0.1	24.1	1.94	27.6	6.0
	514.71	515.28	13135	24445	2441	6812	434	70.1	126.2	10.5	32.8	3.2	4.7	0.2	1.6	0.1	69.8	4.76	123.0	2.2
	515.28	516.78	2627	5061	488	1464	98	15.5	29.1	2.0	6.4	0.9	1.6	0.1	0.8	0.1	17.8	0.98	18.8	10.0
	516.78	518.00	7084	13574	1311	3931	240	36.9	61.8	4.6	13.5	1.4	2.3	0.1	0.9	-0.1	30.5	2.63	42.2	6.8
	518.00	520.00	2909	5810	564	1697	108	16.7	30.5	2.7	9.5	1.2	1.7	0.1	0.8	-0.1	21.6	1.12	22.6	7.1
	520.00	521.32	3624	7370	718	2164	132	20.4	39.3	3.5	13.1	1.4	2.1	0.2	0.9	-0.1	33.0	1.41	33.7	5.1
	521.32	523.28	10966	19347	1836	4946	288	44.4	73.0	5.7	18.8	1.9	3.0	0.2	0.9	0.1	41.9	3.76	46.7	5.5
	523.28	523.85	8526	15969	1571	4444	266	39.5	65.9	4.6	16.9	1.7	2.6	0.2	0.9	0.2	40.6	3.09	39.9	6.0
	523.85	525.08	5055	9655	944	2776	175	28.3	49.3	4.1	14.6	1.5	2.5	0.2	1.0	0.2	35.6	1.87	44.7	7.6
	525.08	526.00	3589	6830	668	1977	129	21.4	38.3	3.2	11.6	1.3	2.1	0.2	0.9	0.1	29.2	1.33	34.3	7.3
	526.00	527.82	2955	5749	541	1592	98	15.8	27.6	2.4	8.7	1.0	1.6	0.1	0.7	0.1	22.9	1.10	22.2	5.5
	527.82	528.47	3741	7125	683	2006	125	19.9	34.0	2.5	7.5	0.8	1.6	0.1	0.8	-0.1	20.3	1.38	21.5	8.3
	528.47	530.75	101	197	20	62	5	0.8	1.8	0.2	1.3	0.2	0.6	-0.1	0.7	0.1	7.6	0.04	2.7	0.8
	530.75	531.60	3483	6658	634	1919	126	20.8	40.0	3.8	13.2	1.3	2.5	0.2	1.3	0.1	29.2	1.29	39.1	9.4
	531.60	533.60	3882	7125	677	1977	127	20.8	38.3	3.3	10.7	1.2	1.7	0.1	1.0	0.1	25.4	1.39	33.8	6.2
	533.60	535.68	4386	8034	752	2216	136	22.5	44.1	4.1	14.0	1.4	2.1	0.1	1.0	-0.1	29.2	1.56	48.6	4.5
	535.68	536.59	5137	9459	889	2566	162	26.1	48.8	4.6	15.4	1.7	2.6	0.2	1.1	0.1	39.4	1.84	37.5	9.0
	536.59	538.20	4410	8218	785	2315	160	27.3	51.8	4.5	15.2	1.8	3.3	0.2	1.5	0.1	40.6	1.60	39.1	8.4

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
	538.20	538.79	7224	14127	1347	3896	234	34.5	59.8	4.4	13.1	1.4	1.9	0.1	0.9	-0.1	30.5	2.70	25.6	3.5
	538.79	539.87	17827	31324	2924	7838	436	67.9	115.8	8.8	25.4	2.5	3.5	0.2	1.4	0.1	57.2	6.06	75.5	2.8
	539.87	540.46	7107	12898	1203	3441	202	31.7	54.9	4.8	14.7	1.5	2.6	0.1	0.9	0.1	35.6	2.50	42.5	1.9
	540.46	541.10	7025	13021	1208	3453	195	29.8	47.4	3.5	9.4	1.0	1.6	0.1	0.9	-0.1	22.9	2.50	24.8	1.0
	541.10	541.62	2381	4791	475	1516	124	22.5	48.9	4.2	14.9	1.9	4.1	0.3	1.9	0.2	49.5	0.94	9.9	5.7
	541.62	542.62	3131	5847	549	1668	110	17.6	32.6	2.5	7.8	0.9	1.9	0.1	0.9	-0.1	21.6	1.14	11.1	8.2
	542.62	544.06	3788	6854	640	1872	123	19.7	35.2	2.7	8.4	1.1	1.8	0.1	1.0	0.1	24.1	1.34	15.4	4.9
	544.06	544.74	9476	15724	1450	4094	270	49.3	84.7	6.4	22.2	2.7	5.3	0.6	3.0	0.3	66.0	3.13	36.4	7.3
	544.74	546.61	4762	8218	781	2251	140	23.5	37.5	2.4	6.8	0.7	1.1	0.1	0.8	0.1	16.5	1.62	13.9	4.8
	546.61	547.66	4738	8230	797	2368	155	25.5	40.5	2.8	7.9	1.0	2.2	0.2	1.6	0.2	24.1	1.64	17.2	5.6
	547.66	548.53	6345	11731	1150	3289	203	33.2	51.4	3.8	11.4	1.2	2.3	0.2	0.9	0.1	30.5	2.29	27.1	1.4
	548.53	550.00	5113	9520	952	2823	185	32.1	55.7	4.3	13.2	1.3	2.4	0.2	1.1	0.1	31.8	1.87	34.5	5.3
	550.00	551.25	2252	4238	426	1271	88	15.1	23.6	1.5	4.9	0.6	1.0	0.1	0.7	0.1	12.7	0.83	8.7	7.2
	551.25	552.94	4879	8660	838	2414	145	24.8	38.8	2.6	7.2	0.8	1.4	0.1	0.8	0.1	19.1	1.70	17.9	3.0
	552.94	553.48	5805	10761	1070	3184	203	33.9	53.5	3.8	11.0	1.1	1.7	0.2	1.0	0.1	24.1	2.12	33.1	6.5
	553.48	554.03	4105	7420	730	2117	125	20.8	34.4	2.7	8.6	0.9	1.8	0.1	0.8	0.1	22.9	1.46	20.2	1.3
	554.03	554.60	11083	19962	2018	5517	319	49.6	75.5	5.3	14.0	1.4	2.2	0.2	0.9	0.1	31.8	3.91	37.9	0.6
	554.60	555.07	2404	4336	411	1172	71	11.9	21.7	2.1	8.3	0.9	1.6	0.1	0.8	0.1	22.9	0.85	25.0	0.6
	555.07	555.61	8550	15416	1516	4327	276	47.7	76.4	4.8	13.1	1.1	1.5	0.1	0.5	0.1	22.9	3.03	40.5	1.2
	555.61	556.15	468	872	87	261	20	4.8	11.5	1.6	4.9	0.4	0.6	0.1	0.3	-0.1	10.2	0.17	34.0	-0.3
	556.15	556.47	4140	7702	785	2368	159	27.6	44.5	3.5	10.6	1.2	2.4	0.2	1.4	0.2	29.2	1.53	38.7	0.7
	556.47	557.81	6274	11744	1186	3476	208	35.1	60.7	5.1	14.5	1.3	1.7	0.2	0.7	0.1	27.9	2.30	68.3	1.0
	557.81	558.20	4715	9385	948	2823	189	30.2	49.7	3.3	10.3	1.1	1.7	0.2	0.8	0.2	22.9	1.82	29.6	0.9
	558.20	559.31	6228	10699	1011	2811	164	27.7	45.6	3.7	11.7	1.2	2.3	0.2	1.3	0.2	30.5	2.10	36.6	0.7
	559.31	560.10	1853	3476	338	1005	63	10.5	16.4	1.2	4.1	0.6	1.3	0.2	0.9	0.1	14.0	0.68	5.3	-0.3
	560.10	560.83	5641	10834	1110	3348	202	31.3	44.6	2.8	7.0	0.9	1.6	0.1	0.9	0.1	17.8	2.12	15.2	0.6
	560.83	561.59	5301	10122	1034	3103	197	32.7	48.1	3.2	7.8	0.9	1.7	0.2	0.9	0.1	19.1	1.99	15.8	3.5
	561.59	561.87	3413	6461	642	1930	121	21.2	36.4	3.1	9.4	1.0	1.7	0.1	0.8	0.1	21.6	1.27	33.3	10.4
	561.87	563.59	6802	11928	1149	3394	221	38.3	61.4	4.7	14.0	1.3	1.9	0.2	1.0	0.2	27.9	2.36	48.7	3.9
	563.59	563.80	1047	2064	204	609	39	6.8	11.0	0.9	3.4	0.4	1.0	0.1	0.9	0.1	12.7	0.40	3.3	0.3
	563.80	564.65	7905	14311	1395	3919	217	35.3	51.8	3.5	9.0	1.0	1.7	0.2	0.9	0.1	21.6	2.79	24.2	3.0
	564.65	566.16	12608	22910	2320	6322	362	56.3	86.1	5.5	13.5	1.2	2.2	0.2	0.8	0.1	26.7	4.47	43.6	1.1
	566.16	567.35	6063	11092	1092	3196	194	31.2	49.3	3.5	9.4	1.0	1.5	0.1	0.7	0.1	21.6	2.18	26.3	2.5
	567.35	568.82	9465	17628	1770	4911	281	42.6	63.2	4.0	10.2	1.0	1.6	0.1	0.7	0.1	21.6	3.42	28.2	2.3
	568.82	569.93	7999	14802	1474	4304	249	38.1	59.0	3.7	8.6	0.9	1.5	0.1	1.0	0.1	19.1	2.90	25.9	4.0
	569.93	570.21	6462	11891	1189	3464	206	33.0	47.8	3.1	7.5	0.7	1.5	0.1	0.7	0.1	15.2	2.33	20.1	4.3
	570.21	570.81	10110	18303	1849	5167	306	50.0	74.0	4.7	11.4	1.1	1.8	0.1	0.8	0.1	21.6	3.59	34.2	3.2
	570.81	571.56	15246	25674	2380	7278	462	74.8	121.0	7.9	18.1	1.9	2.9	0.3	1.0	0.2	34.3	5.13	64.3	1.1
	571.56	572.40	6908	13574	1371	4199	227	32.9	50.7	3.4	8.7	1.0	1.8	0.2	0.9	0.2	21.6	2.64	21.9	3.4
	572.40	573.58	7189	14434	1462	4607	248	35.9	54.2	3.4	7.9	0.9	1.7	0.1	0.7	0.1	17.8	2.81	24.3	3.1
	573.58	574.84	8386	16768	1698	5330	312	47.1	74.2	4.9	12.7	1.3	1.8	0.2	0.6	0.1	24.1	3.27	43.1	2.9
	574.84	575.30	27092	48153	4784	14872	939	150.0	221.9	13.0	37.5	3.7	5.2	0.3	1.5	0.2	63.5	9.63	153.5	1.2
	575.30	576.30	6896	13635	1365	4246	253	38.3	66.6	5.5	16.2	1.9	3.0	0.3	1.4	0.2	40.6	2.66	51.2	2.9
	576.30	577.56	5278	10368	1054	3231	196	30.5	50.3	3.3	8.8	1.0	2.1	0.2	1.0	0.2	22.9	2.02	22.1	1.4
	577.56	578.55	2498	4938	480	1522	98	15.3	28.2	2.5	7.1	0.9	1.7	0.2	1.1	0.2	21.6	0.96	33.6	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
	578.55	579.62	6016	11375	1126	3429	207	32.2	51.5	3.6	8.4	0.9	1.4	0.1	0.6	0.1	17.8	2.23	40.5	0.8
	579.62	581.11	4656	9016	910	2683	175	26.2	44.5	3.5	9.1	1.0	1.6	0.1	0.8	0.1	21.6	1.75	36.4	3.8
	581.11	581.90	10825	21866	2193	6847	383	56.0	87.3	5.9	15.2	1.5	2.2	0.1	0.7	0.1	27.9	4.23	60.2	1.4
	581.90	582.95	7670	15601	1589	5109	312	48.5	81.5	5.8	15.6	1.6	2.5	0.2	1.0	0.1	33.0	3.05	52.4	1.7
	582.95	583.55	6744	14434	1522	4911	299	43.9	68.7	4.3	10.0	1.0	1.5	0.1	0.7	0.1	17.8	2.81	37.4	0.7
	583.55	585.55	4879	9778	997	2881	179	26.5	41.8	2.8	6.8	0.8	1.5	0.2	0.8	0.1	17.8	1.88	22.1	6.5
	585.55	587.55	5360	10871	1118	3441	183	25.5	38.8	2.4	5.3	0.6	1.0	0.1	0.6	0.1	12.7	2.11	16.0	4.0
	587.55	588.60	7107	13942	1377	4257	229	33.8	51.2	3.2	7.8	0.9	1.5	0.1	0.8	0.1	17.8	2.70	21.4	3.0
	588.60	589.70	8081	15109	1474	4432	237	33.6	52.9	3.6	9.0	1.0	1.7	0.2	0.9	0.1	20.3	2.95	23.5	1.6
	589.70	591.06	5899	10601	1022	2846	165	23.7	37.8	2.6	6.0	0.7	1.4	0.1	0.7	0.1	15.2	2.06	15.8	11.8
	591.06	592.16	10543	17812	1613	4747	247	36.7	59.4	4.0	9.2	1.1	1.8	0.1	0.8	0.1	20.3	3.51	24.1	3.6
	592.16	592.75	13839	22603	2018	5890	320	48.8	77.5	4.9	10.4	1.0	1.7	0.1	0.7	0.1	19.1	4.48	36.4	1.3
	592.75	593.85	9066	15601	1432	4129	219	32.4	53.7	3.8	9.0	1.0	1.7	0.2	0.9	0.1	20.3	3.06	20.2	8.1
	593.85	594.53	7928	13574	1244	3639	186	27.0	42.7	3.0	7.4	0.9	1.6	0.2	0.9	0.1	20.3	2.67	18.9	3.9
	594.53	595.97	9887	16829	1522	4444	232	33.7	52.9	3.5	8.7	1.0	1.7	0.1	0.8	0.1	20.3	3.30	24.4	3.5
	595.97	596.81	8221	13635	1232	3593	195	29.3	48.2	3.3	9.3	1.2	1.9	0.2	1.0	0.2	24.1	2.70	21.6	1.3
	596.81	598.35	12549	20883	1885	5517	284	41.2	66.2	4.3	10.8	1.3	2.5	0.2	1.1	0.2	27.9	4.13	27.4	1.8
	598.35	599.20	4011	7407	727	2094	130	19.5	32.2	2.2	5.2	0.7	1.3	0.1	0.7	0.1	15.2	1.44	14.2	2.5
	599.20	601.00	8374	14679	1383	4211	244	37.1	62.8	4.8	12.9	1.4	2.4	0.2	1.0	0.1	30.5	2.90	50.1	1.7
	601.00	602.47	7271	12407	1150	3406	195	31.4	51.5	3.9	11.0	1.2	2.2	0.2	1.1	0.2	26.7	2.46	24.4	1.2
	602.47	603.00	29555	48522	4362	12772	727	108.8	173.5	11.5	27.4	2.7	4.0	0.3	1.3	0.2	49.5	9.63	81.9	1.6
	603.00	604.76	8550	14495	1353	3989	230	35.6	57.9	3.9	10.1	1.1	2.1	0.2	1.0	0.1	24.1	2.88	27.7	3.2
	604.76	605.12	4597	8095	771	2105	130	21.3	38.6	3.1	9.2	1.2	2.4	0.3	1.5	0.2	27.9	1.58	16.7	5.0
	605.12	607.00	13429	23647	2229	6695	366	53.6	85.2	5.4	13.5	1.4	2.2	0.2	0.9	0.2	29.2	4.66	36.8	1.1
	607.00	608.00	11669	19716	1818	5319	312	50.5	92.3	8.2	23.8	2.6	4.0	0.3	1.4	0.2	55.9	3.91	90.4	3.1
	608.00	609.00	7271	12653	1207	3581	208	32.8	56.1	4.5	12.5	1.4	2.3	0.2	1.0	0.2	31.8	2.51	37.9	1.3
	609.00	610.03	8761	15171	1402	4164	221	32.3	54.6	4.2	12.4	1.5	2.9	0.3	1.5	0.2	35.6	2.99	27.0	2.3
	610.03	611.39	3718	6732	665	1866	119	18.5	31.5	2.2	5.6	0.8	1.5	0.2	1.0	0.2	17.8	1.32	14.0	6.7
	611.39	612.09	8550	14802	1402	4176	252	39.1	64.8	4.2	10.2	1.1	2.2	0.2	1.3	0.2	26.7	2.93	27.5	0.9
	612.09	613.00	6157	10073	930	2484	144	21.3	36.4	2.5	6.5	0.8	1.6	0.2	1.0	0.1	19.1	1.99	15.6	2.0
	613.00	614.05	9711	15785	1426	4071	214	31.8	51.1	3.6	8.8	1.0	1.7	0.2	0.9	0.1	22.9	3.13	21.6	2.2
	614.05	616.05	7916	13205	1207	3534	197	29.8	48.8	3.3	8.3	1.0	1.8	0.2	0.9	0.1	21.6	2.62	21.3	4.7
	616.05	617.00	10274	17075	1540	4304	230	34.3	54.2	3.7	8.8	1.0	1.7	0.2	0.8	0.1	21.6	3.35	23.5	1.6
	617.00	618.00	12197	21620	2036	6007	304	43.4	67.9	4.5	10.6	1.1	1.9	0.2	0.8	0.1	22.9	4.23	31.9	2.2
	618.00	619.02	7353	11903	1074	2869	168	25.4	41.0	2.8	6.7	0.8	1.5	0.1	0.7	0.1	17.8	2.35	18.6	3.1
	619.02	619.71	16243	26288	2380	6940	379	56.0	92.0	6.0	14.2	1.5	2.3	0.2	0.8	0.1	30.5	5.24	40.3	1.4
	619.71	621.00	6896	12775	1238	3732	208	30.2	48.2	3.0	7.6	0.9	1.5	0.1	0.7	0.1	19.1	2.50	26.2	0.4
	621.00	622.00	5618	10343	1000	2753	165	25.2	41.5	2.9	7.6	0.9	1.7	0.1	0.9	0.1	20.3	2.00	23.1	0.5
	622.00	623.00	12549	21374	1969	5750	293	41.5	63.6	3.9	9.4	1.0	1.7	0.1	0.8	0.1	20.3	4.21	26.1	1.0
	623.00	623.80	7776	14004	1353	3954	212	29.8	45.2	2.9	7.1	0.8	1.5	0.1	0.7	0.1	17.8	2.74	19.6	1.2
	623.80	625.80	2099	4275	430	1435	125	22.5	46.9	4.3	15.2	2.2	4.2	0.4	2.3	0.3	53.3	0.85	21.5	10.2
	625.80	626.95	2909	5565	534	1715	136	24.8	50.5	4.2	15.2	2.0	3.7	0.4	2.1	0.2	50.8	1.10	17.5	6.9
	626.95	627.87	9617	16583	1540	4537	244	36.8	64.7	6.0	17.7	1.8	2.7	0.2	1.0	0.2	40.6	3.27	55.2	1.4
	627.87	629.59	8855	15416	1450	4281	240	37.5	64.7	4.9	12.5	1.1	1.4	0.1	0.5	0.1	21.6	3.04	58.6	1.2
	629.59	631.55	4820	8439	802	2210	136	23.0	50.3	5.4	15.8	1.5	2.2	0.1	0.8	0.1	33.0	1.65	104.0	2.6

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
	631.55	632.88	4128	7506	733	2076	148	25.6	53.9	6.5	26.5	3.6	7.2	0.7	3.9	0.5	102.9	1.48	74.3	6.2
	632.88	634.87	3366	6044	569	1726	128	22.6	43.3	3.8	10.7	1.3	2.3	0.2	1.4	0.2	31.8	1.20	48.0	15.6
	634.87	635.77	18002	29113	2610	7640	435	66.5	119.3	9.1	23.5	2.2	3.1	0.2	1.0	0.1	48.3	5.81	88.4	3.1
	635.77	637.00	14719	23831	2114	6322	384	61.1	108.1	8.3	23.5	2.3	3.2	0.2	1.0	0.1	48.3	4.76	68.2	1.0
	637.00	638.00	15246	24814	2253	6648	395	60.6	102.2	7.0	18.1	1.9	2.9	0.2	0.8	0.1	39.4	4.96	58.7	1.4
	638.00	639.00	8245	14188	1359	4082	260	40.6	69.9	5.1	14.5	1.7	3.4	0.4	1.9	0.3	41.9	2.83	36.4	1.1
	639.00	639.88	13370	25059	2525	7523	480	79.8	117.6	7.9	22.0	2.3	4.0	0.3	1.3	0.2	49.5	4.92	63.7	1.2
	639.88	641.88	3026	5221	495	1487	118	23.5	45.0	4.3	14.6	2.0	4.4	0.4	2.2	0.3	53.3	1.05	29.1	15.9
	641.88	643.88	3178	5872	591	1820	139	26.1	48.3	5.5	23.0	3.1	6.4	0.7	4.1	0.6	87.6	1.18	43.3	12.2
	643.88	644.57	5723	11092	1108	3336	232	40.0	61.1	4.4	11.5	1.2	1.9	0.2	0.9	0.1	26.7	2.16	44.9	5.1
	644.57	646.28	3530	6191	591	1715	113	19.2	30.3	2.3	6.1	0.8	1.4	0.2	0.9	0.1	19.1	1.22	21.4	11.4
	646.28	646.53	10637	18856	1824	5027	293	46.7	67.1	4.5	11.1	1.2	2.2	0.2	0.7	0.1	25.4	3.68	41.1	1.2
	646.53	647.19	3354	6326	629	1884	126	20.4	32.2	2.1	6.0	0.8	1.5	0.2	0.9	0.2	19.1	1.24	18.6	10.2
	647.19	647.79	3026	5258	503	1505	114	22.5	42.5	3.7	12.2	1.5	3.1	0.3	1.6	0.2	39.4	1.05	37.9	13.2
	647.79	649.76	2615	4582	453	1400	116	24.0	47.7	4.7	17.0	2.4	5.3	0.6	3.1	0.4	67.3	0.93	36.7	14.1
	649.76	651.76	13370	22234	2078	5692	325	53.0	76.5	5.3	14.1	1.5	2.4	0.2	0.9	0.1	33.0	4.39	41.9	2.4
	651.76	653.09	9617	16706	1619	4491	264	43.3	64.3	4.7	11.6	1.2	2.1	0.2	0.7	0.1	26.7	3.29	38.7	2.4
	653.09	654.90	6861	12468	1201	3476	206	32.8	48.8	3.9	11.3	1.2	2.2	0.2	0.8	0.1	27.9	2.43	45.4	1.7
	654.90	656.93	10414	17628	1649	4561	260	43.8	70.4	6.3	17.6	1.6	2.6	0.2	0.7	0.1	36.8	3.47	80.7	3.7
	656.93	657.35	5008	9029	869	2543	166	29.6	56.4	7.1	26.4	3.0	5.2	0.5	2.5	0.4	78.7	1.78	79.2	2.3
	657.35	659.00	8843	14741	1371	3802	228	39.6	71.1	6.7	20.7	2.0	3.0	0.2	0.9	0.2	44.5	2.92	126.5	3.7
	659.00	660.07	14308	22971	2108	5750	347	61.5	105.4	10.3	30.3	2.8	4.0	0.3	1.4	0.3	58.4	4.58	155.0	1.9
	660.07	661.00	18413	28253	2537	6567	363	58.9	86.1	6.1	14.7	1.4	2.5	0.2	0.8	0.2	30.5	5.63	59.6	1.9
	661.00	661.98	8303	14311	1383	3861	237	39.6	58.9	4.1	10.3	0.9	1.8	0.1	0.7	0.1	21.6	2.82	37.1	1.2
	661.98	662.69	16361	25674	2290	6135	356	58.5	86.9	6.6	16.5	1.7	2.7	0.2	0.8	0.1	34.3	5.10	60.3	1.8
	662.69	663.68	8397	14188	1329	3756	216	35.6	52.1	3.7	9.1	1.0	1.8	0.2	0.8	0.1	21.6	2.80	29.2	3.4
	663.68	664.10	10027	16706	1595	4339	262	42.7	61.8	4.1	11.7	1.2	2.1	0.2	0.9	0.2	26.7	3.31	33.7	2.1
	664.10	665.31	7905	13328	1238	3499	210	35.6	53.1	3.9	9.5	1.0	1.9	0.1	0.6	0.1	21.6	2.63	29.2	2.7
	665.31	666.24	12021	20084	1879	5074	328	50.8	80.1	5.3	12.7	1.2	1.9	0.1	0.6	0.1	24.1	3.96	41.6	3.4
	666.24	668.59	7869	13635	1269	3523	227	34.5	56.4	4.1	10.8	1.2	1.7	0.1	0.8	0.1	24.1	2.67	30.9	7.4
	668.59	669.43	9359	16891	1637	4537	295	45.5	71.8	4.7	11.6	1.1	1.8	0.1	0.6	0.1	20.3	3.29	34.4	1.7
	669.43	671.00	7201	12714	1208	3394	210	31.3	47.8	3.2	8.4	0.9	1.7	0.1	0.7	0.1	19.1	2.48	22.4	2.9
	671.00	673.00	4973	8611	803	2286	152	23.9	38.8	2.7	7.5	0.8	1.5	0.1	0.7	0.1	16.5	1.69	17.9	4.6
	673.00	675.00	9570	16891	1637	4456	282	43.7	71.1	5.3	14.8	1.6	2.3	0.2	0.9	0.1	33.0	3.30	49.5	3.9
	675.00	677.00	5665	10122	964	2788	171	27.9	43.8	3.4	10.0	1.0	2.1	0.2	1.0	0.1	25.4	1.98	32.9	5.9
	677.00	677.59	7752	12530	1132	3173	186	31.8	53.1	4.5	14.9	1.6	2.6	0.3	1.1	0.2	39.4	2.49	61.1	6.8
	677.59	678.16	5782	10147	936	2484	157	24.4	45.3	4.1	13.1	1.5	2.4	0.3	1.1	0.2	35.6	1.96	46.3	4.3
	678.16	679.29	7424	13820	1317	3966	230	35.2	56.6	4.2	13.0	1.5	2.1	0.2	1.0	0.2	31.8	2.69	46.8	4.5
	679.29	680.32	6286	10761	1003	2671	179	30.1	58.6	5.9	19.3	2.1	3.1	0.3	1.3	0.2	47.0	2.11	96.4	3.6
	680.32	681.20	8843	15969	1516	4502	271	40.1	66.3	4.7	14.0	1.6	2.9	0.3	1.6	0.2	38.1	3.13	46.0	2.3
	681.20	682.20	10602	20699	2024	6264	390	58.8	93.7	6.1	16.1	1.6	2.4	0.2	0.9	0.1	34.3	4.02	67.4	1.4
	682.20	683.20	6439	12714	1275	3977	263	41.3	67.8	4.6	14.7	1.8	3.3	0.3	1.8	0.3	43.2	2.48	28.0	1.3
	683.20	683.76	4715	9201	925	2659	185	29.0	50.3	4.1	12.9	1.5	2.5	0.2	1.1	0.2	35.6	1.78	31.9	1.2
	683.76	684.69	5336	9471	886	2379	151	24.1	40.9	2.9	7.5	0.9	1.7	0.2	0.9	0.1	20.3	1.83	18.7	4.6
	684.69	685.64	7283	13512	1269	3732	216	32.9	50.1	3.3	8.2	1.0	1.7	0.1	0.8	0.1	21.6	2.61	25.4	4.5

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
	685.64	686.59	18413	31079	2767	7990	470	73.3	119.9	7.9	19.7	2.0	3.0	0.2	1.0	0.2	41.9	6.10	68.0	1.0
	686.59	687.24	4257	7370	675	1825	121	18.5	30.9	2.1	5.4	0.7	1.1	0.1	0.6	0.1	15.2	1.43	15.2	12.5
	687.24	687.50	6474	11486	1080	3149	200	31.8	52.1	3.6	9.1	1.1	2.1	0.2	1.1	0.2	25.4	2.25	24.4	1.2
	687.50	688.63	3859	6584	597	1610	106	16.7	28.7	2.1	5.9	0.8	1.4	0.1	0.8	0.1	17.8	1.28	14.2	9.8
	688.63	689.46	12432	20207	1794	5225	329	51.3	85.4	5.6	13.8	1.4	1.9	0.2	0.7	0.1	29.2	4.02	48.7	1.9
	689.46	691.00	8808	15355	1432	4152	260	40.4	64.6	4.0	10.1	1.1	1.6	0.1	0.8	0.1	22.9	3.02	30.3	8.2
	691.00	692.45	3847	6916	652	1767	116	18.1	30.5	2.3	6.0	0.8	1.6	0.2	0.8	0.1	19.1	1.34	14.4	9.6
	692.45	692.75	8714	14618	1341	3826	239	39.4	63.3	4.2	11.0	1.3	1.8	0.2	0.8	0.1	27.9	2.89	32.7	1.8
	692.75	694.28	5547	9987	946	2531	168	27.6	48.4	4.1	13.3	1.5	2.3	0.2	0.9	0.1	33.0	1.93	37.6	5.7
	694.28	696.00	3120	5982	568	1691	130	21.8	40.0	3.0	9.2	1.2	2.4	0.2	1.1	0.1	27.9	1.16	25.8	11.6
	696.00	697.00	4656	8906	866	2391	161	25.7	46.8	4.3	12.7	1.4	1.8	0.2	0.9	0.1	30.5	1.71	52.8	9.2
	697.00	698.08	6263	11670	1122	3313	211	33.6	59.5	5.2	18.9	2.5	4.5	0.5	2.6	0.3	64.8	2.28	43.9	1.7
	698.08	700.00	4644	9016	896	2531	177	28.4	51.3	4.3	13.5	1.4	2.2	0.2	0.9	0.1	33.0	1.74	44.5	7.1
	700.00	701.14	4175	8218	817	2274	154	24.2	40.7	2.9	7.5	0.9	1.5	0.2	0.8	0.1	19.1	1.57	24.5	7.5
	701.14	702.15	7166	13144	1269	3732	226	35.0	56.4	3.6	9.1	1.0	1.7	0.1	0.9	0.1	21.6	2.57	25.8	5.2
	702.15	702.72	14660	24814	2241	6613	391	61.0	102.8	7.3	19.5	2.0	2.7	0.2	1.0	0.1	41.9	4.90	52.5	1.4
	702.72	703.77	6333	11793	1161	3488	226	37.9	69.2	5.4	13.5	1.3	1.7	0.1	0.7	0.1	26.7	2.32	85.2	5.6
	703.77	705.47	6591	12468	1197	3604	225	36.1	62.5	4.5	12.4	1.3	1.9	0.2	0.9	0.1	29.2	2.42	51.4	4.1
	705.47	706.81	8890	15662	1528	4386	286	49.2	84.7	6.9	21.7	2.1	2.9	0.2	0.8	0.2	43.2	3.10	71.0	2.4
	706.81	707.92	6005	10834	1050	3138	199	32.4	52.1	4.4	13.5	1.6	1.9	0.2	0.8	0.1	31.8	2.14	29.8	5.2
	707.92	708.59	4081	7739	771	2321	138	21.2	30.4	2.2	6.9	0.8	1.5	0.1	0.8	0.1	17.8	1.51	16.8	5.3
	708.59	709.38	5477	10061	988	2939	181	28.3	43.0	3.3	9.8	1.1	1.7	0.2	0.8	0.1	22.9	1.98	21.1	5.5
	709.38	710.74	5360	10110	1000	3009	189	30.6	48.3	3.7	11.6	1.3	1.9	0.2	0.9	0.1	26.7	1.98	30.0	6.0
	710.74	712.08	3401	6203	609	1825	115	18.8	28.2	2.1	6.0	0.7	1.0	0.1	0.7	0.1	15.2	1.22	16.2	9.7
	712.08	712.40	11728	19102	1843	5319	369	63.9	104.1	7.0	18.5	1.9	2.9	0.2	0.8	0.2	34.3	3.86	53.8	6.5
	712.40	713.83	7436	12407	1171	3418	223	37.3	59.5	4.0	11.6	1.3	2.4	0.2	1.3	0.2	27.9	2.48	30.2	5.7
	713.83	714.50	4316	7420	726	2280	181	33.9	59.2	4.8	15.7	2.1	3.7	0.3	1.7	0.2	47.0	1.51	19.5	7.6
	714.50	715.51	9699	17075	1673	4806	298	48.5	73.9	4.7	12.6	1.4	2.2	0.2	0.7	0.1	26.7	3.37	39.5	2.7
	715.51	716.16	6403	11596	1126	3348	204	33.1	56.8	4.7	16.0	1.8	2.7	0.2	1.1	0.2	38.1	2.28	46.8	2.5
	716.16	717.08	8315	14372	1402	4036	247	43.0	71.5	5.3	14.6	1.5	2.3	0.2	0.8	0.1	30.5	2.85	60.9	4.3
	717.08	717.71	10602	18549	1800	5167	325	55.4	88.3	7.0	21.2	2.4	4.1	0.4	1.9	0.3	53.3	3.67	49.6	1.8
	717.71	719.41	7224	12837	1232	3628	229	39.1	66.7	5.6	16.6	1.9	3.1	0.3	1.3	0.2	40.6	2.53	55.1	3.7
	719.41	720.51	8667	14434	1389	3884	246	43.2	71.5	5.6	17.0	2.0	3.1	0.4	1.5	0.3	41.9	2.88	43.2	2.6
	720.51	720.93	13898	21988	2060	5785	376	64.5	108.5	7.9	20.8	2.0	2.9	0.3	0.9	0.1	40.6	4.44	81.7	2.7
	720.93	722.27	17006	26902	2501	7162	480	82.8	133.1	9.1	23.1	1.9	2.6	0.2	0.7	0.1	38.1	5.43	72.8	2.7
	722.27	724.29	9734	16706	1613	4596	289	48.9	77.6	5.5	14.9	1.5	2.4	0.2	0.9	0.2	30.5	3.31	51.5	3.3
	724.29	724.90	8737	14434	1389	4036	274	46.4	79.0	6.3	17.1	1.9	3.0	0.3	1.4	0.2	41.9	2.91	56.4	3.7
	724.90	726.21	22928	38817	3637	10778	668	111.6	172.9	12.0	32.3	3.1	4.0	0.3	1.4	0.2	59.7	7.72	115.5	3.6
	726.21	726.57	9453	16399	1613	4619	283	46.1	76.5	6.4	19.2	2.0	3.1	0.3	1.3	0.1	43.2	3.26	70.2	8.1
	726.57	726.95	1443	2702	263	842	55	8.8	14.6	1.7	7.8	0.9	1.4	0.2	1.0	0.1	20.3	0.54	16.3	1.0
	726.95	728.00	6720	12407	1214	3639	228	36.6	56.4	3.9	11.5	1.3	2.3	0.2	1.3	0.1	31.8	2.44	23.1	4.3
	728.00	730.00	5676	10527	1041	3114	180	27.6	41.2	2.9	9.1	1.0	1.6	0.1	0.8	0.1	21.6	2.06	23.5	3.0
	730.00	730.93	7224	14065	1492	4351	260	38.7	55.9	3.5	10.4	1.3	2.1	0.2	0.9	0.1	27.9	2.75	25.9	4.7
	730.93	731.65	7576	13144	1269	3721	244	41.1	68.1	5.4	17.6	2.1	4.2	0.4	1.9	0.3	52.1	2.61	32.3	5.0
	731.65	732.53	6005	10601	1021	3009	185	29.8	47.5	3.9	12.9	1.5	2.3	0.2	1.1	0.2	34.3	2.10	30.1	3.6

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
	732.53	733.07	6110	11142	1095	3231	198	32.4	50.0	4.1	10.9	1.1	1.7	0.1	0.5	0.1	21.6	2.19	42.4	1.1
	733.07	733.51	5149	10368	1063	3254	211	34.7	54.8	3.9	12.1	1.4	2.7	0.3	1.4	0.2	35.6	2.02	36.0	1.2
	733.51	735.07	6427	12051	1184	3569	212	32.8	52.2	4.5	13.5	1.5	2.1	0.2	0.7	0.2	29.2	2.36	52.3	4.9
	735.07	736.74	8995	16522	1698	4677	305	49.0	85.3	6.6	20.1	2.1	3.5	0.3	1.4	0.2	44.5	3.24	65.1	2.2
	736.74	738.23	4891	9704	990	2951	190	29.2	46.6	3.0	8.8	1.0	1.9	0.1	0.7	0.1	20.3	1.88	20.0	5.8
	738.23	739.12	11200	20637	2090	5797	343	50.1	78.3	5.1	14.2	1.6	2.9	0.2	1.0	0.1	34.3	4.03	42.9	3.1
	739.12	739.56	9981	16583	1559	4164	253	41.0	66.6	4.4	10.7	1.2	2.2	0.2	0.7	0.1	26.7	3.27	31.0	2.0
	739.56	740.44	9007	15662	1547	4246	262	41.2	70.1	5.0	13.9	1.4	2.4	0.2	0.9	0.1	30.5	3.09	49.8	2.6
	740.44	741.24	12490	21558	2126	5890	354	55.4	99.5	8.1	22.7	2.1	3.0	0.2	1.0	0.1	43.2	4.27	94.3	3.2
	741.24	742.60	6204	11363	1107	3219	208	34.3	62.2	5.9	18.3	1.9	3.1	0.3	1.3	0.2	40.6	2.23	60.2	1.7
	742.60	744.56	8186	14802	1480	4106	239	37.3	63.4	5.0	14.5	1.6	2.3	0.2	1.0	0.1	31.8	2.90	50.7	7.5
	744.56	745.13	8655	15294	1474	4106	248	40.1	67.8	5.4	16.5	1.7	2.3	0.2	0.6	0.1	30.5	2.99	60.6	2.4
	745.13	746.12	9605	18057	1849	5249	335	53.7	89.6	6.4	18.1	1.7	2.5	0.2	0.7	0.1	35.6	3.53	71.7	6.0
	746.12	746.76	5747	11154	1122	3313	210	33.4	56.7	4.2	12.4	1.2	1.8	0.1	0.6	0.1	25.4	2.17	43.6	7.3
	746.76	747.94	7013	12468	1200	3418	212	32.8	57.5	4.7	14.7	1.6	2.7	0.2	1.0	0.1	35.6	2.45	40.6	4.5
	747.94	748.97	9242	17075	1746	4876	300	46.9	77.5	5.5	16.5	1.9	3.1	0.3	1.3	0.2	38.1	3.34	36.8	5.4
	748.97	749.59	12197	21128	2060	5575	335	52.8	90.5	6.8	21.0	2.3	3.5	0.3	1.3	0.1	47.0	4.15	58.9	2.7
	749.59	751.10	6497	11658	1119	3138	190	29.5	50.9	4.6	16.1	2.1	3.8	0.4	1.8	0.3	49.5	2.28	31.7	5.5
	751.10	752.05	15364	27025	2658	7442	441	66.9	107.9	7.0	19.2	2.0	3.1	0.2	0.9	0.1	38.1	5.32	54.5	3.4
	752.05	753.05	8292	14557	1408	3942	244	36.6	62.2	4.0	11.1	1.3	2.4	0.2	1.0	0.2	26.7	2.86	28.4	3.8
	753.05	753.80	7916	13881	1305	3616	218	34.2	56.8	3.8	9.6	1.0	1.6	0.1	0.5	0.1	19.1	2.71	26.4	7.3
	753.80	754.58	5325	8992	830	2274	135	19.9	33.8	2.3	5.5	0.7	1.0	0.1	0.3	0.1	11.4	1.76	16.8	2.0
	754.58	755.21	8538	15048	1462	3954	237	37.3	63.9	4.9	13.9	1.5	2.5	0.2	0.9	0.1	31.8	2.94	34.3	5.7
	755.21	756.39	24160	37098	3395	9261	576	92.9	154.5	10.3	26.4	2.7	3.8	0.3	0.9	0.1	50.8	7.48	95.1	3.8
	756.39	756.71	6673	11572	1098	3079	200	32.8	58.7	4.7	15.6	2.0	3.7	0.3	1.8	0.3	45.7	2.28	31.3	10.8
	756.71	757.95	9500	17136	1710	4677	270	41.6	66.6	4.8	14.5	1.6	2.6	0.2	0.9	0.2	33.0	3.35	31.4	6.4
	757.95	759.29	8866	15048	1395	3861	226	35.0	58.7	4.7	15.5	1.7	2.9	0.3	1.0	0.2	39.4	2.96	38.4	7.7
	759.29	760.69	8163	13881	1305	3616	228	36.7	62.4	4.5	13.5	1.7	3.1	0.2	1.3	0.2	35.6	2.74	34.8	4.6
	760.69	762.14	6310	11940	1214	3569	248	41.6	77.1	7.0	22.4	2.3	3.8	0.3	1.6	0.2	53.3	2.35	73.1	1.9
	762.14	762.59	22225	34641	3202	8830	564	91.8	164.8	12.0	32.1	3.1	4.5	0.3	1.0	0.2	63.5	6.98	119.5	2.3
	762.59	763.63	9007	14864	1371	3814	242	40.2	72.4	5.4	15.2	1.5	2.3	0.2	0.6	0.1	29.2	2.95	60.0	2.9
	763.63	764.59	5993	10405	996	2834	184	31.8	63.4	6.2	21.6	2.3	3.8	0.3	1.4	0.2	54.6	2.06	93.8	6.1
	764.59	765.09	7893	13205	1232	3464	220	38.1	69.2	5.9	18.6	2.0	2.9	0.2	0.6	0.1	40.6	2.62	68.2	3.3
	765.09	766.38	4527	8648	865	2566	171	27.9	49.3	4.3	14.9	1.6	2.5	0.2	1.3	0.2	35.6	1.69	43.3	5.7
	766.38	767.84	8526	14557	1383	3884	270	45.7	81.8	7.7	23.5	2.3	3.2	0.2	1.0	0.1	49.5	2.88	75.3	3.9
	767.84	768.79	8057	14434	1426	3954	267	43.5	72.8	5.8	15.7	1.5	1.9	0.2	0.6	0.1	27.9	2.83	64.9	3.7
	768.79	769.67	5911	9631	888	2508	176	30.0	52.4	4.6	13.8	1.5	2.2	0.2	0.9	0.1	33.0	1.93	46.4	4.1
	769.67	771.22	7611	14065	1395	3931	250	38.8	60.2	4.4	13.3	1.4	2.4	0.2	0.8	0.1	31.8	2.74	33.5	4.2
	771.22	772.68	9289	16891	1667	4677	297	47.1	72.0	5.3	14.5	1.6	2.4	0.2	0.9	0.2	33.0	3.30	38.4	3.5
	772.68	774.85	5641	10589	1043	3033	190	29.5	45.2	3.3	9.1	1.1	1.9	0.2	0.8	0.1	20.3	2.06	25.4	7.2
	774.85	776.61	7013	12714	1238	3628	245	38.8	60.5	4.4	13.2	1.5	2.6	0.2	0.9	0.1	33.0	2.50	33.4	3.5
	776.61	777.99	5231	8758	825	2508	156	25.6	42.3	3.1	11.8	1.4	2.5	0.2	1.0	0.2	34.3	1.76	17.8	2.2
	777.99	778.05	5817	10036	935	2613	170	27.7	44.4	3.3	11.7	1.5	2.5	0.2	1.1	0.1	33.0	1.97	22.8	1.8
	778.05	779.59	6720	12284	1186	3406	222	34.7	55.7	4.1	13.2	1.4	2.5	0.2	1.1	0.1	33.0	2.40	32.5	5.0

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
	779.59	780.62	10977	19409	1879	5225	326	51.0	77.3	5.1	15.4	1.6	2.5	0.2	0.8	0.1	33.0	3.80	40.2	3.7
	780.62	781.74	5618	10441	1016	2963	190	30.3	48.5	3.8	12.6	1.5	2.1	0.2	0.7	0.1	27.9	2.04	32.8	3.7
	781.74	782.78	6486	12284	1214	3523	226	35.2	54.4	4.2	10.9	1.3	1.8	0.2	0.7	0.1	25.4	2.39	31.7	3.4
	782.78	784.16	7881	13697	1323	3686	245	40.4	64.8	4.8	13.9	1.5	2.4	0.2	1.1	0.1	30.5	2.70	37.7	4.1
	784.16	784.98	15833	26042	2392	6672	417	68.4	108.7	8.2	21.1	2.0	2.5	0.2	0.6	0.1	38.1	5.16	72.9	4.6
	784.98	786.11	6169	11572	1141	3348	213	33.5	50.1	3.5	9.1	1.0	1.7	0.2	0.7	0.1	20.3	2.26	24.0	3.6
	786.11	786.72	4363	8955	936	2846	190	29.9	47.6	3.8	10.8	1.0	1.4	0.1	0.5	0.1	20.3	1.74	50.3	3.3
	786.72	787.94	7975	15478	1601	4537	293	43.3	65.5	4.2	10.3	1.1	1.7	0.1	0.8	0.1	22.9	3.00	29.5	3.8
	787.94	788.23	10274	17628	1685	4491	277	43.9	69.5	5.3	13.7	1.4	2.3	0.2	0.7	0.1	29.2	3.45	46.5	1.2
	788.23	789.46	7787	15109	1571	4549	304	46.1	73.3	5.8	17.3	1.8	2.5	0.2	0.9	0.2	38.1	2.95	54.2	2.1
	789.46	790.62	7365	13574	1353	3826	249	40.4	63.5	4.5	14.0	1.5	2.6	0.3	1.4	0.2	34.3	2.65	32.5	2.9
	790.62	791.38	6533	12775	1335	3826	248	38.3	57.6	4.0	11.9	1.2	2.1	0.2	0.8	0.1	26.7	2.49	27.8	3.7
	791.38	791.91	11587	19716	1861	5109	334	54.4	91.5	7.2	20.9	1.9	2.6	0.2	0.7	0.1	39.4	3.88	60.9	1.3
	791.91	792.26	9265	16645	1637	4479	285	45.6	76.3	6.3	18.8	1.9	2.4	0.2	0.6	0.1	38.1	3.25	61.8	2.5
	792.26	793.15	4339	7284	678	1890	126	20.4	34.7	2.9	10.1	1.2	2.3	0.2	0.8	0.1	29.2	1.44	19.6	1.2
	793.15	793.77	7999	14311	1389	3942	259	41.3	65.9	4.9	14.6	1.7	2.5	0.2	0.8	0.1	35.6	2.81	32.9	3.2
	793.77	795.05	9500	15846	1480	3966	252	41.2	69.9	5.5	16.8	1.9	2.9	0.2	1.0	0.1	39.4	3.12	48.5	1.5
	795.05	796.05	7893	13082	1180	3243	206	34.5	57.1	4.9	15.8	1.9	2.9	0.3	1.0	0.2	38.1	2.58	40.6	1.6
	796.05	796.87	7377	13021	1299	3441	224	36.8	64.8	4.7	17.0	1.7	2.6	0.2	1.0	0.1	38.1	2.55	42.7	4.5
	796.87	797.40	7565	13390	1317	3523	220	34.4	56.9	4.0	14.7	1.6	2.2	0.2	1.0	0.1	34.3	2.62	34.1	1.7
	797.40	798.34	8761	15908	1571	4456	267	42.2	65.9	4.5	16.0	1.5	2.4	0.2	0.9	0.2	33.0	3.11	37.7	2.5
	798.34	800.34	5641	10564	1056	2893	182	28.8	47.4	3.3	12.2	1.2	1.9	0.2	0.9	0.1	26.7	2.05	26.7	3.9
	800.34	802.34	4961	9213	929	2531	161	25.6	43.8	3.0	10.4	1.1	2.1	0.2	1.0	0.1	25.4	1.79	22.5	4.7
	802.34	804.23	6533	11682	1156	3149	203	32.4	55.6	3.7	12.1	1.2	2.1	0.2	0.8	0.1	26.7	2.29	26.8	4.5
	804.23	804.69	7189	12468	1226	3278	221	36.7	66.0	4.6	14.7	1.5	2.2	0.2	0.9	0.1	30.5	2.45	34.9	7.2
	804.69	806.00	5583	11080	1153	3336	208	31.7	52.1	3.6	12.4	1.2	2.1	0.2	0.9	0.1	27.9	2.15	30.8	2.5
	806.00	807.30	3049	5626	535	1551	102	16.9	30.8	2.3	8.4	0.8	1.3	0.1	0.5	0.1	17.8	1.09	24.7	2.4
	807.30	808.88	5899	11092	1127	3091	193	30.2	51.8	3.7	14.4	1.6	2.2	0.2	1.0	0.2	34.3	2.15	30.5	3.0
	808.88	809.92	2580	4668	440	1260	81	13.2	23.6	2.3	9.4	1.0	1.4	0.1	0.8	0.1	24.1	0.91	19.0	8.2
	809.92	810.63	7717	14864	1504	4491	285	42.3	71.8	6.5	23.0	2.4	3.2	0.3	1.0	0.2	47.0	2.91	66.5	2.3
	810.63	811.38	5160	9889	1000	2939	190	29.5	52.9	5.6	23.9	3.0	5.2	0.5	2.5	0.3	71.1	1.94	50.4	4.6
	811.38	812.59	4855	9041	917	2741	185	29.8	52.1	4.1	11.9	1.2	1.8	0.2	0.7	0.1	24.1	1.79	44.3	4.9
	812.59	813.76	3988	7506	760	2292	173	31.6	63.1	6.3	25.8	3.3	5.8	0.6	3.1	0.5	77.5	1.49	41.2	9.6
	813.76	814.05	5887	10675	1060	3091	212	35.0	61.7	4.7	13.1	1.2	1.6	0.1	0.5	0.1	21.6	2.11	47.9	2.9
	814.05	815.88	3518	6609	680	2053	162	29.1	57.6	5.6	20.0	2.1	3.2	0.3	1.6	0.3	49.5	1.32	48.2	8.7
	815.88	817.11	18413	27639	2410	6462	399	66.5	117.0	8.6	23.8	2.2	2.7	0.2	0.8	0.1	40.6	5.56	72.7	4.2
	817.11	818.36	6814	10761	969	2659	172	30.0	55.9	5.0	17.0	1.9	3.0	0.3	1.5	0.2	40.6	2.15	45.5	6.6
	818.36	819.71	3319	6056	581	1674	111	18.8	33.7	2.7	9.5	1.1	1.8	0.2	0.8	0.1	25.4	1.18	21.4	6.8
	819.71	821.30	3530	6093	578	1650	115	20.0	36.8	2.8	10.0	1.3	2.5	0.2	1.4	0.2	27.9	1.21	15.7	5.5
	821.30	821.85	4973	8071	742	2070	129	20.7	36.4	2.9	10.7	1.4	2.1	0.2	0.8	0.1	30.5	1.61	17.7	2.2
	821.85	822.43	15774	24015	2114	5692	343	54.7	90.1	6.1	17.5	1.8	2.6	0.2	0.9	0.1	34.3	4.81	41.6	1.7
	822.43	822.79	2967	5589	553	1656	118	19.8	35.3	2.6	8.6	1.1	2.1	0.2	1.0	0.1	25.4	1.10	12.7	3.2
	822.79	823.15	12725	21436	1981	5505	341	52.9	84.4	5.6	13.7	1.3	2.2	0.2	0.9	0.1	26.7	4.22	41.6	0.6
	823.15	823.95	8163	13451	1232	3383	205	32.1	52.6	3.7	11.1	1.3	2.3	0.2	1.3	0.1	27.9	2.66	27.4	2.1
	823.95	825.34	6016	10466	1015	2893	184	28.8	46.8	3.0	9.4	0.9	1.6	0.1	0.7	0.1	19.1	2.07	22.2	9.8

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
	825.34	827.23	8902	15109	1408	3954	249	39.6	63.4	4.0	10.8	1.1	1.8	0.2	0.9	0.1	21.6	2.98	32.0	3.7
	827.23	828.75	4328	7383	712	2030	133	21.2	35.3	2.4	6.7	0.8	1.6	0.1	0.9	0.1	15.2	1.47	16.6	8.2
	828.75	829.31	2381	4287	413	1213	81	13.0	21.8	1.5	4.5	0.5	1.1	0.2	0.7	0.1	11.4	0.84	11.9	10.3
	829.31	830.84	5313	8795	832	2368	155	26.5	41.8	2.8	8.0	0.8	1.5	0.2	0.8	0.1	17.8	1.76	25.4	6.0
	830.84	832.84	2088	3747	364	1078	76	13.1	22.4	2.0	7.4	1.0	1.7	0.2	0.9	0.2	21.6	0.74	11.4	3.6
	832.84	834.84	8655	15416	1504	4327	284	46.0	71.5	4.7	12.6	1.4	2.5	0.2	1.0	0.1	26.7	3.04	34.6	4.2
	834.84	836.84	6978	12051	1166	3429	223	36.0	58.0	3.8	11.9	1.3	2.2	0.2	0.9	0.1	26.7	2.40	25.8	3.8
	836.84	838.84	5747	10245	1010	2963	198	31.6	50.3	3.4	9.9	1.0	1.7	0.2	0.9	0.1	21.6	2.03	24.9	4.8
	838.84	840.20	4187	7862	801	2414	178	30.3	53.0	3.9	12.4	1.5	2.7	0.3	1.5	0.2	34.3	1.56	22.6	7.1
	840.20	841.18	9852	17013	1637	4759	332	53.4	91.8	5.8	14.9	1.5	2.3	0.2	1.0	0.2	29.2	3.38	44.0	3.8
	841.18	842.43	7705	13758	1341	3942	285	46.8	77.3	4.7	13.1	1.4	2.3	0.2	1.0	0.2	26.7	2.72	37.1	4.2
	842.43	843.15	6978	12468	1226	3686	267	45.2	74.0	4.7	13.0	1.4	2.3	0.2	1.0	0.2	26.7	2.48	36.5	3.3
	843.15	844.60	4902	9090	916	2741	184	29.1	46.7	3.0	8.0	0.8	1.6	0.2	0.8	0.1	17.8	1.79	22.4	5.7
	844.60	846.07	4468	8144	800	2356	161	25.8	44.0	3.0	9.2	0.9	1.8	0.2	1.1	0.2	20.3	1.60	21.6	6.3
	846.07	846.81	8362	15232	1498	4351	303	49.2	81.5	5.0	12.9	1.3	2.2	0.2	1.1	0.2	26.7	2.99	36.5	2.9
	846.81	847.43	7213	13021	1287	3779	270	42.3	69.3	4.2	11.6	1.2	1.8	0.2	0.9	0.1	22.9	2.57	34.4	6.3
	847.43	848.34	8362	15294	1516	4444	311	49.8	87.5	5.4	13.7	1.4	2.1	0.2	0.9	0.2	26.7	3.01	36.5	5.8
	848.34	850.34	3495	7149	752	2286	170	28.0	48.5	3.3	9.0	1.0	1.7	0.2	0.9	0.2	20.3	1.40	22.5	9.8
	850.34	852.34	4398	8169	823	2449	178	30.1	54.2	3.8	11.5	1.4	2.5	0.3	1.6	0.2	33.0	1.62	21.9	8.3
	852.34	854.34	3249	6044	603	1779	135	22.5	42.5	3.3	10.9	1.6	3.5	0.4	2.5	0.3	40.6	1.19	18.0	8.3
	854.34	856.34	4668	8611	858	2519	180	29.6	49.6	3.2	9.5	1.1	1.7	0.2	1.0	0.2	22.9	1.70	23.9	5.2
	856.34	858.34	6321	11449	1141	3394	241	37.9	62.9	4.0	10.9	1.2	1.6	0.2	0.8	0.1	21.6	2.27	30.4	4.9
	858.34	859.04	5113	9778	1005	3068	227	37.1	61.8	3.7	10.2	1.1	1.9	0.2	1.0	0.2	24.1	1.93	28.8	6.6
	859.04	859.63	1126	2223	231	710	58	10.2	17.8	1.3	3.9	0.5	0.8	0.1	0.6	0.1	10.2	0.44	9.7	2.6
	859.63	861.19	5841	11080	1138	3453	250	40.8	68.1	4.2	11.5	1.3	2.1	0.2	1.0	0.1	26.7	2.19	27.4	3.7
	861.19	861.48	4492	8611	874	2589	184	29.4	51.6	3.4	10.8	1.2	2.2	0.3	1.0	0.2	25.4	1.69	25.4	2.3
	861.48	862.65	5407	10048	1015	2986	205	32.4	53.5	3.5	8.7	1.0	1.7	0.2	0.9	0.1	20.3	1.98	24.1	4.8
	862.65	864.14	5336	8980	845	2379	155	25.1	42.3	2.7	7.4	0.7	1.3	0.1	0.6	0.1	16.5	1.78	21.0	6.4
	864.14	864.89	5641	9938	957	2753	185	29.8	50.4	3.2	9.2	1.1	1.8	0.2	0.9	0.2	21.6	1.96	23.4	3.8
	864.89	865.91	5418	9618	935	2706	183	28.6	49.5	3.0	8.0	0.8	1.6	0.2	0.8	0.1	17.8	1.90	23.2	6.7
	865.91	866.59	10661	21497	2277	6975	480	69.6	109.2	6.0	14.6	1.4	2.2	0.2	0.8	0.1	26.7	4.21	44.6	2.6
	866.59	867.82	5700	10220	991	2823	175	27.0	45.8	2.9	7.8	1.0	1.7	0.2	0.9	0.1	19.1	2.00	20.7	4.2
	867.82	868.43	11048	18610	1728	4817	303	47.5	80.1	5.2	13.8	1.4	2.3	0.2	1.0	0.2	31.8	3.67	34.6	4.1
	868.43	869.47	5700	10503	1033	3068	209	32.2	53.4	3.3	8.6	1.0	1.6	0.2	0.8	0.1	19.1	2.06	24.8	3.2
	869.47	870.50	8468	14618	1389	3977	275	44.7	77.7	5.8	17.5	1.9	2.7	0.2	1.1	0.1	36.8	2.89	48.9	3.9
	870.50	872.59	6145	11264	1130	3336	240	39.5	73.5	5.9	17.1	1.6	2.5	0.2	0.9	0.2	35.6	2.23	64.8	4.6
	872.59	873.59	4973	9004	872	2543	169	26.6	43.2	3.0	8.5	1.0	1.8	0.2	0.8	0.1	21.6	1.77	20.4	4.9
	873.59	874.35	3823	7137	685	2012	132	21.0	36.0	2.2	6.0	0.7	1.1	0.1	0.7	0.1	14.0	1.39	19.1	10.1
	874.35	876.05	4363	8292	832	2449	165	25.6	41.5	2.7	6.8	0.8	1.5	0.2	0.8	0.1	16.5	1.62	18.3	4.9
	876.05	877.15	4562	8574	851	2484	158	24.4	39.8	2.7	7.2	0.8	1.6	0.1	0.8	0.1	17.8	1.67	16.4	5.8
	877.15	877.64	20524	31816	2731	7208	434	69.2	118.1	7.6	18.9	1.9	2.9	0.2	1.0	0.1	36.8	6.30	55.7	0.4
	877.64	878.09	9324	14495	1275	3418	208	32.3	54.4	3.6	10.2	1.2	2.3	0.2	1.3	0.2	26.7	2.89	25.7	0.5
	878.09	878.88	2451	4668	460	1347	89	13.9	23.3	1.5	4.5	0.6	0.8	0.1	0.6	0.1	11.4	0.91	11.0	3.1
	878.88	880.08	3894	7063	690	1989	126	19.8	34.4	2.3	6.7	0.8	1.6	0.2	0.9	0.2	17.8	1.38	13.1	6.1
	880.08	881.10	3495	5798	528	1481	98	15.9	26.3	1.9	6.4	0.8	1.5	0.2	0.8	0.2	16.5	1.15	10.6	0.4

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
	881.10	881.78	8984	14864	1377	3907	250	40.8	68.4	4.3	12.1	1.4	2.3	0.2	1.1	0.2	27.9	2.95	29.6	2.5
	881.78	883.82	5735	10908	1102	3324	217	32.9	52.1	3.1	9.8	1.0	1.7	0.2	0.9	0.1	21.6	2.14	20.5	6.5
	883.82	884.59	8257	14311	1359	3919	244	38.8	62.9	3.9	10.3	1.1	1.7	0.2	0.9	0.2	22.9	2.82	27.3	3.5
	884.59	885.26	5512	9876	969	2858	189	30.5	51.2	3.3	9.1	1.0	1.6	0.2	1.0	0.1	22.9	1.95	23.0	5.9
	885.26	886.05	10027	17505	1631	4619	283	44.4	71.9	4.6	12.4	1.4	2.2	0.2	1.1	0.2	27.9	3.42	36.9	4.2
	886.05	888.05	4445	7948	771	2239	149	24.2	40.0	2.7	7.6	0.9	1.4	0.2	0.8	0.1	19.1	1.56	19.7	4.4
	888.05	890.05	4855	8857	872	2566	175	29.2	49.3	3.4	10.2	1.1	2.1	0.2	1.0	0.1	24.1	1.74	20.0	6.3
	890.05	892.05	4046	7923	813	2531	190	32.9	60.5	4.6	16.3	1.8	3.7	0.4	1.6	0.2	44.5	1.57	17.1	6.4
	892.05	893.59	6791	12124	1178	3429	223	36.7	62.6	4.5	13.3	1.6	2.6	0.2	1.3	0.2	33.0	2.39	23.1	5.5
	893.59	894.77	13135	22480	2084	5809	358	58.5	99.9	6.2	17.7	1.8	3.0	0.3	1.1	0.2	36.8	4.41	44.8	3.0
	894.77	896.23	4421	7727	731	2076	133	21.7	37.9	2.7	8.8	1.1	1.8	0.2	1.0	0.2	22.9	1.52	16.3	5.0
	896.23	896.99	4515	7714	719	2047	130	20.3	34.2	2.3	6.1	0.7	1.3	0.2	0.9	0.1	15.2	1.52	14.0	5.8
	896.99	898.20	6181	9938	906	2484	151	24.6	39.9	2.6	7.1	0.9	1.4	0.2	0.6	0.1	17.8	1.98	17.8	4.6
	898.20	899.59	6533	10982	1026	2916	180	28.0	45.4	2.9	7.8	0.9	1.5	0.2	0.6	0.1	17.8	2.17	20.2	5.4
	899.59	899.87	5008	8193	760	2135	141	23.2	41.2	3.1	10.3	1.2	1.9	0.2	0.8	0.1	26.7	1.63	20.4	2.4
	899.87	901.14	6837	11387	1052	2951	180	29.2	47.4	3.1	8.3	0.9	1.5	0.1	0.8	0.1	19.1	2.25	20.6	4.7
	901.14	902.59	10110	16706	1528	4246	264	42.2	71.5	4.5	13.1	1.4	2.5	0.2	1.1	0.2	30.5	3.30	34.9	0.4
	902.59	903.08	39054	61543	5811	15746	961	152.8	258.2	16.5	44.4	4.0	6.2	0.5	1.7	0.3	82.5	12.37	140.5	1.6
	903.08	904.02	16830	27516	2489	6823	413	67.9	110.9	7.4	20.7	2.1	3.2	0.3	1.3	0.2	43.2	5.43	56.2	0.9
	904.02	905.59	28851	47416	4325	11722	703	112.1	185.0	12.4	36.6	3.8	6.8	0.6	2.9	0.4	81.3	9.35	98.8	1.7
	905.59	906.19	5735	9668	896	2519	164	27.0	48.2	3.6	12.7	1.5	2.9	0.3	1.7	0.2	36.8	1.91	21.0	0.9
	906.19	908.55	3870	6425	588	1662	105	16.6	28.5	2.0	5.9	0.7	1.4	0.2	0.8	0.1	15.2	1.27	14.7	3.8
	908.55	909.32	5313	9176	848	2379	146	23.7	40.6	3.3	11.3	1.3	2.3	0.2	1.1	0.1	27.9	1.80	26.6	3.8
	909.32	910.98	434	988	113	391	40	8.6	20.8	2.8	11.0	1.3	2.4	0.3	1.3	0.2	34.3	0.20	18.6	5.2
	910.98	911.34	135	327	46	216	46	13.7	42.1	5.6	23.5	2.6	3.7	0.3	1.5	0.2	54.6	0.09	21.0	0.8
	911.34	912.58	473	1115	132	468	54	12.5	33.8	5.2	23.2	2.8	4.7	0.4	2.2	0.3	69.8	0.24	25.2	3.0
	912.58	914.31	312	608	65	206	21	4.2	9.1	0.9	4.6	0.6	1.5	0.2	0.9	0.1	16.5	0.13	4.8	6.1
	914.31	914.57	108	226	25	82	9	2.3	6.1	1.1	5.6	0.8	1.6	0.2	1.3	0.2	21.6	0.05	7.3	2.8
	914.57	916.57	659	1394	155	507	46	8.8	18.6	2.2	10.2	1.2	2.2	0.2	0.9	0.2	29.2	0.28	36.7	12.0
	916.57	918.38	271	507	52	162	16	3.4	7.3	0.8	3.3	0.5	1.1	0.2	0.8	0.2	12.7	0.10	3.7	7.6
	918.38	919.47	240	467	49	150	15	3.1	6.7	0.8	3.1	0.5	1.3	0.1	0.8	0.1	12.7	0.10	5.7	6.2
	919.47	920.13	209	399	42	132	14	3.4	8.5	1.1	6.3	1.0	2.1	0.3	1.3	0.2	25.4	0.08	7.1	4.0
	920.13	922.13	449	1029	124	455	59	13.9	32.9	3.2	13.1	2.0	4.0	0.4	2.1	0.4	47.0	0.22	7.3	8.2
	922.13	923.85	400	837	94	314	36	7.9	16.8	1.4	5.7	0.8	1.8	0.2	1.0	0.1	19.1	0.17	5.9	5.6
	923.85	925.23	1835	3243	326	1044	113	25.2	57.3	5.7	24.2	3.3	6.8	0.6	3.2	0.3	78.7	0.68	20.7	7.3
	925.23	925.73	389	801	89	304	37	8.2	20.8	2.1	8.4	1.1	1.9	0.2	1.1	0.2	24.1	0.17	23.8	7.0
	925.73	926.84	429	900	102	349	52	17.4	62.7	9.0	32.1	3.1	4.5	0.4	2.1	0.3	71.1	0.20	141.0	4.8
	926.84	928.71	10696	18426	1691	4701	304	51.8	99.0	7.8	23.1	2.3	3.3	0.3	1.0	0.1	44.5	3.61	109.5	2.0
	928.71	930.71	753	1671	196	701	93	21.9	51.5	5.3	22.3	3.3	6.9	0.7	3.5	0.4	80.0	0.36	13.2	7.9
	930.71	932.78	677	1621	199	741	100	23.7	56.6	5.9	24.3	3.3	7.1	0.7	3.4	0.4	81.3	0.35	8.8	6.9
	932.78	934.78	600	1290	147	510	62	14.1	32.0	3.4	12.9	1.6	3.1	0.3	1.8	0.2	40.6	0.27	19.6	3.8
	934.78	936.78	860	1910	224	800	104	24.3	58.8	6.1	25.4	3.6	7.1	0.7	4.2	0.6	88.9	0.41	20.4	8.2
	936.78	938.78	2475	4766	471	1423	115	22.7	46.7	4.2	14.2	1.6	3.2	0.3	1.6	0.2	36.8	0.94	83.3	2.8
	938.78	940.09	746	1775	183	659	72	15.5	35.3	3.6	15.6	2.0	4.7	0.4	2.9	0.3	57.2	0.36	12.4	5.2
	940.09	940.90	744	1505	161	512	51	10.8	25.8	2.9	11.7	1.5	2.9	0.3	1.7	0.2	34.3	0.31	29.8	6.8

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
	940.90	942.00	4879	8906	858	2484	179	37.2	93.0	10.4	33.6	3.1	4.4	0.3	1.7	0.2	63.5	1.76	193.5	1.0
	942.00	944.59	7834	14188	1335	3814	247	44.8	97.7	9.6	28.9	2.5	3.5	0.3	1.3	0.2	54.6	2.77	139.5	2.6
	944.59	946.10	748	1296	127	398	50	14.2	39.1	4.1	14.8	1.8	3.2	0.3	2.1	0.3	44.5	0.27	83.3	3.1
	946.10	947.14	2662	4975	517	1744	311	104.7	291.6	26.0	76.7	7.4	11.0	0.9	4.4	0.6	165.1	1.09	708.0	1.7
	947.14	947.75	808	1597	173	596	88	24.6	68.5	6.8	23.4	2.7	5.0	0.6	3.1	0.4	68.6	0.35	135.0	4.2
	947.75	949.75	1736	3292	346	1157	197	67.2	184.4	16.8	48.1	4.6	7.3	0.6	3.2	0.4	110.5	0.72	428.0	1.8
	949.75	951.07	1278	2432	255	837	105	27.8	70.5	6.6	23.1	2.8	5.3	0.5	2.7	0.4	69.8	0.51	128.0	2.1
	951.07	951.56	6744	10957	1015	2974	271	61.5	137.2	10.2	26.4	2.5	3.7	0.3	1.3	0.2	55.9	2.23	233.0	1.3
	951.56	953.56	2979	5110	487	1458	126	26.8	61.4	5.3	17.9	1.8	3.3	0.3	1.9	0.3	45.7	1.03	76.9	3.4
	953.56	955.44	565	1228	141	491	60	14.4	36.0	3.7	14.4	1.7	3.8	0.3	2.1	0.2	44.5	0.26	48.0	17.2
	955.44	957.20	536	1278	157	586	79	18.4	42.7	4.2	17.7	2.4	5.2	0.5	2.5	0.4	61.0	0.28	8.4	5.2
	957.20	959.12	805	1701	195	682	84	19.7	44.8	4.2	18.6	2.7	5.2	0.6	2.9	0.5	67.3	0.36	19.3	6.5
	959.12	959.36	627	1327	151	533	63	13.1	27.9	2.5	10.3	1.4	3.1	0.3	1.8	0.2	34.3	0.28	10.9	2.4
	959.36	961.36	2047	4103	434	1406	136	27.3	57.8	5.2	20.3	2.8	5.8	0.6	3.1	0.5	67.3	0.83	18.8	9.5
	961.36	963.36	5700	10159	954	2788	201	38.0	68.2	5.7	20.9	2.8	6.3	0.7	3.8	0.5	74.9	2.00	48.8	5.2
	963.36	964.48	4984	9545	939	2858	225	40.4	76.8	6.7	24.1	3.2	7.7	0.7	4.3	0.5	82.5	1.88	36.6	6.7
	964.48	965.22	1261	2690	280	934	92	20.2	43.6	4.3	17.0	2.5	4.9	0.5	2.6	0.4	59.7	0.54	12.0	6.0
	965.22	966.88	632	1462	169	610	76	17.1	39.1	4.0	17.9	2.5	5.4	0.5	2.5	0.3	61.0	0.31	12.3	7.5
	966.88	968.11	2310	4385	431	1330	118	24.4	49.9	4.7	19.5	2.7	5.8	0.6	3.6	0.5	71.1	0.88	27.4	11.4
	968.11	969.00	2404	4766	482	1528	145	30.3	62.7	6.4	25.7	3.7	8.2	0.9	5.5	0.6	100.3	0.96	40.5	6.9
	969.00	969.61	2205	4349	431	1359	117	22.9	46.6	4.8	20.7	3.1	7.6	0.7	5.1	0.6	80.0	0.87	36.9	9.6
	969.61	970.50	2428	4840	489	1534	145	28.1	58.6	6.0	25.6	3.8	8.6	0.9	5.0	0.7	101.6	0.97	47.2	8.7
	970.50	971.47	2897	5393	520	1610	139	28.6	58.2	5.9	24.6	3.4	8.6	0.9	5.5	0.8	95.2	1.08	42.9	7.0
	971.47	972.32	4292	7211	661	1913	146	28.3	55.6	5.0	18.8	2.4	5.2	0.6	2.4	0.4	57.2	1.44	31.9	6.7
	972.32	973.64	507	927	89	276	24	4.8	9.1	0.8	3.2	0.4	0.8	0.1	0.5	0.1	8.9	0.19	6.9	3.4
	973.64	974.25	536	984	96	287	25	4.8	9.0	0.7	2.9	0.3	0.6	0.1	0.5	0.1	7.6	0.20	9.8	6.8
	974.25	975.81	1159	2242	222	694	58	10.8	20.1	1.7	5.5	0.6	1.3	0.1	0.5	0.1	14.0	0.44	15.4	5.4
	975.81	976.55	289	595	62	211	24	5.0	9.9	1.0	3.7	0.5	0.9	0.1	0.6	0.1	11.4	0.12	6.9	5.7
	976.55	976.94	768	1621	183	657	91	22.5	50.1	5.5	22.5	3.2	6.6	0.7	3.8	0.4	80.0	0.35	12.4	10.6
	976.94	977.88	244	505	52	165	16	3.2	6.3	0.6	2.3	0.3	0.6	0.1	0.6	0.1	7.6	0.10	5.2	4.0
	977.88	979.48	1624	2911	268	801	67	12.5	23.3	2.0	6.1	0.8	1.5	0.1	0.7	0.1	16.5	0.57	13.2	4.3
	979.48	980.59	1753	3722	399	1376	170	39.0	88.5	9.1	37.6	5.1	10.6	0.9	5.1	0.5	125.7	0.77	20.5	3.3
KGKRCDD083 (pre-collar only)	0.0	1.0	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
	1.0	2.0	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
	2.0	3.0	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
	3.0	4.0	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
	4.0	5.0	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
	5.0	6.0	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
	6.0	7.0	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
	7.0	8.0	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
	8.0	9.0	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
	9.0	10.0	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
	10.0	11.0	4386	8341	890	2893	255	42.4	72.6	5.4	7.2	1.7	2.7	0.2	1.3	0.2	35.6	1.69	44.9	0.5
	11.0	12.0	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
	12.0	13.0	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

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
	13.0	14.0	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
	14.0	15.0	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
	15.0	16.0	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
	16.0	17.0	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
	17.0	18.0	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
	18.0	19.0	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
	19.0	20.0	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
	20.0	21.0	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
	21.0	22.0	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
	22.0	23.0	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
	23.0	24.0	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
	24.0	25.0	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
	25.0	26.0	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
	26.0	27.0	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
	27.0	28.0	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
	28.0	29.0	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
	29.0	30.0	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
	30.0	31.0	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
	31.0	32.0	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
	32.0	33.0	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
	33.0	34.0	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
	34.0	35.0	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
	35.0	36.0	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
	36.0	37.0	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
	37.0	38.0	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
	38.0	39.0	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
	39.0	40.0	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
	40.0	41.0	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
	41.0	42.0	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
	42.0	43.0	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
	43.0	44.0	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
	44.0	45.0	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
	45.0	46.0	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
	46.0	47.0	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
	47.0	48.0	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
	48.0	49.0	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
	49.0	50.0	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
	50.0	51.0	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
	51.0	52.0	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
	52.0	53.0	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
	53.0	54.0	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
	54.0	55.0	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
	55.0	56.0	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
	56.0	57.0	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
	57.0	58.0	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

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
	58.0	59.0	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
	59.0	60.0	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
	60.0	61.0	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
	61.0	62.0	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
	62.0	63.0	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
	63.0	64.0	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
	64.0	65.0	3624	6093	591	1790	150	24.7	42.9	2.8	2.3	0.8	1.3	0.1	0.7	0.1	16.5	1.23	18.6	-0.3
	65.0	66.0	5500	10675	1130	3581	303	48.6	78.2	5.3	4.3	1.5	2.3	0.2	0.9	0.1	30.5	2.14	48.3	0.4
	66.0	67.0	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
	67.0	68.0	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
	68.0	69.0	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
	69.0	70.0	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
	70.0	71.0	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
	71.0	72.0	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
	72.0	73.0	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
	73.0	74.0	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
	74.0	75.0	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
	75.0	76.0	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
	76.0	77.0	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
	77.0	78.0	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
	78.0	79.0	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
	79.0	80.0	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
	80.0	81.0	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
	81.0	82.0	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
	82.0	83.0	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
	83.0	84.0	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
	84.0	85.0	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
	85.0	86.0	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
	86.0	87.0	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
	87.0	88.0	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
	88.0	89.0	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
	89.0	90.0	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
	90.0	91.0	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
	91.0	92.0	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
	92.0	93.0	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
	93.0	94.0	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
	94.0	95.0	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
	95.0	96.0	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
	96.0	97.0	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
	97.0	98.0	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
	98.0	99.0	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
	99.0	100.0	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
	100.0	101.0	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
	101.0	102.0	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
	102.0	103.0	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

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
	103.0	104.0	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
	104.0	105.0	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
	105.0	106.0	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
	106.0	107.0	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
	107.0	108.0	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
	108.0	109.0	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
	109.0	110.0	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
	110.0	111.0	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
	111.0	112.0	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
	112.0	113.0	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
	113.0	114.0	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
	114.0	115.0	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
	115.0	116.0	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
	116.0	117.0	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
	117.0	118.0	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
	118.0	119.0	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
	119.0	120.0	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
	120.0	121.0	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
	121.0	122.0	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
	122.0	123.0	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
	123.0	124.0	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
	124.0	125.0	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
	125.0	126.0	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
	126.0	127.0	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
	127.0	128.0	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
	128.0	129.0	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
	129.0	130.0	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
	130.0	131.0	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
	131.0	132.0	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
	132.0	133.0	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
	133.0	134.0	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
	134.0	135.0	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
	135.0	136.0	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
	136.0	137.0	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
	137.0	138.0	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
	138.0	139.0	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
	139.0	140.0	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
	140.0	141.0	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
	141.0	142.0	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
	142.0	143.0	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
	143.0	144.0	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
	144.0	145.0	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
	145.0	146.0	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
	146.0	147.0	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
	147.0	148.0	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

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
	148.0	149.0	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
	149.0	150.0	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

## 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
Sampling techniques	<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>Composite samples of 4 metres compiled from 1 metre interval drill samples used in KGKRCDD074 precollar.</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>
Drilling techniques	<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 all holes except KGKRCDD047 where NQ core size was used below 325 metres depth.</p>
Drill sample recovery	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> </ul>	<b>Reverse Circulation Drilling</b>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<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> <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>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</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>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample</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 1/4 sub sample of the original mass.</p>

Criteria	JORC Code explanation	Commentary												
	<p><i>preparation technique.</i></p> <ul style="list-style-type: none"> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<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> <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>												
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>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.</i></li> <li>• <i>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.</i></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 1202 1845 1428"> <thead> <tr> <th data-bbox="1173 1202 1307 1274">ALS Code</th><th data-bbox="1307 1202 1845 1274">Description</th></tr> </thead> <tbody> <tr> <td data-bbox="1173 1274 1307 1306">WEI-21</td><td data-bbox="1307 1274 1845 1306">Received sample weight</td></tr> <tr> <td data-bbox="1173 1306 1307 1337">LOG-22</td><td data-bbox="1307 1306 1845 1337">Sample Login w/o Barcode</td></tr> <tr> <td data-bbox="1173 1337 1307 1369">DRY-21</td><td data-bbox="1307 1337 1845 1369">High temperature drying</td></tr> <tr> <td data-bbox="1173 1369 1307 1401">CRU-31</td><td data-bbox="1307 1369 1845 1401">Fine crushing – 70% &lt;2mm</td></tr> <tr> <td data-bbox="1173 1401 1307 1428">SPL-21</td><td data-bbox="1307 1401 1845 1428">Split sample – Riffle splitter</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
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													

Criteria	JORC Code explanation	Commentary																																								
		<p>PUL-31      Pulverise 250g to 85% passing 75 micron</p> <p>CRU-QC      Crushing QC Test</p> <p>PUL-QC      Pulverising QC test</p> <p>LOG-24      Pulp Login w/o Barcode</p> <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"> <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"> <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>	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				
Ce	Dy	Er	Eu	Gd	Hf	Ho	La																																			
Lu	Nb	Nd	Pr	Rb	Sm	Sn	Ta																																			
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Ag	As	Cd	Co	Cu	Li	Mo	Ni																																			
Pb	Sc	Tl	Zn																																							

Criteria	JORC Code explanation	Commentary						
		<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 evident.</p> <p><b>Alternative Analysis Technique</b></p> <p>No alternative analytical method analysis has been undertaken.</p>						
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> <li>• The use of twinned holes.</li> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>• Discuss any adjustment to assay data.</li> </ul>	<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="1377 1345 1915 1442"> <thead> <tr> <th data-bbox="1377 1345 1543 1409">Element ppm</th><th data-bbox="1543 1345 1709 1409">Conversion Factor</th><th data-bbox="1709 1345 1915 1409">Oxide Form</th></tr> </thead> <tbody> <tr> <td data-bbox="1377 1409 1543 1442">Ce</td><td data-bbox="1543 1409 1709 1442">1.2284</td><td data-bbox="1709 1409 1915 1442">CeO<sub>2</sub></td></tr> </tbody> </table>	Element ppm	Conversion Factor	Oxide Form	Ce	1.2284	CeO <sub>2</sub>
Element ppm	Conversion Factor	Oxide Form						
Ce	1.2284	CeO <sub>2</sub>						

Criteria	JORC Code explanation	Commentary		
		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>
		Lu	1.1371	Lu <sub>2</sub> O <sub>3</sub>
		Nd	1.1664	Nd <sub>2</sub> O <sub>3</sub>
		Pr	1.2082	Pr <sub>6</sub> O <sub>11</sub>
		Sm	1.1596	Sm <sub>2</sub> O <sub>3</sub>
		Tb	1.1762	Tb <sub>4</sub> O <sub>7</sub>
		Tm	1.1421	Tm <sub>2</sub> O <sub>3</sub>
		Y	1.2699	Y <sub>2</sub> O <sub>3</sub>
		Yb	1.1387	Yb <sub>2</sub> O <sub>3</sub>
		<p>Rare earth oxide is the industry accepted form for reporting rare earths. The following calculations are used for compiling REO into their reporting and evaluation groups:</p> <p>Note that Y<sub>2</sub>O<sub>3</sub> is included in the TREO calculation.</p> <p>TREO (Total Rare Earth Oxide) = La<sub>2</sub>O<sub>3</sub> + CeO<sub>2</sub> + Pr<sub>6</sub>O<sub>11</sub> + Nd<sub>2</sub>O<sub>3</sub> + Sm<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Tm<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub> + Y<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub>.</p> <p>HREO (Heavy Rare Earth Oxide) = Sm<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Dy<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Tm<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub>, + Y<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub></p> <p>LREO (Light Rare Earth Oxide) = La<sub>2</sub>O<sub>3</sub> + CeO<sub>2</sub> + Pr<sub>6</sub>O<sub>11</sub> + Nd<sub>2</sub>O<sub>3</sub></p> <p>NdPrO% = Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub></p> <p>NdPrO% of TREO= NdPrO%/TREO x 100</p>		
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<p>Drill hole collar locations reported have been surveyed by Differential GPS and are considered accurate to 0.2m.</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>		

Criteria	JORC Code explanation	Commentary
		Topography is derived from SRTM 30 metre digital elevation database.
Data spacing and distribution	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>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.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<p>Drill spacing for this phase of drilling is a nominal 50 metre hole spacing on 50 metre line spacing. Topography limitations have necessitated drilling some holes off section.</p> <p>Evaluation of hole spacing for suitability to determine geology and grade estimation will be undertaken following this phase of drilling.</p> <p>No mineral resource estimation has been undertaken.</p> <p>No sample compositing has been used.</p>
Orientation of data in relation to geological structure	<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.
Sample security	<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>
Audits or reviews	<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>	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.
<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 ankeritic 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>

Criteria	JORC Code explanation	Commentary
		Monazite is found in all carbonatite types in varying quantities. Other associated minerals are strontianite, barite and apatite.
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>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.

Criteria	JORC Code explanation	Commentary
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 should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Refer to diagrams in body of text.
Balanced reporting	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	This report contains all drilling results that are consistent with the JORC guidelines. Where data may have been excluded, it is considered not material.
Other substantive exploration data	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	Multi element analysis has been conducted including potential radionuclides uranium (U) and thorium (Th) which are both reported in Appendix 2
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Future work programs are intended to evaluate the economic opportunity of the project including extraction optimization, and resource definition.