



ASX ANNOUNCEMENT

24 July 2023



Hines Hill REE Project and Lithium Exploration Update

HIGHLIGHTS

- ❖ Follow up aircore drilling program of 88 drill holes has intersected shallow zones up to 2,066ppm TREO (from 16 metres in drillhole HHC066), with mineralisation open in multiple directions.
- ❖ Significant results from Phase 2 include:
 - **19m @ 897ppm TREO** (203ppm MREO) from 2m (HHC050)
 - **13m @ 802ppm TREO** (183ppm MREO) from 6m (HHC062)
 - **6m @ 1,040ppm TREO** (240ppm MREO) from 2m (HHC128)
 - **5m @ 2,066ppm TREO** (434ppm MREO) from 16m (HHC066)
- ❖ Maiden reconnaissance soil and rock chip programs have been completed at:
 - Preston River Lithium Project
 - Diemals REE and Lithium Project
 - Barballin REE Project
 - Munbinia REE Project
 - Ashton Hills Project
- ❖ 1,656 soil samples and 78 rock chip samples from the reconnaissance field trips have been submitted to ALS Laboratory for multi-element assay.
- ❖ Results from the above work programs are expected during August.

White Cliff Minerals Limited (**White Cliff** or the **Company**) is pleased to provide an update on the Company's exploration activities across its recently acquired project portfolio as well as follow-up drill results from the Hines Hill REE project (**Figure 1**). At Hines Hill, recent aircore drilling successfully delineated extensions to the Company's maiden REE discovery (refer ASX announcement 16 January 2023).

Technical Director Ed Mead said: *"I'm pleased to report these results continue to demonstrate widespread high grade REE mineralisation at Hines Hill. The mineralisation remains open laterally in multiple directions, is shallow and has now grown to ~300m wide and >600m in strike and is open to the south. The bulk of the drilling was to the north on the stronger magnetic signature and this is now closed off."*

I am also pleased to report that results from reconnaissance sampling completed across the recently acquired lithium and REE portfolio are expected in August."

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Figure 1: Project location map, Western Australia, with tenements covering ~9,450km².

Hines Hill - REE Project

The Hines Hill REE project consists of two adjoining tenements (**Figure 2**), located in the wheatbelt region, ±200km east of Perth along the Great Eastern Highway. The tenement area of ~576Km² covers extensive broad acre grain growing properties.

Recent geochemical sampling by White Cliff initially targeted two magnetic features tentatively interpreted to be carbonatite intrusions, although they may represent differentiated non-carbonatite intrusives (granitoids).

Drilling of the most north-eastern magnetic feature discovered shallow REE mineralisation (ASX release 16 January 2023) within the clay horizon (**Figure 3**), and is thought to be either enriched as Ionic absorption, or a granitoid with high REE background weathering to clays. Further drilling and assay results will refine the geological model.

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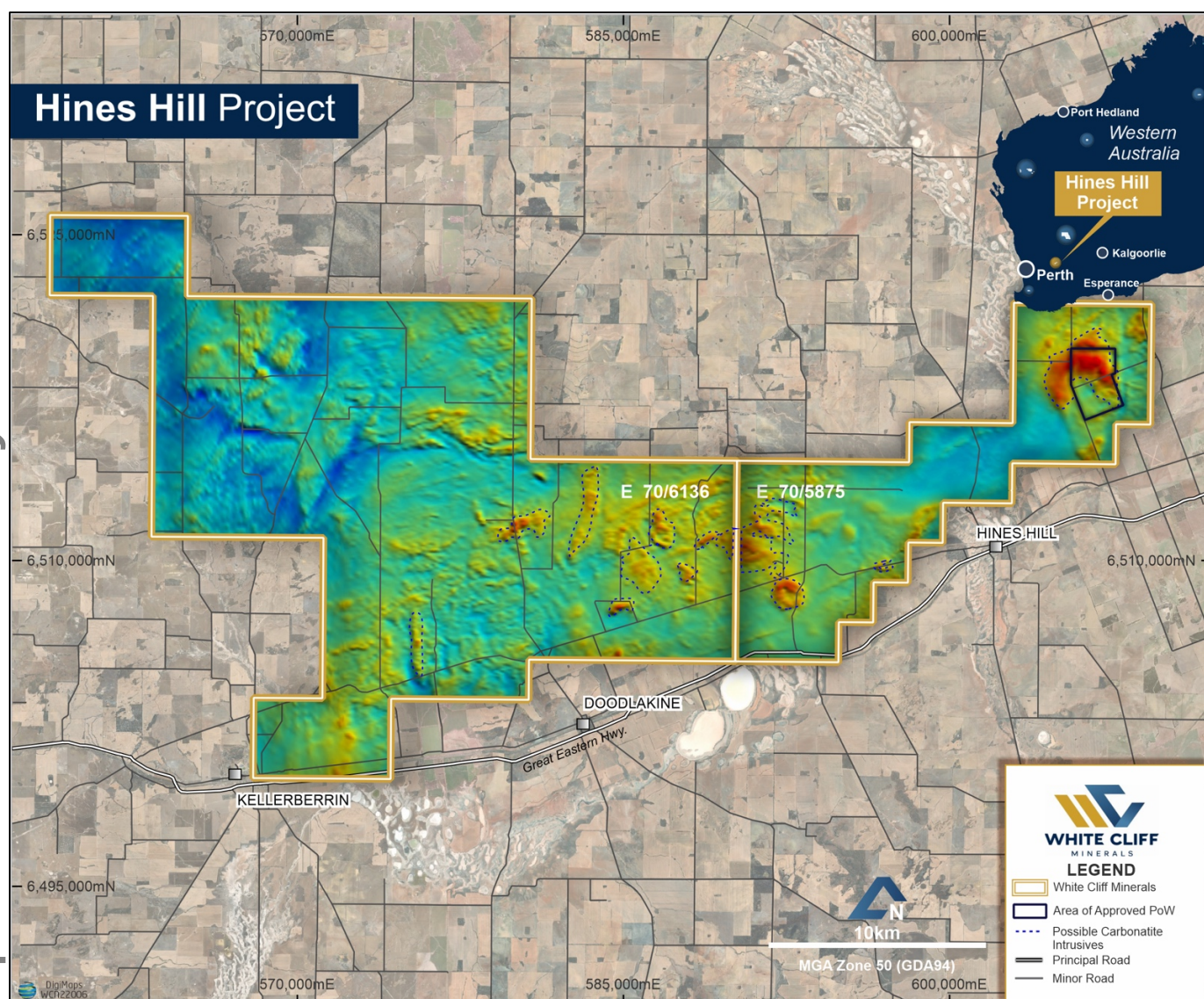


Figure 2: Hines Hill REE Project location map in Western Australia, which covers ~576km², with regional magnetics highlighting multiple higher intensity features, with broad general magnetics in many areas.

The drilling completed to date appears to define multiple subparallel north northwest/south southeast trending zones open essentially in these directions. The shallow thicker eastern mineralised area (**Figures 3 and 4**) tested in the second phase of drilling appears to show a palaeochannel type character with acquisition of accurate topographic data required to confirm. The western mineralised zones (**Figure 3**) are thinner and more planar in character with a gentle west dip.

As announced to the ASX on 24 January 2023, multiple REE targets have been generated over the Hines Hill project by roadside sampling (**Figure 5**), which show significantly higher soil geochemical responses than where drilling has been undertaken to date.

Based on drilling at the Northeast magnetic feature within the approved PoW, where drilling has shown mineralisation starting from 2 metres (grading 897ppm TREO in HCC050 and 1,040 in HHC128), geochemical soil sampling indicated ~550ppm TREO.

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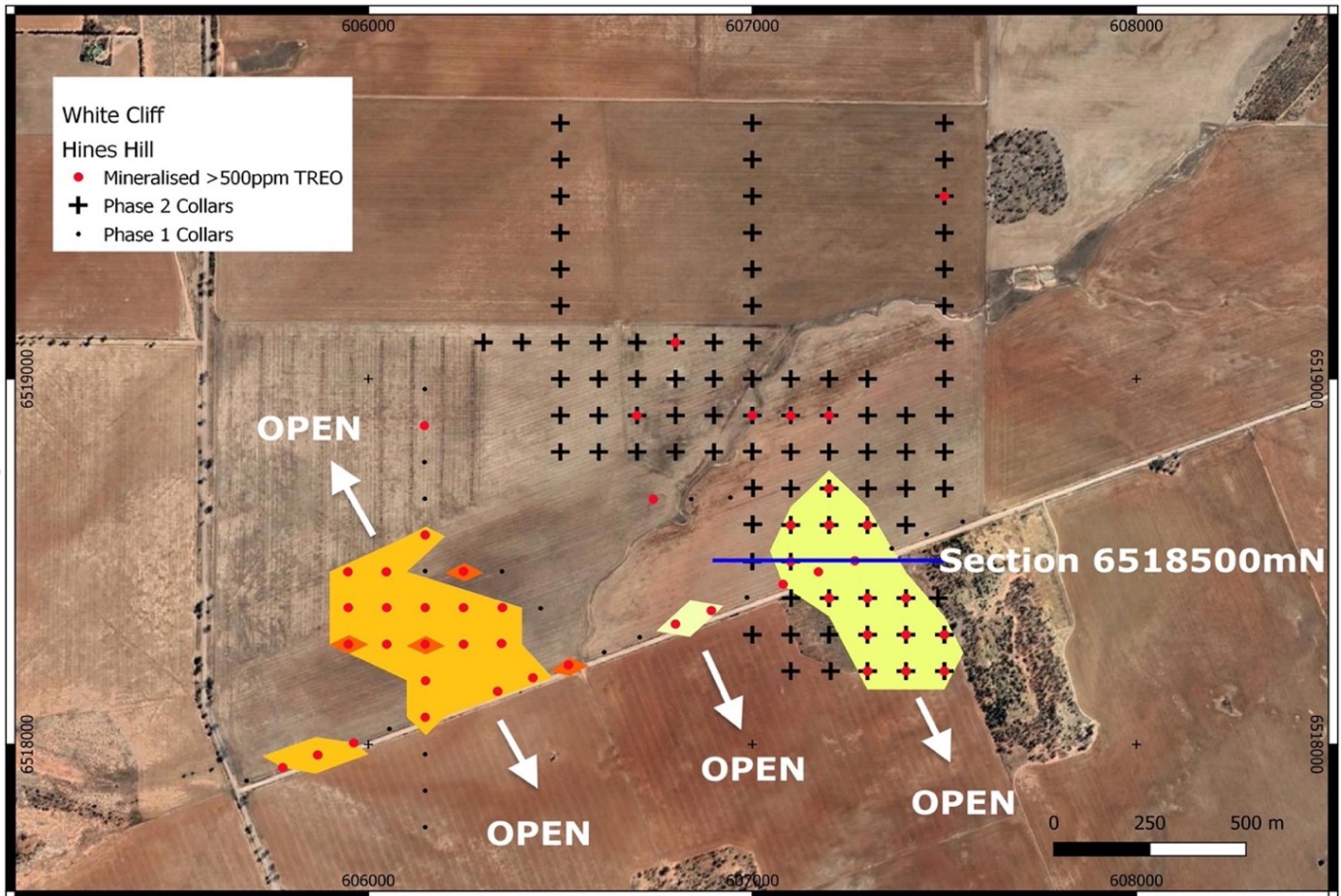


Figure 3: Hines Hill area showing focus area of follow up Phase 2 drilling with 88 drill holes to ~20 metre depth.

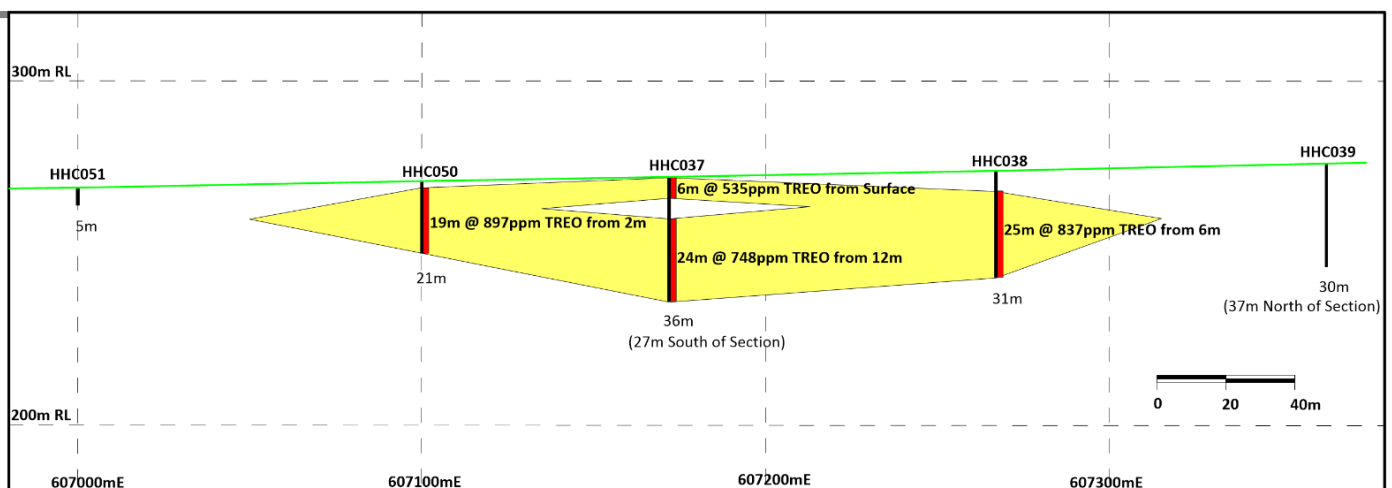


Figure 4: Hines Hill schematic drill section on 6518500mN looking north, which formed the central area of follow up drilling with the 88 drill holes to ~20 metre depth.

Before further drilling is undertaken at the Northeast magnetic feature, the Company will review the overall potential including regional targets, with the view of defining an

Exploration Target. Over the rest of the project area soil sampling delivered a maximum value of 930ppm TREO, 126 samples over 350ppm TREO, and 10 main areas >550ppm TREO for immediate follow up work.

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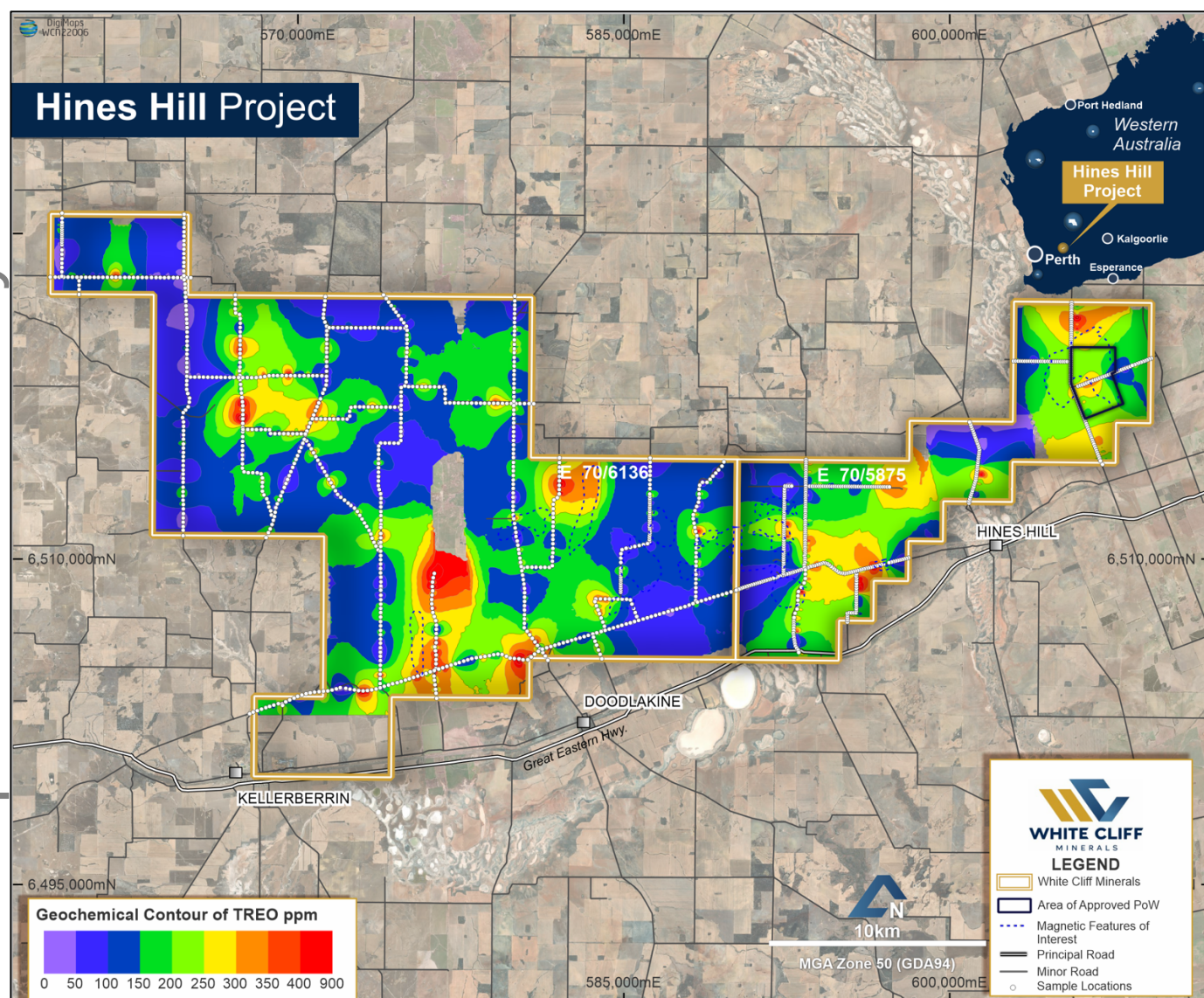


Figure 5: Hines Hill REE Project location map in Western Australia, that covers ~576km², with results of roadside geochemical sampling indicating multiple areas of interest to follow up. (See ASX release 24 January 2023, *Geochem Sampling Generates Multiple REE Targets at Hines Hill*)

Preston River and other Project Exploration

Reconnaissance field trips have been undertaken focusing on REE and Lithium mineralisation across the Mineral fields and Border Exploration projects, as well as at the Company's Preston River Lithium project, which is located 30km north of the Greenbushes Lithium Mine, the largest hard-rock Lithium mine in the world.

These first pass field trips by White Cliff geologists were completed with the aim of getting baseline soil samples and rock chips across prospective geological units. A total of 1,656 soil samples and 78 rock chip samples were taken:

- Preston River Lithium Project, 271 soil samples and 29 rock chip samples
- Diemals REE and Lithium Project, 483 soil samples and 20 rock chip samples
- Barballin REE Project, 187 soil samples and 6 rock chip samples
- Munbinia REE Project, 694 soil samples and 9 rock chip samples
- Ashton Hills Project, 21 soil samples and 29 rock chip samples

Samples have been submitted to and registered with ALS Laboratories Perth, and are expected during August. All samples submitted to ALS Laboratories Perth, are for multi-element assay and will be assessed for all commodities.

-ENDS-

Further Information:

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This announcement has been approved by the Board of White Cliff Minerals Limited.

Competent Persons Statement

The Information in this report that relates to exploration results, mineral resources or ore reserves is based on information compiled by Mr Allan Younger, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Younger is an employee of the company. Mr Younger has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code). Mr Younger consents to the inclusion of this information in the form and context in which it appears in this report.

Table 1: Collar Locations

Hole ID	Easting	Northing	RL	Depth	Dip	Azimuth
HHC001	605683	6517900	259	58	-90	0
HHC002	605777	6517936	260	62	-90	0
HHC003	605868	6517971	261	69	-90	0
HHC004	605962	6518004	261	78	-90	0
HHC005	606055	6518042	262	74	-90	0
HHC006	606148	6518074	261	76	-90	0
HHC007	606242	6518111	261	37	-90	0
HHC008	606337	6518145	260	40	-90	0
HHC009	606429	6518182	260	31	-90	0
HHC010	606521	6518217	261	19	-90	0
HHC011	606614	6518252	262	13	-90	0
HHC012	606149	6518174	262	54	-90	0
HHC013	606148	6518274	262	36	-90	0
HHC014	606148	6518374	263	27	-90	0
HHC014A	606149	6518365	263	42	-90	0
HHC015	606148	6518474	263	26	-90	0
HHC016	606148	6518573	264	37	-90	0
HHC017	606148	6517973	261	90	-90	0
HHC018	606148	6517873	260	92	-90	0
HHC019	606148	6517773	260	42	-90	0
HHC020	606048	6518374	263	43	-90	0
HHC021	605948	6518374	263	61	-90	0
HHC022	606248	6518374	263	36	-90	0
HHC023	606349	6518374	263	35	-90	0
HHC024	606449	6518372	262	22	-90	0
HHC025	606347	6518276	262	32	-90	0
HHC026	606248	6518274	262	31	-90	0
HHC027	606048	6518274	262	55	-90	0
HHC028	605948	6518274	262	79	-90	0
HHC029	605947	6518472	263	49	-90	0
HHC030	606047	6518472	263	40	-90	0
HHC031	606248	6518473	263	22	-90	0
HHC032	606348	6518473	263	23	-90	0
HHC033	606707	6518293	263	8	-90	0
HHC034	606800	6518329	264	11	-90	0
HHC035	606893	6518366	265	7	-90	0
HHC036	607080	6518438	270	19	-90	0
HHC037	607172	6518472	272	36	-90	0
HHC038	607267	6518502	274	31	-90	0
HHC039	607363	6518536	276	30	-90	0
HHC040	607454	6518575	278	6	-90	0
HHC041	607548	6518609	279	13	-90	0
HHC042	606986	6518402	268	7	-90	0
HHC043	606943	6518675	262	12	-90	0
HHC044	606841	6518671	262	13	-90	0
HHC045	606742	6518671	263	17	-90	0
HHC046	606147	6518672	264	23	-90	0
HHC047	606146	6518772	265	30	-90	0
HHC048	606146	6518872	265	35	-90	0
HHC049	606147	6518972	266	28	-90	0
HHC050	607100	6518500	271	21	-90	0

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Hole ID	Easting	Northing	RL	Depth	Dip	Azimuth
HHC051	607000	6518500	269	5	-90	0
HHC052	607001	6518602	268	5	-90	0
HHC053	607002	6518701	266	7	-90	0
HHC054	607000	6518801	265	12	-90	0
HHC055	607000	6518900	264	20	-90	0
HHC056	607000	6519000	265	21	-90	0
HHC057	607000	6519100	266	21	-90	0
HHC058	607100	6519000	266	21	-90	0
HHC059	607100	6518900	267	20	-90	0
HHC060	607100	6518800	268	7	-90	0
HHC061	607100	6518700	269	6	-90	0
HHC062	607100	6518600	270	19	-90	0
HHC063	607200	6518600	271	19	-90	0
HHC064	607200	6518700	270	20	-90	0
HHC065	607200	6518800	269	20	-90	0
HHC066	607200	6518900	268	21	-90	0
HHC067	607200	6519000	267	21	-90	0
HHC068	607300	6519000	268	21	-90	0
HHC069	607300	6518600	272	21	-90	0
HHC070	607300	6518700	271	21	-90	0
HHC071	607300	6518800	270	21	-90	0
HHC072	607300	6518900	269	21	-90	0
HHC073	607400	6518600	277	20	-90	0
HHC074	607400	6518700	276	21	-90	0
HHC075	607400	6518800	275	20	-90	0
HHC076	607400	6518900	274	21	-90	0
HHC077	607500	6518700	278	10	-90	0
HHC078	607500	6518800	278	12	-90	0
HHC079	607500	6518900	278	20	-90	0
HHC080	607500	6519000	277	20	-90	0
HHC081	607500	6519100	278	11	-90	0
HHC082	607500	6519200	278	7	-90	0
HHC083	607500	6519300	279	9	-90	0
HHC084	607500	6519400	279	18	-90	0
HHC085	607500	6519500	280	19	-90	0
HHC086	607500	6519600	282	15	-90	0
HHC087	607500	6519700	283	12	-90	0
HHC088	607000	6519700	277	14	-90	0
HHC089	607000	6519600	275	12	-90	0
HHC090	607000	6519500	273	12	-90	0
HHC091	607000	6519400	271	12	-90	0
HHC092	607000	6519300	269	12	-90	0
HHC093	607000	6519200	267	12	-90	0
HHC094	606500	6519200	268	14	-90	0
HHC095	606500	6519300	269	13	-90	0
HHC096	606500	6519400	269	13	-90	0
HHC097	606500	6519500	270	12	-90	0
HHC098	606500	6519600	270	11	-90	0
HHC099	606500	6519700	271	14	-90	0
HHC100	606300	6519100	266	12	-90	0
HHC101	606400	6519100	267	12	-90	0
HHC102	606500	6519100	268	12	-90	0

Hole ID	Easting	Northing	RL	Depth	Dip	Azimuth
HHC103	606500	6519000	267	14	-90	0
HHC104	606500	6518900	267	12	-90	0
HHC105	606500	6518800	266	12	-90	0
HHC106	606600	6518800	266	12	-90	0
HHC107	606600	6518900	266	13	-90	0
HHC108	606600	6519000	267	12	-90	0
HHC109	606600	6519100	267	14	-90	0
HHC110	606700	6519100	267	14	-90	0
HHC111	606700	6519000	267	21	-90	0
HHC112	606700	6518900	266	27	-90	0
HHC113	606700	6518800	266	20	-90	0
HHC114	606800	6518800	264	12	-90	0
HHC115	606800	6518900	265	12	-90	0
HHC116	606800	6519000	265	15	-90	0
HHC117	606800	6519100	266	12	-90	0
HHC118	606900	6519100	266	12	-90	0
HHC119	606900	6519000	265	12	-90	0
HHC120	606900	6518900	265	12	-90	0
HHC121	606900	6518800	264	9	-90	0
HHC122	607000	6518300	272	3	-90	0
HHC123	607100	6518300	274	2	-90	0
HHC124	607100	6518200	274	2	-90	0
HHC125	607204	6518200	276	2	-90	0
HHC126	607300	6518200	278	8	-90	0
HHC127	607400	6518200	280	6	-90	0
HHC128	607500	6518200	281	8	-90	0
HHC129	607500	6518300	280	21	-90	0
HHC130	607400	6518300	279	21	-90	0
HHC131	607400	6518400	279	15	-90	0
HHC132	607484	6518400	282	3	-90	0
HHC133	607101	6518400	268	2	-90	0
HHC134	607200	6518400	270	21	-90	0
HHC135	607300	6518400	274	21	-90	0
HHC136	607300	6518300	278	21	-90	0
HHC137	607200	6518300	276	4	-90	0

Table 2: Significant Intersections based on >500ppm TREO over minimum 3m width

Hole ID	From	To	Width	TREO ppm Intercept	Release
HHC002	48	51	3	3m@714 from 48m	Previous
HHC003	57	60	3	3m@642 from 57m	Previous
HHC004	48	51	3	3m@673 from 48m	Previous
HHC006	57	76	19	19m@610 from 57m	Previous
HHC008	27	40	13	13m@765 from 27m	Previous
HHC009	18	24	6	6m@618 from 18m	Previous
HHC010	0	3	3	3m@642.71 from surface	Previous
HHC012	42	54	12	12m@637 from 42m	Previous
HHC013	3	6	3	3m@529 from 3m	Previous
HHC013	33	36	3	3m@573 from 33m	Previous
HHC014A	36	42	6	6m@511 from 36m	Previous
HHC016	27	33	6	6m@636 from 27m	Previous
HHC020	33	36	3	3m@562 from 33m	Previous
HHC021	48	54	6	6m@777 from 48m	Previous

Hole ID	From	To	Width	TREO ppm Intercept	Release
HHC022	24	36	12	12m@547 from 24m	Previous
HHC023	27	33	6	6m@523 from 27m	Previous
HHC025	24	37	13	13m@587 from 24m	Previous
HHC026	27	31	4	4m@601 from 27m	Previous
HHC027	45	48	3	3m@545 from 45m	Previous
HHC028	63	66	3	3m@711 from 63m	Previous
HHC028	75	79	4	4m@512 from 75m	Previous
HHC029	36	39	3	3m@510 from 36m	Previous
HHC029	45	49	4	4m@1183 from 45m	Previous
HHC030	33	40	7	7m@890 from 33m	Previous
HHC031	3	6	3	3m@621 from 3m	Previous
HHC034	6	11	5	5m@763 from 6m	Previous
HHC035	3	7	4	4m@855 from 3m	Previous
HHC036	6	6	0	13m@714 from 6m	Previous
HHC037	0	6	6	6m@535.45 from surface	Previous
HHC037	12	36	24	24m@748 from 12m	Previous
HHC038	6	31	25	25m@837 from 6m	Previous
HHC048	30	35	5	5m@701 from 30m	Previous
HHC050	2	21	19	19m@897 from 2m	New
HHC055	17	20	3	3m@632 from 17m	New
HHC059	12	20	8	8m@904 from 12m	New
HHC062	6	19	13	13m@802 from 6m	New
HHC063	7	19	12	12m@561 from 7m	New
HHC064	13	20	7	7m@659 from 13m	New
HHC066	16	21	5	5m@2066 from 16m	New
HHC069	12	16	4	4m@1461 from 12m	New
HHC085	16	19	3	3m@464 from 16m	New
HHC126	5	8	3	3m@960 from 5m	New
HHC127	0	6	6	6m@573 from surface	New
HHC128	2	8	6	6m@1040 from 2m	New
HHC129	4	6	2	2m@729 from 4m	New
HHC129	18	21	3	3m@1023 from 18m	New
HHC130	2	21	19	19m@707 from 2m	New
HHC131	11	15	4	4m@686 from 11m	New
HHC134	4	8	4	4m@664 from 4m	New
HHC134	13	21	8	8m@763 from 13m	New
HHC135	8	20	12	12m@807 from 8m	New
HHC136	1	14	13	13m@693 from 1m	New
HHC136	15	21	6	6m@853 from 15m	New

Table 3: Analytical Results all in ppm.

Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC050	0	1	103.06	40.70	17.27	3.65	2.04	1.08	4.08	0.69	0.31	33.94	10.31	6.16	0.61	0.33	2.10	226.31	48.51
HHC050	1	2	94.46	57.58	15.37	2.71	1.48	0.97	3.52	0.54	0.20	34.88	10.78	5.24	0.49	0.22	1.46	229.89	48.86
HHC050	2	3	320.61	179.44	13.21	2.93	1.23	1.79	5.51	0.49	0.14	102.41	33.35	11.89	0.59	0.16	1.04	674.78	139.27
HHC050	3	4	415.20	222.83	16.89	4.01	1.69	3.21	9.06	0.61	0.19	169.71	46.39	20.18	0.92	0.21	1.09	912.19	221.03
HHC050	4	5	469.25	258.02	20.70	5.20	1.82	3.98	10.63	0.81	0.19	193.62	51.47	24.70	1.19	0.26	1.67	1043.51	251.48
HHC050	5	6	610.51	331.90	18.92	6.79	2.22	6.35	16.08	0.90	0.22	269.44	70.32	37.69	1.66	0.25	1.54	1374.79	348.21
HHC050	6	7	566.29	310.79	18.16	7.87	2.20	7.29	19.13	0.94	0.20	257.77	64.52	42.79	1.96	0.27	1.76	1301.97	332.13
HHC050	7	8	428.71	239.25	25.27	9.42	2.96	5.55	18.67	1.28	0.25	179.63	46.27	29.34	1.94	0.33	2.17	991.05	237.26
HHC050	8	9	482.76	273.26	40.13	11.40	4.28	5.29	19.25	1.79	0.34	179.04	50.14	27.25	2.31	0.48	2.85	1100.56	242.88
HHC050	9	10	429.94	230.46	30.22	6.84	2.98	3.68	11.99	1.07	0.30	156.88	44.95	21.51	1.45	0.32	1.88	944.46	210.11
HHC050	10	11	394.32	211.10	36.95	6.23	3.20	3.37	11.09	1.12	0.30	139.38	41.32	18.55	1.29	0.38	2.54	871.15	188.23
HHC050	11	12	404.14	204.65	29.97	6.97	3.05	3.57	11.70	1.05	0.31	148.72	43.25	19.60	1.26	0.39	2.45	881.07	200.19
HHC050	12	13	398.00	207.00	31.87	6.71	2.92	3.53	11.45	1.11	0.34	147.55	42.05	20.18	1.26	0.39	2.32	876.68	197.57
HHC050	13	14	383.26	198.20	53.34	8.45	4.20	4.11	14.64	1.51	0.49	142.88	40.72	21.16	1.66	0.57	3.31	878.50	193.71
HHC050	14	15	339.04	174.16	43.43	6.59	3.22	3.01	11.39	1.31	0.43	123.06	35.76	17.22	1.24	0.46	2.55	762.86	166.64
HHC050	15	16	323.07	174.16	46.22	6.19	3.67	2.69	10.24	1.20	0.39	114.42	34.31	15.77	1.18	0.48	2.84	736.82	156.10
HHC050	16	17	312.01	164.78	34.41	5.30	2.78	2.72	9.02	1.05	0.38	107.54	31.53	14.26	1.09	0.40	2.82	690.12	145.47
HHC050	17	18	331.67	175.33	36.57	6.45	2.82	2.74	9.79	1.16	0.39	115.94	34.19	15.60	1.15	0.45	2.87	737.12	157.73
HHC050	18	19	351.32	188.82	43.43	6.39	3.30	2.61	9.64	1.20	0.47	117.22	36.00	16.41	1.19	0.48	3.11	781.59	160.81
HHC050	19	20	346.41	183.54	40.26	5.49	3.18	2.63	9.20	1.11	0.40	116.52	35.04	15.54	0.96	0.41	2.47	763.15	158.01
HHC050	20	21	321.84	178.85	31.75	5.39	2.60	2.56	8.96	0.92	0.28	109.99	32.86	15.07	1.05	0.41	2.68	715.21	149.30
HHC051	0	1	160.92	77.17	18.16	3.47	1.91	1.27	5.46	0.60	0.26	53.30	15.16	7.97	0.56	0.24	1.71	348.17	72.50
HHC051	1	2	129.60	61.10	22.99	4.18	2.42	1.27	5.35	0.74	0.30	43.51	12.32	6.78	0.69	0.33	2.24	293.83	60.70
HHC051	2	3	115.84	53.01	19.56	3.42	1.70	0.88	3.95	0.65	0.33	34.76	10.69	5.07	0.55	0.26	2.10	252.77	49.42
HHC051	3	4	50.61	28.15	8.51	1.34	0.85	0.44	1.64	0.30	0.18	17.03	5.27	2.69	0.26	0.15	0.92	118.33	23.90
HHC051	4	5	18.30	11.26	4.83	0.63	0.57	0.21	0.66	0.15	0.11	5.72	1.69	0.83	0.11	0.09	0.56	45.72	8.14
HHC052	0	1	124.68	51.49	21.84	3.89	2.10	1.34	4.88	0.77	0.32	41.06	11.65	6.74	0.68	0.34	2.08	273.86	57.28
HHC052	1	2	234.01	63.45	30.99	5.46	2.63	1.45	6.05	0.99	0.34	47.36	14.44	8.02	0.89	0.41	2.73	419.22	68.15
HHC052	2	3	81.93	39.05	15.75	2.51	1.62	0.78	3.52	0.49	0.23	27.06	7.56	3.88	0.47	0.22	1.41	186.49	37.61
HHC052	3	4	49.87	24.51	7.49	1.25	0.82	0.39	1.53	0.27	0.14	12.71	3.99	2.13	0.24	0.11	0.93	106.41	18.19
HHC052	4	5	44.22	25.45	6.48	0.99	0.65	0.32	1.42	0.22	0.18	13.06	4.14	1.74	0.16	0.11	0.74	99.90	18.36
HHC053	0	1	191.63	91.71	35.18	6.28	3.30	2.03	8.14	1.15	0.42	70.45	20.48	11.14	1.07	0.45	2.82	446.25	98.28
HHC053	1	2	219.27	104.73	36.07	6.52	3.59	1.93	7.87	1.23	0.42	76.52	21.87	12.18	1.12	0.45	2.95	496.70	106.02
HHC053	2	3	67.93	39.64	14.22	2.32	1.34	0.78	2.41	0.45	0.24	24.73	6.96	3.87	0.39	0.21	1.54	167.01	34.39
HHC053	3	4	32.92	19.82	6.73	1.17	0.56	0.42	1.15	0.21	0.16	10.50	3.19	1.69	0.19	0.09	0.85	79.65	15.05
HHC053	4	5	33.29	18.88	5.33	1.10	0.57	0.36	0.99	0.18	0.09	10.15	3.15	1.62	0.14	0.10	0.61	76.59	14.54
HHC053	5	6	30.10	15.60	6.86	1.17	0.85	0.30	1.03	0.24	0.15	7.93	2.51	1.46	0.16	0.15	0.88	69.38	11.78
HHC053	6	7	27.39	16.65	5.59	0.95	0.58	0.20	0.82	0.18	0.10	8.28	2.61	1.44	0.14	0.10	0.69	65.74	11.98
HHC054	0	1	192.86	98.05	36.57	6.29	3.44	1.84	8.75	1.16	0.36	70.68	20.66	12.06	1.13	0.43	2.61	456.89	98.76
HHC054	1	2	55.03	28.85	12.06	1.92	1.41	0.45	2.12	0.39	0.18	17.03	5.24	3.01	0.34	0.17	1.43	129.65	24.53
HHC054	2	3	41.27	25.92	11.05	1.84	1.03	0.47	1.78	0.37	0.16	14.93	4.35	2.12	0.26	0.18	1.63	107.35	21.37
HHC054	3	4	44.10	26.39	10.67	1.71	1.14	0.56	1.91	0.36	0.20	15.40	4.49	2.27	0.28	0.17	1.18	110.84	21.88
HHC054	4	5	35.87	19.59	7.49	1.35	0.75	0.32	1.39	0.22	0.15	10.50	3.11	1.69	0.20	0.14	0.80	83.57	15.16
HHC054	5	6	25.55	15.72	7.75	1.12	0.81	0.22	1.16	0.25	0.17	8.63	2.57	1.57	0.16	0.13	1.00	66.82	12.49
HHC054	6	7	25.92	15.48	7.11	1.11	0.75	0.15	1.09	0.25	0.15	8.40	2.49	1.07	0.18	0.15	0.93	65.24	12.18
HHC054	7	8	22.60	12.43	6.35	1.15	0.78	0.15	0.76	0.26	0.13	6.77	2.05	1.14	0.14	0.14	0.92	55.76	10.11
HHC054	8	9	23.83	15.95	5.08	0.91	0.69	0.23	0.80	0.19	0.09	7.35	2.20	1.12	0.14	0.08	0.67	59.33	10.60
HHC054	9	10	38.82	22.05	5.97	0.99	0.57	0.28	1.11	0.17	0.09	10.50	3.35	1.44	0.15	0.10	0.75	86.33	14.98

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC054	10	11	73.95	63.21	5.46	0.96	0.64	0.46	1.42	0.16	0.09	19.13	6.84	2.68	0.15	0.09	0.69	175.95	27.08
HHC054	11	12	171.36	116.34	12.45	2.41	1.15	1.22	3.65	0.44	0.15	54.35	17.34	7.21	0.47	0.15	0.98	389.67	74.57
HHC055	0	1	197.77	96.76	30.60	5.38	2.76	1.99	6.94	0.97	0.34	68.12	20.36	10.25	0.95	0.40	2.44	446.03	94.81
HHC055	1	2	77.27	37.76	13.08	2.27	1.44	0.78	2.40	0.44	0.19	24.84	6.78	3.83	0.39	0.19	1.42	173.08	34.28
HHC055	2	3	39.19	23.93	9.65	1.35	0.93	0.47	1.53	0.32	0.18	13.53	4.24	1.77	0.26	0.15	1.08	98.59	19.38
HHC055	3	4	44.22	26.51	9.27	1.71	0.99	0.47	1.56	0.32	0.16	14.93	4.37	2.04	0.26	0.14	1.10	108.06	21.27
HHC055	4	5	30.71	18.76	6.86	1.11	0.73	0.38	1.23	0.24	0.15	9.80	2.90	1.62	0.16	0.10	0.89	75.66	13.98
HHC055	5	6	64.61	37.06	12.19	1.99	1.21	0.71	2.37	0.41	0.18	22.63	6.85	3.65	0.31	0.16	1.12	155.45	31.77
HHC055	6	7	29.97	18.65	8.00	1.56	0.93	0.38	1.07	0.25	0.13	8.98	2.82	1.74	0.16	0.15	0.99	75.78	13.52
HHC055	7	8	29.11	17.83	7.49	1.23	0.95	0.25	1.19	0.23	0.11	9.80	2.78	1.62	0.16	0.14	0.84	73.74	13.97
HHC055	8	9	33.54	19.94	6.86	1.18	0.67	0.37	1.30	0.25	0.15	10.15	3.15	1.65	0.19	0.14	0.83	80.36	14.67
HHC055	9	10	66.58	15.95	9.78	1.85	0.99	0.30	1.38	0.31	0.14	9.45	2.83	1.58	0.25	0.15	0.92	112.45	14.37
HHC055	10	11	151.71	66.97	17.52	3.52	1.67	0.86	3.77	0.56	0.20	40.12	12.14	6.55	0.54	0.23	1.64	308.01	56.33
HHC055	11	12	127.75	66.73	14.73	2.74	1.38	0.96	3.71	0.47	0.19	38.49	11.43	6.25	0.52	0.19	1.50	277.06	53.18
HHC055	12	13	58.84	41.87	10.16	1.69	0.75	0.43	2.13	0.26	0.17	21.93	6.83	3.32	0.29	0.14	1.18	149.99	30.74
HHC055	13	14	84.39	47.15	10.03	1.73	0.95	0.59	2.40	0.34	0.19	26.48	8.38	3.27	0.36	0.18	0.95	187.40	36.96
HHC055	14	15	159.08	88.19	18.03	3.17	1.45	1.51	4.99	0.56	0.25	60.30	17.76	8.74	0.55	0.27	1.76	366.63	81.78
HHC055	15	16	202.69	107.31	23.49	4.40	2.12	2.01	6.72	0.70	0.30	79.67	22.59	11.71	0.85	0.35	2.21	467.11	107.50
HHC055	16	17	97.53	54.65	13.21	2.43	1.22	0.86	3.03	0.45	0.20	35.23	10.14	5.73	0.41	0.18	1.50	226.78	48.21
HHC055	17	18	395.54	204.07	43.18	8.44	3.93	3.87	14.23	1.37	0.47	144.63	41.32	21.68	1.60	0.55	4.02	888.91	195.99
HHC055	18	19	308.33	172.40	32.26	6.34	2.82	3.08	10.53	1.03	0.40	108.94	31.53	16.58	1.26	0.41	2.72	698.64	148.07
HHC055	19	20	136.35	70.02	17.27	3.02	1.52	1.37	5.26	0.52	0.17	47.71	14.38	8.04	0.60	0.23	1.59	308.03	65.70
HHC056	0	1	337.81	178.27	56.76	10.55	4.97	3.54	13.95	1.97	0.63	129.47	38.54	20.99	1.95	0.69	4.04	804.13	180.51
HHC056	1	2	174.43	88.19	31.62	5.59	3.13	1.77	7.12	1.13	0.36	61.12	18.49	10.97	0.99	0.40	2.70	408.02	86.18
HHC056	2	3	62.89	36.71	13.46	2.31	1.35	0.68	2.40	0.49	0.20	21.70	6.62	3.95	0.34	0.19	1.61	154.91	30.96
HHC056	3	4	64.86	38.12	13.97	2.42	1.36	0.68	2.65	0.47	0.23	21.93	7.01	3.46	0.36	0.21	1.54	159.26	31.72
HHC056	4	5	55.52	31.20	11.18	1.87	1.26	0.59	2.02	0.42	0.20	18.43	5.67	3.05	0.34	0.17	1.33	133.25	26.31
HHC056	5	6	49.87	28.73	8.13	1.45	0.89	0.59	1.69	0.27	0.16	15.28	4.72	2.74	0.21	0.13	1.01	115.88	21.66
HHC056	6	7	45.70	25.92	6.10	1.15	0.64	0.42	1.20	0.23	0.10	14.00	4.20	2.40	0.19	0.08	0.75	103.07	19.54
HHC056	7	8	53.07	31.67	8.25	1.46	0.86	0.31	1.33	0.26	0.11	14.70	5.01	2.28	0.21	0.14	0.76	120.42	21.38
HHC056	8	9	55.77	32.25	8.51	1.48	1.02	0.49	1.75	0.30	0.16	17.73	5.44	2.74	0.24	0.10	1.01	128.98	24.88
HHC056	9	10	58.35	32.96	11.05	2.17	1.19	0.72	2.02	0.39	0.20	18.31	5.85	2.83	0.35	0.19	1.25	137.83	26.68
HHC056	10	11	31.45	19.23	6.60	1.08	0.71	0.29	1.06	0.23	0.10	10.26	3.24	1.72	0.16	0.13	0.99	77.25	14.75
HHC056	11	12	24.81	14.19	6.35	1.07	0.72	0.25	1.04	0.25	0.14	6.65	2.25	1.07	0.18	0.10	0.85	59.92	10.14
HHC056	12	13	31.69	16.65	4.83	0.78	0.51	0.27	0.93	0.21	0.13	7.81	2.57	1.51	0.15	0.09	0.72	68.86	11.32
HHC056	13	14	55.52	23.10	9.78	1.84	0.99	0.36	1.84	0.37	0.16	12.01	4.05	2.54	0.27	0.15	1.17	114.16	18.17
HHC056	14	15	117.07	56.65	26.29	4.42	2.65	1.08	4.68	0.81	0.30	33.71	10.08	6.03	0.71	0.34	2.28	267.08	48.91
HHC056	15	16	69.40	42.81	18.67	2.88	1.62	0.61	2.84	0.54	0.24	23.91	7.32	3.93	0.41	0.24	1.65	177.08	34.53
HHC056	16	17	28.25	16.89	6.22	1.07	0.66	0.19	0.99	0.18	0.11	7.93	2.62	1.30	0.16	0.10	0.77	67.46	11.79
HHC056	17	18	53.44	29.09	11.94	2.08	1.09	0.43	2.12	0.40	0.18	15.98	4.94	2.52	0.32	0.17	1.16	125.84	23.32
HHC056	18	19	39.19	21.58	8.64	1.57	0.91	0.36	1.44	0.29	0.13	12.01	3.61	2.06	0.22	0.15	1.01	93.18	17.42
HHC056	19	20	31.20	18.18	6.73	1.08	0.63	0.23	0.97	0.22	0.11	9.56	2.90	1.62	0.16	0.10	0.75	74.46	13.71
HHC056	20	21	70.88	40.46	8.76	1.54	0.94	0.49	1.68	0.27	0.14	20.88	6.58	3.33	0.28	0.14	0.89	157.26	29.28
HHC057	0	1	266.56	131.35	40.76	7.55	3.93	2.51	10.34	1.37	0.39	96.58	29.00	16.52	1.41	0.50	3.10	611.89	134.54
HHC057	1	2	95.57	45.04	15.49	2.55	1.56	0.79	3.18	0.55	0.26	28.34	8.69	4.91	0.45	0.23	1.56	209.15	40.03
HHC057	2	3	54.91	31.31	10.29	1.84	1.15	0.56	1.90	0.37	0.17	17.85	5.74	2.56	0.27	0.16	1.10	130.18	25.69
HHC057	3	4	48.28	26.62	9.78	1.72	1.02	0.60	1.91	0.32	0.18	16.45	4.98	2.73	0.28	0.17	1.05	116.08	23.43
HHC057	4	5	32.18	17.83	7.11	1.19	0.75	0.41	1.19	0.23	0.13	10.50	3.01	1.48	0.19	0.13	0.75	77.07	14.89
HHC057	5	6	40.54	22.87	8.89	1.35	0.97	0.46	1.48	0.32	0.18	12.48	3.81	2.40	0.27	0.15	1.01	97.18	17.91

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC057	6	7	40.54	23.57	7.87	1.27	0.77	0.42	1.44	0.31	0.15	12.83	3.99	2.15	0.24	0.13	0.95	96.61	18.33
HHC057	7	8	41.77	24.04	6.48	1.19	0.58	0.47	1.12	0.19	0.08	12.48	3.94	1.50	0.16	0.13	0.76	94.90	17.78
HHC057	8	9	44.35	25.92	6.48	1.10	0.63	0.39	1.37	0.22	0.11	13.76	4.23	2.20	0.19	0.11	0.64	101.70	19.28
HHC057	9	10	35.26	20.17	6.86	1.04	0.67	0.37	1.09	0.22	0.11	11.55	3.48	1.55	0.15	0.11	0.79	83.43	16.22
HHC057	10	11	34.52	20.76	7.62	1.23	0.81	0.32	1.09	0.26	0.16	10.15	3.36	1.86	0.20	0.13	0.93	83.40	14.93
HHC057	11	12	30.71	18.76	7.49	1.18	0.72	0.30	1.14	0.27	0.16	9.10	3.00	1.48	0.18	0.09	0.82	75.41	13.45
HHC057	12	13	38.33	19.82	6.60	1.15	0.73	0.32	1.13	0.24	0.10	10.26	3.25	1.67	0.18	0.10	0.83	84.72	14.84
HHC057	13	14	50.73	17.12	7.49	1.29	0.83	0.32	1.16	0.27	0.15	9.56	2.75	1.72	0.20	0.14	0.93	94.69	13.80
HHC057	14	15	60.68	13.37	8.51	1.56	0.88	0.28	1.42	0.30	0.17	7.81	2.20	1.46	0.24	0.14	0.92	99.94	11.81
HHC057	15	16	42.63	13.25	9.14	1.48	0.89	0.23	1.26	0.33	0.14	7.46	2.26	1.60	0.20	0.15	1.14	82.16	11.40
HHC057	16	17	40.05	19.35	6.86	1.16	0.73	0.34	1.35	0.23	0.14	11.66	3.50	1.67	0.18	0.10	0.77	88.09	16.50
HHC057	17	18	33.90	27.68	5.59	0.99	0.53	0.35	1.34	0.17	0.08	15.16	4.66	2.06	0.19	0.08	0.71	93.48	21.00
HHC057	18	19	31.57	21.34	7.11	1.25	0.61	0.34	1.31	0.22	0.13	12.60	3.59	1.76	0.22	0.11	0.81	82.97	17.66
HHC057	19	20	24.32	13.49	5.97	1.01	0.65	0.21	0.99	0.18	0.08	8.05	2.43	1.25	0.15	0.11	0.61	59.51	11.64
HHC057	20	21	31.82	20.17	6.98	1.17	0.70	0.32	1.22	0.19	0.14	11.43	3.26	1.55	0.20	0.11	0.71	79.98	16.06
HHC058	0	1	121.61	57.58	23.49	4.06	2.12	1.26	4.97	0.73	0.31	44.44	12.44	7.42	0.80	0.29	1.96	283.49	61.75
HHC058	1	2	206.99	97.11	33.02	5.51	2.95	1.95	7.40	1.09	0.34	73.02	20.66	11.77	1.07	0.43	2.71	466.01	100.26
HHC058	2	3	56.87	29.44	12.32	1.93	1.27	0.52	2.32	0.40	0.22	18.55	5.51	3.18	0.35	0.18	1.23	134.28	26.34
HHC058	3	4	61.79	33.31	13.21	2.01	1.26	0.64	2.42	0.44	0.20	21.11	6.31	3.34	0.38	0.23	1.34	147.97	29.80
HHC058	4	5	46.07	27.33	11.30	1.91	1.11	0.57	2.07	0.42	0.22	16.21	4.70	2.30	0.29	0.18	1.18	115.86	23.11
HHC058	5	6	43.85	25.33	9.27	1.54	0.94	0.47	1.50	0.27	0.14	14.46	4.20	2.15	0.22	0.15	0.99	105.49	20.43
HHC058	6	7	35.87	20.64	7.11	1.27	0.70	0.34	1.20	0.25	0.11	11.31	3.55	1.87	0.21	0.11	0.79	85.34	16.35
HHC058	7	8	24.20	14.19	6.10	1.02	0.58	0.21	0.85	0.21	0.13	8.05	2.34	1.39	0.14	0.11	0.72	60.24	11.55
HHC058	8	9	31.94	18.41	7.24	1.17	0.72	0.35	1.11	0.25	0.11	10.26	3.17	1.64	0.18	0.11	0.83	77.49	14.78
HHC058	9	10	46.92	21.70	8.51	1.43	0.83	0.41	1.52	0.32	0.17	13.65	3.81	2.26	0.26	0.14	0.92	102.85	19.15
HHC058	10	11	46.56	19.70	7.11	1.34	0.83	0.37	1.42	0.30	0.14	11.55	3.70	2.35	0.25	0.13	0.88	96.62	16.83
HHC058	11	12	41.03	17.59	8.00	1.25	0.78	0.37	1.16	0.31	0.14	10.96	3.23	1.81	0.22	0.13	0.90	87.88	15.66
HHC058	12	13	43.49	22.52	8.64	1.63	0.85	0.34	1.58	0.32	0.15	12.95	4.05	1.97	0.22	0.14	0.91	99.74	18.85
HHC058	13	14	33.04	22.05	7.75	1.41	0.86	0.30	1.34	0.26	0.13	13.06	3.64	1.95	0.21	0.10	0.89	86.99	18.32
HHC058	14	15	30.71	22.28	8.38	1.33	0.69	0.31	1.43	0.25	0.15	12.60	3.77	1.81	0.19	0.14	0.79	84.82	17.89
HHC058	15	16	29.11	17.36	7.62	1.38	0.87	0.23	1.23	0.26	0.11	9.80	3.07	1.76	0.20	0.14	0.95	74.09	14.44
HHC058	16	17	17.69	10.67	5.71	0.79	0.53	0.20	0.65	0.17	0.08	5.48	1.95	0.93	0.13	0.09	0.71	45.77	8.35
HHC058	17	18	22.97	13.60	5.46	0.93	0.74	0.24	0.88	0.17	0.09	7.58	2.48	1.22	0.16	0.10	0.77	57.41	11.15
HHC058	18	19	49.01	34.01	4.19	0.94	0.49	0.35	1.13	0.13	0.09	13.88	4.54	1.72	0.12	0.07	0.54	111.20	19.48
HHC058	19	20	37.47	26.27	3.68	0.67	0.35	0.27	0.77	0.13	0.08	11.43	3.52	1.29	0.11	0.07	0.42	86.51	15.72
HHC058	20	21	40.66	26.86	4.44	0.81	0.43	0.20	0.96	0.14	0.08	11.31	3.91	1.58	0.11	0.07	0.58	92.14	16.15
HHC059	0	1	171.98	82.68	33.14	5.51	3.11	1.95	6.74	1.02	0.35	62.40	18.18	10.07	1.11	0.39	2.63	401.26	87.20
HHC059	1	2	129.60	56.41	20.83	3.71	1.92	1.23	4.17	0.68	0.30	39.42	11.32	6.75	0.69	0.30	1.83	279.15	55.15
HHC059	2	3	60.19	34.83	14.73	2.30	1.48	0.73	2.49	0.47	0.23	21.70	6.56	3.95	0.34	0.24	1.64	151.87	30.89
HHC059	3	4	40.66	24.39	10.67	1.58	1.04	0.47	1.61	0.31	0.18	13.18	4.19	2.49	0.25	0.17	1.14	102.35	19.20
HHC059	4	5	38.69	21.70	8.25	1.33	0.90	0.44	1.39	0.25	0.15	11.31	3.47	1.57	0.24	0.15	0.93	90.78	16.35
HHC059	5	6	30.10	18.30	7.24	1.06	0.70	0.24	0.92	0.22	0.13	9.68	3.06	1.39	0.20	0.11	0.83	74.17	13.99
HHC059	6	7	21.87	13.37	6.73	0.95	0.74	0.20	0.80	0.19	0.11	6.77	2.01	0.96	0.15	0.11	0.83	55.79	9.88
HHC059	7	8	48.64	18.41	7.62	1.40	0.78	0.44	1.18	0.23	0.15	10.38	3.14	1.92	0.25	0.11	0.75	95.41	15.17
HHC059	8	9	81.44	14.54	10.92	1.97	1.12	0.57	1.82	0.40	0.14	11.08	3.02	2.45	0.31	0.18	0.91	130.87	16.38
HHC059	9	10	49.01	13.02	7.11	1.23	0.89	0.34	1.05	0.24	0.09	8.63	2.45	1.72	0.22	0.11	0.75	86.87	12.54
HHC059	10	11	41.89	18.18	8.25	1.50	0.94	0.28	1.44	0.29	0.17	11.90	3.32	1.92	0.19	0.19	1.13	91.59	16.91
HHC059	11	12	116.08	71.31	7.75	1.23	0.91	0.63	2.03	0.25	0.11	33.36	11.32	3.63	0.26	0.13	0.89	249.88	46.17
HHC059	12	13	434.85	289.68	13.84	3.16	1.57	2.00	6.02	0.53	0.14	131.80	45.91	12.58	0.65	0.21	1.36	944.29	181.52

Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC059	13	14	826.71	457.39	32.38	8.11	3.14	5.91	15.56	1.21	0.36	284.60	86.63	34.21	1.79	0.40	2.72	1761.14	381.13
HHC059	14	15	433.63	246.29	23.37	5.60	2.26	3.77	11.00	0.88	0.27	161.55	47.24	21.16	1.26	0.35	2.14	960.77	215.65
HHC059	15	16	374.66	194.68	38.48	6.92	3.21	3.97	12.62	1.17	0.44	154.55	43.25	22.96	1.53	0.48	2.88	861.81	206.25
HHC059	16	17	331.67	177.68	33.27	5.30	2.77	2.59	8.88	1.00	0.35	116.41	34.43	16.81	1.16	0.38	2.72	735.42	157.31
HHC059	17	18	350.09	177.09	35.68	6.11	2.69	3.16	10.33	1.07	0.38	130.05	36.97	17.57	1.18	0.43	2.51	775.30	174.31
HHC059	18	19	272.70	139.56	42.03	6.51	3.51	2.91	10.58	1.16	0.47	103.23	28.27	15.48	1.18	0.54	3.20	631.32	139.18
HHC059	19	20	250.59	132.53	31.49	4.96	2.64	2.22	7.96	0.93	0.35	87.83	25.61	12.47	0.85	0.38	2.24	563.06	119.25
HHC060	0	1	186.72	80.92	29.33	5.37	2.92	1.95	7.03	0.96	0.42	66.37	18.24	10.34	0.98	0.45	2.45	414.45	90.96
HHC060	1	2	242.61	77.64	37.34	6.75	3.69	2.17	8.68	1.28	0.45	66.48	17.82	11.77	1.26	0.51	2.98	481.44	92.31
HHC060	2	3	124.07	38.70	16.25	3.23	1.81	0.85	3.37	0.55	0.22	26.83	7.84	4.63	0.47	0.34	1.94	231.08	38.36
HHC060	3	4	37.96	20.88	9.65	1.64	1.11	0.43	1.51	0.30	0.16	12.01	3.59	2.19	0.21	0.17	1.28	93.08	17.46
HHC060	4	5	25.67	14.07	7.75	1.32	0.96	0.23	1.06	0.23	0.15	8.40	2.65	1.54	0.15	0.14	1.14	65.46	12.52
HHC060	5	6	27.88	14.66	6.10	1.21	0.75	0.24	0.97	0.17	0.09	8.51	2.46	1.08	0.13	0.11	0.81	65.18	12.31
HHC060	6	7	34.40	17.71	6.35	1.16	0.91	0.24	1.04	0.21	0.08	10.96	3.11	1.46	0.18	0.11	0.87	78.78	15.40
HHC061	0	1	96.31	32.72	14.22	2.35	1.50	0.82	2.78	0.39	0.17	25.66	6.83	4.51	0.40	0.22	1.39	190.27	35.24
HHC061	1	2	150.48	49.49	27.30	4.92	2.61	1.46	5.58	0.94	0.32	43.86	11.99	7.89	0.86	0.38	2.65	310.72	61.62
HHC061	2	3	136.35	67.44	32.64	5.19	3.11	1.30	6.39	1.05	0.35	50.51	13.83	8.11	0.92	0.42	2.78	330.37	70.44
HHC061	3	4	48.03	17.83	10.79	2.15	1.40	0.41	1.80	0.38	0.19	14.00	4.04	2.53	0.31	0.19	1.37	105.39	20.48
HHC061	4	5	47.91	22.17	10.41	1.66	1.27	0.51	1.98	0.34	0.10	15.16	4.13	2.73	0.25	0.15	1.18	109.96	21.21
HHC061	5	6	52.33	27.68	9.02	1.41	0.94	0.49	1.57	0.27	0.10	18.08	5.03	2.54	0.21	0.14	1.10	120.90	24.73
HHC062	0	1	100.24	42.57	18.54	3.18	1.90	1.00	3.88	0.63	0.23	34.41	9.06	5.46	0.51	0.25	1.78	223.63	47.16
HHC062	1	2	145.57	40.34	27.30	5.04	3.05	1.34	5.38	0.95	0.41	36.97	10.45	7.19	0.87	0.47	2.77	288.11	53.33
HHC062	2	3	95.57	46.68	19.94	3.10	1.96	0.98	3.96	0.60	0.23	34.06	9.46	4.74	0.47	0.27	1.75	223.77	47.09
HHC062	3	4	66.70	30.26	12.32	2.34	1.40	0.66	2.37	0.41	0.18	23.56	5.98	3.72	0.38	0.18	1.25	151.72	32.26
HHC062	4	5	67.19	37.30	5.97	1.35	0.73	0.54	1.68	0.21	0.06	22.74	6.74	3.20	0.18	0.10	0.66	148.66	31.02
HHC062	5	6	115.47	61.10	7.11	1.69	0.75	0.75	3.11	0.30	0.08	43.51	12.26	5.69	0.35	0.13	0.56	252.87	57.81
HHC062	6	7	355.01	165.36	19.56	5.90	1.96	3.55	11.64	0.81	0.16	155.13	40.23	23.19	1.25	0.25	1.49	785.50	202.51
HHC062	7	8	281.30	146.60	19.81	5.95	2.10	3.24	10.79	0.88	0.26	127.14	31.78	20.29	1.27	0.26	2.03	653.70	166.13
HHC062	8	9	308.33	167.71	23.24	6.44	2.70	3.82	12.97	1.03	0.38	139.38	33.95	22.26	1.40	0.43	2.21	726.25	181.17
HHC062	9	10	386.95	205.83	32.51	8.17	3.18	5.05	16.83	1.40	0.40	165.05	43.37	27.71	1.83	0.42	2.86	901.55	218.43
HHC062	10	11	390.63	218.73	43.56	12.74	4.53	5.53	24.55	1.97	0.43	154.55	41.56	30.15	2.88	0.61	3.25	935.66	211.73
HHC062	11	12	388.17	214.62	58.67	9.82	5.27	4.01	15.85	1.68	0.53	141.13	39.99	22.09	1.81	0.69	4.28	908.63	192.76
HHC062	12	13	347.64	179.44	43.43	6.97	3.59	3.24	12.56	1.34	0.53	124.22	35.76	20.18	1.43	0.53	3.21	784.08	168.39
HHC062	13	14	368.52	197.62	46.10	7.37	4.00	3.25	11.76	1.42	0.58	129.47	37.82	19.54	1.55	0.59	4.02	833.61	176.21
HHC062	14	15	428.71	226.35	51.05	9.25	4.32	4.12	15.56	1.67	0.58	166.80	45.67	23.66	2.00	0.65	3.93	984.32	223.72
HHC062	15	16	405.37	211.10	48.76	8.61	4.06	3.79	14.64	1.60	0.55	163.30	43.86	24.58	1.74	0.57	3.69	936.22	217.50
HHC062	16	17	289.90	147.77	52.95	7.75	4.37	2.77	12.10	1.56	0.67	106.61	30.45	17.63	1.43	0.62	4.66	681.23	146.24
HHC062	17	18	316.93	165.95	41.78	6.71	3.58	2.76	10.94	1.19	0.47	115.71	32.02	17.68	1.34	0.54	2.93	720.52	155.78
HHC062	18	19	260.42	138.98	26.54	4.15	2.13	2.05	7.72	0.76	0.23	88.65	25.73	13.68	0.80	0.29	1.73	573.86	119.34
HHC063	0	1	197.77	61.92	21.84	3.94	2.06	1.20	4.96	0.78	0.34	42.11	12.69	7.43	0.72	0.30	2.07	360.13	59.45
HHC063	1	2	134.51	63.21	19.30	3.53	1.84	0.96	4.37	0.61	0.23	36.97	10.87	6.35	0.56	0.24	1.41	284.99	51.95
HHC063	2	3	116.33	55.59	11.94	1.97	1.15	0.75	3.09	0.38	0.15	29.16	9.34	4.57	0.41	0.15	0.97	235.95	40.89
HHC063	3	4	164.61	101.10	8.51	1.88	0.98	0.95	3.47	0.34	0.13	42.11	13.53	4.88	0.34	0.13	0.79	343.74	57.86
HHC063	4	5	234.01	140.15	11.43	2.18	1.09	1.25	4.07	0.38	0.09	59.84	19.57	7.26	0.52	0.15	0.93	482.91	82.11
HHC063	5	6	141.27	94.06	7.62	1.56	0.80	0.86	2.99	0.29	0.11	38.72	12.50	4.51	0.29	0.13	0.66	306.37	53.08
HHC063	6	7	219.27	127.25	14.35	2.58	1.13	1.17	4.39	0.47	0.15	54.35	17.64	6.47	0.54	0.18	1.00	450.95	75.12
HHC063	7	8	286.22	177.09	14.86	3.66	1.33	1.49	5.80	0.56	0.14	80.71	26.10	10.42	0.65	0.15	1.14	610.32	111.12
HHC063	8	9	271.48	172.99	12.83	3.06	1.42	1.53	5.19	0.55	0.16	78.85	25.37	9.23	0.65	0.15	1.02	584.47	107.93
HHC063	9	10	359.92	222.83	17.91	4.29	1.76	1.91	7.16	0.69	0.15	96.34	30.81	13.28	0.84	0.21	1.21	759.29	132.28

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC063	10	11	150.48	100.98	10.16	2.12	0.91	1.00	3.35	0.32	0.09	37.32	12.50	4.41	0.35	0.11	0.69	324.81	52.31
HHC063	11	12	175.05	114.82	12.32	2.27	1.09	0.95	3.27	0.37	0.11	43.86	15.16	5.37	0.41	0.13	0.91	376.08	61.70
HHC063	12	13	271.48	157.16	13.33	2.62	1.40	1.27	4.22	0.45	0.15	68.82	22.59	8.44	0.54	0.14	1.13	553.72	94.57
HHC063	13	14	486.45	258.02	39.37	7.04	3.64	3.06	12.39	1.33	0.27	132.39	40.23	18.84	1.51	0.39	2.61	1007.51	181.16
HHC063	14	15	410.29	242.77	29.33	5.60	2.39	2.20	8.00	0.89	0.22	107.19	34.07	13.68	1.05	0.32	1.88	859.88	147.91
HHC063	15	16	249.37	143.67	13.21	2.46	1.17	1.30	4.44	0.41	0.16	64.85	21.99	7.70	0.51	0.17	0.99	512.38	89.80
HHC063	16	17	62.03	36.83	5.46	0.86	0.55	0.36	1.45	0.17	0.09	16.45	5.63	1.97	0.16	0.08	0.55	132.64	23.10
HHC063	17	18	113.26	62.16	7.62	1.43	0.78	0.59	2.64	0.24	0.11	30.44	10.04	3.66	0.27	0.11	0.79	234.15	42.19
HHC063	18	19	367.29	204.07	25.65	4.33	2.37	2.28	7.90	0.81	0.25	105.56	34.07	15.77	0.92	0.31	2.06	773.63	144.87
HHC064	0	1	206.37	117.05	18.79	3.31	1.81	1.46	5.22	0.62	0.22	60.54	19.21	7.79	0.66	0.23	1.67	444.94	83.71
HHC064	1	2	118.05	53.36	24.51	4.18	2.15	1.24	5.07	0.79	0.28	41.17	11.39	6.88	0.69	0.30	2.13	272.20	57.44
HHC064	2	3	105.64	32.60	14.10	2.65	1.46	0.65	2.90	0.47	0.25	21.93	6.63	3.93	0.48	0.21	1.50	195.41	31.69
HHC064	3	4	48.03	32.25	9.52	1.65	1.05	0.49	2.03	0.36	0.15	19.48	5.87	2.91	0.27	0.15	1.08	125.29	27.27
HHC064	4	5	32.31	22.99	5.21	0.96	0.65	0.30	1.07	0.18	0.11	10.61	3.55	1.44	0.19	0.09	0.59	80.26	15.32
HHC064	5	6	57.37	38.12	5.46	0.96	0.59	0.42	1.29	0.22	0.15	17.50	6.00	2.25	0.20	0.11	0.68	131.32	24.66
HHC064	6	7	356.24	212.28	16.51	3.79	1.56	1.88	6.75	0.65	0.16	97.98	32.26	11.40	0.73	0.19	1.07	743.44	134.75
HHC064	7	8	126.53	73.30	8.25	1.64	0.86	0.61	2.54	0.32	0.13	35.23	11.66	4.34	0.33	0.11	0.71	266.54	48.85
HHC064	8	9	59.33	35.65	6.73	1.09	0.67	0.29	1.26	0.25	0.14	14.46	5.32	1.64	0.20	0.10	0.89	128.02	21.07
HHC064	9	10	64.25	36.83	6.98	1.07	0.66	0.28	1.26	0.24	0.15	14.70	5.35	1.81	0.16	0.10	0.87	134.70	21.28
HHC064	10	11	151.09	92.30	7.62	1.32	0.73	0.69	1.97	0.25	0.16	34.18	12.69	3.70	0.26	0.10	0.81	307.87	48.44
HHC064	11	12	225.41	133.70	9.40	2.01	0.86	1.04	3.19	0.32	0.13	53.30	19.27	5.37	0.36	0.13	0.84	455.33	74.95
HHC064	12	13	241.38	148.95	9.91	2.25	0.94	1.15	3.68	0.37	0.14	61.00	21.45	6.52	0.44	0.13	0.89	499.16	85.13
HHC064	13	14	262.88	160.09	13.46	2.15	1.20	1.16	3.72	0.45	0.15	65.20	22.90	6.91	0.49	0.15	1.05	541.95	90.74
HHC064	14	15	284.99	180.61	13.97	2.87	1.38	1.44	4.60	0.50	0.19	74.77	25.49	8.16	0.56	0.17	1.18	600.90	103.69
HHC064	15	16	271.48	164.78	13.97	3.00	1.32	1.55	5.16	0.52	0.16	74.53	24.10	8.98	0.60	0.16	1.02	571.32	102.23
HHC064	16	17	383.26	201.72	12.70	3.42	1.38	2.19	6.45	0.53	0.22	104.63	34.55	13.05	0.74	0.17	1.24	766.25	143.34
HHC064	17	18	372.21	202.89	15.49	4.01	1.58	2.18	7.55	0.70	0.20	98.68	32.86	12.99	0.79	0.18	1.21	753.51	136.33
HHC064	18	19	298.50	178.85	18.54	3.76	1.72	1.83	6.27	0.65	0.23	84.45	27.18	10.25	0.73	0.22	1.37	634.55	116.13
HHC064	19	20	348.87	202.31	22.48	4.28	1.92	2.08	7.40	0.74	0.27	106.26	34.31	14.50	0.85	0.24	1.55	748.06	145.70
HHC065	0	1	255.51	124.90	21.72	4.27	2.09	1.92	6.01	0.82	0.32	72.08	21.99	9.78	0.73	0.29	2.08	524.50	99.07
HHC065	1	2	156.01	64.86	31.37	5.31	3.19	1.35	6.35	1.11	0.43	47.01	13.53	8.69	0.87	0.46	2.51	343.04	66.72
HHC065	2	3	98.52	61.22	21.21	3.43	1.89	0.90	4.60	0.68	0.27	39.07	10.89	5.54	0.59	0.27	1.89	250.97	53.98
HHC065	3	4	30.96	15.13	6.86	1.21	0.79	0.27	1.21	0.23	0.14	8.51	2.63	1.28	0.20	0.13	0.83	70.36	12.55
HHC065	4	5	28.87	15.36	8.13	1.47	0.90	0.23	1.15	0.30	0.18	8.28	2.50	1.60	0.19	0.14	1.06	70.36	12.44
HHC065	5	6	27.27	13.14	5.97	0.90	0.72	0.16	0.86	0.21	0.08	7.00	2.03	0.87	0.14	0.08	0.73	60.15	10.06
HHC065	6	7	37.96	15.48	5.21	0.94	0.58	0.27	0.95	0.23	0.13	8.28	2.71	1.46	0.14	0.09	0.71	75.12	12.07
HHC065	7	8	41.27	14.54	5.71	1.16	0.65	0.22	1.20	0.25	0.13	9.21	2.61	1.41	0.16	0.10	0.76	79.41	13.15
HHC065	8	9	29.73	12.67	4.95	0.90	0.54	0.13	0.81	0.16	0.11	6.65	2.07	1.08	0.11	0.09	0.74	60.72	9.72
HHC065	9	10	50.86	28.15	5.08	0.85	0.49	0.25	1.14	0.17	0.11	12.13	4.40	1.64	0.14	0.08	0.65	106.14	17.52
HHC065	10	11	51.35	25.33	5.21	0.73	0.51	0.31	1.14	0.15	0.10	11.78	4.08	1.84	0.15	0.07	0.63	103.40	16.75
HHC065	11	12	35.13	16.42	3.68	0.57	0.31	0.17	0.67	0.10	0.07	7.70	2.72	1.32	0.08	0.07	0.56	69.58	11.07
HHC065	12	13	92.99	55.00	5.71	1.19	0.53	0.47	1.51	0.21	0.14	22.63	7.39	2.59	0.18	0.08	0.59	191.21	31.39
HHC065	13	14	276.39	184.72	7.24	1.77	0.71	1.16	3.09	0.26	0.10	66.02	23.80	7.85	0.33	0.09	0.64	574.16	91.92
HHC065	14	15	199.62	126.66	5.84	1.19	0.54	0.79	2.36	0.22	0.13	49.34	17.40	5.07	0.26	0.09	0.59	410.09	68.19
HHC065	15	16	47.78	31.90	3.94	0.55	0.37	0.20	0.78	0.13	0.13	12.71	4.08	1.38	0.12	0.07	0.61	104.75	17.47
HHC065	16	17	86.97	54.42	5.84	0.90	0.61	0.41	1.33	0.18	0.15	24.49	8.03	2.53	0.15	0.08	0.82	186.90	33.58
HHC065	17	18	204.53	127.84	5.21	1.42	0.65	0.96	2.85	0.23	0.13	63.34	21.75	7.58	0.33	0.09	0.66	437.56	86.84
HHC065	18	19	173.20	96.40	9.27	1.74	0.74	1.01	3.46	0.31	0.10	61.24	19.21	7.44	0.40	0.11	0.64	375.29	82.59
HHC065	19	20	275.16	148.95	14.60	2.86	1.19	1.95	5.18	0.48	0.18	95.18	29.00	12.06	0.61	0.19	1.22	588.80	127.64

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC066	0	1	176.28	90.54	20.70	4.14	2.09	1.47	5.80	0.62	0.30	59.49	17.34	8.67	0.73	0.32	1.99	390.47	81.70
HHC066	1	2	87.34	44.68	16.25	2.51	1.61	0.79	3.24	0.55	0.22	28.69	8.80	4.77	0.46	0.24	1.56	201.71	40.46
HHC066	2	3	44.10	27.09	9.14	1.54	0.88	0.43	1.60	0.30	0.18	14.46	4.77	2.46	0.27	0.15	0.98	108.36	21.04
HHC066	3	4	37.96	22.52	6.48	1.06	0.79	0.30	1.39	0.22	0.11	11.90	3.65	1.76	0.20	0.13	0.84	89.30	16.80
HHC066	4	5	37.59	21.11	5.59	0.96	0.50	0.30	1.12	0.17	0.09	11.31	3.58	1.88	0.15	0.08	0.55	84.98	16.01
HHC066	5	6	24.57	13.49	6.35	1.01	0.80	0.24	0.78	0.22	0.14	7.35	2.19	1.07	0.14	0.10	0.81	59.25	10.69
HHC066	6	7	26.04	15.83	5.71	0.95	0.67	0.23	0.92	0.22	0.11	8.05	2.42	1.17	0.15	0.10	0.69	63.29	11.57
HHC066	7	8	30.22	15.01	6.35	1.09	0.70	0.23	1.00	0.21	0.13	8.28	2.71	1.24	0.15	0.11	0.83	68.26	12.23
HHC066	8	9	48.77	26.74	8.25	1.42	0.90	0.44	1.65	0.31	0.15	14.81	4.93	2.31	0.22	0.15	0.92	111.98	21.39
HHC066	9	10	53.80	15.95	8.64	1.65	0.98	0.39	1.60	0.32	0.15	10.73	3.29	2.28	0.26	0.14	0.99	101.18	15.93
HHC066	10	11	194.70	41.75	21.21	4.22	2.39	1.11	4.50	0.86	0.33	30.33	8.89	5.57	0.75	0.34	2.37	319.32	44.20
HHC066	11	12	94.83	31.67	10.16	1.84	1.22	0.63	2.28	0.41	0.22	18.20	5.79	3.06	0.32	0.18	1.16	171.96	26.14
HHC066	12	13	88.08	40.93	7.62	1.45	0.83	0.51	2.01	0.29	0.14	19.95	6.86	2.83	0.26	0.13	0.88	172.74	28.51
HHC066	13	14	43.24	25.57	5.97	0.95	0.62	0.35	1.31	0.23	0.11	12.13	4.23	1.89	0.20	0.10	0.64	97.54	17.51
HHC066	14	15	51.35	54.42	5.59	1.03	0.63	0.42	1.31	0.18	0.08	21.81	7.68	2.41	0.18	0.09	0.49	147.67	30.71
HHC066	15	16	223.57	149.53	10.54	2.61	1.09	1.64	4.84	0.46	0.15	66.83	22.53	8.20	0.56	0.14	0.90	493.59	92.54
HHC066	16	17	495.05	275.61	21.33	5.68	2.20	3.49	10.49	0.92	0.28	148.13	47.36	20.12	1.20	0.27	2.02	1034.14	202.38
HHC066	17	18	952.01	464.43	41.78	10.99	4.25	7.27	20.63	1.74	0.49	296.27	93.39	42.44	2.41	0.56	3.63	1942.30	403.07
HHC066	18	19	1211.20	568.81	56.89	14.75	5.77	9.49	27.55	2.45	0.53	390.74	118.89	56.01	3.25	0.69	4.35	2471.37	527.63
HHC066	19	20	1431.09	580.54	85.59	19.68	8.13	11.53	33.66	3.25	0.89	451.40	133.51	64.24	4.10	1.05	6.33	2834.99	608.69
HHC066	20	21	990.09	469.12	69.08	14.00	6.07	7.77	24.44	2.35	0.68	317.26	95.45	44.41	2.85	0.79	4.91	2049.27	429.56
HHC067	0	1	218.04	100.16	32.13	5.60	3.10	2.01	7.86	1.19	0.39	73.02	21.20	11.46	1.08	0.42	2.58	480.25	100.90
HHC067	1	2	235.85	107.31	28.32	5.47	2.92	2.34	7.76	1.01	0.36	78.15	23.74	11.60	1.02	0.39	2.54	508.78	108.39
HHC067	2	3	82.67	44.10	14.35	2.47	1.53	0.75	2.88	0.48	0.27	28.34	8.59	4.51	0.44	0.22	1.57	193.17	39.84
HHC067	3	4	61.79	31.43	10.41	1.68	1.15	0.67	2.02	0.36	0.20	18.66	5.78	3.01	0.33	0.17	1.21	138.87	26.44
HHC067	4	5	43.36	22.52	8.25	1.35	0.87	0.51	1.43	0.29	0.16	11.55	3.69	2.02	0.21	0.13	0.97	97.30	16.80
HHC067	5	6	39.06	22.75	11.56	1.76	1.36	0.42	1.63	0.38	0.18	11.90	3.82	1.92	0.26	0.17	1.18	98.34	17.73
HHC067	6	7	24.69	14.07	6.60	1.02	0.71	0.22	1.00	0.23	0.13	7.46	2.43	1.28	0.16	0.10	0.82	60.93	11.08
HHC067	7	8	20.64	12.55	5.59	0.80	0.61	0.21	0.78	0.19	0.14	6.07	1.93	0.90	0.13	0.09	0.69	51.32	8.93
HHC067	8	9	26.16	13.14	6.22	1.01	0.71	0.27	0.89	0.23	0.13	7.12	2.17	1.14	0.15	0.10	0.85	60.29	10.45
HHC067	9	10	37.59	11.96	5.71	1.02	0.79	0.22	0.95	0.21	0.14	6.42	2.02	1.10	0.15	0.10	0.87	69.24	9.61
HHC067	10	11	52.70	13.84	7.37	1.55	0.78	0.32	1.48	0.29	0.13	10.15	2.95	1.97	0.24	0.14	0.92	94.80	14.88
HHC067	11	12	46.56	15.48	7.62	1.56	0.88	0.34	1.58	0.31	0.13	11.43	3.38	2.09	0.27	0.14	0.97	92.72	16.65
HHC067	12	13	29.85	10.79	6.98	1.19	0.81	0.29	1.28	0.26	0.15	8.86	2.56	1.53	0.20	0.10	0.89	65.76	12.82
HHC067	13	14	16.46	8.56	4.44	0.77	0.53	0.16	0.71	0.15	0.10	5.83	1.78	0.87	0.13	0.08	0.63	41.20	8.51
HHC067	14	15	19.16	12.20	6.10	0.95	0.66	0.17	0.91	0.19	0.13	7.23	2.39	1.22	0.15	0.10	0.75	52.32	10.73
HHC067	15	16	34.40	21.81	7.62	1.33	0.86	0.34	1.41	0.29	0.15	12.83	4.07	1.87	0.19	0.13	1.00	88.28	18.42
HHC067	16	17	24.94	27.80	6.98	1.15	0.75	0.34	1.21	0.22	0.14	13.06	4.13	1.67	0.20	0.11	0.81	83.51	18.54
HHC067	17	18	24.08	15.01	5.59	0.81	0.58	0.19	0.84	0.18	0.11	7.93	2.65	1.18	0.15	0.10	0.65	60.06	11.55
HHC067	18	19	347.64	137.80	16.38	4.06	1.65	2.15	6.50	0.66	0.24	101.83	33.47	13.97	0.91	0.25	1.69	669.20	140.26
HHC067	19	20	119.89	67.32	9.14	1.89	0.83	0.91	2.93	0.36	0.16	39.89	13.29	5.25	0.38	0.14	0.88	263.26	55.45
HHC067	20	21	146.79	86.90	10.03	1.88	1.01	1.07	3.50	0.36	0.16	48.64	16.01	6.35	0.44	0.14	0.96	324.23	66.96
HHC068	0	1	163.38	80.69	24.64	4.27	2.15	1.60	6.18	0.84	0.33	58.20	17.22	8.92	0.87	0.33	2.05	371.65	80.56
HHC068	1	2	157.24	74.94	21.21	3.98	2.01	1.51	5.34	0.69	0.28	53.77	16.37	8.11	0.72	0.30	1.87	348.32	74.84
HHC068	2	3	58.59	32.72	11.56	1.84	0.99	0.56	2.12	0.37	0.19	20.76	6.20	3.14	0.31	0.17	1.23	140.75	29.10
HHC068	3	4	48.03	27.56	8.64	1.21	0.81	0.45	1.64	0.27	0.13	15.16	4.95	2.40	0.22	0.11	0.92	112.51	21.55
HHC068	4	5	40.54	21.46	5.08	0.76	0.48	0.41	1.18	0.15	0.08	12.13	3.87	1.86	0.13	0.08	0.52	88.71	16.88
HHC068	5	6	29.48	14.78	7.11	1.04	0.69	0.27	1.18	0.22	0.13	9.10	2.89	1.37	0.16	0.13	0.73	69.26	13.19
HHC068	6	7	25.92	15.13	6.73	1.00	0.67	0.24	0.97	0.21	0.13	8.28	2.66	1.38	0.16	0.11	0.81	64.40	12.10

Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC068	7	8	48.52	20.29	7.49	1.27	0.77	0.41	1.50	0.25	0.13	14.00	4.36	2.33	0.22	0.13	0.79	102.45	19.86
HHC068	8	9	20.15	10.09	5.46	0.85	0.54	0.15	0.91	0.17	0.11	6.42	1.97	1.06	0.12	0.09	0.65	48.72	9.35
HHC068	9	10	47.17	16.18	7.49	1.26	0.70	0.30	1.18	0.23	0.14	10.38	3.25	1.70	0.20	0.11	0.89	91.19	15.09
HHC068	10	11	21.37	10.09	4.95	0.96	0.54	0.14	0.69	0.17	0.11	6.18	1.87	1.04	0.14	0.09	0.73	49.09	9.16
HHC068	11	12	28.50	9.50	4.57	0.77	0.56	0.19	0.78	0.16	0.10	5.95	1.91	1.08	0.12	0.08	0.66	54.93	8.74
HHC068	12	13	26.53	13.49	4.44	0.77	0.43	0.21	0.90	0.16	0.10	7.58	2.51	1.09	0.14	0.09	0.61	59.07	11.00
HHC068	13	14	13.76	7.04	3.56	0.61	0.41	0.15	0.59	0.15	0.10	4.20	1.32	0.64	0.12	0.08	0.58	33.29	6.24
HHC068	14	15	13.64	6.45	3.30	0.48	0.38	0.07	0.45	0.10	0.08	3.97	1.09	0.72	0.09	0.07	0.50	31.38	5.63
HHC068	15	16	26.04	12.90	4.19	0.65	0.46	0.17	0.70	0.15	0.09	7.46	2.32	1.22	0.12	0.08	0.54	57.10	10.56
HHC068	16	17	20.15	10.20	3.30	0.57	0.34	0.15	0.66	0.13	0.10	5.48	1.86	0.94	0.11	0.08	0.47	44.54	8.02
HHC068	17	18	15.60	6.10	3.30	0.55	0.42	0.13	0.50	0.11	0.08	3.85	1.22	0.71	0.12	0.07	0.47	33.22	5.74
HHC068	18	19	16.21	6.45	4.06	0.57	0.47	0.13	0.58	0.14	0.13	4.08	1.39	0.92	0.12	0.08	0.66	35.98	6.16
HHC068	19	20	9.95	4.46	3.56	0.50	0.37	0.05	0.46	0.11	0.09	3.03	0.88	0.50	0.08	0.07	0.61	24.73	4.50
HHC068	20	21	9.95	4.57	3.68	0.53	0.39	0.09	0.48	0.14	0.11	2.92	0.95	0.59	0.07	0.09	0.63	25.20	4.47
HHC069	0	1	83.41	19.59	7.49	1.45	0.77	0.43	1.80	0.24	0.14	14.23	4.17	2.37	0.25	0.14	0.91	137.36	20.09
HHC069	1	2	82.06	16.18	8.51	1.40	0.91	0.44	1.60	0.29	0.16	12.25	3.64	2.34	0.24	0.15	0.96	131.12	17.52
HHC069	2	3	39.06	14.54	8.38	1.24	0.85	0.32	1.31	0.27	0.14	10.26	3.07	1.69	0.19	0.10	0.85	82.29	14.76
HHC069	3	4	11.18	4.69	2.79	0.44	0.33	0.09	0.45	0.10	0.08	2.80	0.89	0.56	0.07	0.05	0.47	24.99	4.20
HHC069	4	5	10.69	4.81	2.67	0.34	0.30	0.08	0.29	0.09	0.09	2.57	0.87	0.42	0.06	0.06	0.49	23.81	3.84
HHC069	5	6	12.28	6.10	3.17	0.42	0.40	0.09	0.38	0.09	0.10	2.92	1.08	0.51	0.07	0.06	0.61	28.29	4.49
HHC069	6	7	15.85	9.38	2.92	0.41	0.38	0.13	0.41	0.10	0.09	4.78	1.40	0.68	0.08	0.07	0.43	37.13	6.68
HHC069	7	8	14.50	9.85	3.05	0.49	0.32	0.12	0.36	0.11	0.13	4.43	1.43	0.64	0.08	0.06	0.56	36.11	6.43
HHC069	8	9	12.16	8.56	1.65	0.29	0.26	0.14	0.31	0.09	0.10	3.97	1.34	0.64	0.07	0.07	0.46	30.11	5.66
HHC069	9	10	24.32	17.12	3.30	0.62	0.34	0.16	0.58	0.11	0.08	7.46	2.54	0.86	0.09	0.07	0.54	58.20	10.72
HHC069	10	11	50.24	36.24	3.43	0.61	0.40	0.23	0.82	0.14	0.08	12.01	5.00	1.50	0.11	0.06	0.44	111.30	17.73
HHC069	11	12	210.06	141.32	8.51	1.69	0.77	1.00	3.23	0.33	0.14	55.64	20.78	7.06	0.39	0.11	0.96	451.97	78.49
HHC069	12	13	296.04	188.23	10.67	2.71	1.17	1.41	5.01	0.45	0.17	83.05	28.51	9.22	0.54	0.15	1.02	628.36	114.81
HHC069	13	14	915.16	647.39	40.51	11.71	3.82	6.85	23.17	1.64	0.32	380.25	114.66	45.11	2.40	0.43	2.41	2195.82	509.01
HHC069	14	15	799.69	506.65	38.60	9.20	3.22	5.77	19.25	1.39	0.25	313.76	93.39	37.34	2.08	0.32	1.59	1832.51	418.44
HHC069	15	16	594.55	340.11	14.73	4.05	1.52	2.72	8.22	0.56	0.13	149.88	53.16	17.16	0.85	0.14	0.84	1188.62	207.94
HHC069	16	17	246.91	144.25	8.25	2.00	0.79	1.27	3.50	0.29	0.13	58.32	21.32	7.38	0.38	0.08	0.72	495.59	82.02
HHC069	17	18	164.61	104.50	12.19	2.90	1.40	1.20	4.45	0.42	0.13	48.87	15.83	6.84	0.61	0.14	0.92	365.01	68.21
HHC069	18	19	99.99	76.35	11.18	1.87	1.13	0.81	2.94	0.36	0.16	33.01	9.98	3.94	0.39	0.14	0.99	243.23	45.25
HHC069	19	20	59.82	41.28	8.89	1.37	0.75	0.63	1.71	0.27	0.13	18.20	5.76	2.55	0.26	0.11	0.88	142.61	25.58
HHC069	20	21	44.35	29.09	4.83	0.85	0.27	0.34	1.15	0.14	0.06	13.88	4.23	1.68	0.14	0.06	0.40	101.45	19.10
HHC070	0	1	74.93	41.99	8.25	1.42	0.75	0.64	2.03	0.29	0.15	22.86	6.71	3.00	0.28	0.14	0.80	164.24	31.27
HHC070	1	2	80.71	34.83	16.76	2.80	1.56	0.67	3.07	0.54	0.25	25.54	7.52	4.89	0.51	0.26	1.82	181.73	36.37
HHC070	2	3	43.36	22.52	9.14	1.74	0.91	0.34	1.95	0.30	0.15	13.53	4.14	2.69	0.29	0.16	0.96	102.19	19.71
HHC070	3	4	113.87	16.18	4.95	0.85	0.59	0.28	0.86	0.16	0.13	8.63	2.79	1.46	0.14	0.10	0.65	151.66	12.41
HHC070	4	5	35.13	13.37	4.44	0.71	0.43	0.22	0.84	0.14	0.10	7.00	2.21	1.26	0.12	0.08	0.65	66.71	10.04
HHC070	5	6	17.32	9.97	3.56	0.56	0.55	0.19	0.56	0.15	0.08	5.83	1.74	0.79	0.13	0.06	0.46	41.94	8.26
HHC070	6	7	19.04	9.73	3.56	0.64	0.58	0.14	0.59	0.10	0.14	5.25	1.84	1.01	0.08	0.08	0.65	43.43	7.81
HHC070	7	8	8.35	3.64	2.92	0.53	0.39	0.06	0.37	0.10	0.11	2.33	0.74	0.55	0.07	0.07	0.61	20.84	3.67
HHC070	8	9	9.83	4.81	3.17	0.57	0.43	0.08	0.39	0.13	0.11	2.57	0.65	0.56	0.09	0.08	0.58	24.06	3.89
HHC070	9	10	9.58	4.22	3.05	0.53	0.45	0.09	0.43	0.13	0.10	2.57	0.76	0.53	0.06	0.09	0.65	23.23	3.91
HHC070	10	11	11.92	5.98	3.56	0.42	0.40	0.08	0.47	0.11	0.09	3.03	0.95	0.49	0.07	0.07	0.73	28.38	4.48
HHC070	11	12	110.80	64.15	8.00	1.69	1.07	0.71	2.42	0.29	0.15	31.84	10.45	4.33	0.31	0.11	0.99	237.31	44.29
HHC070	12	13	28.25	16.42	3.94	0.68	0.48	0.22	0.78	0.13	0.07	8.63	2.83	1.24	0.13	0.07	0.47	64.33	12.27
HHC070	13	14	32.43	19.23	3.43	0.69	0.39	0.15	0.74	0.11	0.08	8.51	2.90	1.23	0.09	0.06	0.58	70.63	12.20

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC070	14	15	7.37	4.57	1.52	0.29	0.19	0.03	0.18	0.03	0.06	2.10	0.76	0.35	0.02	0.02	0.23	17.74	3.17
HHC070	15	16	35.75	21.11	5.21	0.75	0.56	0.31	1.05	0.19	0.14	12.36	3.40	1.41	0.16	0.09	0.75	83.24	16.67
HHC070	16	17	151.71	95.94	13.84	2.98	1.44	1.55	5.27	0.50	0.19	50.74	14.56	7.86	0.65	0.18	1.28	348.69	68.93
HHC070	17	18	127.14	86.90	12.83	2.95	1.38	1.25	4.88	0.49	0.18	41.87	12.32	5.98	0.55	0.17	1.04	299.94	57.70
HHC070	18	19	143.11	94.64	12.06	2.58	1.35	1.31	3.98	0.42	0.17	40.59	12.50	5.43	0.54	0.21	1.22	320.12	56.22
HHC070	19	20	105.89	67.44	14.48	2.77	1.28	1.07	3.99	0.54	0.14	34.88	9.96	4.71	0.51	0.15	1.05	248.82	48.10
HHC070	20	21	99.25	63.33	17.02	2.86	1.33	1.00	4.07	0.54	0.13	32.08	9.09	4.71	0.52	0.17	1.04	237.11	44.54
HHC071	0	1	100.11	27.68	16.00	2.69	1.53	0.74	2.94	0.53	0.24	22.74	6.65	4.42	0.51	0.24	1.54	188.55	32.58
HHC071	1	2	109.20	45.62	23.37	3.93	2.41	1.30	5.06	0.78	0.36	36.16	10.23	6.49	0.80	0.32	2.15	248.19	51.12
HHC071	2	3	61.05	57.12	21.21	3.00	1.91	0.87	3.91	0.57	0.20	32.66	9.59	4.71	0.59	0.34	1.81	199.53	45.84
HHC071	3	4	39.80	20.99	9.52	1.45	0.97	0.37	1.64	0.29	0.15	13.30	3.71	2.20	0.27	0.14	1.10	95.90	18.72
HHC071	4	5	42.75	20.05	7.49	1.16	0.77	0.29	1.31	0.24	0.11	11.43	3.42	2.08	0.18	0.09	0.72	92.09	16.19
HHC071	5	6	35.26	13.14	5.59	0.77	0.54	0.23	0.89	0.17	0.13	7.12	2.27	1.40	0.13	0.08	0.75	68.45	10.28
HHC071	6	7	28.13	11.38	6.48	1.00	0.70	0.17	0.86	0.22	0.14	5.95	2.08	1.10	0.15	0.09	0.82	59.26	9.18
HHC071	7	8	42.99	11.26	5.33	1.06	0.59	0.28	0.96	0.19	0.11	6.77	1.99	1.47	0.16	0.09	0.69	73.96	9.98
HHC071	8	9	35.38	11.49	5.33	1.03	0.62	0.23	0.97	0.21	0.15	7.23	2.19	1.41	0.19	0.09	0.82	67.34	10.64
HHC071	9	10	23.46	8.44	4.95	0.85	0.59	0.27	0.92	0.16	0.11	5.37	1.82	1.12	0.14	0.08	0.65	48.95	8.18
HHC071	10	11	16.95	5.39	3.94	0.63	0.38	0.12	0.66	0.13	0.09	3.50	1.05	0.68	0.11	0.08	0.66	34.36	5.29
HHC071	11	12	21.37	4.34	3.94	0.68	0.31	0.14	0.60	0.14	0.11	3.38	0.94	0.72	0.11	0.08	0.83	37.69	5.11
HHC071	12	13	76.90	19.23	11.30	1.64	1.19	0.46	2.03	0.36	0.17	13.76	4.17	2.73	0.32	0.17	1.08	135.51	19.89
HHC071	13	14	54.91	31.90	8.89	1.46	1.01	0.39	1.68	0.30	0.10	19.13	5.80	2.47	0.28	0.14	1.04	129.49	26.67
HHC071	14	15	24.20	18.65	5.71	1.08	0.58	0.27	0.97	0.18	0.16	10.61	3.31	1.39	0.15	0.09	0.75	68.11	15.16
HHC071	15	16	20.88	20.64	4.95	0.84	0.56	0.23	1.16	0.17	0.13	12.36	3.50	1.67	0.15	0.09	0.69	68.04	16.86
HHC071	16	17	12.28	11.61	3.94	0.69	0.58	0.15	0.62	0.13	0.11	5.48	1.73	0.90	0.12	0.06	0.82	39.22	8.02
HHC071	17	18	10.20	8.21	3.43	0.47	0.39	0.12	0.62	0.11	0.11	4.43	1.18	0.73	0.07	0.06	0.48	30.61	6.16
HHC071	18	19	30.96	22.75	5.97	1.02	0.58	0.25	0.89	0.18	0.14	8.63	3.01	0.93	0.14	0.10	0.75	76.31	12.80
HHC071	19	20	43.73	32.60	6.22	0.90	0.57	0.35	0.89	0.18	0.13	11.55	4.08	1.48	0.15	0.07	0.85	103.76	16.68
HHC071	20	21	62.03	37.41	7.87	1.18	0.91	0.51	1.33	0.23	0.15	17.73	5.58	2.46	0.19	0.14	0.98	138.70	24.68
HHC072	0	1	128.98	39.76	19.68	3.36	2.06	1.12	4.03	0.70	0.31	30.91	9.25	5.35	0.65	0.25	1.75	248.17	44.17
HHC072	1	2	196.54	66.26	26.29	3.67	2.31	1.18	4.93	0.74	0.27	43.74	12.44	7.10	0.72	0.31	1.96	368.47	60.57
HHC072	2	3	163.38	47.85	25.40	4.63	2.37	1.32	5.27	0.89	0.33	41.06	11.73	7.56	0.86	0.37	2.53	315.53	58.27
HHC072	3	4	33.29	17.36	9.91	1.60	1.01	0.31	1.68	0.34	0.14	11.55	3.32	1.97	0.22	0.18	1.08	83.96	16.69
HHC072	4	5	22.11	12.43	7.11	1.17	0.78	0.24	1.18	0.24	0.10	7.12	2.26	1.07	0.18	0.09	0.80	56.87	10.72
HHC072	5	6	19.53	12.43	5.59	0.84	0.64	0.21	0.85	0.19	0.11	5.95	1.98	0.78	0.14	0.09	0.66	50.00	8.91
HHC072	6	7	24.69	13.84	5.59	0.86	0.54	0.19	0.85	0.17	0.10	7.23	2.40	1.37	0.14	0.08	0.61	58.67	10.64
HHC072	7	8	27.02	10.09	4.70	0.91	0.59	0.20	0.78	0.18	0.13	5.02	1.76	0.97	0.13	0.09	0.68	53.26	7.82
HHC072	8	9	17.93	6.57	3.05	0.56	0.39	0.14	0.48	0.11	0.06	3.73	1.15	0.66	0.11	0.06	0.50	35.50	5.55
HHC072	9	10	12.78	6.92	2.92	0.59	0.32	0.13	0.40	0.11	0.07	3.50	1.09	0.59	0.11	0.05	0.46	30.02	5.28
HHC072	10	11	20.64	8.09	4.95	0.76	0.51	0.15	0.68	0.17	0.11	5.02	1.47	0.94	0.13	0.09	0.65	44.37	7.38
HHC072	11	12	23.59	9.73	4.70	0.80	0.47	0.19	0.88	0.15	0.09	5.48	1.69	0.97	0.13	0.09	0.64	49.60	8.11
HHC072	12	13	21.62	9.38	4.06	0.64	0.49	0.21	0.67	0.14	0.08	5.83	1.73	1.09	0.12	0.07	0.56	46.69	8.32
HHC072	13	14	27.15	9.27	4.44	0.86	0.40	0.21	0.90	0.16	0.08	6.42	1.84	1.07	0.14	0.07	0.54	53.53	9.25
HHC072	14	15	23.34	10.79	4.83	0.80	0.56	0.19	0.90	0.18	0.09	7.23	2.20	1.25	0.14	0.07	0.56	53.13	10.38
HHC072	15	16	16.95	7.15	4.83	0.77	0.57	0.19	0.71	0.17	0.11	5.25	1.52	0.83	0.11	0.08	0.67	39.92	7.65
HHC072	16	17	17.69	7.98	4.19	0.81	0.54	0.24	0.78	0.15	0.11	6.53	1.91	1.09	0.14	0.10	0.50	42.77	9.40
HHC072	17	18	18.43	5.98	4.19	0.65	0.48	0.17	0.60	0.13	0.09	4.20	1.38	0.72	0.13	0.09	0.61	37.85	6.36
HHC072	18	19	7.00	3.17	3.17	0.47	0.34	0.07	0.43	0.10	0.10	2.45	0.64	0.45	0.06	0.07	0.61	19.14	3.62
HHC072	19	20	10.56	3.64	5.08	0.67	0.59	0.13	0.50	0.15	0.14	2.80	0.76	0.49	0.09	0.09	0.82	26.50	4.32
HHC072	20	21	7.37	3.40	3.05	0.52	0.40	0.10	0.37	0.17	0.16	1.98	0.69	0.44	0.14	0.11	0.60	19.51	3.33

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC073	0	1	38.08	11.02	6.35	1.30	0.77	0.25	1.18	0.26	0.17	8.51	2.44	1.44	0.22	0.13	0.89	73.01	12.48
HHC073	1	2	61.30	16.30	9.91	1.92	1.17	0.44	1.61	0.37	0.20	13.53	3.94	2.33	0.33	0.18	1.34	114.87	19.71
HHC073	2	3	19.78	13.60	6.48	1.17	0.67	0.23	1.08	0.22	0.11	8.75	2.63	1.44	0.18	0.10	0.76	57.21	12.73
HHC073	3	4	15.48	12.43	3.30	0.55	0.33	0.17	0.51	0.10	0.09	6.07	1.92	0.88	0.09	0.07	0.47	42.47	8.63
HHC073	4	5	19.78	34.36	4.32	0.77	0.46	0.38	1.22	0.15	0.09	14.81	5.00	1.88	0.15	0.08	0.56	84.01	20.74
HHC073	5	6	19.41	32.37	4.19	0.90	0.49	0.41	1.27	0.21	0.16	14.11	4.66	1.92	0.19	0.13	0.57	80.98	19.86
HHC073	6	7	68.18	74.47	8.64	1.97	0.91	1.23	3.32	0.38	0.15	41.41	13.53	5.31	0.45	0.13	0.90	220.97	57.36
HHC073	7	8	92.99	90.07	9.52	2.41	1.15	1.53	3.77	0.46	0.23	48.52	15.34	6.31	0.54	0.21	1.13	274.18	66.82
HHC073	8	9	134.51	111.30	10.79	3.08	1.14	1.69	4.08	0.49	0.17	57.85	18.97	8.04	0.58	0.18	1.14	354.01	80.47
HHC073	9	10	46.80	45.39	5.21	1.14	0.49	0.58	1.61	0.24	0.09	19.83	6.58	2.35	0.24	0.07	0.56	131.18	27.78
HHC073	10	11	31.57	28.38	6.98	0.93	0.80	0.35	1.07	0.23	0.24	13.06	4.37	1.69	0.19	0.14	1.37	91.38	18.56
HHC073	11	12	20.15	23.81	3.81	0.50	0.25	0.20	0.60	0.10	0.07	8.28	2.79	1.02	0.08	0.06	0.47	62.19	11.66
HHC073	12	13	25.31	21.23	5.33	0.67	0.53	0.23	0.71	0.17	0.18	8.98	3.15	1.07	0.14	0.13	0.99	68.82	12.94
HHC073	13	14	92.87	66.26	4.95	0.99	0.55	0.43	1.26	0.21	0.13	20.30	7.56	2.33	0.16	0.10	0.71	198.80	29.01
HHC073	14	15	59.58	23.34	5.46	1.06	0.63	0.53	1.45	0.22	0.13	18.43	5.92	2.89	0.22	0.09	0.76	120.70	25.63
HHC073	15	16	374.66	131.94	34.67	6.37	3.11	3.51	10.24	1.13	0.36	119.56	38.06	18.44	1.41	0.40	2.57	746.43	165.40
HHC073	16	17	183.03	116.58	13.59	2.85	1.28	1.38	3.86	0.46	0.19	55.17	17.70	7.60	0.56	0.17	1.25	405.67	76.28
HHC073	17	18	128.98	75.41	9.14	2.00	0.89	1.23	2.97	0.33	0.16	42.11	13.29	6.15	0.41	0.13	0.93	284.13	57.81
HHC073	18	19	152.94	83.15	26.16	4.52	2.08	1.71	5.87	0.85	0.33	56.92	16.49	8.65	0.86	0.30	2.24	363.07	78.79
HHC073	19	20	112.52	62.74	18.92	3.33	1.86	1.33	4.16	0.63	0.31	37.67	11.60	5.84	0.54	0.29	1.82	263.58	53.14
HHC074	0	1	57.49	25.10	11.94	2.31	1.26	0.53	2.07	0.38	0.24	17.15	5.21	2.99	0.35	0.17	1.43	128.62	25.01
HHC074	1	2	65.97	54.07	25.78	3.18	2.21	0.91	3.69	0.70	0.33	32.89	9.38	5.32	0.54	0.29	1.84	207.09	45.99
HHC074	2	3	71.25	44.80	14.48	2.00	1.29	0.69	2.82	0.38	0.22	25.54	7.88	4.38	0.32	0.19	1.48	177.72	35.74
HHC074	3	4	41.64	21.81	5.59	0.78	0.53	0.25	1.05	0.16	0.08	10.73	3.72	1.44	0.14	0.08	0.58	88.59	15.37
HHC074	4	5	38.94	21.70	3.94	0.84	0.32	0.20	0.82	0.13	0.09	10.96	3.32	1.46	0.11	0.08	0.49	83.39	15.23
HHC074	5	6	41.89	21.70	3.17	0.71	0.33	0.22	0.80	0.13	0.07	10.61	3.54	1.35	0.08	0.06	0.39	85.04	14.95
HHC074	6	7	95.20	47.97	4.70	1.08	0.47	0.44	1.56	0.22	0.10	21.23	7.58	3.32	0.21	0.07	0.64	184.77	30.09
HHC074	7	8	97.66	47.62	3.94	0.99	0.40	0.41	1.28	0.15	0.08	22.16	7.62	3.07	0.15	0.06	0.49	186.07	30.93
HHC074	8	9	104.91	55.00	3.56	0.95	0.45	0.45	1.45	0.14	0.07	23.09	8.37	3.41	0.16	0.07	0.41	202.49	32.58
HHC074	9	10	177.50	96.64	6.48	1.77	0.66	0.98	2.42	0.25	0.10	42.46	15.16	5.82	0.34	0.08	0.71	351.38	59.73
HHC074	10	11	152.32	83.39	6.98	1.64	0.73	0.83	2.89	0.24	0.10	44.21	13.83	5.86	0.29	0.09	0.75	314.17	59.98
HHC074	11	12	75.06	43.39	6.35	1.32	0.72	0.39	1.69	0.23	0.13	21.11	7.07	3.30	0.22	0.09	0.57	161.65	29.72
HHC074	12	13	82.79	58.17	8.25	1.56	0.86	0.38	2.28	0.26	0.14	24.03	8.01	3.24	0.26	0.11	0.79	191.13	33.86
HHC074	13	14	65.60	47.97	8.76	1.56	0.82	0.41	1.57	0.27	0.14	14.58	5.49	2.02	0.24	0.11	0.93	150.46	21.86
HHC074	14	15	202.07	130.18	9.02	1.62	0.90	0.61	2.07	0.27	0.16	37.09	14.74	4.30	0.22	0.10	0.77	404.15	53.67
HHC074	15	16	161.53	102.15	12.06	2.03	1.13	0.65	2.82	0.30	0.16	42.22	14.50	4.85	0.35	0.15	1.02	345.94	59.11
HHC074	16	17	230.33	146.60	13.33	2.28	1.22	0.89	3.83	0.39	0.16	59.49	20.66	8.19	0.47	0.17	1.05	489.06	82.90
HHC074	17	18	188.56	124.32	11.05	1.93	1.05	0.80	2.90	0.33	0.16	46.07	16.79	5.88	0.32	0.16	0.95	401.27	65.11
HHC074	18	19	117.44	75.29	8.76	1.40	0.73	0.53	2.14	0.25	0.16	30.21	10.66	3.87	0.28	0.13	0.92	252.78	42.55
HHC074	19	20	234.62	151.29	10.16	2.13	1.06	1.01	3.03	0.37	0.19	56.69	20.54	7.09	0.33	0.14	1.06	489.71	79.69
HHC074	20	21	218.66	145.43	11.68	2.11	1.27	1.13	3.08	0.34	0.19	51.55	19.39	6.40	0.33	0.16	1.36	463.09	73.39
HHC075	0	1	71.86	24.51	13.59	2.51	1.62	0.61	2.73	0.44	0.24	18.31	5.46	3.29	0.39	0.26	1.80	147.63	26.68
HHC075	1	2	94.71	30.49	16.38	2.89	1.73	0.80	2.89	0.55	0.26	22.63	6.46	4.30	0.45	0.25	1.66	186.46	32.43
HHC075	2	3	59.95	35.77	19.05	2.88	1.67	0.81	3.26	0.50	0.27	25.78	7.53	4.15	0.45	0.27	1.48	163.82	36.63
HHC075	3	4	88.69	52.42	10.03	1.63	1.02	0.57	1.98	0.31	0.16	24.38	8.00	3.56	0.28	0.14	0.96	194.12	34.29
HHC075	4	5	74.81	42.22	9.78	1.74	1.02	0.52	1.98	0.29	0.15	21.46	6.83	3.33	0.21	0.14	1.00	165.48	30.24
HHC075	5	6	26.78	15.72	4.83	0.78	0.48	0.14	0.81	0.14	0.10	7.35	2.49	1.17	0.11	0.08	0.64	61.60	10.72
HHC075	6	7	33.90	14.78	3.43	0.60	0.42	0.15	0.59	0.09	0.06	7.12	2.20	1.07	0.07	0.07	0.48	65.01	9.98
HHC075	7	8	41.52	16.18	3.68	0.63	0.40	0.23	0.81	0.11	0.07	7.93	2.59	1.45	0.11	0.09	0.49	76.29	11.25

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC075	8	9	31.94	16.77	2.67	0.48	0.40	0.14	0.58	0.09	0.08	7.46	2.65	0.86	0.07	0.05	0.35	64.58	10.66
HHC075	9	10	29.60	16.07	2.29	0.40	0.24	0.16	0.48	0.09	0.03	7.23	2.56	1.09	0.08	0.06	0.30	60.69	10.28
HHC075	10	11	38.20	20.64	1.90	0.38	0.22	0.21	0.50	0.08	0.05	8.75	3.42	1.18	0.09	0.06	0.33	76.01	12.64
HHC075	11	12	85.99	50.08	2.29	0.62	0.33	0.38	0.83	0.14	0.05	19.13	7.18	2.66	0.14	0.05	0.34	170.19	27.07
HHC075	12	13	161.53	92.77	3.17	0.94	0.27	0.79	1.81	0.14	0.06	37.09	13.47	4.55	0.22	0.06	0.24	317.11	51.73
HHC075	13	14	230.33	134.29	5.08	1.62	0.53	1.16	2.90	0.22	0.05	55.29	19.94	6.68	0.38	0.07	0.44	458.95	77.22
HHC075	14	15	133.90	84.56	2.67	0.75	0.35	0.46	1.24	0.10	0.05	28.58	11.24	3.40	0.16	0.05	0.34	267.84	40.72
HHC075	15	16	103.31	65.68	4.57	1.00	0.49	0.47	1.52	0.21	0.07	24.38	8.84	3.05	0.24	0.08	0.46	214.36	34.46
HHC075	16	17	151.09	102.03	5.21	0.99	0.48	0.38	1.41	0.19	0.13	30.91	12.57	2.84	0.21	0.08	0.64	309.15	44.67
HHC075	17	18	100.11	65.32	6.10	1.11	0.56	0.52	1.41	0.25	0.10	23.91	9.13	2.86	0.21	0.10	0.82	212.53	34.37
HHC075	18	19	165.83	90.77	12.45	2.54	1.32	1.67	4.44	0.49	0.15	60.19	17.64	8.94	0.55	0.21	1.21	368.38	80.92
HHC075	19	20	288.67	151.88	26.79	5.15	2.33	2.52	8.13	0.87	0.31	107.66	30.08	14.84	1.06	0.34	2.36	643.00	143.95
HHC076	0	1	78.86	40.70	11.05	2.15	1.19	0.75	2.84	0.37	0.18	25.78	7.74	3.77	0.44	0.15	1.32	177.27	36.10
HHC076	1	2	115.96	51.60	15.62	2.95	1.69	1.02	3.58	0.55	0.25	34.06	10.23	5.67	0.52	0.23	1.48	245.42	47.76
HHC076	2	3	62.89	22.28	11.94	2.00	1.28	0.56	2.36	0.47	0.19	16.68	4.83	2.89	0.38	0.22	1.42	130.39	23.89
HHC076	3	4	53.56	25.10	14.73	2.16	1.45	0.45	2.39	0.47	0.19	15.05	4.59	2.86	0.39	0.22	1.57	125.18	22.18
HHC076	4	5	33.66	19.00	6.98	1.19	0.54	0.34	1.20	0.23	0.13	9.91	3.01	1.41	0.20	0.14	0.95	78.88	14.32
HHC076	5	6	35.13	16.89	7.49	1.24	0.79	0.34	1.16	0.26	0.15	9.56	2.97	1.75	0.25	0.17	1.00	79.16	14.02
HHC076	6	7	15.48	8.68	4.19	0.72	0.54	0.15	0.56	0.15	0.10	4.43	1.45	0.80	0.13	0.07	0.61	38.07	6.73
HHC076	7	8	28.01	10.91	6.10	0.99	0.71	0.20	0.96	0.24	0.14	6.88	2.01	1.18	0.19	0.13	0.87	59.49	10.06
HHC076	8	9	17.93	9.85	4.70	0.75	0.49	0.13	0.71	0.18	0.09	5.37	1.70	0.90	0.12	0.08	0.66	43.67	7.93
HHC076	9	10	16.71	9.38	4.44	0.69	0.42	0.13	0.52	0.17	0.07	4.32	1.43	0.74	0.11	0.09	0.63	39.84	6.54
HHC076	10	11	17.81	9.97	4.83	0.70	0.49	0.13	0.68	0.16	0.10	5.13	1.67	1.03	0.13	0.09	0.52	43.44	7.63
HHC076	11	12	28.01	14.54	6.22	0.98	0.56	0.22	0.85	0.21	0.11	7.93	2.42	1.21	0.18	0.11	0.68	64.23	11.50
HHC076	12	13	39.68	15.13	5.84	0.86	0.59	0.25	1.01	0.21	0.11	7.93	2.65	1.23	0.16	0.10	0.64	76.40	11.60
HHC076	13	14	28.62	12.43	3.68	0.59	0.48	0.21	0.63	0.15	0.06	6.53	1.93	0.97	0.11	0.06	0.61	57.07	9.16
HHC076	14	15	24.57	12.31	3.30	0.61	0.35	0.16	0.58	0.11	0.07	6.18	2.08	1.12	0.08	0.06	0.47	52.06	8.95
HHC076	15	16	18.55	10.20	3.05	0.56	0.37	0.13	0.67	0.13	0.07	6.53	1.78	1.10	0.09	0.06	0.51	43.79	8.96
HHC076	16	17	12.78	7.27	2.41	0.44	0.22	0.09	0.39	0.08	0.05	4.08	1.23	0.56	0.06	0.05	0.48	30.18	5.81
HHC076	17	18	13.02	7.04	2.79	0.53	0.27	0.07	0.38	0.09	0.07	3.73	1.23	0.59	0.08	0.06	0.46	30.41	5.58
HHC076	18	19	17.57	8.44	3.30	0.56	0.37	0.12	0.40	0.11	0.08	4.20	1.37	0.61	0.09	0.07	0.57	37.86	6.22
HHC076	19	20	14.13	9.38	3.94	0.65	0.46	0.13	0.55	0.11	0.09	5.13	1.73	0.75	0.11	0.09	0.58	37.84	7.62
HHC076	20	21	46.80	14.89	10.79	1.33	0.86	0.34	1.61	0.30	0.13	9.80	3.03	1.88	0.28	0.14	0.85	93.03	14.44
HHC077	0	1	55.77	19.47	11.68	2.33	1.30	0.58	2.32	0.45	0.24	16.68	4.72	2.79	0.32	0.21	1.48	120.34	24.05
HHC077	1	2	82.55	21.11	11.56	2.31	1.48	0.60	2.33	0.40	0.20	17.15	4.76	3.55	0.35	0.22	1.73	150.29	24.57
HHC077	2	3	51.10	18.65	8.51	1.58	0.95	0.34	1.42	0.26	0.11	10.50	3.44	1.86	0.18	0.16	1.07	100.12	15.70
HHC077	3	4	56.87	27.21	6.35	1.25	0.71	0.28	1.20	0.23	0.11	14.11	4.57	2.02	0.20	0.09	0.83	116.03	20.13
HHC077	4	5	96.80	44.92	8.64	1.48	0.79	0.73	1.92	0.30	0.15	23.68	7.33	3.18	0.24	0.09	0.92	191.16	32.73
HHC077	5	6	63.14	34.13	7.49	1.22	0.72	0.47	1.36	0.23	0.11	15.28	4.62	1.92	0.19	0.09	0.99	131.97	21.30
HHC077	6	7	148.64	87.61	10.67	2.18	1.06	1.08	3.25	0.33	0.15	42.69	14.02	5.73	0.42	0.14	1.16	319.12	59.31
HHC077	7	8	162.15	87.61	11.68	2.36	0.98	1.23	3.34	0.41	0.13	48.52	15.89	6.70	0.41	0.14	0.96	342.51	67.19
HHC077	8	9	137.58	77.76	9.91	1.80	0.90	1.10	3.11	0.32	0.13	43.04	14.02	5.55	0.32	0.10	0.68	296.32	59.17
HHC077	9	10	237.70	134.87	17.52	3.32	1.56	1.57	5.54	0.52	0.16	74.65	24.28	9.62	0.65	0.18	1.21	513.35	102.90
HHC078	0	1	77.51	22.05	13.84	2.63	1.42	0.61	2.67	0.49	0.25	18.78	5.28	3.72	0.39	0.27	1.92	151.85	27.08
HHC078	1	2	88.69	28.38	14.35	2.48	1.53	0.64	2.49	0.42	0.27	20.06	6.05	3.68	0.44	0.19	1.49	171.17	29.03
HHC078	2	3	29.60	17.36	8.25	1.25	0.75	0.32	1.27	0.27	0.13	10.73	3.03	1.68	0.20	0.10	0.93	75.90	15.21
HHC078	3	4	34.52	20.64	7.49	1.03	0.78	0.29	1.23	0.24	0.09	10.85	3.32	1.82	0.19	0.08	0.71	83.28	15.39
HHC078	4	5	20.88	11.85	5.59	0.81	0.56	0.16	0.77	0.14	0.08	5.48	1.93	0.67	0.08	0.05	0.63	49.68	8.31
HHC078	5	6	38.45	15.60	5.84	1.11	0.64	0.28	1.09	0.19	0.08	8.51	2.49	1.28	0.12	0.06	0.63	76.37	12.23

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC078	6	7	19.65	10.20	3.43	0.53	0.40	0.09	0.58	0.10	0.02	5.72	1.76	0.73	0.09	0.05	0.43	43.79	8.10
HHC078	7	8	24.69	13.14	3.17	0.64	0.35	0.15	0.81	0.09	0.05	6.18	2.05	0.86	0.07	0.03	0.41	52.70	8.95
HHC078	8	9	65.11	44.10	3.94	0.77	0.43	0.53	1.04	0.14	0.07	16.56	5.69	1.74	0.13	0.03	0.47	140.74	23.15
HHC078	9	10	54.54	41.40	4.06	0.85	0.38	0.75	1.01	0.16	0.05	13.18	4.74	1.72	0.12	0.05	0.51	123.51	18.88
HHC078	10	11	75.06	53.25	4.70	0.83	0.40	0.59	1.31	0.11	0.05	17.96	6.57	2.47	0.15	0.06	0.54	164.04	25.51
HHC078	11	12	110.19	72.24	7.87	1.46	0.81	1.09	2.02	0.27	0.10	33.48	11.21	4.01	0.26	0.08	0.66	245.76	46.40
HHC079	0	1	127.14	49.73	26.79	4.25	2.53	1.12	4.88	0.79	0.28	42.34	11.80	7.18	0.71	0.31	2.03	281.87	59.10
HHC079	1	2	81.81	40.23	23.24	3.66	2.23	1.01	4.36	0.70	0.27	31.84	9.22	5.83	0.59	0.27	1.95	207.21	45.31
HHC079	2	3	39.68	25.68	16.25	2.00	1.53	0.50	2.28	0.46	0.15	16.80	4.49	2.42	0.39	0.18	1.37	114.18	23.68
HHC079	3	4	17.69	9.38	5.21	0.76	0.54	0.13	0.62	0.16	0.09	4.90	1.59	0.89	0.08	0.07	0.65	42.76	7.33
HHC079	4	5	20.51	9.15	5.33	0.92	0.50	0.14	0.77	0.16	0.08	5.13	1.70	0.92	0.11	0.08	0.75	46.26	7.86
HHC079	5	6	22.97	10.56	5.21	0.85	0.58	0.14	0.63	0.15	0.05	5.60	1.81	0.79	0.09	0.07	0.74	50.23	8.35
HHC079	6	7	23.09	13.02	5.46	0.91	0.55	0.13	0.69	0.17	0.06	6.77	2.15	1.21	0.11	0.08	0.66	55.04	9.93
HHC079	7	8	21.25	12.08	5.59	0.94	0.54	0.15	0.69	0.21	0.06	6.53	1.97	0.94	0.12	0.07	0.59	51.72	9.56
HHC079	8	9	18.79	10.67	5.84	0.79	0.55	0.15	0.61	0.19	0.10	5.83	2.01	1.01	0.15	0.14	0.80	47.64	8.78
HHC079	9	10	21.74	11.85	6.35	0.78	0.54	0.13	0.76	0.23	0.13	6.18	2.15	1.16	0.13	0.11	0.71	52.94	9.24
HHC079	10	11	19.04	10.67	5.46	0.77	0.51	0.17	0.65	0.18	0.07	5.60	1.85	0.93	0.13	0.08	0.81	46.92	8.35
HHC079	11	12	21.13	11.38	7.87	1.10	0.95	0.21	0.76	0.29	0.15	6.88	2.05	1.07	0.13	0.13	0.85	54.94	10.17
HHC079	12	13	24.20	13.14	9.02	1.24	1.14	0.14	1.07	0.31	0.19	7.35	2.33	1.29	0.19	0.19	1.16	62.96	11.11
HHC079	13	14	17.20	9.97	5.84	0.69	0.54	0.10	0.65	0.16	0.11	5.25	1.75	0.96	0.08	0.08	0.80	44.18	7.77
HHC079	14	15	26.90	16.54	6.60	1.14	0.73	0.17	0.96	0.24	0.14	7.46	2.53	1.17	0.15	0.14	1.00	65.87	11.28
HHC079	15	16	30.34	18.88	5.71	0.80	0.74	0.17	0.68	0.18	0.14	7.81	2.74	1.47	0.13	0.10	0.93	70.85	11.49
HHC079	16	17	54.79	35.30	6.48	1.11	0.70	0.39	1.43	0.23	0.10	18.08	5.94	2.48	0.24	0.11	0.79	128.17	25.37
HHC079	17	18	33.04	20.41	8.89	1.17	0.94	0.35	1.68	0.30	0.14	14.11	4.06	2.21	0.22	0.15	0.96	88.63	19.57
HHC079	18	19	17.20	9.85	5.21	0.85	0.73	0.13	0.69	0.19	0.15	5.72	1.74	1.29	0.13	0.10	0.73	44.70	8.43
HHC079	19	20	14.25	7.86	4.83	0.56	0.63	0.08	0.62	0.15	0.11	4.32	1.57	0.85	0.09	0.08	0.65	36.65	6.54
HHC080	0	1	188.56	41.40	20.06	4.04	2.14	1.09	4.00	0.76	0.30	31.96	9.87	5.26	0.66	0.34	2.07	312.51	46.53
HHC080	1	2	71.62	24.39	14.86	2.56	1.90	0.72	2.60	0.52	0.22	19.01	5.82	3.43	0.46	0.29	1.69	150.08	27.85
HHC080	2	3	34.15	34.01	14.86	2.03	1.07	0.57	2.42	0.40	0.17	23.79	6.50	3.36	0.35	0.16	0.99	124.85	32.68
HHC080	3	4	19.41	13.60	7.87	1.01	0.70	0.22	0.85	0.23	0.13	8.16	2.33	1.28	0.15	0.10	0.83	56.88	11.66
HHC080	4	5	16.21	9.27	5.08	0.62	0.47	0.09	0.58	0.14	0.09	5.60	1.51	0.92	0.11	0.07	0.56	41.30	7.83
HHC080	5	6	13.88	8.09	3.81	0.57	0.39	0.08	0.44	0.11	0.06	4.32	1.29	0.58	0.07	0.06	0.36	34.12	6.25
HHC080	6	7	25.92	12.55	3.68	0.48	0.40	0.16	0.52	0.11	0.06	6.77	2.15	0.92	0.09	0.05	0.46	54.31	9.49
HHC080	7	8	26.78	14.78	2.29	0.44	0.26	0.13	0.52	0.07	0.03	7.46	2.44	1.10	0.08	0.03	0.28	56.70	10.42
HHC080	8	9	28.25	18.30	1.78	0.34	0.22	0.10	0.33	0.05	0.02	6.30	2.37	0.82	0.07	0.02	0.24	59.22	9.08
HHC080	9	10	61.91	43.98	2.67	0.48	0.27	0.17	0.63	0.08	0.07	12.60	5.09	1.65	0.08	0.05	0.39	130.12	18.25
HHC080	10	11	121.98	82.45	6.10	1.06	0.55	0.37	1.33	0.18	0.09	28.23	10.79	2.90	0.18	0.07	0.66	256.92	40.25
HHC080	11	12	51.35	31.20	7.24	0.99	0.81	0.19	1.13	0.26	0.13	14.35	5.07	1.92	0.20	0.15	0.88	115.86	20.61
HHC080	12	13	136.35	66.97	28.95	3.91	2.15	1.05	4.61	0.81	0.28	49.81	13.77	7.56	0.71	0.31	1.89	319.14	68.20
HHC080	13	14	135.74	71.19	21.97	3.29	1.88	0.85	4.31	0.64	0.22	46.89	14.08	7.26	0.61	0.26	1.66	310.84	64.87
HHC080	14	15	99.38	52.42	19.18	2.89	1.72	0.68	3.25	0.62	0.22	35.11	10.67	5.23	0.52	0.24	1.66	233.78	49.19
HHC080	15	16	104.05	53.60	18.16	2.43	1.61	0.79	3.08	0.50	0.18	35.46	11.07	5.75	0.51	0.22	1.41	238.81	49.46
HHC080	16	17	106.38	56.18	17.14	2.58	1.49	0.74	3.34	0.54	0.17	37.56	11.28	5.39	0.49	0.19	1.28	244.76	51.92
HHC080	17	18	96.18	49.26	15.87	2.33	1.34	0.75	2.84	0.47	0.16	34.18	10.27	4.64	0.44	0.21	1.13	220.05	47.21
HHC080	18	19	108.34	56.76	20.06	2.85	1.64	0.76	3.54	0.56	0.23	38.96	11.31	5.89	0.49	0.26	1.53	253.19	53.61
HHC080	19	20	95.69	50.90	15.11	2.39	1.33	0.69	2.87	0.44	0.16	34.53	10.15	5.10	0.44	0.17	1.28	221.23	47.50
HHC081	0	1	153.55	75.41	29.59	5.33	2.60	1.69	7.01	0.97	0.28	53.30	16.01	7.97	0.93	0.37	2.40	357.40	75.57
HHC081	1	2	131.44	61.57	23.37	3.80	2.30	1.38	5.28	0.76	0.27	44.09	12.93	6.71	0.68	0.32	2.04	296.93	61.50
HHC081	2	3	43.49	26.86	10.54	1.76	0.97	0.49	1.87	0.33	0.17	15.51	4.48	2.50	0.28	0.19	1.34	110.79	22.03

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC081	3	4	35.62	22.28	7.11	1.19	0.75	0.41	1.35	0.22	0.16	11.43	3.47	1.80	0.21	0.11	0.79	86.90	16.30
HHC081	4	5	33.54	18.30	6.73	1.14	0.74	0.36	1.14	0.23	0.13	10.15	2.96	1.67	0.20	0.11	0.71	78.09	14.44
HHC081	5	6	27.76	19.23	5.21	0.80	0.39	0.20	0.85	0.16	0.10	7.35	2.46	0.95	0.12	0.08	0.66	66.33	10.73
HHC081	6	7	78.00	51.02	7.24	1.35	0.77	0.45	1.78	0.24	0.11	20.88	7.18	2.81	0.24	0.11	0.82	172.99	29.64
HHC081	7	8	102.69	62.63	10.54	1.72	1.07	0.53	2.79	0.32	0.15	32.08	10.09	4.77	0.35	0.14	1.06	230.93	44.24
HHC081	8	9	92.38	55.71	14.35	2.31	1.33	0.98	3.04	0.50	0.22	31.61	9.15	4.60	0.41	0.21	1.64	218.43	43.47
HHC081	9	10	79.60	45.74	12.45	1.87	1.04	1.04	2.54	0.37	0.14	26.94	8.07	4.07	0.34	0.15	1.04	185.39	37.23
HHC081	10	11	104.41	58.76	15.49	2.72	1.26	1.17	3.67	0.47	0.15	34.99	10.21	5.68	0.47	0.22	1.39	241.05	48.39
HHC082	0	1	141.88	69.55	23.62	4.35	2.31	1.34	5.34	0.82	0.31	49.69	14.50	7.60	0.71	0.34	1.99	324.34	69.24
HHC082	1	2	92.50	46.91	15.24	2.79	1.61	0.83	3.33	0.48	0.17	31.03	9.24	4.95	0.47	0.22	1.71	211.48	43.53
HHC082	2	3	51.22	30.84	10.41	1.74	1.13	0.47	1.79	0.36	0.18	17.03	5.18	2.42	0.28	0.18	1.13	124.39	24.24
HHC082	3	4	36.24	22.28	5.33	1.02	0.58	0.47	0.99	0.21	0.10	10.96	3.48	1.48	0.18	0.08	0.67	84.09	15.64
HHC082	4	5	42.50	25.10	7.62	1.21	0.89	0.47	1.11	0.23	0.14	13.88	4.12	1.76	0.21	0.10	0.85	100.20	19.42
HHC082	5	6	58.84	34.25	7.24	1.06	0.58	0.41	1.76	0.19	0.09	16.80	5.71	2.83	0.20	0.09	0.75	130.80	23.77
HHC082	6	7	44.71	26.97	11.30	1.65	1.19	0.45	1.60	0.34	0.16	14.58	4.47	1.91	0.26	0.15	1.26	111.02	20.96
HHC083	0	1	182.42	86.55	28.06	5.45	2.76	1.55	6.96	0.93	0.32	61.24	18.73	10.11	0.95	0.38	2.43	408.83	86.37
HHC083	1	2	179.96	81.74	30.10	5.27	3.18	1.53	6.72	0.96	0.42	59.25	17.04	8.47	0.84	0.41	2.46	398.34	82.39
HHC083	2	3	63.14	35.18	12.83	2.25	1.29	0.58	2.29	0.46	0.23	20.18	6.11	3.01	0.35	0.22	1.43	149.56	28.89
HHC083	3	4	52.94	30.61	10.03	1.63	1.05	0.50	1.83	0.33	0.16	16.68	5.38	2.34	0.28	0.14	1.25	125.16	23.97
HHC083	4	5	47.05	27.21	7.49	1.43	0.82	0.38	1.52	0.24	0.10	14.35	4.45	2.05	0.21	0.11	0.95	108.37	20.44
HHC083	5	6	62.16	36.24	7.87	1.46	0.80	0.39	1.73	0.26	0.16	19.01	6.15	2.56	0.24	0.11	0.92	140.07	26.85
HHC083	6	7	44.96	28.50	8.13	1.14	0.82	0.36	1.46	0.25	0.10	13.18	4.45	1.95	0.15	0.13	1.00	106.58	18.92
HHC083	7	8	96.92	54.42	8.38	1.42	0.71	0.34	2.29	0.24	0.10	29.74	9.59	4.10	0.27	0.11	0.71	209.36	41.03
HHC083	8	9	85.74	45.74	12.70	2.15	1.10	0.85	2.64	0.42	0.17	27.64	8.46	3.62	0.36	0.16	1.12	192.86	38.61
HHC084	0	1	172.59	79.75	28.45	5.55	2.72	1.68	6.51	0.97	0.35	60.65	17.46	8.79	0.91	0.35	2.63	389.37	84.57
HHC084	1	2	189.17	81.28	29.59	5.18	2.53	1.62	6.37	1.05	0.38	58.79	17.52	9.03	0.94	0.40	2.46	406.30	82.42
HHC084	2	3	71.12	37.65	13.59	2.33	1.50	0.63	2.56	0.48	0.17	23.33	7.12	3.77	0.40	0.19	1.49	166.32	33.17
HHC084	3	4	40.66	24.75	8.51	1.40	0.93	0.53	1.45	0.30	0.16	13.65	4.30	1.88	0.24	0.14	1.07	99.95	19.58
HHC084	4	5	31.57	18.41	6.48	1.02	0.56	0.39	1.12	0.22	0.13	9.80	2.96	1.46	0.15	0.09	0.72	75.08	13.93
HHC084	5	6	26.90	15.95	6.22	1.02	0.63	0.39	1.11	0.19	0.10	8.16	2.57	1.44	0.16	0.11	0.71	65.68	11.92
HHC084	6	7	68.54	38.23	8.76	1.49	0.82	0.39	1.84	0.31	0.17	18.90	6.32	2.83	0.28	0.11	0.92	149.94	26.99
HHC084	7	8	77.14	43.16	7.11	1.38	0.74	0.46	1.80	0.24	0.11	22.98	7.35	3.29	0.24	0.13	0.79	166.91	31.94
HHC084	8	9	100.97	33.31	10.41	1.55	1.03	0.44	1.73	0.38	0.14	15.40	5.06	2.37	0.32	0.19	1.09	174.39	22.33
HHC084	9	10	136.35	47.62	15.37	2.30	1.37	0.69	2.92	0.47	0.20	26.83	8.30	4.53	0.46	0.21	1.18	248.80	37.88
HHC084	10	11	135.12	38.00	13.33	2.27	1.33	0.64	2.49	0.47	0.19	20.65	6.36	3.57	0.39	0.19	1.22	226.22	29.66
HHC084	11	12	92.74	51.25	10.79	1.71	0.96	0.69	2.37	0.33	0.18	30.79	9.10	4.42	0.38	0.15	0.88	206.75	41.98
HHC084	12	13	61.30	44.10	9.02	1.50	0.71	0.64	2.12	0.24	0.10	26.94	7.89	3.87	0.29	0.10	0.61	159.44	36.63
HHC084	13	14	80.83	60.05	9.65	1.55	0.80	0.79	3.01	0.26	0.10	38.14	11.32	5.77	0.34	0.11	0.65	213.38	51.35
HHC084	14	15	79.23	57.58	11.18	1.82	0.89	0.73	3.20	0.32	0.13	34.18	10.98	5.08	0.38	0.15	1.05	206.90	47.36
HHC084	15	16	88.81	58.87	11.05	1.86	0.79	0.94	3.40	0.33	0.11	37.67	10.87	5.76	0.42	0.13	0.84	221.87	50.83
HHC084	16	17	90.41	51.37	10.79	1.86	0.89	0.75	3.16	0.32	0.11	33.48	9.85	4.91	0.36	0.13	0.85	209.24	45.55
HHC084	17	18	97.17	48.44	9.65	1.60	0.64	0.58	2.88	0.27	0.11	32.19	9.94	5.18	0.35	0.14	0.72	209.87	44.08
HHC085	0	1	182.42	89.72	29.84	5.20	2.48	1.81	7.46	1.01	0.30	70.33	19.94	11.65	0.95	0.37	2.12	425.59	96.42
HHC085	1	2	177.50	79.98	29.21	4.58	2.55	1.54	6.57	0.93	0.30	62.52	17.58	9.81	0.95	0.35	2.10	396.47	85.63
HHC085	2	3	63.02	32.60	11.68	1.65	1.13	0.58	2.01	0.34	0.17	21.46	6.05	3.69	0.34	0.18	1.13	146.04	29.51
HHC085	3	4	80.09	41.63	15.11	2.44	1.22	0.75	2.99	0.46	0.24	29.63	8.46	4.51	0.44	0.22	1.38	189.57	40.96
HHC085	4	5	44.22	25.22	9.78	1.41	0.82	0.46	1.78	0.30	0.18	15.63	4.69	2.55	0.26	0.18	1.01	108.49	21.99
HHC085	5	6	29.36	17.36	5.46	0.77	0.62	0.32	0.86	0.17	0.13	9.10	2.85	1.37	0.13	0.11	0.66	69.27	12.85
HHC085	6	7	30.83	18.41	5.97	0.88	0.58	0.35	0.83	0.17	0.14	9.33	2.90	1.21	0.14	0.09	0.73	72.56	13.26

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC085	7	8	33.90	19.94	5.33	0.79	0.50	0.38	0.89	0.17	0.09	10.26	3.19	1.32	0.14	0.10	0.61	77.64	14.39
HHC085	8	9	29.48	17.36	5.84	0.83	0.58	0.28	0.90	0.18	0.11	8.98	2.86	1.36	0.18	0.11	0.60	69.66	12.85
HHC085	9	10	42.13	24.28	6.35	1.03	0.62	0.38	1.18	0.23	0.10	12.60	3.95	1.90	0.18	0.10	0.66	95.69	17.76
HHC085	10	11	47.91	24.75	6.22	0.95	0.49	0.34	1.22	0.19	0.10	12.71	3.87	1.60	0.15	0.10	0.75	101.36	17.69
HHC085	11	12	51.47	26.74	6.22	1.01	0.49	0.34	1.31	0.18	0.11	13.76	4.40	2.06	0.16	0.10	0.52	108.90	19.34
HHC085	12	13	63.51	32.02	8.00	1.25	0.71	0.37	1.57	0.23	0.10	15.98	5.29	2.37	0.24	0.10	0.73	132.46	22.76
HHC085	13	14	110.06	60.05	9.14	1.55	0.74	0.57	2.60	0.31	0.13	34.06	10.45	4.63	0.33	0.11	2.33	237.07	46.39
HHC085	14	15	76.41	44.92	12.06	1.92	1.12	0.69	2.62	0.38	0.20	27.76	8.01	4.24	0.35	0.16	1.14	181.99	38.04
HHC085	15	16	107.24	57.47	17.14	2.61	1.23	1.12	3.70	0.53	0.19	37.09	10.93	5.67	0.49	0.21	1.43	247.06	51.13
HHC085	16	17	206.99	119.04	75.56	6.84	4.89	1.82	8.10	1.55	0.85	68.12	20.00	10.73	1.26	0.77	4.92	531.42	96.21
HHC085	17	18	86.85	45.97	38.73	3.33	2.52	0.90	3.92	0.78	0.40	29.04	8.17	4.22	0.54	0.35	2.36	228.08	41.08
HHC085	18	19	270.25	163.61	36.70	4.91	2.64	2.33	8.28	0.99	0.32	96.34	28.51	13.92	1.04	0.39	2.11	632.32	130.81
HHC086	0	1	175.66	93.82	36.57	5.57	2.73	1.99	7.86	1.05	0.42	70.22	20.54	12.52	1.02	0.46	2.40	432.85	97.35
HHC086	1	2	327.98	131.94	46.35	7.44	3.84	2.36	10.32	1.44	0.45	94.36	27.91	15.71	1.45	0.50	3.33	675.39	131.16
HHC086	2	3	159.69	74.71	24.00	3.66	2.01	1.37	4.83	0.74	0.32	49.46	14.56	8.07	0.67	0.29	1.86	346.23	68.35
HHC086	3	4	52.58	30.02	12.06	1.78	1.01	0.52	1.76	0.38	0.18	17.50	5.27	3.07	0.33	0.16	1.23	127.85	24.87
HHC086	4	5	55.89	30.02	12.06	1.64	1.27	0.59	1.92	0.33	0.17	18.55	5.44	3.04	0.29	0.17	1.21	132.60	25.92
HHC086	5	6	59.09	32.84	12.70	1.92	1.23	0.58	1.98	0.36	0.22	19.83	5.80	3.20	0.32	0.15	1.28	141.48	27.86
HHC086	6	7	28.50	17.12	6.48	1.06	0.71	0.35	0.86	0.18	0.14	8.75	2.75	1.62	0.18	0.09	0.77	69.56	12.74
HHC086	7	8	24.94	15.01	4.95	0.78	0.47	0.23	0.90	0.16	0.11	7.58	2.44	1.36	0.12	0.07	0.63	59.75	10.92
HHC086	8	9	31.08	18.88	6.10	0.98	0.64	0.37	0.98	0.21	0.13	9.56	3.02	1.46	0.18	0.08	0.58	74.24	13.74
HHC086	9	10	50.61	28.15	9.02	1.45	0.89	0.44	1.82	0.30	0.14	16.45	4.91	2.09	0.27	0.11	0.98	117.61	23.07
HHC086	10	11	64.12	36.00	6.73	1.24	0.62	0.34	1.50	0.24	0.09	19.48	6.29	3.22	0.21	0.08	0.67	140.84	27.22
HHC086	11	12	37.47	22.05	5.21	0.85	0.55	0.30	0.95	0.17	0.09	10.96	3.50	1.41	0.14	0.08	0.46	84.19	15.46
HHC086	12	13	47.17	24.98	5.46	0.90	0.56	0.31	1.05	0.18	0.09	12.48	3.96	1.74	0.13	0.06	0.57	99.64	17.47
HHC086	13	14	69.28	26.15	8.38	1.24	0.73	0.47	1.61	0.23	0.10	14.58	4.52	2.57	0.25	0.08	0.66	130.87	20.59
HHC086	14	15	89.06	41.17	11.43	1.81	0.90	0.60	2.29	0.36	0.15	23.68	7.06	3.44	0.33	0.14	0.89	183.30	32.88
HHC087	0	1	147.41	68.96	25.02	4.29	2.25	1.39	5.50	0.87	0.31	54.24	15.89	8.92	0.85	0.30	1.96	338.14	75.26
HHC087	1	2	296.04	139.56	47.62	8.16	4.03	2.67	11.19	1.52	0.44	109.87	32.38	17.92	1.58	0.56	3.39	676.95	151.99
HHC087	2	3	74.32	30.38	11.94	1.94	1.13	0.52	1.98	0.40	0.18	19.01	5.76	3.01	0.33	0.18	1.20	152.29	27.04
HHC087	3	4	67.93	35.65	12.83	2.15	1.19	0.61	2.25	0.40	0.22	21.23	6.46	3.26	0.35	0.16	1.18	155.87	30.19
HHC087	4	5	34.27	20.17	8.89	1.31	0.93	0.36	1.31	0.30	0.15	11.20	3.27	1.60	0.21	0.11	0.99	85.08	15.99
HHC087	5	6	48.03	27.09	10.54	1.66	1.09	0.51	1.56	0.34	0.18	16.68	4.83	2.47	0.22	0.14	1.18	116.53	23.40
HHC087	6	7	41.27	23.57	7.37	1.09	0.72	0.34	1.24	0.22	0.11	12.71	3.76	2.02	0.22	0.10	0.74	95.49	17.79
HHC087	7	8	24.81	15.01	5.21	0.76	0.51	0.27	0.85	0.15	0.09	7.12	2.40	1.21	0.12	0.06	0.59	59.16	10.39
HHC087	8	9	22.60	13.14	4.95	0.78	0.46	0.25	0.82	0.16	0.09	7.00	2.03	1.03	0.13	0.08	0.59	54.11	9.94
HHC087	9	10	29.11	17.59	5.21	0.85	0.58	0.22	0.93	0.15	0.09	8.63	2.72	1.28	0.15	0.07	0.55	68.13	12.35
HHC087	10	11	30.59	18.06	5.71	0.90	0.56	0.17	0.93	0.18	0.10	8.40	2.62	1.22	0.16	0.06	0.65	70.32	12.08
HHC087	11	12	25.55	15.48	5.46	0.81	0.50	0.25	0.84	0.21	0.15	7.93	2.33	1.14	0.14	0.05	0.65	61.50	11.22
HHC088	0	1	171.36	75.18	27.68	4.90	2.42	1.57	6.35	0.90	0.32	58.55	16.91	9.53	0.89	0.31	1.97	378.87	81.26
HHC088	1	2	160.31	69.66	26.92	4.45	2.50	1.32	5.66	0.87	0.31	53.07	15.16	8.45	0.81	0.35	2.24	352.10	73.50
HHC088	2	3	121.12	56.29	25.27	3.79	1.99	1.04	4.48	0.78	0.27	40.71	11.96	7.02	0.72	0.29	2.00	277.73	57.17
HHC088	3	4	137.58	56.41	19.56	3.41	1.78	1.03	3.91	0.72	0.30	39.54	11.51	6.44	0.61	0.26	1.80	284.86	55.08
HHC088	4	5	41.03	24.51	10.79	1.71	1.15	0.43	1.67	0.36	0.19	13.41	4.20	2.16	0.28	0.16	1.20	103.26	19.61
HHC088	5	6	40.91	23.93	9.91	1.74	1.06	0.41	1.73	0.32	0.17	13.30	4.13	2.18	0.25	0.17	1.16	101.36	19.42
HHC088	6	7	32.80	19.23	7.24	1.15	0.72	0.31	0.99	0.24	0.16	10.61	3.33	1.90	0.19	0.14	0.87	79.88	15.28
HHC088	7	8	29.48	17.12	5.71	0.94	0.62	0.28	0.93	0.19	0.11	8.63	2.89	1.28	0.14	0.10	0.76	69.20	12.60
HHC088	8	9	25.06	14.31	4.19	0.75	0.55	0.29	0.74	0.14	0.10	7.00	2.27	1.23	0.12	0.08	0.55	57.36	10.13
HHC088	9	10	29.11	17.36	5.21	0.79	0.51	0.30	0.96	0.16	0.10	8.86	2.78	1.37	0.14	0.09	0.64	68.39	12.58

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC088	10	11	26.90	16.07	5.71	0.95	0.71	0.28	0.95	0.18	0.13	8.51	2.63	1.39	0.15	0.11	0.80	65.48	12.25
HHC088	11	12	29.36	16.42	6.10	0.99	0.71	0.36	0.93	0.18	0.13	8.98	2.75	1.52	0.15	0.08	0.72	69.38	12.88
HHC088	12	13	40.41	22.87	6.22	1.32	0.66	0.36	1.20	0.23	0.13	12.71	3.87	2.06	0.19	0.10	0.80	93.13	18.09
HHC088	13	14	24.32	18.30	4.95	0.75	0.54	0.22	0.83	0.17	0.09	6.88	2.28	0.66	0.12	0.07	0.64	60.82	10.03
HHC089	0	1	169.52	81.04	29.46	5.34	3.09	1.61	7.05	0.97	0.33	62.17	18.36	9.68	0.98	0.34	2.31	392.26	86.85
HHC089	1	2	187.95	88.78	30.22	5.36	2.86	1.84	7.75	1.08	0.38	67.42	19.69	11.12	0.96	0.42	2.35	428.17	93.44
HHC089	2	3	121.00	60.87	19.94	3.44	1.94	1.12	4.55	0.62	0.26	41.17	11.82	5.94	0.60	0.25	1.64	275.16	57.03
HHC089	3	4	73.34	35.54	13.46	2.36	1.43	0.65	2.57	0.45	0.23	22.98	6.80	3.49	0.38	0.19	1.38	165.24	32.52
HHC089	4	5	51.22	28.73	12.06	2.08	1.43	0.50	1.92	0.40	0.20	17.03	5.47	3.00	0.32	0.17	1.42	125.98	24.90
HHC089	5	6	52.94	27.68	11.05	1.71	1.10	0.46	1.78	0.36	0.19	16.91	4.71	2.45	0.25	0.15	1.21	122.94	23.58
HHC089	6	7	25.67	15.95	5.33	0.81	0.48	0.29	0.81	0.15	0.10	8.40	2.48	1.14	0.15	0.09	0.60	62.46	11.84
HHC089	7	8	26.90	15.83	4.95	0.85	0.53	0.30	0.89	0.16	0.07	8.63	2.55	1.35	0.13	0.09	0.60	63.83	12.16
HHC089	8	9	25.31	15.25	5.46	0.85	0.57	0.37	0.92	0.18	0.09	7.70	2.42	1.09	0.13	0.07	0.75	61.15	11.09
HHC089	9	10	24.08	14.07	5.21	0.94	0.55	0.31	0.73	0.17	0.10	7.58	2.31	1.16	0.14	0.08	0.66	58.09	10.97
HHC089	10	11	39.43	21.11	6.48	1.15	0.81	0.36	1.30	0.23	0.10	11.31	3.77	1.87	0.18	0.13	0.92	89.15	16.41
HHC089	11	12	33.66	19.47	5.59	0.96	0.53	0.34	1.16	0.19	0.08	9.80	3.15	1.72	0.14	0.11	0.74	77.64	14.06
HHC090	0	1	163.99	77.52	29.33	5.33	2.70	1.63	6.96	0.99	0.28	61.59	17.64	10.99	0.93	0.35	2.38	382.62	85.48
HHC090	1	2	157.85	74.47	27.68	5.08	2.81	1.41	6.19	0.93	0.28	55.87	16.25	9.03	0.88	0.37	2.28	361.40	78.09
HHC090	2	3	293.59	109.54	40.38	6.92	3.85	2.14	9.53	1.36	0.42	81.30	23.86	13.74	1.20	0.49	3.10	591.43	113.28
HHC090	3	4	46.68	26.74	11.30	2.00	1.32	0.58	1.94	0.39	0.19	15.28	4.93	2.76	0.29	0.17	1.17	115.74	22.50
HHC090	4	5	47.66	27.80	11.56	2.07	1.20	0.50	1.96	0.38	0.22	16.56	5.03	3.12	0.32	0.19	1.29	119.84	23.97
HHC090	5	6	50.61	30.61	13.21	2.19	1.46	0.54	1.81	0.47	0.23	17.73	5.32	2.77	0.34	0.19	1.41	128.90	25.58
HHC090	6	7	50.00	29.44	12.95	2.02	1.43	0.45	1.87	0.42	0.23	17.03	5.38	2.60	0.31	0.22	1.63	125.96	24.73
HHC090	7	8	28.87	16.89	5.97	0.85	0.55	0.39	0.92	0.17	0.07	8.63	2.65	1.48	0.15	0.10	0.68	68.38	12.28
HHC090	8	9	37.83	22.52	6.22	0.93	0.58	0.36	1.20	0.24	0.13	11.08	3.76	1.58	0.18	0.10	0.66	87.37	15.94
HHC090	9	10	33.04	19.70	5.97	1.00	0.73	0.37	1.23	0.22	0.11	10.26	3.31	1.25	0.19	0.09	0.84	78.33	14.76
HHC090	10	11	30.71	18.30	4.83	0.65	0.50	0.34	1.08	0.15	0.08	9.33	3.11	1.32	0.13	0.07	0.51	71.10	13.22
HHC090	11	12	37.71	22.28	6.22	1.25	0.80	0.35	1.21	0.23	0.10	10.26	3.55	1.37	0.19	0.14	0.73	86.40	15.26
HHC091	0	1	145.57	70.72	26.29	4.95	2.71	1.68	6.30	0.88	0.32	54.94	16.37	9.58	0.98	0.34	2.28	343.90	77.23
HHC091	1	2	149.86	73.77	29.97	5.18	2.81	1.62	6.69	0.92	0.32	54.59	16.37	9.33	0.89	0.41	2.36	355.09	77.03
HHC091	2	3	254.28	100.51	29.59	5.61	2.88	1.85	6.96	0.95	0.32	69.63	21.81	11.39	1.09	0.39	2.45	509.71	98.15
HHC091	3	4	83.29	41.75	14.73	2.42	1.53	0.75	3.12	0.48	0.20	27.76	8.52	4.15	0.42	0.21	1.62	190.96	39.12
HHC091	4	5	55.16	33.19	12.70	2.16	1.33	0.49	2.13	0.40	0.24	18.20	6.03	3.13	0.36	0.23	1.46	137.19	26.75
HHC091	5	6	58.84	33.42	11.94	2.19	1.26	0.61	2.12	0.38	0.18	20.30	6.29	2.90	0.38	0.22	1.41	142.44	29.16
HHC091	6	7	19.16	11.73	3.68	0.61	0.48	0.23	0.67	0.11	0.06	6.53	2.02	0.82	0.14	0.07	0.50	46.82	9.30
HHC091	7	8	30.10	17.94	5.08	0.90	0.43	0.35	0.84	0.15	0.08	9.21	3.08	1.59	0.13	0.07	0.56	70.51	13.32
HHC091	8	9	52.45	31.55	6.73	1.25	0.63	0.46	1.60	0.24	0.10	17.03	5.29	2.23	0.21	0.11	0.68	120.58	23.78
HHC091	9	10	25.43	15.48	5.08	0.87	0.62	0.32	0.80	0.21	0.09	7.93	2.69	1.31	0.12	0.07	0.52	61.54	11.62
HHC091	10	11	35.62	20.76	6.73	1.03	0.61	0.29	1.20	0.21	0.08	10.61	3.54	1.61	0.21	0.10	0.84	83.45	15.40
HHC091	11	12	31.45	19.59	5.46	1.06	0.58	0.34	0.97	0.17	0.08	9.33	3.02	1.65	0.16	0.09	0.81	74.75	13.57
HHC092	0	1	152.94	72.36	25.91	4.91	3.00	1.74	6.45	0.90	0.32	53.30	16.91	8.67	0.91	0.37	2.32	351.01	76.04
HHC092	1	2	171.36	80.34	28.83	5.30	2.94	1.83	6.70	1.03	0.32	59.49	17.94	10.13	0.95	0.35	2.33	389.85	83.68
HHC092	2	3	358.69	113.53	36.32	7.43	3.72	2.36	8.81	1.27	0.43	80.71	25.25	13.80	1.42	0.50	3.03	657.27	114.82
HHC092	3	4	76.78	37.41	14.22	2.51	1.51	0.72	2.51	0.47	0.19	24.26	7.50	3.77	0.40	0.22	1.64	174.12	34.68
HHC092	4	5	67.32	35.30	12.70	2.20	1.34	0.66	2.43	0.42	0.25	21.46	6.83	4.04	0.41	0.22	1.38	156.95	30.90
HHC092	5	6	47.29	26.62	9.65	1.42	1.20	0.60	1.61	0.32	0.18	14.58	4.82	2.63	0.28	0.15	1.16	112.53	21.11
HHC092	6	7	35.50	21.11	6.10	0.98	0.61	0.39	1.13	0.21	0.09	10.96	3.87	1.76	0.20	0.10	0.73	83.73	16.01
HHC092	7	8	32.68	21.34	6.10	1.11	0.69	0.38	1.03	0.18	0.10	9.80	3.29	1.38	0.15	0.09	0.69	79.01	14.35
HHC092	8	9	44.71	28.15	5.97	1.01	0.65	0.35	1.11	0.19	0.11	13.06	4.60	1.68	0.16	0.09	0.64	102.50	18.84

Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC092	9	10	53.07	31.67	6.86	1.11	0.83	0.32	1.43	0.19	0.11	16.33	5.49	2.75	0.18	0.08	0.60	121.02	23.10
HHC092	10	11	42.38	24.86	8.00	1.14	0.94	0.31	1.37	0.23	0.15	12.48	4.47	1.81	0.21	0.11	0.84	99.31	18.30
HHC092	11	12	29.85	18.76	5.97	0.92	0.57	0.23	0.99	0.17	0.10	8.63	2.91	1.23	0.16	0.09	0.64	71.24	12.63
HHC093	0	1	159.69	89.84	34.03	5.82	3.11	2.22	7.64	1.09	0.35	68.93	20.54	11.77	1.14	0.40	2.51	409.09	96.43
HHC093	1	2	118.66	58.52	19.56	3.42	2.13	1.23	4.82	0.65	0.30	41.17	12.57	7.05	0.68	0.26	1.72	272.74	57.84
HHC093	2	3	147.41	62.39	20.32	3.74	2.13	1.20	4.37	0.70	0.30	42.34	13.11	6.61	0.67	0.30	1.94	307.52	59.86
HHC093	3	4	76.53	35.65	13.59	2.09	1.42	0.63	2.73	0.44	0.25	22.98	7.07	3.48	0.36	0.18	1.31	168.70	32.50
HHC093	4	5	66.09	36.24	10.54	2.05	1.05	0.68	2.50	0.40	0.13	25.31	7.23	4.41	0.35	0.15	0.97	158.10	34.94
HHC093	5	6	38.45	23.22	6.60	1.02	0.50	0.36	1.06	0.21	0.09	12.01	3.94	1.52	0.19	0.09	0.69	89.96	17.16
HHC093	6	7	35.87	20.52	5.97	0.93	0.59	0.36	1.00	0.23	0.11	10.85	3.30	1.62	0.14	0.09	0.61	82.21	15.22
HHC093	7	8	31.69	18.53	5.59	0.94	0.49	0.36	1.08	0.19	0.10	9.33	3.06	1.18	0.16	0.08	0.71	73.50	13.49
HHC093	8	9	49.26	28.38	6.10	1.16	0.64	0.29	1.24	0.19	0.07	15.40	4.89	2.32	0.19	0.09	0.69	110.92	21.64
HHC093	9	10	27.15	16.18	6.35	0.91	0.67	0.25	0.86	0.19	0.10	7.81	2.49	1.26	0.12	0.10	0.69	65.16	11.33
HHC093	10	11	19.65	12.67	6.98	1.04	0.73	0.23	0.82	0.18	0.13	5.37	1.82	0.96	0.12	0.10	0.79	51.60	8.35
HHC093	11	12	30.34	15.48	7.24	1.33	0.82	0.25	0.96	0.23	0.13	8.63	2.51	1.37	0.15	0.10	0.97	70.52	12.63
HHC094	0	1	116.82	86.67	35.43	5.39	2.78	1.76	7.02	0.94	0.31	62.99	17.82	10.52	0.93	0.37	2.38	352.12	87.13
HHC094	1	2	170.13	84.91	31.75	5.29	2.94	1.70	6.70	1.01	0.35	61.70	18.12	10.92	0.94	0.38	2.69	399.53	86.06
HHC094	2	3	148.02	87.96	32.13	5.49	3.16	1.89	7.50	1.00	0.34	65.20	19.03	10.46	0.95	0.38	2.19	385.69	90.67
HHC094	3	4	142.49	83.39	29.08	5.16	2.80	1.78	7.01	0.97	0.33	63.10	18.79	10.15	1.00	0.35	2.24	368.66	88.05
HHC094	4	5	135.12	65.68	26.03	4.37	2.48	1.31	5.87	0.82	0.26	50.74	14.56	8.43	0.78	0.32	2.05	318.82	70.45
HHC094	5	6	222.34	210.52	44.32	8.58	3.95	2.95	12.85	1.49	0.38	135.30	41.08	18.61	1.58	0.48	3.04	707.46	186.54
HHC094	6	7	75.67	32.02	9.78	1.97	1.11	0.42	1.89	0.34	0.15	17.96	5.41	2.67	0.28	0.17	1.08	150.92	25.63
HHC094	7	8	41.52	21.93	7.87	1.30	0.83	0.50	1.42	0.22	0.13	12.48	3.67	2.02	0.19	0.15	0.95	95.17	17.64
HHC094	8	9	39.43	22.75	6.10	1.01	0.64	0.53	1.15	0.21	0.08	13.18	4.06	2.02	0.18	0.09	0.79	92.21	18.43
HHC094	9	10	27.76	16.54	5.33	0.92	0.61	0.31	1.01	0.17	0.08	8.16	2.67	1.46	0.14	0.07	0.67	65.91	11.89
HHC094	10	11	23.95	14.07	5.59	0.91	0.49	0.32	0.74	0.15	0.09	6.88	2.25	1.22	0.13	0.09	0.75	57.63	10.17
HHC094	11	12	24.94	15.01	6.22	0.95	0.61	0.38	0.85	0.19	0.10	8.51	2.53	1.32	0.16	0.11	0.71	62.61	12.16
HHC094	12	13	22.73	14.31	5.46	0.95	0.53	0.29	0.70	0.17	0.08	7.00	2.26	1.09	0.13	0.09	0.60	56.39	10.34
HHC094	13	14	20.64	12.43	4.70	0.75	0.42	0.23	0.67	0.16	0.08	6.53	2.02	1.15	0.11	0.07	0.51	50.46	9.40
HHC095	0	1	144.34	65.09	26.67	4.51	2.24	1.63	5.95	0.89	0.27	48.99	14.08	8.43	0.86	0.38	2.40	326.73	68.43
HHC095	1	2	167.68	80.69	29.59	5.34	2.44	1.83	7.34	0.95	0.34	59.37	17.52	10.11	0.95	0.34	2.40	386.89	83.18
HHC095	2	3	152.32	79.40	29.59	5.10	2.46	1.48	6.79	0.99	0.33	59.49	16.55	10.01	1.01	0.38	2.39	368.27	82.15
HHC095	3	4	118.91	70.37	28.45	4.41	2.46	1.34	5.95	0.87	0.27	52.49	14.74	9.21	0.82	0.34	2.10	312.72	72.46
HHC095	4	5	114.12	41.75	16.89	2.98	1.37	0.90	3.45	0.52	0.20	31.03	9.33	5.06	0.54	0.23	1.28	229.64	43.88
HHC095	5	6	337.81	185.30	27.68	6.37	2.39	2.65	10.03	1.07	0.28	112.91	34.92	15.48	1.32	0.32	2.05	740.58	155.51
HHC095	6	7	94.83	34.25	9.78	1.89	0.88	0.51	2.22	0.38	0.15	18.31	5.79	2.75	0.32	0.15	1.07	173.27	26.31
HHC095	7	8	39.80	21.70	6.10	1.14	0.55	0.47	1.24	0.19	0.13	11.78	3.55	1.52	0.19	0.11	0.79	89.26	16.66
HHC095	8	9	38.57	23.10	6.86	1.26	0.67	0.46	1.18	0.21	0.10	12.71	3.83	2.08	0.18	0.14	0.64	91.99	17.98
HHC095	9	10	28.99	18.30	6.73	1.22	0.62	0.35	0.96	0.25	0.11	9.56	2.74	1.35	0.16	0.11	0.76	72.21	13.69
HHC095	10	11	26.53	17.12	7.11	1.14	0.78	0.28	1.01	0.21	0.22	8.05	2.71	1.22	0.18	0.10	0.96	67.60	12.07
HHC095	11	12	28.74	17.71	6.48	1.29	0.70	0.38	1.11	0.26	0.13	8.75	2.63	1.41	0.19	0.10	0.85	70.73	12.86
HHC095	12	13	28.01	17.36	6.10	1.14	0.64	0.29	0.93	0.16	0.14	8.98	2.90	1.65	0.16	0.09	0.81	69.35	13.18
HHC095	13	14	23.46	14.54	5.71	0.77	0.49	0.32	0.88	0.15	0.10	7.12	2.30	1.47	0.16	0.07	0.69	58.24	10.34
HHC096	0	1	146.18	79.75	31.11	4.95	2.46	1.71	7.30	0.96	0.33	57.62	17.22	9.80	0.99	0.35	2.68	363.40	80.77
HHC096	1	2	138.20	101.45	36.32	6.17	3.00	2.06	8.84	1.21	0.38	72.32	21.08	11.89	1.22	0.39	2.85	407.37	100.80
HHC096	2	3	135.74	85.97	31.24	5.08	2.73	1.85	7.48	0.94	0.28	61.59	18.85	9.80	1.04	0.34	2.25	365.18	86.55
HHC096	3	4	107.73	68.14	27.05	4.40	2.18	1.56	6.07	0.85	0.26	48.17	14.50	8.58	0.76	0.32	2.20	292.78	67.83
HHC096	4	5	283.76	170.06	35.68	6.90	3.49	2.52	10.86	1.26	0.41	105.68	33.83	16.00	1.47	0.41	3.03	675.36	147.87
HHC096	5	6	133.90	40.34	11.18	2.01	1.04	0.64	2.58	0.38	0.16	22.16	7.25	3.94	0.33	0.19	1.09	227.19	31.75

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC096	6	7	32.18	21.11	6.35	0.95	0.63	0.38	1.04	0.16	0.14	9.33	3.21	1.25	0.15	0.11	0.98	77.99	13.65
HHC096	7	8	31.45	18.53	6.35	1.04	0.58	0.34	1.14	0.18	0.15	8.98	2.90	1.46	0.16	0.10	0.60	73.98	13.09
HHC096	8	9	37.47	21.46	7.62	1.16	0.69	0.41	1.49	0.26	0.13	11.66	3.59	2.04	0.19	0.13	0.91	89.19	16.60
HHC096	9	10	26.78	17.12	7.37	0.98	0.75	0.32	1.06	0.24	0.15	7.81	2.66	1.52	0.14	0.09	1.06	68.05	11.59
HHC096	10	11	21.62	13.84	5.21	0.76	0.58	0.28	0.88	0.17	0.11	7.58	2.24	1.04	0.14	0.09	0.69	55.23	10.72
HHC096	11	12	26.78	16.65	6.48	0.94	0.63	0.25	1.11	0.21	0.15	8.40	2.69	1.23	0.14	0.10	0.92	66.68	12.17
HHC097	0	1	121.49	57.12	21.33	3.70	2.00	1.23	5.16	0.72	0.27	38.72	12.57	6.85	0.71	0.25	1.87	273.99	55.69
HHC097	1	2	130.82	75.88	27.94	4.72	2.20	1.48	6.83	0.94	0.30	53.19	15.71	9.16	0.92	0.29	2.25	332.62	74.53
HHC097	2	3	119.40	72.71	27.05	4.32	2.36	1.33	6.04	0.85	0.35	50.27	15.10	8.41	0.88	0.33	2.40	311.80	70.57
HHC097	3	4	125.30	74.24	25.14	4.26	2.16	1.60	5.82	0.81	0.26	51.90	15.77	8.98	0.80	0.27	2.16	319.48	72.73
HHC097	4	5	140.04	80.22	30.10	4.82	2.61	1.56	6.58	0.92	0.36	54.59	16.85	9.01	0.91	0.37	2.32	351.25	77.17
HHC097	5	6	133.28	98.28	19.68	3.84	1.98	1.27	5.77	0.72	0.25	58.79	18.36	8.27	0.78	0.22	1.59	353.10	81.77
HHC097	6	7	32.43	19.94	6.22	1.04	0.67	0.34	1.20	0.19	0.09	9.21	3.06	1.76	0.14	0.10	0.79	77.19	13.46
HHC097	7	8	29.85	18.65	5.97	0.94	0.66	0.30	0.95	0.19	0.16	8.86	2.96	1.62	0.13	0.09	0.58	71.92	12.90
HHC097	8	9	32.92	21.34	8.13	1.08	0.80	0.37	1.34	0.24	0.15	10.50	3.55	1.89	0.21	0.11	1.07	83.70	15.34
HHC097	9	10	41.03	26.62	10.54	1.61	1.03	0.34	1.78	0.32	0.18	11.08	4.13	1.75	0.25	0.16	1.21	102.02	17.07
HHC097	10	11	48.64	36.12	11.68	1.92	1.29	0.47	2.02	0.39	0.26	17.26	5.76	3.04	0.38	0.21	1.51	130.96	25.32
HHC097	11	12	22.36	13.49	3.94	0.69	0.45	0.15	0.75	0.11	0.07	7.00	2.10	0.82	0.09	0.08	0.64	52.73	9.88
HHC098	0	1	140.65	67.91	24.89	4.10	2.16	1.23	5.75	0.90	0.31	46.89	14.02	8.02	0.76	0.34	2.36	320.29	65.77
HHC098	1	2	149.86	73.42	24.13	4.19	2.15	1.49	5.96	0.89	0.33	51.09	15.89	9.16	0.85	0.33	2.17	341.91	72.01
HHC098	2	3	135.12	71.78	24.13	3.87	2.04	1.51	5.42	0.82	0.32	47.59	15.10	7.94	0.76	0.32	2.16	318.88	67.32
HHC098	3	4	129.60	75.41	25.91	4.29	2.09	1.37	6.15	0.88	0.34	52.02	15.89	9.09	0.80	0.32	2.14	326.30	73.00
HHC098	4	5	144.95	80.10	29.21	4.68	2.46	1.48	6.64	0.95	0.36	53.89	16.37	9.80	0.92	0.31	2.24	354.36	75.86
HHC098	5	6	257.96	84.56	18.03	3.37	1.78	1.27	4.70	0.58	0.27	49.22	15.89	7.47	0.68	0.24	1.66	447.71	69.17
HHC098	6	7	48.15	25.45	9.52	1.49	0.89	0.41	1.61	0.30	0.19	12.95	4.34	1.95	0.25	0.11	1.28	108.89	19.02
HHC098	7	8	33.78	17.71	6.48	1.00	0.67	0.30	1.08	0.21	0.13	9.68	3.24	1.51	0.15	0.09	0.81	76.84	14.07
HHC098	8	9	34.64	18.88	6.73	1.01	0.69	0.43	1.07	0.23	0.13	9.80	3.21	1.77	0.18	0.10	0.73	79.60	14.20
HHC098	9	10	26.04	15.13	5.21	0.76	0.50	0.27	0.78	0.16	0.09	7.58	2.53	1.19	0.13	0.08	0.61	61.07	10.99
HHC098	10	11	36.24	16.65	5.97	0.94	0.58	0.30	1.07	0.21	0.11	9.10	3.15	1.62	0.15	0.09	0.63	76.82	13.35
HHC099	0	1	113.87	53.48	23.11	3.73	2.07	1.16	4.84	0.73	0.26	38.14	12.44	7.00	0.67	0.26	1.92	263.71	54.99
HHC099	1	2	131.44	60.16	24.38	4.19	2.24	1.39	5.36	0.81	0.26	45.14	14.08	7.79	0.74	0.33	1.88	300.20	64.15
HHC099	2	3	133.90	54.07	21.59	3.63	2.12	1.08	4.77	0.73	0.28	38.37	12.57	7.03	0.67	0.30	1.84	282.94	55.24
HHC099	3	4	129.60	56.29	21.46	3.66	1.90	1.18	4.55	0.70	0.28	41.29	13.05	7.38	0.66	0.25	1.87	284.12	58.66
HHC099	4	5	199.00	138.98	31.75	6.16	2.68	2.20	8.88	1.12	0.31	94.36	31.05	14.21	1.25	0.39	2.32	534.64	132.82
HHC099	5	6	127.75	35.89	12.57	2.25	1.25	0.60	2.43	0.45	0.19	22.86	7.58	3.70	0.40	0.17	1.30	219.39	33.09
HHC099	6	7	76.04	33.66	14.73	2.28	1.34	0.66	2.52	0.47	0.24	22.39	7.27	4.08	0.40	0.22	1.40	167.71	32.35
HHC099	7	8	36.85	19.00	7.11	1.15	0.73	0.36	1.15	0.23	0.11	10.50	3.72	1.55	0.20	0.13	0.87	83.66	15.57
HHC099	8	9	32.92	17.12	5.97	0.86	0.54	0.32	0.95	0.18	0.09	9.68	3.21	1.52	0.16	0.09	0.68	74.31	13.92
HHC099	9	10	39.68	19.94	5.97	1.16	0.72	0.37	1.33	0.26	0.17	11.20	3.90	1.74	0.27	0.16	0.72	87.58	16.53
HHC099	10	11	81.81	41.75	13.71	2.24	1.22	0.79	3.25	0.45	0.16	28.23	9.27	4.45	0.44	0.18	0.95	188.89	40.17
HHC099	11	12	35.99	19.35	4.19	0.71	0.43	0.21	0.95	0.14	0.07	11.08	3.66	1.58	0.13	0.06	0.39	78.93	15.58
HHC099	12	13	35.13	19.59	5.46	0.84	0.55	0.21	0.96	0.17	0.09	10.38	3.64	1.44	0.14	0.09	0.63	79.31	15.00
HHC099	13	14	30.22	18.06	5.71	0.83	0.62	0.21	0.96	0.17	0.10	8.63	2.89	1.35	0.14	0.10	0.67	70.66	12.49
HHC100	0	1	88.57	47.50	18.92	3.01	1.62	0.98	3.68	0.61	0.20	34.29	10.68	5.73	0.55	0.21	1.41	217.96	48.53
HHC100	1	2	127.14	57.47	22.99	3.45	2.02	1.16	4.71	0.74	0.26	43.86	13.65	7.27	0.71	0.29	1.75	287.47	61.67
HHC100	2	3	137.58	72.01	29.72	4.82	2.47	1.48	5.99	0.94	0.32	53.42	17.04	9.20	0.81	0.35	2.23	338.38	76.09
HHC100	3	4	113.50	62.98	24.00	3.84	2.09	1.19	5.00	0.76	0.24	45.84	14.32	7.41	0.73	0.26	1.69	283.86	64.73
HHC100	4	5	148.02	86.32	29.08	5.23	2.48	1.59	6.69	1.02	0.32	62.52	19.51	10.01	0.98	0.33	2.31	376.40	88.24
HHC100	5	6	267.79	50.43	11.81	2.38	1.26	0.81	2.66	0.45	0.18	32.43	10.96	4.94	0.45	0.19	1.41	388.14	46.21

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC100	6	7	53.56	20.88	7.49	1.12	0.81	0.39	1.23	0.25	0.15	11.90	3.95	1.94	0.18	0.13	0.90	104.88	17.15
HHC100	7	8	31.32	17.47	5.46	0.87	0.58	0.35	0.84	0.19	0.09	9.45	3.12	1.39	0.14	0.08	0.69	72.06	13.58
HHC100	8	9	34.64	20.17	6.35	1.00	0.65	0.35	1.08	0.21	0.11	10.85	3.60	1.79	0.15	0.09	0.74	81.78	15.60
HHC100	9	10	33.90	19.35	6.86	1.06	0.70	0.34	1.01	0.24	0.13	9.80	3.46	1.69	0.19	0.11	0.80	79.63	14.50
HHC100	10	11	27.88	16.07	4.19	0.70	0.42	0.31	0.73	0.14	0.07	8.63	2.83	1.30	0.13	0.05	0.46	63.90	12.29
HHC100	11	12	28.87	15.48	5.97	0.98	0.59	0.28	0.95	0.18	0.11	8.28	2.67	1.28	0.15	0.10	0.80	66.69	12.08
HHC101	0	1	131.44	57.47	22.48	4.03	2.17	1.38	5.34	0.73	0.31	45.26	12.81	7.05	0.76	0.32	2.00	293.54	62.86
HHC101	1	2	171.98	68.26	26.29	5.07	2.62	1.56	6.47	0.90	0.39	52.72	15.22	8.75	0.94	0.39	2.52	364.08	73.96
HHC101	2	3	151.71	83.97	30.99	5.69	2.89	1.76	7.55	1.01	0.38	64.39	18.12	10.19	1.04	0.39	2.45	382.52	89.24
HHC101	3	4	127.14	71.54	26.41	4.69	2.16	1.44	6.18	0.85	0.30	54.70	15.77	8.56	0.84	0.32	2.11	323.00	76.00
HHC101	4	5	121.86	73.30	25.91	4.95	2.38	1.47	6.20	0.81	0.32	55.29	15.71	8.60	0.86	0.33	2.03	320.01	76.80
HHC101	5	6	249.37	136.63	31.37	6.08	2.81	2.18	8.61	1.00	0.32	91.91	27.31	13.45	1.20	0.37	2.32	574.92	126.50
HHC101	6	7	72.84	27.09	8.89	1.47	0.80	0.43	1.57	0.30	0.15	14.93	4.80	2.24	0.25	0.14	1.00	136.89	21.44
HHC101	7	8	31.69	18.76	5.97	0.91	0.57	0.36	1.11	0.19	0.10	10.38	3.12	1.58	0.16	0.09	0.85	75.85	14.57
HHC101	8	9	37.71	23.34	5.59	0.93	0.61	0.47	1.11	0.18	0.08	12.36	3.81	1.81	0.15	0.09	0.71	88.95	17.25
HHC101	9	10	23.95	14.78	6.22	0.93	0.65	0.39	0.89	0.19	0.11	7.58	2.31	1.07	0.15	0.10	0.82	60.16	10.97
HHC101	10	11	21.87	13.14	5.46	0.92	0.54	0.25	0.90	0.18	0.09	6.65	2.13	1.07	0.15	0.10	0.74	54.18	9.85
HHC101	11	12	29.60	17.59	7.24	1.24	0.70	0.32	1.28	0.24	0.15	9.56	2.94	1.46	0.19	0.14	1.05	73.70	13.93
HHC102	0	1	145.57	64.97	23.75	4.65	2.20	1.41	5.81	0.81	0.30	49.46	14.56	8.02	0.81	0.34	2.19	324.84	69.47
HHC102	1	2	175.66	90.66	32.64	5.93	2.76	1.73	7.91	1.05	0.38	68.47	19.63	11.13	1.07	0.40	2.70	422.11	95.10
HHC102	2	3	158.46	91.95	35.18	6.14	3.13	1.89	8.59	1.11	0.38	72.55	20.18	11.89	1.18	0.43	2.79	415.83	100.04
HHC102	3	4	125.30	72.01	27.43	4.89	2.49	1.70	6.66	0.94	0.32	55.87	15.95	8.86	0.88	0.34	2.23	325.88	77.59
HHC102	4	5	160.92	95.82	37.97	6.76	3.42	2.04	8.75	1.24	0.42	70.57	20.30	11.49	1.34	0.54	2.86	424.42	98.97
HHC102	5	6	198.39	196.44	26.16	6.40	2.39	2.52	10.38	0.97	0.22	125.39	37.21	16.47	1.36	0.32	1.92	626.56	170.37
HHC102	6	7	48.89	26.97	8.76	1.63	0.96	0.46	1.64	0.31	0.17	15.16	4.47	2.11	0.26	0.18	1.07	113.05	21.52
HHC102	7	8	35.01	20.17	7.87	1.22	0.85	0.34	1.28	0.25	0.16	10.15	3.29	1.50	0.21	0.14	1.09	83.52	14.86
HHC102	8	9	32.68	20.41	6.98	1.23	0.77	0.36	1.24	0.24	0.14	11.20	3.36	1.62	0.20	0.11	0.77	81.31	15.98
HHC102	9	10	29.36	18.18	5.46	1.02	0.71	0.35	1.16	0.24	0.16	9.68	2.90	1.31	0.21	0.13	0.73	71.60	13.81
HHC102	10	11	28.13	17.01	6.60	1.03	0.79	0.31	1.09	0.23	0.13	8.75	2.63	1.39	0.18	0.10	0.97	69.34	12.59
HHC102	11	12	22.85	13.84	5.46	0.84	0.53	0.27	0.93	0.17	0.08	7.46	2.30	1.16	0.13	0.09	0.65	56.75	10.73
HHC103	0	1	136.97	79.75	29.72	5.45	2.77	1.69	7.11	0.97	0.33	60.30	17.22	9.78	1.05	0.41	2.51	356.02	84.02
HHC103	1	2	160.31	109.77	42.80	7.84	3.83	2.52	10.34	1.42	0.52	84.45	24.28	13.51	1.45	0.55	3.22	466.81	118.02
HHC103	2	3	159.69	91.13	31.37	5.96	2.90	1.97	8.33	1.04	0.36	70.92	20.60	10.99	1.16	0.41	2.58	409.42	98.64
HHC103	3	4	158.46	101.33	36.57	6.43	3.18	1.92	8.92	1.19	0.44	72.67	21.26	11.09	1.20	0.46	3.15	428.28	101.56
HHC103	4	5	296.04	151.88	25.27	5.88	2.44	2.22	8.81	0.90	0.31	99.49	30.57	13.74	1.19	0.35	2.29	641.38	137.13
HHC103	5	6	59.33	34.60	9.78	1.68	0.96	0.60	2.05	0.31	0.16	20.06	6.07	2.95	0.33	0.15	1.18	140.20	28.13
HHC103	6	7	40.05	24.16	8.89	1.33	0.81	0.44	1.36	0.25	0.17	13.53	4.19	2.19	0.24	0.13	0.98	98.72	19.29
HHC103	7	8	34.76	20.64	7.24	1.22	0.67	0.36	1.05	0.26	0.16	10.50	3.32	1.55	0.21	0.13	0.88	82.95	15.25
HHC103	8	9	33.66	20.41	6.60	1.04	0.72	0.35	1.20	0.25	0.17	10.61	3.15	1.55	0.25	0.18	0.73	80.88	15.06
HHC103	9	10	35.01	20.17	6.35	1.06	0.63	0.38	1.18	0.19	0.11	10.96	3.41	1.65	0.18	0.09	0.66	82.03	15.60
HHC103	10	11	24.81	15.13	5.84	0.87	0.58	0.30	0.85	0.19	0.09	7.58	2.33	1.23	0.14	0.09	0.61	60.67	10.93
HHC103	11	12	19.16	11.49	4.70	0.70	0.50	0.28	0.68	0.17	0.08	6.65	1.87	0.90	0.11	0.08	0.51	47.89	9.33
HHC103	12	13	20.76	12.43	5.59	0.81	0.47	0.30	0.90	0.17	0.09	6.88	2.02	1.00	0.14	0.10	0.61	52.28	9.86
HHC103	13	14	26.53	15.95	7.24	1.14	0.90	0.36	1.08	0.31	0.18	8.40	2.65	1.18	0.26	0.21	0.82	67.21	12.44
HHC104	0	1	130.82	77.05	28.83	5.22	2.72	1.71	6.78	1.02	0.34	58.67	16.19	9.39	0.93	0.38	2.32	342.38	81.01
HHC104	1	2	144.95	90.07	33.78	6.07	3.14	1.85	8.33	1.05	0.35	64.97	18.30	10.42	1.00	0.45	2.46	387.21	90.34
HHC104	2	3	124.68	71.31	28.45	5.06	2.61	1.39	6.26	0.88	0.32	53.30	14.80	8.21	0.81	0.39	2.25	320.72	73.98
HHC104	3	4	245.68	131.35	32.51	6.60	3.18	2.33	9.36	1.15	0.42	89.58	25.98	13.51	1.18	0.48	2.61	565.90	123.33
HHC104	4	5	99.87	24.98	8.76	1.68	0.93	0.58	1.57	0.31	0.18	14.58	4.24	2.12	0.25	0.18	1.16	161.39	20.74

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC104	5	6	44.10	22.52	6.86	1.22	0.74	0.43	1.42	0.23	0.13	12.95	3.72	1.92	0.19	0.13	0.84	97.38	18.07
HHC104	6	7	29.85	17.12	4.83	0.94	0.59	0.31	1.01	0.17	0.09	9.21	2.83	1.43	0.14	0.08	0.59	69.21	13.12
HHC104	7	8	28.50	16.42	6.10	0.99	0.61	0.31	0.93	0.23	0.14	8.16	2.49	1.47	0.15	0.11	0.87	67.48	11.79
HHC104	8	9	28.99	17.36	5.46	0.94	0.61	0.35	0.95	0.19	0.14	8.63	2.69	1.21	0.14	0.14	0.64	68.43	12.41
HHC104	9	10	25.31	15.01	4.19	0.73	0.57	0.35	0.71	0.14	0.08	7.23	2.21	1.24	0.11	0.08	0.50	58.46	10.28
HHC104	10	11	29.60	17.36	7.24	1.17	0.73	0.37	1.01	0.23	0.15	8.86	2.79	1.24	0.18	0.13	0.98	72.04	13.00
HHC104	11	12	24.20	14.89	6.35	0.86	0.64	0.35	0.82	0.15	0.09	7.46	2.49	1.11	0.15	0.10	0.71	60.38	10.97
HHC105	0	1	125.30	58.41	22.35	4.14	1.98	1.23	4.64	0.72	0.31	44.67	12.20	7.49	0.67	0.30	1.96	286.37	61.69
HHC105	1	2	146.18	74.12	29.84	5.43	2.79	1.62	6.67	0.97	0.38	57.74	15.53	9.76	0.86	0.41	2.55	354.85	79.55
HHC105	2	3	178.73	83.15	30.48	6.08	3.24	1.85	7.33	1.05	0.42	64.50	17.64	10.24	1.02	0.42	2.69	408.85	89.25
HHC105	3	4	233.40	126.08	37.46	7.31	3.49	2.18	9.52	1.27	0.41	87.36	25.01	13.80	1.24	0.48	2.85	551.84	120.92
HHC105	4	5	68.54	24.75	9.40	1.66	1.01	0.41	1.60	0.32	0.18	14.35	4.11	2.24	0.24	0.19	1.18	130.17	20.35
HHC105	5	6	35.26	20.76	8.51	1.51	1.01	0.34	1.29	0.30	0.15	10.96	3.38	1.72	0.24	0.15	1.02	86.59	16.10
HHC105	6	7	75.92	43.63	14.22	2.16	1.38	0.80	2.70	0.49	0.19	26.71	8.23	4.05	0.42	0.18	1.30	182.38	37.52
HHC105	7	8	31.32	19.70	8.76	1.19	0.94	0.32	1.22	0.25	0.19	9.56	3.13	1.62	0.21	0.14	1.00	79.58	14.10
HHC105	8	9	24.69	15.48	5.97	0.80	0.66	0.35	0.85	0.18	0.09	6.88	2.48	1.28	0.14	0.10	0.74	60.70	10.30
HHC105	9	10	26.29	16.07	7.11	1.17	0.55	0.31	1.05	0.25	0.16	8.75	2.48	1.28	0.18	0.13	1.01	66.77	12.57
HHC105	10	11	26.41	16.18	7.24	0.85	0.91	0.30	1.20	0.22	0.13	8.16	2.55	1.44	0.16	0.14	0.84	66.74	11.73
HHC105	11	12	23.71	14.78	6.86	1.01	0.69	0.44	0.98	0.22	0.14	7.35	2.22	1.24	0.14	0.11	0.82	60.70	10.72
HHC106	0	1	138.20	66.62	27.68	4.94	3.08	1.61	6.21	0.95	0.32	51.32	14.98	8.59	0.92	0.37	2.16	327.94	72.16
HHC106	1	2	165.83	81.98	32.51	5.72	3.02	1.91	7.05	1.10	0.34	62.05	17.88	9.86	1.00	0.37	2.54	393.16	86.65
HHC106	2	3	265.33	188.82	53.34	9.72	5.15	3.33	13.02	1.87	0.57	133.55	40.35	20.58	1.82	0.64	3.95	742.06	185.45
HHC106	3	4	91.88	28.03	12.06	2.27	1.43	0.53	1.95	0.45	0.24	15.63	4.97	3.03	0.32	0.22	1.48	164.48	23.19
HHC106	4	5	43.85	26.62	10.79	1.73	1.37	0.46	1.63	0.37	0.23	14.46	4.49	2.45	0.28	0.19	1.41	110.35	20.97
HHC106	5	6	39.68	24.28	10.54	1.74	1.28	0.49	1.78	0.37	0.23	12.83	4.10	2.10	0.27	0.18	1.34	101.20	18.94
HHC106	6	7	34.15	20.41	8.64	1.26	1.10	0.43	1.26	0.31	0.20	11.43	3.29	1.96	0.21	0.16	1.12	85.91	16.19
HHC106	7	8	33.41	20.17	7.37	1.15	0.85	0.36	1.05	0.26	0.14	10.85	3.38	1.61	0.20	0.13	0.96	81.88	15.58
HHC106	8	9	46.92	34.83	9.02	1.54	1.02	0.56	2.01	0.32	0.15	19.83	6.42	2.93	0.27	0.13	0.92	126.86	28.05
HHC106	9	10	33.54	19.94	6.73	1.02	0.80	0.35	1.01	0.23	0.11	10.15	3.42	1.50	0.19	0.09	0.79	79.86	14.78
HHC106	10	11	56.38	32.13	8.13	1.30	0.97	0.39	1.64	0.27	0.14	16.91	5.36	2.35	0.26	0.11	0.97	127.33	23.83
HHC106	11	12	34.52	21.34	6.60	1.08	0.81	0.41	1.18	0.22	0.13	10.38	3.40	1.66	0.16	0.11	0.63	82.62	15.02
HHC107	0	1	132.05	64.86	25.40	4.72	2.64	1.51	5.38	0.94	0.25	49.81	14.56	8.02	0.86	0.35	2.27	313.61	69.94
HHC107	1	2	160.92	88.66	33.27	6.05	3.33	1.99	7.90	1.17	0.39	66.83	19.51	10.74	1.06	0.41	2.70	404.93	93.45
HHC107	2	3	154.78	85.97	32.26	5.85	3.06	1.71	7.40	1.10	0.33	65.20	18.55	11.56	1.00	0.39	2.47	391.63	90.60
HHC107	3	4	299.73	131.35	35.18	6.45	3.60	2.39	8.41	1.24	0.41	86.55	26.70	12.87	1.15	0.43	2.92	619.38	120.85
HHC107	4	5	42.50	25.10	9.65	1.68	1.04	0.44	1.57	0.30	0.17	13.41	4.24	2.34	0.26	0.16	1.10	103.96	19.59
HHC107	5	6	34.40	21.11	7.49	1.16	0.80	0.38	1.34	0.24	0.13	12.25	3.53	1.84	0.22	0.11	0.89	85.89	17.16
HHC107	6	7	30.46	18.53	6.22	0.93	0.67	0.43	1.12	0.21	0.10	10.38	3.26	1.84	0.16	0.10	0.75	75.18	14.74
HHC107	7	8	29.73	18.53	6.98	1.04	0.78	0.46	1.14	0.26	0.15	10.15	3.15	1.58	0.20	0.10	0.84	75.10	14.55
HHC107	8	9	28.50	17.24	6.35	1.06	0.67	0.34	0.98	0.23	0.14	9.10	2.83	1.41	0.19	0.11	0.76	69.91	13.17
HHC107	9	10	28.62	17.83	6.73	1.07	0.81	0.38	1.09	0.24	0.14	8.86	3.02	1.43	0.18	0.11	0.82	71.33	13.13
HHC107	10	11	29.11	17.59	5.84	1.06	0.69	0.36	0.92	0.21	0.11	9.10	2.96	1.38	0.15	0.09	0.80	70.37	13.27
HHC107	11	12	32.55	19.59	7.49	1.21	0.95	0.35	1.14	0.24	0.15	9.91	3.30	1.70	0.20	0.14	0.95	79.86	14.62
HHC107	12	13	36.36	20.64	8.25	1.33	0.93	0.41	1.34	0.29	0.15	11.08	3.32	1.65	0.20	0.15	1.01	87.10	15.93
HHC108	0	1	141.88	73.30	28.83	4.73	2.52	1.76	7.08	0.94	0.34	55.75	15.46	8.81	0.82	0.37	2.37	344.96	76.77
HHC108	1	2	183.65	81.86	32.38	5.62	3.06	1.81	7.12	1.08	0.39	63.92	18.24	10.02	1.06	0.38	2.52	413.10	88.84
HHC108	2	3	171.36	93.00	37.21	6.23	3.16	2.01	8.60	1.17	0.38	73.83	20.66	11.56	1.15	0.48	2.80	433.61	101.88
HHC108	3	4	266.56	175.92	48.00	9.09	4.60	2.69	12.10	1.51	0.40	115.71	34.80	17.05	1.62	0.53	2.99	693.56	161.22
HHC108	4	5	95.32	38.82	13.33	2.15	1.42	0.66	2.64	0.41	0.19	21.70	6.69	3.73	0.36	0.21	1.25	188.89	30.90

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC108	5	6	42.26	24.63	10.16	1.72	1.15	0.38	1.56	0.29	0.19	12.48	3.79	1.88	0.27	0.14	1.14	102.04	18.27
HHC108	6	7	38.69	21.70	9.14	1.53	0.83	0.39	1.13	0.30	0.16	11.55	3.84	1.39	0.22	0.15	0.87	91.89	17.14
HHC108	7	8	32.92	19.12	8.38	1.33	0.86	0.32	1.41	0.30	0.15	10.38	3.15	1.28	0.20	0.15	0.96	80.90	15.07
HHC108	8	9	27.27	16.18	6.98	0.96	0.73	0.37	0.92	0.26	0.16	8.40	2.66	1.32	0.19	0.13	0.91	67.45	12.21
HHC108	9	10	31.08	17.71	6.73	1.04	0.72	0.42	1.13	0.19	0.13	8.75	3.06	1.30	0.14	0.11	0.67	73.18	12.99
HHC108	10	11	50.36	28.85	6.98	1.14	0.73	0.38	1.42	0.18	0.10	14.58	4.65	2.17	0.18	0.11	0.66	112.50	20.54
HHC108	11	12	32.92	19.70	6.48	0.95	0.69	0.29	1.18	0.21	0.13	10.03	3.21	1.69	0.14	0.09	0.57	78.28	14.34
HHC109	0	1	130.21	62.74	25.78	4.24	2.71	1.20	5.87	0.80	0.31	45.26	13.35	7.70	0.75	0.32	2.00	303.24	63.59
HHC109	1	2	173.82	89.25	32.76	6.27	2.88	1.78	7.46	1.09	0.36	66.25	19.39	11.77	1.00	0.40	2.40	416.89	92.91
HHC109	2	3	158.46	88.55	33.02	5.83	3.34	1.81	7.71	1.11	0.34	65.20	18.97	10.59	1.00	0.39	2.40	398.71	91.00
HHC109	3	4	228.48	83.62	29.97	5.35	2.58	1.48	6.78	0.97	0.35	58.67	17.40	10.01	0.88	0.38	2.05	448.97	82.30
HHC109	4	5	76.41	27.80	11.43	1.81	1.01	0.54	1.64	0.33	0.18	15.40	5.23	2.70	0.29	0.14	1.21	146.11	22.74
HHC109	5	6	32.68	18.88	5.84	0.95	0.58	0.37	0.88	0.15	0.10	9.68	3.17	1.35	0.13	0.10	0.63	75.48	13.93
HHC109	6	7	33.66	19.94	5.71	1.06	0.59	0.43	0.89	0.17	0.10	10.96	3.25	1.62	0.19	0.10	0.56	79.24	15.46
HHC109	7	8	28.13	17.12	5.59	0.94	0.59	0.28	0.90	0.16	0.11	9.45	2.73	1.23	0.13	0.08	0.56	68.00	13.25
HHC109	8	9	26.29	15.95	6.98	1.09	0.64	0.35	0.86	0.21	0.10	7.46	2.37	1.19	0.15	0.11	0.77	64.54	11.08
HHC109	9	10	26.04	16.07	8.13	1.19	0.94	0.34	1.12	0.24	0.14	8.05	2.55	1.40	0.16	0.15	1.06	67.57	11.96
HHC109	10	11	29.24	17.83	8.38	1.27	0.80	0.31	1.07	0.24	0.16	8.86	2.78	1.28	0.18	0.16	0.92	73.48	13.09
HHC109	11	12	29.36	18.06	5.46	0.84	0.55	0.30	0.99	0.16	0.08	9.10	2.75	1.18	0.15	0.09	0.60	69.68	12.84
HHC109	12	13	30.10	18.18	7.11	1.01	0.69	0.32	1.04	0.22	0.11	9.10	2.88	1.53	0.15	0.10	0.80	73.33	13.14
HHC109	13	14	40.54	24.16	6.86	1.15	0.71	0.30	1.20	0.18	0.15	12.13	3.97	1.81	0.20	0.11	0.83	94.30	17.45
HHC110	0	1	132.05	63.45	26.92	4.84	2.54	1.41	5.89	0.82	0.32	48.06	14.14	8.35	0.80	0.32	2.14	312.05	67.83
HHC110	1	2	160.31	94.41	38.10	6.54	3.21	1.78	8.03	1.21	0.39	69.52	20.42	11.49	1.08	0.47	2.68	419.64	97.56
HHC110	2	3	166.45	91.01	37.21	6.16	3.16	1.74	8.25	1.13	0.34	69.17	20.36	11.57	1.11	0.38	2.54	420.57	96.79
HHC110	3	4	260.42	123.73	29.46	5.70	2.95	2.17	8.32	1.01	0.36	82.35	25.25	12.70	1.14	0.38	2.37	558.31	114.44
HHC110	4	5	55.52	28.03	9.27	1.58	0.97	0.51	1.45	0.24	0.13	15.86	5.01	2.62	0.20	0.15	0.98	122.53	22.66
HHC110	5	6	33.54	20.05	8.64	1.23	0.93	0.42	1.20	0.24	0.16	10.61	3.17	1.51	0.20	0.15	0.85	82.88	15.21
HHC110	6	7	23.59	13.72	5.84	0.84	0.58	0.35	0.97	0.16	0.11	7.46	2.32	0.96	0.13	0.09	0.71	57.83	10.75
HHC110	7	8	35.99	20.52	6.98	1.14	0.64	0.37	1.15	0.21	0.14	10.15	3.46	1.65	0.15	0.10	0.81	83.46	14.89
HHC110	8	9	32.55	20.29	7.37	1.17	0.85	0.47	1.01	0.27	0.15	9.68	3.12	1.55	0.19	0.10	1.01	79.79	14.16
HHC110	9	10	33.04	20.88	7.24	1.09	0.78	0.43	1.11	0.23	0.15	10.03	3.20	1.37	0.22	0.11	0.72	80.59	14.55
HHC110	10	11	30.59	18.18	5.97	0.79	0.57	0.38	1.04	0.19	0.14	10.03	2.74	1.28	0.16	0.11	0.85	73.03	13.73
HHC110	11	12	28.62	18.88	7.11	1.35	0.82	0.20	1.29	0.27	0.16	9.80	2.90	1.53	0.16	0.14	1.18	74.43	14.22
HHC110	12	13	30.46	18.65	7.49	1.22	0.80	0.29	1.26	0.27	0.17	8.98	2.80	1.48	0.16	0.14	1.05	75.23	13.17
HHC110	13	14	26.66	17.47	7.37	1.11	0.87	0.27	1.16	0.25	0.14	7.58	2.34	1.61	0.18	0.14	0.95	68.09	11.22
HHC111	0	1	154.78	75.65	31.11	5.41	2.94	1.68	7.22	1.03	0.34	57.50	16.85	8.67	1.01	0.40	2.55	367.14	80.78
HHC111	1	2	160.92	80.10	33.40	5.92	3.35	1.75	7.16	1.19	0.40	60.65	17.82	9.46	1.01	0.41	2.98	386.53	85.41
HHC111	2	3	366.06	177.68	49.78	10.04	4.86	3.11	13.08	1.76	0.59	132.97	37.82	18.55	1.78	0.58	3.84	822.51	182.60
HHC111	3	4	60.31	30.14	11.30	2.13	1.21	0.50	2.04	0.42	0.20	17.50	5.30	2.59	0.28	0.17	1.36	135.47	25.22
HHC111	4	5	39.19	24.75	8.51	1.43	0.99	0.34	1.33	0.30	0.17	13.65	4.07	1.77	0.24	0.15	1.00	97.88	19.39
HHC111	5	6	37.59	23.69	9.02	1.31	0.89	0.37	1.48	0.30	0.15	12.01	3.56	1.83	0.24	0.13	0.91	93.47	17.12
HHC111	6	7	32.43	19.70	8.00	1.31	0.90	0.36	1.04	0.27	0.14	10.03	3.06	1.30	0.19	0.11	1.08	79.92	14.58
HHC111	7	8	36.61	22.05	7.75	1.00	0.64	0.31	1.20	0.29	0.13	10.38	3.64	1.74	0.19	0.13	1.01	87.05	15.20
HHC111	8	9	31.45	17.83	7.11	1.01	0.66	0.31	0.89	0.21	0.17	9.33	2.96	1.32	0.16	0.09	0.83	74.34	13.47
HHC111	9	10	28.01	16.07	6.48	0.84	0.56	0.32	1.05	0.17	0.11	7.70	2.56	1.07	0.16	0.11	0.75	65.96	11.26
HHC111	10	11	36.48	20.41	5.97	0.91	0.48	0.30	1.08	0.19	0.11	11.43	3.64	2.11	0.14	0.09	0.68	84.03	16.12
HHC111	11	12	27.64	17.36	6.98	1.19	0.80	0.31	1.00	0.25	0.14	7.23	2.65	1.19	0.15	0.13	0.98	68.01	11.22
HHC111	12	13	19.78	12.43	4.95	0.68	0.46	0.24	0.75	0.14	0.10	5.83	1.90	0.86	0.12	0.10	0.71	49.04	8.52
HHC111	13	14	16.83	9.27	4.70	0.65	0.58	0.12	0.58	0.15	0.09	4.43	1.49	0.79	0.11	0.08	0.67	40.53	6.68

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC111	14	15	27.52	13.60	5.97	0.95	0.72	0.20	0.81	0.17	0.10	7.23	2.25	1.36	0.15	0.09	0.69	61.81	10.58
HHC111	15	16	34.15	15.72	8.38	1.29	0.97	0.22	1.31	0.24	0.18	7.93	2.54	1.57	0.20	0.19	1.23	76.12	11.95
HHC111	16	17	74.56	15.60	7.24	1.40	0.73	0.24	1.30	0.25	0.14	9.45	2.85	1.37	0.22	0.11	0.89	116.36	13.92
HHC111	17	18	66.82	19.47	9.27	1.47	0.82	0.32	1.45	0.27	0.17	12.71	3.75	1.92	0.22	0.18	1.08	119.95	18.15
HHC111	18	19	45.45	46.56	11.30	1.63	0.89	0.58	2.50	0.31	0.14	29.28	8.80	3.58	0.29	0.14	1.12	152.56	40.00
HHC111	19	20	27.88	26.27	7.62	1.26	0.81	0.34	1.48	0.23	0.13	14.93	4.81	1.98	0.19	0.13	0.92	88.97	21.19
HHC111	20	21	14.62	14.31	5.71	0.71	0.49	0.17	0.81	0.17	0.11	6.42	2.01	1.10	0.12	0.09	0.67	47.51	9.25
HHC112	0	1	74.32	47.03	18.41	2.90	1.62	0.80	4.00	0.58	0.23	32.31	9.32	5.04	0.48	0.26	1.45	198.76	45.01
HHC112	1	2	144.34	77.76	30.60	5.21	3.01	1.68	6.71	0.95	0.34	60.19	16.49	10.09	0.85	0.39	2.53	361.12	82.74
HHC112	2	3	286.22	58.05	25.78	4.77	2.57	1.18	4.94	0.95	0.40	41.52	12.14	6.19	0.73	0.42	2.57	448.46	59.17
HHC112	3	4	53.68	31.67	13.21	1.70	1.30	0.60	2.41	0.47	0.22	17.96	5.52	2.60	0.34	0.23	1.56	133.46	25.52
HHC112	4	5	36.24	22.05	8.51	1.10	1.05	0.37	1.41	0.38	0.19	11.55	3.64	1.72	0.21	0.14	1.23	89.78	16.50
HHC112	5	6	39.43	23.57	8.25	1.31	0.96	0.38	1.22	0.29	0.18	11.90	3.93	2.12	0.21	0.18	1.07	95.01	17.34
HHC112	6	7	31.94	19.59	7.24	1.19	0.77	0.35	1.14	0.24	0.17	9.45	3.29	1.32	0.20	0.10	0.98	77.96	14.13
HHC112	7	8	31.82	19.59	7.11	1.17	0.85	0.32	1.27	0.26	0.13	9.56	3.19	1.25	0.19	0.11	0.91	77.73	14.11
HHC112	8	9	29.85	16.89	7.49	1.15	0.74	0.41	1.03	0.26	0.14	9.80	2.51	2.20	0.16	0.13	0.88	73.63	13.62
HHC112	9	10	32.18	19.00	5.97	0.98	0.62	0.41	1.11	0.21	0.13	9.21	2.94	1.35	0.12	0.10	0.60	74.91	13.24
HHC112	10	11	41.27	23.34	4.57	0.88	0.41	0.36	1.01	0.15	0.05	12.60	4.02	1.60	0.14	0.08	0.54	91.02	17.65
HHC112	11	12	28.99	16.42	7.24	1.10	0.83	0.30	1.14	0.23	0.13	8.63	2.80	1.52	0.19	0.13	0.87	70.51	12.72
HHC112	12	13	19.41	12.90	6.60	0.73	0.71	0.09	1.03	0.22	0.15	5.95	1.84	1.06	0.12	0.10	0.74	51.64	8.64
HHC112	13	14	25.06	14.54	5.97	0.81	0.70	0.23	0.85	0.15	0.13	7.35	2.17	1.36	0.14	0.10	0.73	60.29	10.48
HHC112	14	15	26.04	15.25	5.84	0.95	0.59	0.20	0.78	0.19	0.11	6.88	2.25	1.23	0.13	0.09	0.65	61.19	10.21
HHC112	15	16	26.16	13.96	5.46	0.71	0.62	0.28	0.81	0.15	0.09	6.18	2.08	1.32	0.09	0.10	0.75	58.77	9.07
HHC112	16	17	82.79	17.12	7.37	1.58	0.89	0.28	1.31	0.27	0.15	10.50	3.15	1.53	0.16	0.14	0.91	128.17	15.40
HHC112	17	18	67.07	17.47	10.16	1.81	0.98	0.49	1.50	0.33	0.13	10.03	3.17	2.32	0.27	0.18	1.26	117.18	15.28
HHC112	18	19	46.31	36.12	11.56	1.81	1.01	0.68	2.33	0.34	0.14	24.14	7.09	4.15	0.32	0.15	0.97	137.12	33.37
HHC112	19	20	25.43	47.15	11.56	1.64	0.96	0.58	2.31	0.29	0.10	24.84	7.39	3.18	0.29	0.11	0.69	126.52	34.17
HHC112	20	21	17.32	19.59	5.33	0.64	0.45	0.16	0.92	0.16	0.11	8.63	2.60	1.14	0.11	0.07	0.42	57.65	11.98
HHC112	21	22	20.15	16.89	5.71	0.76	0.49	0.17	0.76	0.21	0.09	7.58	2.22	1.18	0.12	0.06	0.66	57.05	10.68
HHC112	22	23	39.31	30.61	6.60	1.18	0.69	0.35	1.12	0.18	0.14	13.41	4.20	1.82	0.18	0.09	0.56	100.44	18.98
HHC112	23	24	133.28	90.07	12.70	2.27	1.26	1.08	3.88	0.37	0.11	47.36	14.62	5.94	0.41	0.15	0.99	314.49	64.66
HHC112	24	25	214.36	140.74	18.29	3.36	1.58	1.79	5.75	0.54	0.15	75.12	22.90	10.68	0.68	0.22	1.28	497.42	102.06
HHC112	25	26	422.57	262.71	35.18	6.43	3.13	3.45	12.10	1.17	0.30	150.47	44.95	20.12	1.29	0.37	2.37	966.59	203.13
HHC112	26	27	390.63	232.80	35.94	6.84	3.08	3.23	10.67	1.16	0.36	136.47	41.08	19.08	1.29	0.40	2.47	885.50	185.68
HHC113	0	1	203.30	110.83	35.05	6.28	3.25	2.10	8.99	1.19	0.36	80.02	22.59	13.05	1.07	0.39	2.93	491.38	109.96
HHC113	1	2	394.32	202.31	61.34	11.12	5.15	3.74	15.62	2.03	0.65	145.80	43.50	23.31	2.09	0.70	4.59	916.24	202.51
HHC113	2	3	141.27	68.61	21.59	3.78	2.24	1.18	5.38	0.74	0.23	43.39	12.75	7.14	0.62	0.33	2.03	311.28	60.54
HHC113	3	4	97.29	61.34	16.00	2.93	1.33	0.94	3.31	0.45	0.22	32.43	10.39	5.10	0.47	0.19	1.74	234.11	46.21
HHC113	4	5	63.02	40.34	12.83	2.16	1.46	0.68	2.33	0.39	0.19	21.23	6.48	3.10	0.34	0.18	1.45	156.17	30.20
HHC113	5	6	43.61	26.39	9.40	1.84	0.90	0.52	1.87	0.37	0.16	14.70	4.35	2.02	0.26	0.15	1.07	107.59	21.14
HHC113	6	7	51.84	30.96	7.75	1.35	0.87	0.35	1.42	0.25	0.10	16.56	5.35	2.40	0.25	0.15	0.85	120.45	23.52
HHC113	7	8	31.45	21.58	6.73	0.85	0.59	0.37	1.11	0.18	0.13	9.21	3.24	1.35	0.15	0.09	0.85	77.88	13.45
HHC113	8	9	45.82	27.21	6.22	1.06	0.71	0.31	1.29	0.21	0.09	14.23	4.45	2.16	0.16	0.08	0.60	104.60	19.90
HHC113	9	10	59.70	38.82	10.67	1.84	0.91	0.54	1.74	0.34	0.20	21.11	6.31	2.85	0.26	0.17	1.17	146.65	29.51
HHC113	10	11	43.49	27.80	8.51	1.38	0.93	0.47	1.34	0.26	0.10	14.00	4.66	1.76	0.21	0.13	0.96	105.99	20.25
HHC113	11	12	25.43	16.54	6.48	1.02	0.77	0.20	0.90	0.21	0.11	8.28	2.44	1.30	0.16	0.11	0.77	64.72	11.91
HHC113	12	13	40.17	25.22	8.25	1.14	0.80	0.36	1.14	0.24	0.13	13.53	4.01	1.76	0.21	0.15	0.76	97.87	18.89
HHC113	13	14	27.76	16.18	5.59	0.88	0.62	0.23	0.92	0.18	0.14	7.81	2.42	1.03	0.15	0.10	0.76	64.79	11.27
HHC113	14	15	25.92	15.95	6.10	1.04	0.61	0.30	0.89	0.18	0.09	7.93	2.66	1.10	0.18	0.10	0.79	63.83	11.81

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC113	15	16	26.90	15.95	5.21	0.85	0.61	0.23	0.76	0.15	0.10	8.05	2.53	1.15	0.15	0.07	0.68	63.38	11.58
HHC113	16	17	30.83	18.06	4.83	0.83	0.49	0.29	0.76	0.15	0.11	8.16	2.67	1.38	0.14	0.08	0.59	69.38	11.80
HHC113	17	18	51.10	21.58	7.75	1.40	0.80	0.43	1.31	0.23	0.13	10.85	3.13	1.89	0.22	0.11	0.92	101.85	15.60
HHC113	18	19	56.87	32.72	9.27	1.40	0.91	0.63	1.71	0.29	0.15	18.20	5.45	2.99	0.28	0.15	0.88	131.89	25.33
HHC113	19	20	76.53	53.48	10.67	1.71	1.01	0.73	2.57	0.34	0.17	29.16	8.48	3.82	0.35	0.11	0.99	190.12	39.70
HHC114	0	1	180.57	89.37	35.18	6.37	3.16	2.00	7.69	1.25	0.40	72.43	20.12	12.47	1.14	0.38	2.54	435.05	100.06
HHC114	1	2	319.38	137.80	49.02	8.88	4.53	2.96	11.41	1.64	0.53	107.43	30.21	17.57	1.66	0.57	3.67	697.26	148.17
HHC114	2	3	46.43	26.97	10.41	1.79	1.13	0.47	1.53	0.36	0.19	15.98	4.69	2.54	0.27	0.11	1.05	113.94	22.73
HHC114	3	4	53.93	31.20	12.95	2.01	1.15	0.53	2.14	0.42	0.24	18.90	5.93	3.24	0.34	0.16	1.34	134.49	27.18
HHC114	4	5	36.61	21.11	8.76	1.35	0.81	0.38	1.39	0.31	0.16	12.60	3.60	2.15	0.22	0.14	1.10	90.70	17.78
HHC114	5	6	35.87	20.99	7.62	1.07	0.78	0.37	1.38	0.27	0.16	11.43	3.49	2.13	0.20	0.08	0.87	86.72	16.19
HHC114	6	7	28.87	18.18	6.48	1.07	0.58	0.29	1.09	0.21	0.11	9.56	2.96	1.37	0.16	0.09	0.82	71.85	13.76
HHC114	7	8	29.11	17.94	5.59	1.03	0.58	0.29	0.99	0.19	0.11	9.45	2.80	1.74	0.13	0.06	0.67	70.70	13.41
HHC114	8	9	32.55	19.70	6.48	1.00	0.65	0.34	1.09	0.24	0.15	10.50	3.18	1.48	0.18	0.07	0.72	78.32	14.85
HHC114	9	10	33.54	19.47	5.71	0.93	0.49	0.27	0.98	0.19	0.10	10.96	3.32	1.86	0.13	0.06	0.64	78.65	15.35
HHC114	10	11	22.60	13.37	4.95	0.81	0.58	0.16	0.76	0.16	0.09	6.77	2.20	1.11	0.15	0.05	0.63	54.40	9.93
HHC114	11	12	24.81	14.43	5.59	0.96	0.62	0.24	0.89	0.21	0.13	7.81	2.38	1.31	0.16	0.11	0.69	60.35	11.32
HHC115	0	1	152.32	69.90	28.57	4.60	2.76	1.68	6.43	0.90	0.34	57.50	16.01	9.82	0.99	0.33	2.16	354.32	79.10
HHC115	1	2	170.75	78.81	27.30	4.77	2.49	1.56	5.80	0.86	0.30	57.74	16.79	9.45	0.86	0.32	2.20	380.00	80.16
HHC115	2	3	30.71	18.53	7.37	1.08	0.66	0.38	1.11	0.25	0.13	10.85	3.26	1.75	0.20	0.09	0.85	77.22	15.39
HHC115	3	4	32.68	19.59	7.49	1.16	0.73	0.47	1.13	0.24	0.13	10.96	3.36	1.77	0.21	0.08	0.91	80.91	15.69
HHC115	4	5	35.99	20.64	7.87	1.24	0.88	0.36	1.20	0.26	0.15	11.66	3.52	1.97	0.24	0.11	0.84	86.94	16.65
HHC115	5	6	34.03	21.58	7.62	1.07	0.72	0.37	1.23	0.26	0.14	11.08	3.19	1.55	0.21	0.09	0.72	83.86	15.55
HHC115	6	7	25.31	15.72	7.11	0.95	0.80	0.34	0.95	0.22	0.14	7.35	2.54	1.14	0.13	0.09	0.83	63.59	10.97
HHC115	7	8	26.04	15.95	6.10	0.92	0.69	0.27	0.81	0.18	0.14	7.70	2.37	1.31	0.18	0.08	0.72	63.44	11.16
HHC115	8	9	30.10	18.30	6.73	1.01	0.77	0.37	0.99	0.23	0.11	9.56	2.84	1.48	0.16	0.08	0.80	73.53	13.58
HHC115	9	10	28.13	16.65	6.73	1.06	0.62	0.32	1.03	0.23	0.11	8.63	2.66	1.16	0.16	0.08	0.77	68.35	12.51
HHC115	10	11	23.59	14.19	4.83	0.72	0.53	0.27	0.76	0.16	0.08	7.93	2.33	0.93	0.14	0.05	0.59	57.09	11.13
HHC115	11	12	17.81	10.79	6.48	1.04	0.70	0.15	0.89	0.22	0.11	5.60	1.73	0.88	0.16	0.09	0.82	47.47	8.54
HHC116	0	1	151.09	65.32	25.78	4.19	2.36	1.35	5.29	0.82	0.35	49.57	14.20	7.89	0.86	0.32	2.28	331.67	68.82
HHC116	1	2	132.05	58.17	23.11	3.70	2.08	1.13	4.69	0.76	0.31	43.86	12.32	6.51	0.74	0.29	2.02	291.73	60.62
HHC116	2	3	101.59	44.45	17.91	3.04	1.76	0.82	3.68	0.61	0.27	29.04	9.11	5.08	0.53	0.24	1.84	219.97	41.72
HHC116	3	4	95.08	43.28	17.02	2.89	1.73	0.85	3.15	0.60	0.26	31.14	8.92	5.15	0.55	0.22	1.71	212.52	43.50
HHC116	4	5	92.13	41.52	16.25	2.78	1.50	0.94	3.17	0.56	0.25	29.28	8.45	4.74	0.49	0.24	1.73	204.03	40.99
HHC116	5	6	37.71	22.52	6.48	1.03	0.59	0.46	1.18	0.22	0.09	12.95	3.78	1.79	0.20	0.07	0.72	89.78	17.96
HHC116	6	7	36.73	21.34	5.59	0.91	0.61	0.44	1.19	0.19	0.10	11.90	3.61	1.83	0.18	0.06	0.60	85.28	16.59
HHC116	7	8	37.34	21.11	8.38	1.41	0.74	0.38	1.18	0.26	0.16	12.13	3.59	1.58	0.22	0.10	1.01	89.61	17.35
HHC116	8	9	36.36	20.64	7.75	1.17	0.80	0.37	1.22	0.24	0.16	12.36	3.54	1.69	0.22	0.09	0.84	87.47	17.30
HHC116	9	10	31.45	19.23	6.22	1.01	0.65	0.38	0.98	0.18	0.13	10.03	2.89	1.58	0.16	0.08	0.65	75.62	14.09
HHC116	10	11	27.64	15.95	6.22	0.96	0.58	0.35	0.96	0.19	0.09	8.40	2.62	1.45	0.18	0.07	0.69	66.36	12.16
HHC116	11	12	24.94	15.60	6.98	1.10	0.70	0.28	1.04	0.24	0.14	7.93	2.38	1.31	0.19	0.10	0.72	63.64	11.60
HHC116	12	13	13.27	8.56	4.19	0.69	0.50	0.13	0.48	0.16	0.09	4.08	1.23	0.59	0.09	0.02	0.58	34.68	6.10
HHC116	13	14	56.75	17.59	6.86	1.22	0.86	0.24	1.05	0.26	0.14	9.33	2.73	1.44	0.22	0.13	0.89	99.70	13.50
HHC116	14	15	61.05	20.88	7.24	1.26	0.77	0.29	1.23	0.23	0.16	12.71	3.71	1.95	0.24	0.08	0.97	112.76	17.92
HHC117	0	1	134.51	64.27	28.06	4.64	2.49	1.51	5.66	0.87	0.31	52.37	14.68	8.45	0.86	0.31	2.23	321.22	72.55
HHC117	1	2	226.03	227.52	62.35	11.88	5.50	4.15	17.17	2.21	0.60	173.79	49.29	25.74	2.35	0.67	3.92	813.19	237.32
HHC117	2	3	346.41	64.62	21.33	4.17	2.24	1.27	4.76	0.74	0.32	47.59	14.38	7.79	0.75	0.32	2.02	518.72	66.89
HHC117	3	4	69.90	32.37	11.81	2.09	1.37	0.53	2.40	0.47	0.19	18.90	5.92	3.25	0.31	0.23	1.61	151.33	27.21
HHC117	4	5	41.52	27.09	10.29	1.47	1.11	0.37	2.02	0.42	0.18	14.46	4.42	2.27	0.26	0.21	1.54	107.63	20.61

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC117	5	6	34.64	19.47	7.62	1.16	0.73	0.45	1.37	0.27	0.17	10.96	3.35	1.59	0.18	0.15	1.05	83.16	15.65
HHC117	6	7	30.83	18.30	7.11	1.16	0.89	0.41	1.28	0.23	0.13	10.26	2.73	1.66	0.13	0.16	1.06	76.33	14.28
HHC117	7	8	27.27	16.89	5.33	0.87	0.50	0.30	0.88	0.19	0.11	8.40	2.74	1.18	0.13	0.08	0.66	65.55	12.14
HHC117	8	9	29.36	18.06	4.95	0.85	0.65	0.32	0.91	0.21	0.08	8.75	2.98	1.40	0.12	0.09	0.67	69.41	12.70
HHC117	9	10	24.69	15.95	5.46	0.83	0.66	0.36	0.92	0.18	0.08	6.77	2.46	1.23	0.16	0.08	0.77	60.61	10.22
HHC117	10	11	32.80	19.70	6.86	1.35	0.73	0.42	1.13	0.25	0.15	9.68	3.08	1.35	0.15	0.14	1.05	78.84	14.27
HHC117	11	12	45.94	27.33	8.51	1.50	1.06	0.47	1.64	0.30	0.19	14.70	4.36	2.16	0.20	0.17	1.21	109.74	20.76
HHC118	0	1	203.30	96.87	40.64	7.52	3.93	2.03	9.62	1.32	0.53	76.75	21.87	13.05	1.32	0.51	3.33	482.58	107.45
HHC118	1	2	456.96	189.99	56.51	11.17	5.81	3.58	15.44	2.15	0.71	137.64	40.35	22.55	2.07	0.75	4.92	950.61	191.23
HHC118	2	3	72.60	38.35	14.98	2.54	1.56	0.67	3.04	0.60	0.32	25.19	7.21	3.54	0.44	0.24	1.91	173.19	35.38
HHC118	3	4	46.07	27.91	11.56	1.97	1.40	0.44	2.19	0.32	0.25	16.56	4.82	2.30	0.31	0.19	1.48	117.76	23.66
HHC118	4	5	39.55	22.99	10.41	1.65	1.12	0.53	1.56	0.33	0.18	13.53	4.06	1.58	0.26	0.15	1.41	99.32	19.50
HHC118	5	6	31.94	18.06	8.25	1.27	0.79	0.46	1.33	0.27	0.18	10.73	3.01	1.90	0.20	0.15	1.09	79.64	15.21
HHC118	6	7	32.43	19.23	7.62	1.43	0.85	0.50	1.43	0.25	0.11	9.80	3.19	1.79	0.19	0.14	0.95	79.90	14.61
HHC118	7	8	53.93	31.78	6.98	1.15	0.86	0.43	1.39	0.21	0.11	15.63	5.16	3.13	0.24	0.11	0.91	122.02	22.17
HHC118	8	9	30.34	17.12	5.21	0.94	0.67	0.27	1.06	0.17	0.10	8.75	2.50	0.97	0.16	0.09	0.64	69.00	12.35
HHC118	9	10	27.02	16.18	4.32	1.07	0.43	0.31	0.82	0.14	0.10	8.98	2.43	1.83	0.14	0.09	0.64	64.51	12.62
HHC118	10	11	37.10	21.70	6.98	1.15	0.72	0.37	1.05	0.22	0.14	10.50	3.23	1.86	0.15	0.13	0.96	86.23	15.02
HHC118	11	12	24.94	15.48	6.73	1.00	0.70	0.29	0.93	0.19	0.18	8.05	2.34	1.06	0.18	0.10	0.80	62.97	11.57
HHC119	0	1	196.54	93.12	35.18	6.82	3.52	2.23	8.77	1.23	0.42	73.25	20.42	11.89	1.12	0.46	3.47	458.43	101.60
HHC119	1	2	116.21	56.06	19.30	3.55	2.20	1.11	4.32	0.64	0.28	39.31	10.90	6.39	0.64	0.27	1.96	263.13	54.39
HHC119	2	3	38.94	22.87	9.65	1.63	0.95	0.56	1.41	0.33	0.20	12.71	4.20	2.28	0.20	0.15	1.40	97.49	18.75
HHC119	3	4	46.31	27.21	10.54	1.81	1.26	0.52	1.82	0.29	0.17	17.03	4.95	2.63	0.29	0.19	1.48	116.51	24.09
HHC119	4	5	33.04	19.70	5.97	1.00	0.61	0.43	1.20	0.18	0.11	10.61	3.27	1.72	0.18	0.11	0.66	78.80	15.06
HHC119	5	6	34.76	21.11	6.10	1.08	0.70	0.36	1.28	0.18	0.15	10.26	3.30	1.48	0.14	0.13	0.83	81.86	14.78
HHC119	6	7	43.85	24.75	8.51	1.37	0.88	0.35	1.66	0.25	0.17	12.36	4.17	1.76	0.21	0.14	0.85	101.28	18.11
HHC119	7	8	28.38	17.59	6.48	0.96	0.58	0.31	1.09	0.21	0.11	8.51	2.53	1.45	0.14	0.11	0.90	69.36	12.15
HHC119	8	9	29.85	18.76	5.33	1.14	0.59	0.32	1.04	0.18	0.11	9.21	2.85	1.19	0.15	0.11	0.88	71.74	13.36
HHC119	9	10	29.11	17.47	7.62	1.06	0.69	0.39	1.14	0.22	0.11	9.68	3.14	1.69	0.15	0.09	0.75	73.33	14.03
HHC119	10	11	27.52	16.89	6.86	0.84	0.58	0.35	0.97	0.21	0.14	8.86	2.56	1.17	0.16	0.13	0.67	67.90	12.43
HHC119	11	12	25.06	14.43	5.21	0.92	0.67	0.28	0.84	0.18	0.08	6.88	2.14	0.81	0.12	0.10	0.72	58.44	10.06
HHC120	0	1	156.01	68.61	26.67	5.10	3.06	1.77	7.31	0.95	0.31	56.57	16.49	9.28	0.95	0.39	2.16	355.62	79.11
HHC120	1	2	336.58	182.96	54.48	11.18	5.31	3.86	16.19	1.96	0.58	135.30	41.20	21.28	1.93	0.75	3.86	817.41	189.61
HHC120	2	3	59.82	30.84	11.81	2.04	1.37	0.53	2.51	0.46	0.23	18.78	6.23	2.97	0.34	0.19	1.28	139.42	27.40
HHC120	3	4	47.17	26.97	12.19	2.00	1.40	0.56	2.03	0.36	0.24	15.16	4.83	2.46	0.29	0.22	1.43	117.31	22.29
HHC120	4	5	37.59	21.58	7.37	1.48	0.83	0.45	1.33	0.30	0.14	11.78	3.78	1.88	0.24	0.14	0.77	89.65	17.28
HHC120	5	6	33.29	19.82	6.86	1.18	0.77	0.37	1.27	0.23	0.18	9.80	3.30	1.52	0.22	0.13	0.87	79.79	14.50
HHC120	6	7	31.57	19.23	7.11	1.12	0.72	0.39	0.99	0.29	0.15	9.45	3.21	1.32	0.18	0.13	0.77	76.64	13.96
HHC120	7	8	47.29	26.62	8.00	1.22	0.86	0.31	1.60	0.29	0.11	13.53	4.52	1.14	0.20	0.13	0.84	106.66	19.47
HHC120	8	9	32.92	18.76	6.86	1.03	0.58	0.39	1.07	0.19	0.11	11.20	3.23	1.39	0.19	0.11	0.87	78.92	15.64
HHC120	9	10	16.71	10.67	5.33	0.70	0.49	0.08	0.69	0.16	0.10	4.32	1.46	0.86	0.11	0.09	0.71	42.48	6.58
HHC120	10	11	25.67	13.49	5.33	0.88	0.48	0.14	1.00	0.17	0.10	5.95	1.95	0.85	0.16	0.08	0.54	56.79	8.94
HHC120	11	12	44.35	20.41	6.86	1.21	0.79	0.34	1.37	0.27	0.15	11.55	3.59	1.79	0.19	0.14	1.02	94.01	16.53
HHC121	0	1	150.48	61.34	23.62	4.96	2.34	1.67	6.15	0.90	0.30	51.20	14.92	7.79	0.93	0.38	2.29	329.28	72.01
HHC121	1	2	150.48	59.70	20.83	4.14	2.31	1.20	5.49	0.78	0.30	45.49	13.47	7.63	0.73	0.33	1.84	314.72	63.83
HHC121	2	3	43.12	23.57	10.41	1.55	1.10	0.50	1.56	0.38	0.18	13.53	4.87	2.57	0.22	0.19	1.25	105.01	20.17
HHC121	3	4	41.15	22.99	8.38	1.74	1.03	0.45	1.80	0.40	0.17	13.30	4.34	2.38	0.26	0.18	1.06	99.63	19.64
HHC121	4	5	36.48	19.35	6.22	1.19	0.67	0.41	1.36	0.26	0.15	10.50	3.61	1.48	0.19	0.13	0.83	82.84	15.49
HHC121	5	6	36.36	18.06	7.37	1.12	0.89	0.35	1.34	0.26	0.11	10.38	3.33	1.79	0.18	0.14	0.90	82.58	15.02

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC121	6	7	28.87	16.89	6.35	1.07	0.67	0.35	0.97	0.25	0.10	8.98	2.86	1.37	0.14	0.09	0.72	69.68	13.05
HHC121	7	8	39.06	21.23	4.32	0.80	0.57	0.34	1.05	0.17	0.09	11.31	3.67	1.38	0.13	0.07	0.54	84.73	15.92
HHC121	8	9	58.47	33.07	5.84	1.24	0.77	0.47	1.66	0.21	0.13	18.20	5.69	2.35	0.20	0.09	0.49	128.88	25.33
HHC122	0	1	62.40	19.70	8.00	1.40	0.80	0.49	2.24	0.33	0.17	13.76	4.19	2.49	0.31	0.15	1.04	117.47	19.66
HHC122	1	2	120.01	43.86	14.48	2.74	1.65	0.91	3.46	0.57	0.22	31.38	9.27	4.95	0.42	0.29	1.62	235.83	43.81
HHC122	2	3	50.36	31.67	9.52	1.45	0.97	0.51	1.80	0.31	0.14	19.36	5.52	3.15	0.28	0.15	0.93	126.13	26.61
HHC123	0	1	87.09	30.61	9.52	1.91	1.07	0.82	2.06	0.42	0.16	20.53	6.09	3.78	0.36	0.18	1.13	165.75	28.89
HHC123	1	2	118.79	49.02	9.40	1.72	0.96	0.68	2.41	0.29	0.17	28.11	8.17	3.40	0.36	0.10	0.96	224.54	38.36
HHC124	0	1	202.69	38.35	9.02	1.66	1.29	0.81	2.20	0.37	0.24	28.11	8.11	4.12	0.34	0.19	1.07	298.57	38.22
HHC124	1	2	219.27	182.96	27.68	4.66	2.16	2.37	7.79	0.84	0.38	101.83	31.65	12.00	0.88	0.37	2.16	597.00	139.02
HHC125	0	1	178.12	68.61	19.05	3.57	1.73	1.33	5.07	0.63	0.36	49.57	13.59	6.69	0.58	0.25	2.02	351.17	67.31
HHC125	1	2	327.98	214.62	50.42	7.09	4.13	2.85	11.58	1.43	0.55	136.47	39.27	18.84	1.32	0.51	3.13	820.19	184.15
HHC126	0	1	113.01	68.49	10.67	2.25	1.33	0.90	3.07	0.36	0.18	36.16	10.92	5.24	0.40	0.16	1.25	254.39	49.73
HHC126	1	2	58.35	35.18	6.86	1.22	0.90	0.47	1.43	0.24	0.17	18.78	5.44	2.35	0.21	0.14	1.02	132.77	25.64
HHC126	2	3	95.69	57.58	7.62	1.66	0.62	0.67	1.81	0.25	0.25	29.28	8.78	4.56	0.31	0.19	1.30	210.58	40.03
HHC126	3	4	64.12	40.34	6.22	1.41	0.73	0.43	1.34	0.24	0.19	17.03	5.93	2.64	0.19	0.11	1.01	141.95	24.56
HHC126	4	5	70.39	43.28	6.35	1.14	0.53	0.53	1.66	0.22	0.19	22.74	7.06	3.49	0.19	0.11	0.72	158.59	31.13
HHC126	5	6	668.25	416.34	32.89	8.06	2.84	5.11	15.50	1.19	0.26	246.11	71.65	27.25	1.48	0.40	2.24	1499.57	327.30
HHC126	6	7	509.79	327.21	23.75	7.06	2.40	3.49	11.99	0.92	0.25	183.71	53.40	21.57	1.35	0.25	1.97	1149.10	245.52
HHC126	7	8	99.50	67.91	7.62	1.45	0.87	0.63	2.33	0.26	0.25	33.83	9.74	4.42	0.27	0.16	0.98	230.20	45.28
HHC127	0	1	241.99	130.77	23.49	4.69	2.44	2.06	7.13	0.86	0.43	84.91	24.65	11.65	0.85	0.27	2.14	538.35	115.10
HHC127	1	2	206.37	107.19	17.65	3.59	1.83	1.52	5.09	0.62	0.30	67.18	19.63	8.28	0.71	0.25	1.95	442.17	91.12
HHC127	2	3	334.12	176.51	17.27	4.27	1.93	2.18	7.88	0.74	0.25	116.64	32.02	15.02	0.84	0.29	2.06	712.01	153.76
HHC127	3	4	307.10	176.51	22.10	5.30	2.21	2.78	9.92	0.87	0.35	106.14	29.60	14.09	1.18	0.26	1.98	680.39	142.22
HHC127	4	5	156.62	96.40	10.92	1.84	1.13	1.18	2.65	0.39	0.25	45.96	13.77	5.53	0.40	0.18	1.24	338.47	61.97
HHC127	5	6	320.61	165.36	26.67	5.73	2.46	3.38	9.95	0.85	0.40	135.30	35.64	19.19	1.21	0.33	2.22	729.30	177.88
HHC128	0	1	199.00	99.81	22.60	4.34	1.97	1.84	6.36	0.73	0.33	74.88	20.36	10.46	0.84	0.26	2.27	446.05	100.41
HHC128	1	2	110.80	72.01	11.30	2.05	1.10	0.83	2.46	0.33	0.26	37.21	10.87	4.74	0.28	0.19	1.62	256.07	50.42
HHC128	2	3	367.29	162.43	9.52	2.15	1.10	1.79	4.50	0.36	0.30	118.39	37.09	12.93	0.49	0.18	1.34	719.86	158.12
HHC128	3	4	692.82	316.66	14.22	4.56	1.48	3.77	9.46	0.65	0.22	221.03	68.75	22.38	0.99	0.22	1.46	1358.66	295.32
HHC128	4	5	713.70	307.27	13.59	5.46	1.45	4.18	11.42	0.69	0.22	247.28	73.58	29.34	1.13	0.17	1.26	1410.74	327.45
HHC128	5	6	454.51	239.25	13.97	4.28	1.57	2.99	9.02	0.57	0.26	155.71	46.27	18.84	0.95	0.19	1.63	950.03	207.22
HHC128	6	7	444.68	216.38	13.59	4.43	1.59	3.35	10.12	0.66	0.24	171.46	47.48	20.52	0.96	0.23	1.36	937.06	224.34
HHC128	7	8	369.75	176.51	39.62	7.51	3.19	4.60	14.64	1.13	0.42	173.21	43.01	26.32	1.62	0.37	2.90	864.80	225.35
HHC129	0	1	171.36	78.23	12.45	2.41	1.14	1.24	3.93	0.44	0.17	59.95	18.12	8.11	0.46	0.17	1.12	359.29	80.94
HHC129	1	2	77.39	38.82	11.18	1.85	1.03	0.67	2.29	0.41	0.18	25.31	7.73	3.56	0.35	0.16	1.18	172.12	35.24
HHC129	2	3	70.88	42.10	9.65	1.54	0.94	0.52	1.84	0.37	0.25	21.46	7.13	3.44	0.27	0.15	1.32	161.87	30.40
HHC129	3	4	110.31	67.67	9.40	1.50	0.93	0.85	2.14	0.31	0.20	30.91	10.33	3.85	0.32	0.14	1.10	239.96	43.06
HHC129	4	5	314.47	198.79	19.81	4.09	1.82	2.59	7.08	0.71	0.22	98.33	31.41	12.81	0.94	0.18	1.34	694.59	134.77
HHC129	5	6	341.50	228.11	22.86	4.66	1.92	2.85	8.13	0.86	0.25	101.94	34.80	13.68	1.06	0.23	1.57	764.41	142.46
HHC129	6	7	99.13	68.49	9.78	1.64	0.83	0.83	2.71	0.31	0.17	33.01	10.86	4.00	0.36	0.14	0.84	233.12	45.88
HHC129	7	8	108.59	73.77	7.62	1.45	0.64	0.61	2.10	0.24	0.14	28.11	10.25	3.50	0.26	0.10	0.79	238.16	40.06
HHC129	8	9	44.47	30.26	4.44	0.71	0.45	0.31	1.27	0.15	0.10	13.30	4.28	1.86	0.13	0.07	0.56	102.35	18.41
HHC129	9	10	77.39	53.25	4.83	0.91	0.49	0.44	1.43	0.16	0.08	19.71	6.90	2.66	0.19	0.07	0.63	169.12	27.71
HHC129	10	11	148.64	98.16	10.29	2.13	0.89	0.85	2.87	0.37	0.14	35.93	13.35	4.41	0.42	0.13	0.79	319.35	51.83
HHC129	11	12	142.49	93.94	6.60	1.41	0.55	0.67	2.02	0.24	0.09	30.91	11.78	3.27	0.29	0.09	0.57	294.93	44.40
HHC129	12	13	259.19	174.16	10.67	2.64	1.07	1.23	4.28	0.42	0.18	65.20	23.02	7.57	0.51	0.14	0.89	551.17	91.36
HHC129	13	14	232.78	157.74	6.73	1.81	0.71	0.90	2.82	0.27	0.15	55.40	20.18	6.26	0.34	0.13	0.67	486.91	77.74
HHC129	14	15	81.81	55.24	4.70	1.12	0.40	0.52	1.52	0.18	0.10	25.08	8.13	3.24	0.20	0.08	0.72	183.04	34.53

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC129	15	16	104.66	71.54	5.33	1.10	0.51	0.59	1.86	0.23	0.10	27.06	9.86	3.43	0.20	0.09	0.76	227.33	38.22
HHC129	16	17	116.21	74.36	5.71	0.95	0.63	0.51	1.59	0.23	0.16	27.99	9.75	3.28	0.19	0.14	0.89	242.59	38.88
HHC129	17	18	199.62	136.63	7.49	1.61	0.96	1.12	2.66	0.31	0.17	56.45	20.66	6.27	0.35	0.14	1.02	435.47	79.07
HHC129	18	19	444.68	286.16	17.14	4.68	2.09	3.06	7.80	0.71	0.28	154.55	51.47	20.47	0.85	0.25	1.81	996.01	211.55
HHC129	19	20	464.34	243.94	20.57	5.28	2.42	3.29	8.75	0.81	0.33	147.55	45.43	19.48	0.96	0.35	2.05	965.56	199.22
HHC129	20	21	567.52	208.76	37.72	9.31	4.09	5.37	14.93	1.58	0.50	176.13	47.97	26.90	1.94	0.62	3.86	1107.19	235.34
HHC130	0	1	153.55	76.35	16.64	3.19	1.67	1.27	4.71	0.61	0.22	51.32	14.98	8.31	0.58	0.23	1.62	335.25	70.07
HHC130	1	2	210.67	115.40	15.87	3.60	1.54	1.44	4.84	0.49	0.22	61.24	19.63	8.95	0.69	0.19	1.34	446.13	85.17
HHC130	2	3	456.96	263.88	16.76	4.12	1.99	2.30	7.40	0.65	0.22	120.14	39.02	13.22	0.82	0.17	1.10	928.77	164.11
HHC130	3	4	565.06	303.76	19.94	5.33	2.22	2.79	9.61	0.82	0.20	142.30	46.88	19.02	1.12	0.24	1.49	1120.78	195.62
HHC130	4	5	384.49	209.93	11.68	2.51	1.22	1.71	5.12	0.42	0.22	90.16	31.05	10.95	0.62	0.18	1.13	751.41	124.35
HHC130	5	6	304.64	185.30	11.30	2.85	1.05	1.57	4.91	0.38	0.14	79.55	26.82	9.79	0.56	0.16	0.76	629.79	109.78
HHC130	6	7	320.61	187.06	12.83	3.13	1.35	1.67	5.09	0.52	0.19	86.78	28.51	10.42	0.58	0.16	1.17	660.08	119.00
HHC130	7	8	267.79	154.22	9.78	2.16	1.11	1.13	3.76	0.42	0.16	69.05	22.35	8.18	0.44	0.15	0.96	541.65	94.00
HHC130	8	9	153.55	95.94	7.37	1.80	0.73	0.86	2.51	0.29	0.11	42.57	13.11	5.07	0.31	0.09	0.82	325.12	57.79
HHC130	9	10	334.12	199.96	11.30	2.92	1.04	1.83	5.08	0.47	0.14	90.86	29.60	11.89	0.59	0.15	0.83	690.78	123.97
HHC130	10	11	264.11	147.77	9.65	2.73	1.03	1.41	4.81	0.38	0.15	74.30	22.47	9.64	0.51	0.11	0.82	539.88	100.01
HHC130	11	12	170.75	94.18	7.87	1.91	0.89	1.12	3.64	0.30	0.11	52.37	15.83	7.43	0.42	0.10	0.81	357.74	70.53
HHC130	12	13	388.17	189.99	14.48	3.67	1.69	2.59	8.18	0.64	0.32	106.84	31.41	15.13	0.86	0.31	1.54	765.84	142.79
HHC130	13	14	394.32	202.89	17.02	5.36	1.72	3.98	11.99	0.76	0.25	143.47	37.70	22.09	1.25	0.18	1.54	844.50	187.77
HHC130	14	15	294.82	163.02	17.52	4.38	1.62	2.36	7.80	0.65	0.25	99.84	29.00	13.63	0.94	0.21	1.56	637.61	134.17
HHC130	15	16	315.70	177.09	24.76	5.68	1.99	3.20	10.72	0.87	0.27	118.39	32.14	17.63	1.18	0.30	2.17	712.09	157.39
HHC130	16	17	323.07	167.12	27.56	5.55	2.24	2.89	9.27	0.95	0.33	111.27	31.17	17.22	1.08	0.31	2.43	702.47	149.08
HHC130	17	18	335.35	187.06	28.57	5.61	2.29	2.88	10.58	0.93	0.36	118.97	33.23	17.16	1.18	0.34	2.24	746.77	158.99
HHC130	18	19	348.87	184.13	33.65	6.61	2.69	2.88	10.62	1.01	0.33	115.82	34.68	18.03	1.14	0.40	2.47	763.32	158.25
HHC130	19	20	326.75	182.96	31.24	5.77	2.57	3.33	10.75	1.02	0.34	118.97	34.19	17.34	1.28	0.38	2.56	739.47	160.22
HHC130	20	21	423.80	226.94	60.45	9.35	4.46	4.05	15.79	1.56	0.63	155.71	43.86	23.31	1.96	0.62	4.41	976.89	210.89
HHC131	0	1	157.85	81.86	26.79	4.19	2.23	1.52	6.06	0.72	0.36	57.74	15.95	7.66	0.78	0.31	2.37	366.39	78.65
HHC131	1	2	92.74	51.84	12.19	2.17	1.14	0.79	2.78	0.45	0.22	28.81	8.11	3.50	0.39	0.15	1.36	206.62	39.47
HHC131	2	3	95.57	56.29	9.52	1.72	0.87	0.76	2.41	0.31	0.14	27.99	8.72	4.59	0.33	0.14	0.83	210.20	38.77
HHC131	3	4	98.89	60.87	8.89	1.63	0.82	0.52	1.83	0.29	0.16	22.98	7.78	3.35	0.32	0.14	0.98	209.44	32.71
HHC131	4	5	99.75	54.65	6.73	1.26	0.57	0.41	1.82	0.24	0.15	21.70	7.48	3.98	0.29	0.09	0.88	199.99	30.73
HHC131	5	6	70.02	46.68	4.95	0.86	0.32	0.46	1.66	0.14	0.13	18.20	6.05	2.95	0.21	0.09	0.47	153.18	25.32
HHC131	6	7	69.16	44.92	3.81	0.84	0.42	0.31	1.05	0.13	0.08	16.91	5.47	2.25	0.15	0.06	0.54	146.10	23.38
HHC131	7	8	163.99	119.63	7.24	1.54	0.62	0.59	2.35	0.26	0.17	35.58	13.47	5.09	0.31	0.09	0.85	351.78	50.89
HHC131	8	9	219.88	155.40	9.91	1.97	0.82	0.93	3.70	0.29	0.13	50.39	18.36	7.61	0.44	0.11	0.93	470.86	71.16
HHC131	9	10	165.83	113.76	9.14	1.53	0.89	0.67	2.86	0.29	0.15	39.54	13.17	4.39	0.32	0.13	0.93	353.60	54.55
HHC131	10	11	223.57	148.95	9.52	2.10	0.77	0.90	3.14	0.34	0.19	53.89	18.79	7.12	0.47	0.15	1.21	471.10	75.25
HHC131	11	12	513.47	324.87	15.11	4.46	1.49	2.78	7.64	0.70	0.20	128.30	43.25	14.78	0.91	0.23	1.62	1059.82	176.93
HHC131	12	13	234.01	140.15	15.49	3.26	1.74	1.68	4.97	0.56	0.27	67.53	21.51	10.03	0.66	0.25	1.89	504.00	92.96
HHC131	13	14	255.51	162.43	17.52	3.97	1.97	1.71	6.19	0.63	0.28	74.30	23.08	9.49	0.74	0.27	1.94	560.03	102.09
HHC131	14	15	277.62	163.61	19.68	4.18	1.73	2.15	7.99	0.64	0.28	95.41	29.00	13.28	0.88	0.25	1.80	618.50	129.47
HHC132	0	1	104.17	56.18	12.83	2.50	1.19	0.88	3.10	0.48	0.23	35.46	9.61	5.94	0.46	0.16	1.41	234.58	48.02
HHC132	1	2	132.05	78.23	9.91	2.04	0.87	0.95	2.78	0.36	0.15	34.88	11.49	5.36	0.38	0.15	0.96	280.53	48.78
HHC132	2	3	235.85	139.56	17.91	4.04	1.51	1.48	6.67	0.60	0.22	73.48	23.20	10.11	0.73	0.18	1.18	516.73	101.45
HHC133	0	1	132.67	66.73	19.56	3.63	1.76	1.17	4.88	0.68	0.27	44.91	12.38	6.82	0.61	0.27	1.86	298.19	61.53
HHC133	1	2	118.54	63.57	15.62	2.95	1.56	1.17	3.64	0.58	0.28	39.77	11.39	6.40	0.49	0.23	1.55	267.75	54.61
HHC134	0	1	96.18	49.49	11.43	1.87	1.06	0.90	2.74	0.29	0.18	29.63	9.01	4.13	0.39	0.13	1.07	208.51	40.90
HHC134	1	2	73.46	39.05	10.16	1.54	0.99	0.67	2.31	0.31	0.17	23.79	7.13	3.41	0.28	0.15	0.85	164.28	32.74

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Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC134	2	3	87.09	46.91	10.03	1.86	0.88	0.65	2.26	0.33	0.14	28.93	8.69	3.94	0.32	0.11	0.88	193.02	39.79
HHC134	3	4	160.31	88.08	10.03	1.68	0.98	1.08	2.90	0.34	0.15	43.97	14.26	5.54	0.40	0.15	0.98	330.85	60.31
HHC134	4	5	353.78	196.44	18.16	3.65	1.75	2.25	6.65	0.72	0.20	102.64	32.50	13.57	0.79	0.19	1.23	734.53	139.58
HHC134	5	6	366.06	209.34	20.32	4.20	1.85	2.61	7.77	0.70	0.25	115.01	35.88	15.19	0.94	0.25	1.50	781.88	156.03
HHC134	6	7	246.91	147.19	13.33	3.14	1.44	1.85	5.36	0.57	0.17	76.75	23.98	9.96	0.58	0.21	1.26	532.71	104.45
HHC134	7	8	270.25	170.06	16.38	3.96	1.49	2.13	7.00	0.63	0.22	92.96	27.79	12.12	0.75	0.19	1.21	607.13	125.46
HHC134	8	9	156.01	96.99	11.56	2.47	1.04	1.33	3.94	0.42	0.25	50.86	15.77	6.90	0.44	0.18	1.43	349.58	69.52
HHC134	9	10	66.33	40.58	7.24	1.21	0.87	0.56	1.94	0.23	0.10	20.18	6.29	2.81	0.21	0.10	1.06	149.70	27.89
HHC134	10	11	36.11	21.58	8.25	0.96	0.82	0.30	1.18	0.25	0.27	11.55	3.76	1.51	0.15	0.15	1.69	88.54	16.42
HHC134	11	12	48.77	27.56	10.03	1.26	1.02	0.36	1.27	0.26	0.23	14.70	4.81	2.50	0.22	0.18	1.42	114.60	20.99
HHC134	12	13	88.69	48.44	10.03	1.74	0.98	0.87	2.64	0.33	0.24	34.41	9.96	4.64	0.35	0.17	1.48	204.97	46.46
HHC134	13	14	314.47	168.30	32.00	5.18	2.65	2.78	8.53	0.89	0.41	116.52	34.31	16.35	1.07	0.37	2.78	706.61	157.08
HHC134	14	15	334.12	175.92	34.92	6.28	3.20	3.35	10.98	1.08	0.41	131.22	38.90	19.42	1.27	0.41	2.66	764.16	177.67
HHC134	15	16	357.46	169.47	37.34	6.55	3.26	3.43	11.11	1.20	0.43	132.39	38.54	20.12	1.31	0.45	3.23	786.29	178.79
HHC134	16	17	384.49	181.20	43.81	7.26	3.54	3.95	12.04	1.37	0.51	144.05	40.23	21.28	1.41	0.53	3.37	849.06	192.96
HHC134	17	18	374.66	198.20	44.70	7.06	3.58	3.38	11.34	1.28	0.43	135.30	39.39	20.76	1.42	0.47	3.07	845.05	183.17
HHC134	18	19	299.73	148.36	39.11	6.38	3.34	2.70	9.66	1.21	0.45	108.48	31.53	16.29	1.13	0.46	2.99	671.83	147.52
HHC134	19	20	348.87	189.41	42.54	6.75	3.33	2.86	10.09	1.20	0.42	118.97	36.00	15.48	1.27	0.47	2.95	780.60	163.00
HHC134	20	21	315.70	163.61	36.07	5.67	2.79	2.67	8.61	1.08	0.40	108.48	32.26	15.07	0.99	0.48	2.65	696.52	147.39
HHC135	0	1	97.17	51.13	14.35	2.54	1.28	0.91	3.56	0.46	0.18	36.04	9.69	5.29	0.35	0.18	1.18	224.32	48.62
HHC135	1	2	72.60	38.82	11.68	1.96	1.05	0.72	2.77	0.38	0.17	25.31	7.06	4.58	0.36	0.21	1.05	168.71	34.69
HHC135	2	3	85.25	51.49	8.00	1.19	0.82	0.57	1.99	0.30	0.15	25.54	7.84	3.28	0.20	0.11	0.80	187.54	34.78
HHC135	3	4	102.57	59.11	9.02	1.85	0.74	0.58	2.62	0.33	0.13	30.21	9.01	4.02	0.27	0.15	0.95	221.55	41.34
HHC135	4	5	108.47	56.88	6.35	1.23	0.62	0.54	2.02	0.22	0.10	25.89	8.20	3.43	0.25	0.14	0.88	215.22	35.57
HHC135	5	6	120.01	55.24	5.84	0.99	0.57	0.52	1.51	0.17	0.11	20.65	7.64	2.26	0.20	0.08	0.67	216.46	29.47
HHC135	6	7	189.79	91.60	8.51	1.72	1.01	0.74	3.02	0.31	0.20	34.99	11.91	3.75	0.29	0.15	1.07	349.06	48.92
HHC135	7	8	192.86	97.58	6.86	1.17	0.71	0.52	1.79	0.26	0.17	31.14	11.49	3.15	0.21	0.10	0.76	348.78	44.02
HHC135	8	9	420.11	242.77	15.62	3.93	1.92	2.25	7.15	0.74	0.17	112.79	35.76	13.86	0.82	0.19	1.21	859.29	153.30
HHC135	9	10	561.38	326.04	24.89	5.24	2.01	3.15	9.61	0.84	0.16	151.63	47.60	17.45	1.07	0.25	1.36	1152.69	205.55
HHC135	10	11	300.96	186.48	9.14	2.89	0.95	1.52	4.86	0.40	0.14	84.68	26.46	9.29	0.49	0.10	0.96	629.32	114.53
HHC135	11	12	469.25	292.03	19.68	5.15	1.98	3.18	10.20	0.81	0.17	158.05	47.00	18.61	1.04	0.22	1.16	1028.53	211.23
HHC135	12	13	407.83	242.77	13.97	3.51	1.53	2.65	6.80	0.58	0.17	128.89	41.32	15.31	0.76	0.17	1.12	867.38	174.48
HHC135	13	14	367.29	221.66	12.95	3.11	1.28	2.13	6.48	0.53	0.20	111.86	36.61	13.86	0.74	0.17	1.23	780.10	152.32
HHC135	14	15	434.85	252.15	17.78	4.38	1.88	2.86	9.02	0.71	0.20	145.80	44.22	18.79	0.98	0.21	1.18	935.02	195.38
HHC135	15	16	437.31	248.63	17.40	4.45	2.00	2.99	8.46	0.70	0.23	139.97	44.22	17.86	0.99	0.26	1.57	927.04	189.63
HHC135	16	17	255.51	148.36	13.33	2.75	1.23	1.78	5.06	0.40	0.14	83.63	26.46	10.67	0.61	0.19	1.08	551.22	113.46
HHC135	17	18	292.36	174.16	13.46	3.52	1.44	2.06	5.88	0.48	0.17	90.98	28.76	11.65	0.69	0.16	1.39	627.17	123.95
HHC135	18	19	249.37	151.29	15.11	3.50	1.54	1.85	5.89	0.60	0.23	79.20	24.77	10.23	0.75	0.21	1.42	545.95	108.22
HHC135	19	20	358.69	221.66	22.86	4.63	2.29	2.40	7.81	0.78	0.25	104.04	33.35	14.03	0.95	0.27	2.23	776.24	142.97
HHC135	20	21	171.98	101.68	13.71	2.47	1.33	1.30	4.24	0.47	0.24	54.12	16.79	7.34	0.49	0.18	1.46	377.80	73.88
HHC136	0	1	175.05	100.27	11.94	2.77	1.33	1.46	3.86	0.46	0.15	52.60	16.73	7.00	0.48	0.17	1.16	375.43	72.59
HHC136	1	2	260.42	144.25	12.32	3.08	1.44	1.64	5.13	0.48	0.13	74.77	24.28	9.74	0.67	0.17	0.93	539.46	102.80
HHC136	2	3	230.33	130.77	10.92	2.18	1.11	1.34	4.03	0.44	0.13	66.02	21.26	7.89	0.44	0.11	0.82	477.78	89.90
HHC136	3	4	383.26	225.18	17.78	3.65	1.44	2.20	7.64	0.68	0.14	114.66	35.76	13.97	0.79	0.17	1.14	808.45	154.86
HHC136	4	5	445.91	242.77	17.91	4.06	1.65	2.52	7.98	0.68	0.15	129.47	40.35	15.89	0.89	0.19	1.16	911.58	174.78
HHC136	5	6	299.73	174.75	14.60	3.03	1.15	1.81	6.09	0.50	0.17	92.61	29.12	11.00	0.64	0.16	1.08	636.44	125.39
HHC136	6	7	267.79	153.64	13.97	3.08	1.33	1.74	5.62	0.54	0.18	86.55	26.10	10.41	0.64	0.17	1.30	573.04	116.35
HHC136	7	8	237.70	134.29	12.95	2.75	1.17	1.51	5.45	0.52	0.11	80.48	23.56	10.11	0.59	0.16	1.01	512.36	107.38
HHC136	8	9	259.19	151.29	14.73	3.32	1.38	1.91	6.54	0.57	0.16	86.66	25.25	11.33	0.66	0.19	1.02	564.21	115.89

Hole Id	From	To	CeO ₂	La ₂ O ₃	Y ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Eu ₂ O ₃	Gd ₂ O ₃	Ho ₂ O ₃	Lu ₂ O ₃	Nd ₂ O ₃	Pr ₆ O ₁₁	Sm ₂ O ₃	Tb ₄ O ₇	Tm ₂ O ₃	Yb ₂ O ₃	TREO	MREO
HHC136	9	10	257.96	155.98	14.60	3.35	1.27	1.83	6.05	0.53	0.18	77.33	23.92	10.36	0.67	0.17	1.24	555.45	105.28
HHC136	10	11	348.87	205.24	19.81	4.53	1.83	2.55	8.69	0.73	0.22	111.27	34.43	15.54	0.93	0.22	1.39	756.25	151.17
HHC136	11	12	323.07	197.03	18.16	3.97	1.46	2.19	7.22	0.62	0.19	102.99	31.90	12.70	0.80	0.18	1.29	703.77	139.66
HHC136	12	13	439.77	250.98	23.24	5.74	2.13	3.06	11.02	0.94	0.22	140.55	42.41	18.90	1.22	0.24	1.78	942.18	189.92
HHC136	13	14	480.30	267.40	32.64	7.09	2.93	3.54	13.77	1.20	0.31	148.72	45.19	21.92	1.52	0.34	2.19	1029.05	202.51
HHC136	14	15	151.71	82.57	10.41	2.07	0.80	1.16	4.15	0.40	0.16	47.36	14.62	7.06	0.42	0.15	0.97	324.00	64.46
HHC136	15	16	297.27	162.43	20.95	4.65	1.78	2.20	8.44	0.82	0.23	98.68	30.21	13.92	0.98	0.23	1.59	644.38	134.51
HHC136	16	17	400.46	204.07	31.75	6.87	2.68	3.21	12.74	1.18	0.27	141.13	41.32	19.89	1.47	0.35	1.91	869.30	190.80
HHC136	17	18	227.87	121.38	25.52	4.59	2.01	2.29	7.96	0.80	0.26	91.33	26.46	13.68	0.88	0.27	1.88	527.21	123.26
HHC136	18	19	432.40	214.62	37.08	6.90	2.84	3.65	12.33	1.13	0.39	160.38	46.03	22.79	1.36	0.41	2.46	944.77	214.67
HHC136	19	20	463.11	228.11	60.57	9.40	4.57	4.41	17.12	1.75	0.59	193.04	52.92	28.53	1.91	0.70	3.81	1070.54	257.26
HHC136	20	21	450.82	224.59	63.62	9.45	4.99	4.77	17.69	1.76	0.68	197.12	52.68	29.11	1.96	0.69	4.26	1064.19	261.21
HHC137	0	1	284.99	146.01	36.19	5.98	3.05	2.71	10.51	1.15	0.39	116.64	32.74	17.34	1.24	0.41	2.52	661.86	156.60
HHC137	1	2	204.53	99.10	25.52	4.60	2.26	1.93	7.16	0.87	0.33	68.12	21.32	10.52	0.92	0.32	1.97	449.48	94.96
HHC137	2	3	107.73	62.74	8.51	1.49	0.67	0.80	2.13	0.30	0.10	25.43	8.70	3.93	0.32	0.10	0.81	223.77	35.94
HHC137	3	4	144.34	72.60	10.54	2.12	1.02	1.25	3.53	0.38	0.16	44.32	14.68	6.35	0.41	0.17	1.09	302.96	61.54

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APPENDIX 1.

The following Tables are provided to ensure compliance with the JORC Code (2012 Edition) requirements for the reporting of Exploration Results at Hines Hill

Section 1: Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<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>	Every metre drilled was sampled at the drill rig using a rig mounted static cone splitter to collect 2 – 3kg sub samples.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Standard reference material, sample duplicates were automatically collected at 25m sample intervals from the cone splitter
	<i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</i>	1m samples were taken for each metre drilled and sent to the laboratory for crushing, splitting and analysis.
Drilling techniques	<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 orientated and if so, by what method, etc).</i>	The drilling was undertaken by GYRO Drilling with Air Core Rig 8 with 3.5inch RC/AC capability. Clay profile was drilled with blade to refusal and hammer drilled for basement sample
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Drill recovery was routinely recorded via estimation of the comparative percentage of the volume of the sample bag by the company geologist. The sample recovery was deemed adequate for representative assays.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	A qualitative estimate of sample weight was undertaken to ensure consistency of sample size and to monitor sample recoveries at the time of drilling.
	<i>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.</i>	Drill sample recovery and quality is considered to be adequate for the drilling technique employed.
Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	All holes have been geologically logged for lithology, mineralisation and weathering. A brief description of each drilling sample was recorded and a permanent record has been collected and stored in chip trays for reference.
	<i>The total length and percentage of the relevant intersections logged.</i>	All intersections logged 100% as all lengths are relevant at the current stage of exploration.

Criteria	JORC Code explanation	Commentary	
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	A sub sample from the AC drill rig of approximately 2-4kg was taken from the sample splitter off the cyclone.	
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>		
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>		
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	No sub-sampling has been undertaken.	
	<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>	No sub-sampling has been undertaken.	
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The sample size of 2-4 kilograms is appropriate and representative of the grain size and mineralisation style of the deposit.	
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	Samples were submitted to ALS Laboratories for analysis. Elements were analysed using MS81L-REE™ : Ba, Ce, Cr, Cs, Dy, Er, Eu, Ga, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Rb, Sc, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tm, U, V, W, Y, Yb, Zr.	
	<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>	CRM & field duplicated samples were inserted every 25 samples for QA/QC control.	
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Significant intercepts are reviewed by 2 or more company geologists.	
	<i>The use of twinned holes.</i>	No twinned drill holes.	
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	All field data were collected manually and transferred to spreadsheets. Sample location coordinates were determined and recorded using a handheld GPS.	
	<i>Discuss any adjustment to assay data.</i>	The REE assay data were converted from reported elemental assays to the equivalent oxide compound as applicable to rare earth oxides. The oxides were calculated from the element according to the following factors:	• CeO₂ 1.1526 • La₂O₃ 1.1728 • Nd₂O₃ 1.1664 • Pr₆O₁₁ 1.208 • Ho₂O₃ 1.1455 • Lu₂O₃ 1.1371 • Sm₂O₃ 1.1596 • Tb₂O₃ 1.1762 • Tm₂O₃ 1.1421 • Y₂O₃ 1.2699 • Yb₂O₃ 1.1387 • Dy₂O₃ 1.1477 • Er₂O₃ 1.1435 • Eu₂O₃ 1.1579 • Gd₂O₃ 1.1526
Location of data points	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used</i>	All locations determined by handheld GPS using GDA94 datum in UTM Zone 50.	

Criteria	JORC Code explanation	Commentary
	<i>in Mineral Resource estimation.</i>	
	<i>Specification of the grid system used.</i>	
	<i>Quality and adequacy of topographic control.</i>	
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	Sample spacing was 100m.
	<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>	Maiden first pass drilling is not designed for an MRE and is too coarse. The drill spacing is intended to identify REE mineralisation, and will have reduced spacing in future programs.
	<i>Whether sample compositing has been applied.</i>	No compositing.
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Drill holes are vertical and suitable for clay profile drilling.
	<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>	No bias is seen in the orientation of drilling
Sample security	<i>The measures taken to ensure sample security.</i>	All samples were placed in plastic or calico bags, taken to Perth and delivered to ALS laboratory by White Cliff staff.
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	Data is validated upon up-loading into the master database. Any validation issues identified are investigated prior to reporting of results.

Section 2: Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<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>	The Hines Hill exploration license E70/5875 is held 100% by Magnet Resource Company Pty Ltd, a 100% subsidiary of White Cliff Minerals Limited. The tenement was granted on 21/10/21, has annual expenditure of \$44,000 and the tenement is in good standing.
	<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>	A land access agreement has been signed with the landowners.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	No previous exploration.
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	Potential Carbonatite within Archean terrane, or granitoid rocks elevated in REE.
Drill hole Information	<i>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:</i>	A summary of all exploration drilling information and sampling is contained in tabulated data within this announcement.
	<i>easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length.</i>	
	<i>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</i>	

Criteria	JORC Code explanation	Commentary
	<i>clearly explain why this is the case.</i>	
Data aggregation methods	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg. cutting of high grades) and cut-off grades are usually Material and should be stated.</i>	Intersections have been calculated generally using a 350ppm cut off and internal waste of up to 2m thickness with total intercepts greater than 350ppm. No upper cut off has been applied to intersections or samples.
	<i>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.</i>	Only relevant elements (REE) are reported here. However, the samples underwent multi element assay as industry standard.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values are being used.
Relationship between mineralisation widths and intercept lengths	<i>These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i>	Drill holes have been drilled vertical, which is generally perpendicular to the horizontal orebody within the clay profile.
Diagrams	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.</i>	Location maps of projects within the release with relevant exploration information contained.
Balanced reporting	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	The reporting of exploration results is considered balanced by the competent person.
Other substantive exploration data	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	No other exploration to report.
Further work	<i>The nature and scale of planned further work (eg. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	A review of the other 10 areas that have greater than 550ppm TREO. The aim is to build a project with scale and the current drilling provides a basis for an Exploration Target, however we would like to know the overall potential, before committing to a resource drill out of the current shallow mineralisation. Aircore drilling along the 10 areas of soil geochemistry with greater than 550ppm TREO is being considered as the next step.