



## ASX ANNOUNCEMENT

# RARE EARTH ELEMENT POTENTIAL UNVEILED AT MOUNT RIDLEY

2 August 2021

Mount Ridley Mines Ltd (ASX: MRD) (or “the Company”) is pleased to provide the following update on its 100% owned Mount Ridley Project.

### HIGHLIGHTS

- Laterally extensive rare earth element (REE<sup>[2]</sup>) deposits identified at 100% owned Mount Ridley Project, located from 35 km northeast of the port of Esperance, Western Australia. Model is ionic adsorption clay.
- Re-assay of 950 air core samples (162 pending) returned significant REE values over an apparent strike in excess of 25 km with over 20 samples returning **>1,000 ppm** TREO. Mineralisation remains open in all directions with a peak value so far at the Keith’s Prospect from MRAC0711 with **10,461ppm** (1.05%) from 23m downhole.
- Significant REE intersections over five prospects include:
  - o Winston’s
    - o MRAC0617: 24 to 36m, 12m at **1,455 ppm** TREO
    - o MRAC0605: 4 to 17m, 13m at **1,217 ppm** TREO
  - o The Lake
    - o MRAC0721: 52 to 68m, 16m at **2,020 ppm** TREO
    - o MRAC0717: 32 to 44m, 12m at **1,551 ppm** TREO
  - o Keith’s
    - o MRAC0711: 16 to 24m, 8m at **2,632 ppm** TREO
    - o MRAC0695: 24 to 40m, 16m at **1,081 ppm** TREO
  - o Marcellus
    - o MRAC0677: 12 to 20m, 8m at **1,362 ppm** TREO
    - o MRAC0679: 16 to 28m, 12m at **867 ppm** TREO
  - o Tyrrell’s
    - o MRAC0684: 24 to 31m, 7m at **1,441 ppm** TREO
- Results compare favourably to the Ugandan Makuutu resource<sup>1</sup> (**Ionic Rare Earths Ltd** (ASX: **IXR**) earning 60%) with a cut-off grade of approximately 250ppm TREO<sup>2</sup>) for total JORC Inferred and Indicated Resources of 78.6Mt @ 840ppm TREO.
- Ground position prospective for REE recently expanded to 3,400km<sup>2</sup>.
- Planning underway for a 25,000m aircore program to test newly acquired tenements in addition to step-out and infill holes.

[2] 14 rare earth elements (REE) were analysed: cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), samarium (Sm), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).

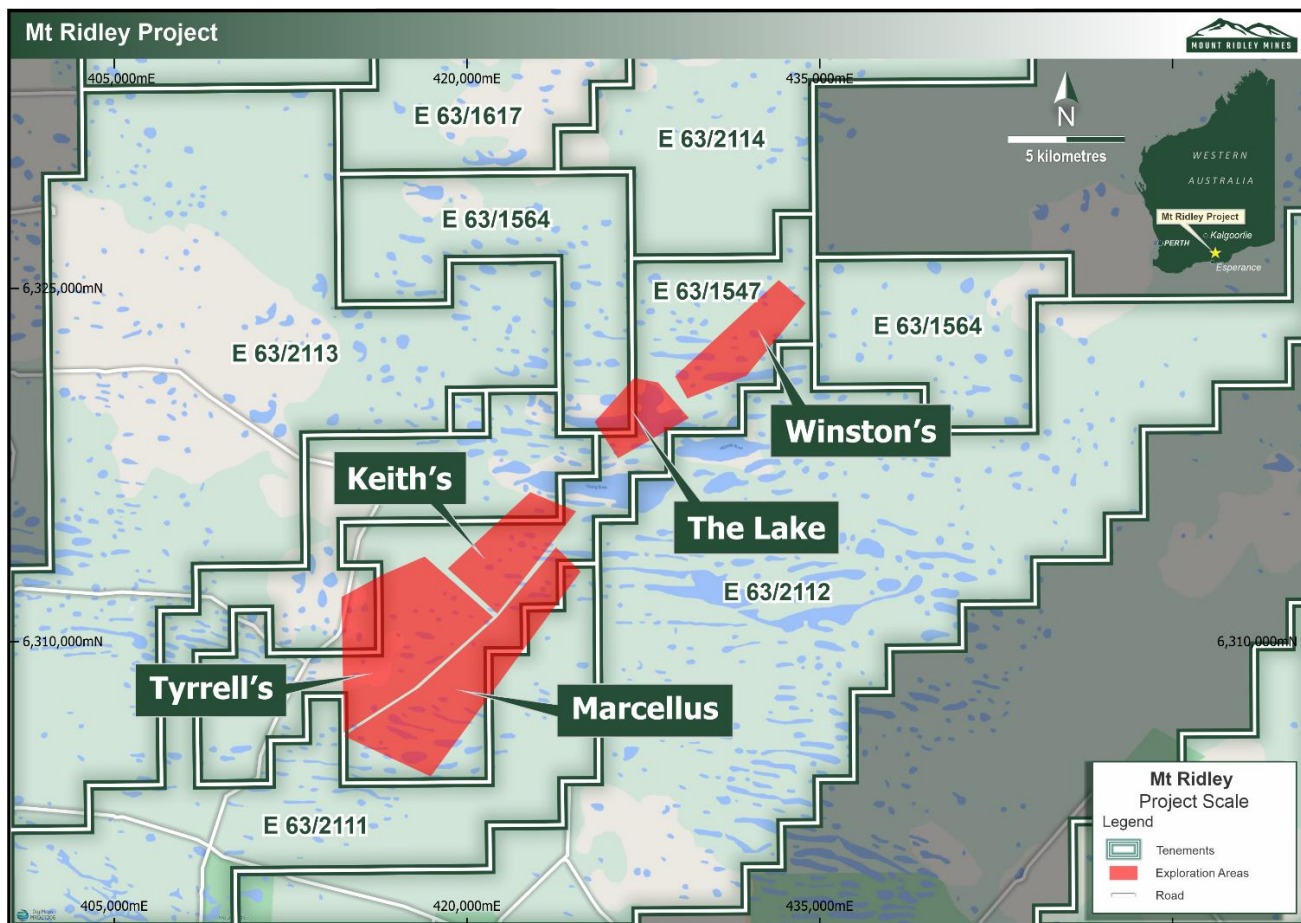
<sup>1</sup> Ionic Rare Earths Limited announcement to ASX dated 3 March 2021.

<sup>2</sup> TREO means the sum of the 14 REE, each converted to its respective element oxide equivalent using the formulae in Appendix 2 Section 2.

Mount Ridley's Chairman Mr. Peter Christie commented:

*"The identification of relatively shallow REE accumulations within the Company's extensive land holding was the result of a critical re-examination of data generated during nickel drilling campaigns at the Mount Ridley Project over the previous 5 years".*

Based on the clusters of existing drill holes with REE results available, the Project has been grouped into five exploration prospects.



**Figure 1:** Mount Ridley Project showing key prospects.

## WINSTON'S

REE mineralisation has been identified at Winston's, the north-eastern-most prospect, over an apparent strike length of 2.6 km and a width of 1 km. Holes are generally on a 500m by 80m grid.

Approximately 160 samples (in addition to those listed in Table 1) from three additional 500m-spaced traverses of drilling heading north of Winston's and four additional 500m-spaced traverses between the Lake and Winston's Prospects have been more recently submitted to the laboratory for re-analysis.

**Table 1: Winston's Prospect  
Composite Drill Hole Sample Intersections > 300ppm TREO.**

Prospect	Hole ID	From	To	Intersection	TREO	TREO-Ce <sub>2</sub> O <sub>3</sub> <sup>3</sup>	HREO <sup>4</sup>	LREO <sup>5</sup>	CREO <sup>6</sup>
		(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Winston's	MRAC0603B	24	30*	6	720	398	322	407	599
Winston's	MRAC0604	24	36	12	505	228	277	250	393
Winston's	MRAC0605	36	47	11	1538	793	745	896	1424
Winston's	MRAC0606	36	44	8	920	482	439	535	835
Winston's	MRAC0608	28	42*	14	462	173	289	199	328
Winston's	MRAC0609	24	46*	22	747	407	340	403	596
Winston's	MRAC0611	20	40*	20	639	245	394	291	478
Winston's	MRAC0612	28	45*	17	646	377	269	380	555
Winston's	MRAC0613	28	32	4	303	73	230	98	182
Winston's	MRAC0613	40	44	4	319	139	180	148	232
Winston's	MRAC0615	24	28	4	336	75	261	98	198
Winston's	MRAC0615	40	44	4	609	314	295	335	526
Winston's	MRAC0617	24	36	12	1455	719	736	800	1235
Winston's	MRAC0617	44	45*	1	781	294	487	360	608
Winston's	MRAC0618	16	28	12	465	182	283	211	345
Winston's	MRAC0620	12	13*	1	756	263	493	316	516
Winston's	MRAC0622	12	19	7	874	343	531	428	668
Winston's	MRAC0623	12	15*	3	577	346	231	334	474
Winston's	MRAC0624	12	17*	5	587	262	325	293	457
Winston's	MRAC0628	20	28*	8	499	212	287	248	407
Winston's	MRAC0629	20	29*	9	600	288	312	317	479
Winston's	MRAC0631	16	21*	5	1077	502	574	575	921
Winston's	MRAC0632	4	17*	13	1217	519	697	603	941

\* Denotes hole ended in mineralisation

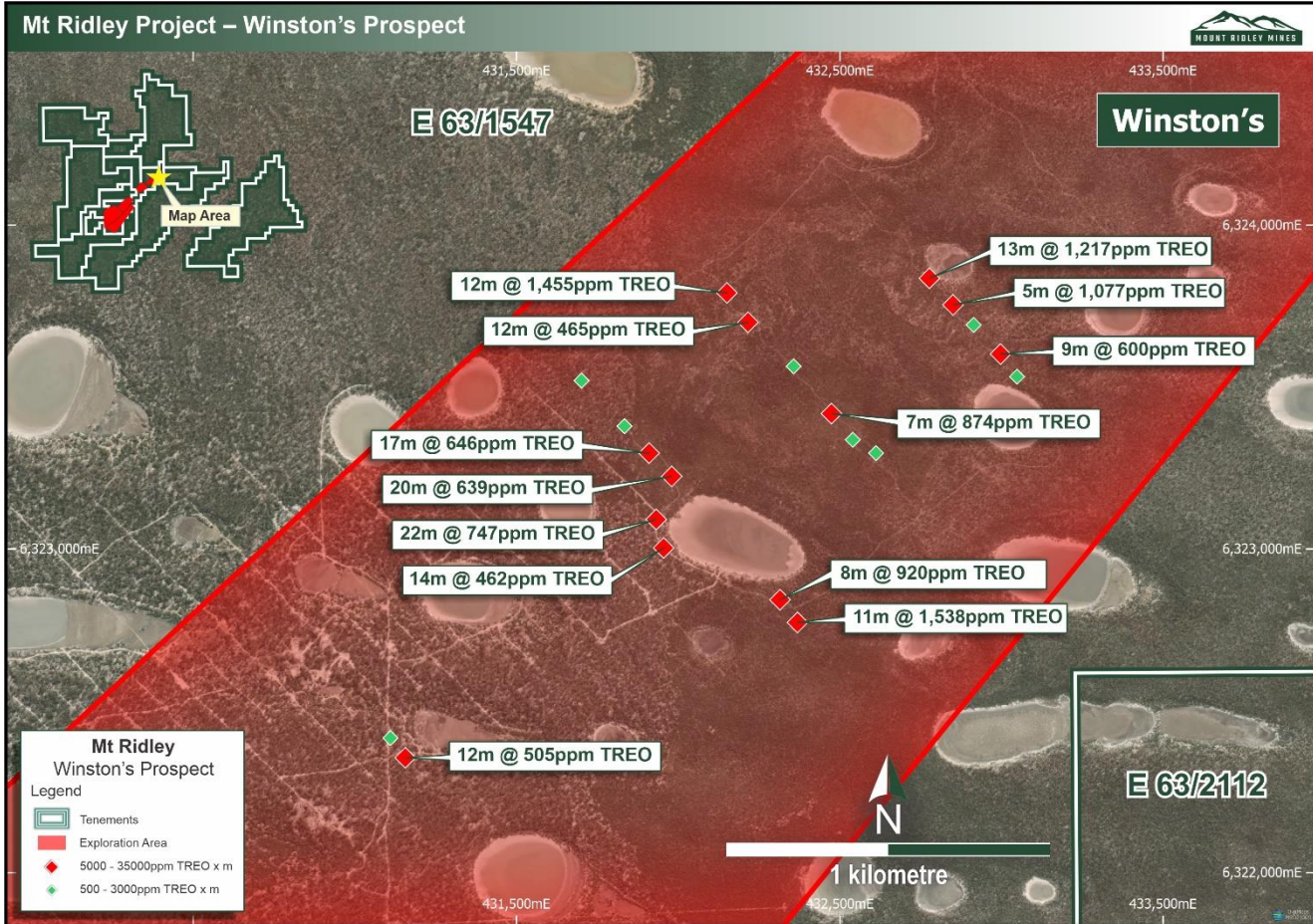
<sup>3</sup> TREO minus Ce<sub>2</sub>O<sub>3</sub>.

<sup>4</sup> HREO means Heavy Rare Earth Oxides; the sum of Sm<sub>2</sub>O<sub>3</sub>, Dy<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Tm<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and Yb<sub>2</sub>O<sub>3</sub>.

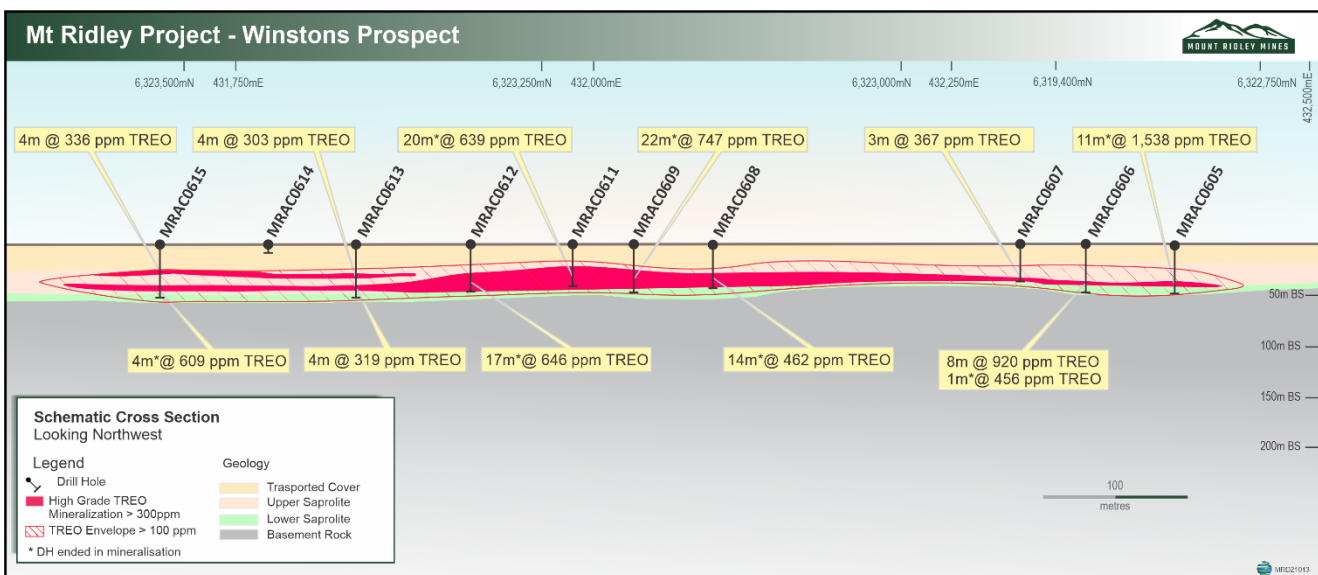
<sup>5</sup> LREO means Light Rare Earth Oxides; the sum of Ce<sub>2</sub>O<sub>3</sub>, La<sub>2</sub>O<sub>3</sub>, Nd<sub>2</sub>O<sub>3</sub>, and Pr<sub>2</sub>O<sub>3</sub>.

<sup>6</sup> CREO means Critical Rare Earth Oxides; the sum of Dy<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Nd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, and Y<sub>2</sub>O<sub>3</sub>.





**Figure 2:** Winston's Prospect showing drill hole locations and significant intersections.



**Figure 3:** Cross Section through Winston's Prospect.

## THE LAKE

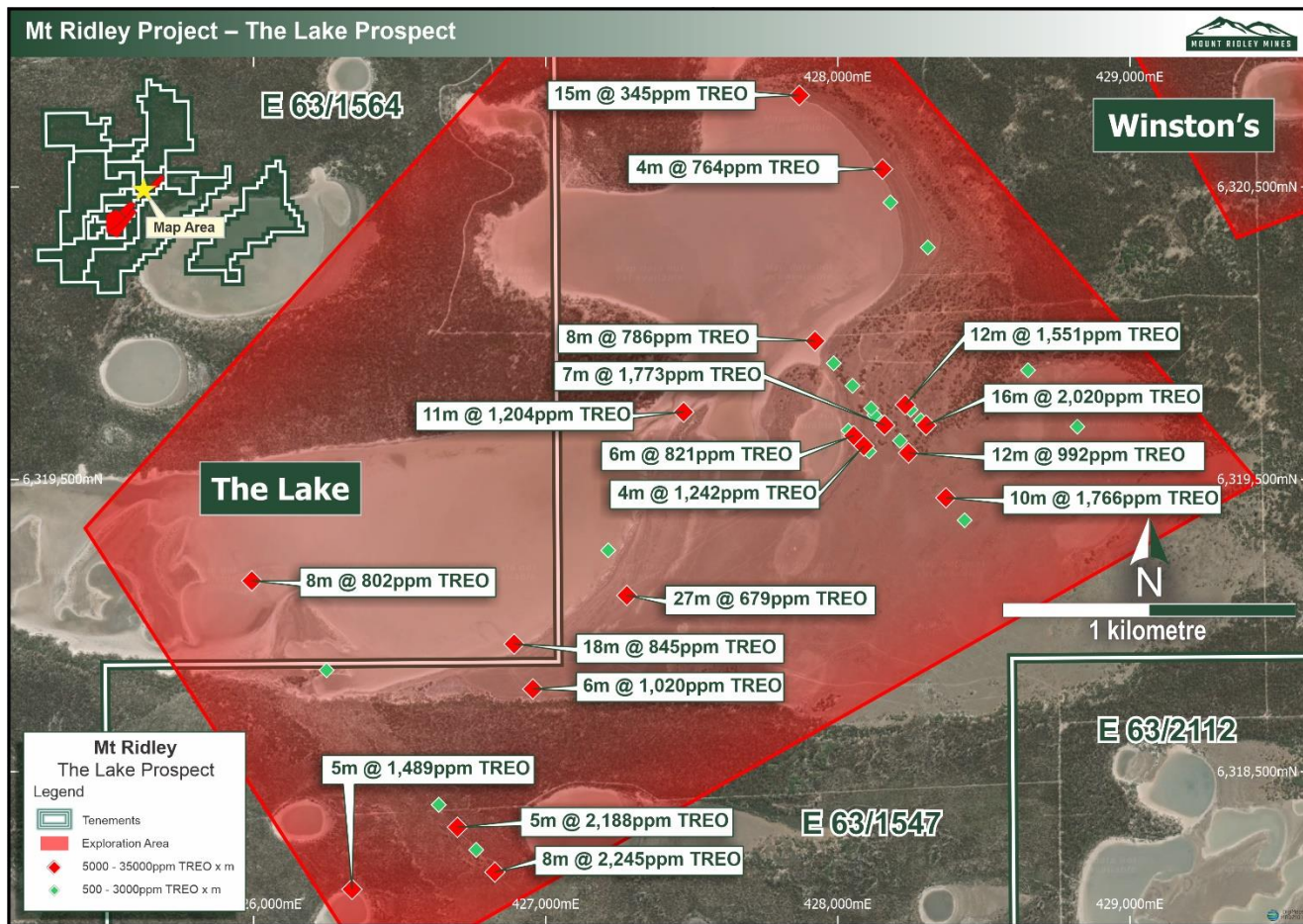
The Lake Prospect straddles the Hillman and Young Rivers, with REE mineralisation reported (Table 2) within a 3 km by 1.6 km area. The Lake is 3 km along strike to the southwest from the Winston's Prospect.

Table 2: The Lake Prospect Composite Drill Hole Sample Intersections > 300ppm TREO.									
Prospect	Hole ID	From	To	Intersection	TREO	TREO- Ce <sub>2</sub> O <sub>3</sub>	HREO	LREO	CREO
		(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
The Lake	MRAC0438	40	45*	5	1489	713	776	794	1320
The Lake	MRAC0439	40	48*	8	2245	1290	954	1329	1948
The Lake	MRAC0440	0	4	4	690	407	283	410	600
The Lake	MRAC0440	32	40	8	392	153	239	174	295
The Lake	MRAC0441	20	25*	5	2188	1159	1029	1267	1990
The Lake	MRAC0442	0	4	4	314	168	146	178	276
The Lake	MRAC0442	36	44*	8	486	205	281	211	325
The Lake	MRAC0443	0	4	4	842	484	358	504	746
The Lake	MRAC0445	48	52	4	764	362	402	382	587
The Lake	MRAC0446	0	4	4	435	205	230	216	330
The Lake	MRAC0446	45	46*	1	326	88	238	91	144
The Lake	MRAC0450	36	51	15	345	110	235	136	246
The Lake	MRAC0451	48	51*	3	384	161	223	204	346
The Lake	MRAC0454	36	42	6	733	281	451	314	503
The Lake	MRAC0455	32	38*	6	651	298	353	327	518
The Lake	MRAC0456	12	20	8	464	55	410	180	393
The Lake	MRAC0456	28	38*	10	1766	1089	677	1097	1597
The Lake	MRAC0458	40	52	12	992	784	208	723	954
The Lake	MRAC0460	0	12	12	329	192	137	203	296
The Lake	MRAC0460	20	22	2	858	468	390	472	689
The Lake	MRAC0461	36	40	4	786	228	558	287	511
The Lake	MRAC0463	32	35*	3	968	482	486	520	820
The Lake	MRAC0467	44	52	8	802	517	286	469	668
The Lake	MRAC0470	17	18*	1	1606	430	1176	524	853
The Lake	MRAC0471	28	39*	11	1204	714	491	727	1043
The Lake	MRAC0472	36	41	5	684	306	378	338	536
The Lake	MRAC0473	36	44	8	786	391	395	402	622
The Lake	MRAC0474	32	50	18	845	524	321	517	731
The Lake	MRAC0475	36	42*	6	1020	486	534	564	892
The Lake	MRAC0476	0	27*	27	679	299	381	320	510
The Lake	MRAC0717	32	44	12	1551	885	665	946	1422
The Lake	MRAC0718	44	52	8	478	333	145	321	429
The Lake	MRAC0720	52	58*	6	506	284	223	282	419
The Lake	MRAC0721	52	68*	16	2020	1199	821	1263	1914
The Lake	MRAC0724	16	20	4	731	102	629	246	562
The Lake	MRAC0726	40	47*	7	1773	1082	691	1119	1685

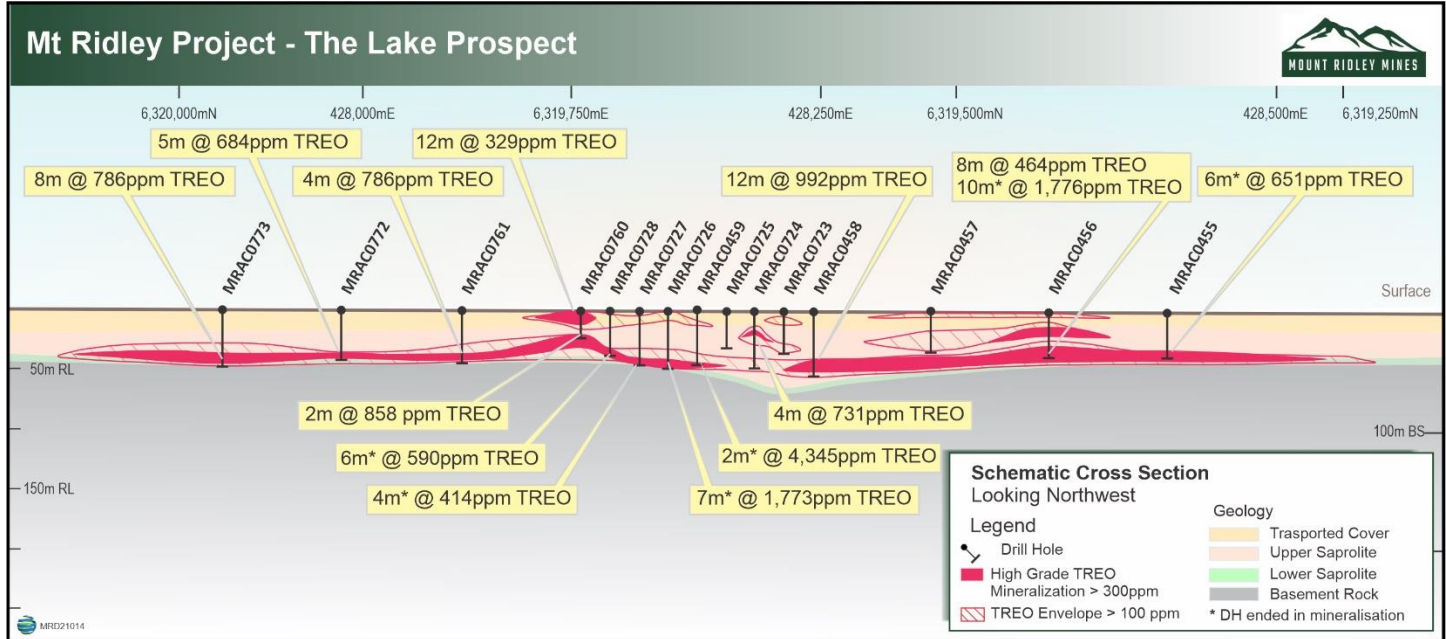


Prospect	Hole ID	From	To	Intersection	TREO	TREO- Ce <sub>2</sub> O <sub>3</sub>	HREO	LREO	CREO
		(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
The Lake	MRAC0727	40	44*	4	414	267	147	256	357
The Lake	MRAC0728	32	38*	6	590	326	264	352	536
The Lake	MRAC0729	16	21*	5	465	154	311	175	283
The Lake	MRAC0730	20	26*	6	821	341	480	381	607
The Lake	MRAC0731	28	32	4	527	225	302	249	382
The Lake	MRAC0732	28	32*	4	1242	733	509	750	1093
The Lake	MRAC0733	36	39*	3	493	256	238	270	413

\* Denotes hole ended in mineralisation



**Figure 4:** The Lake Prospect showing drill hole locations and significant intersections.



**Figure 5:** Cross section through the Lake Prospect.

## KEITH'S

The Keith's Prospect measures 2 km by 1 km. Drillhole traverses are sited on a an approximate 500m by 100m grid with one infill pattern drilled on a 100m by 25m pattern. The single highest grade one metre sample was intersected at the bottom of hole MRAC0711: 1m at 10,461ppm (1.05%) TREO from 23m downhole.

Samples (in addition to those listed in Table 3) from an additional 4 x 500m-spaced traverses have been submitted to the laboratory for analysis.

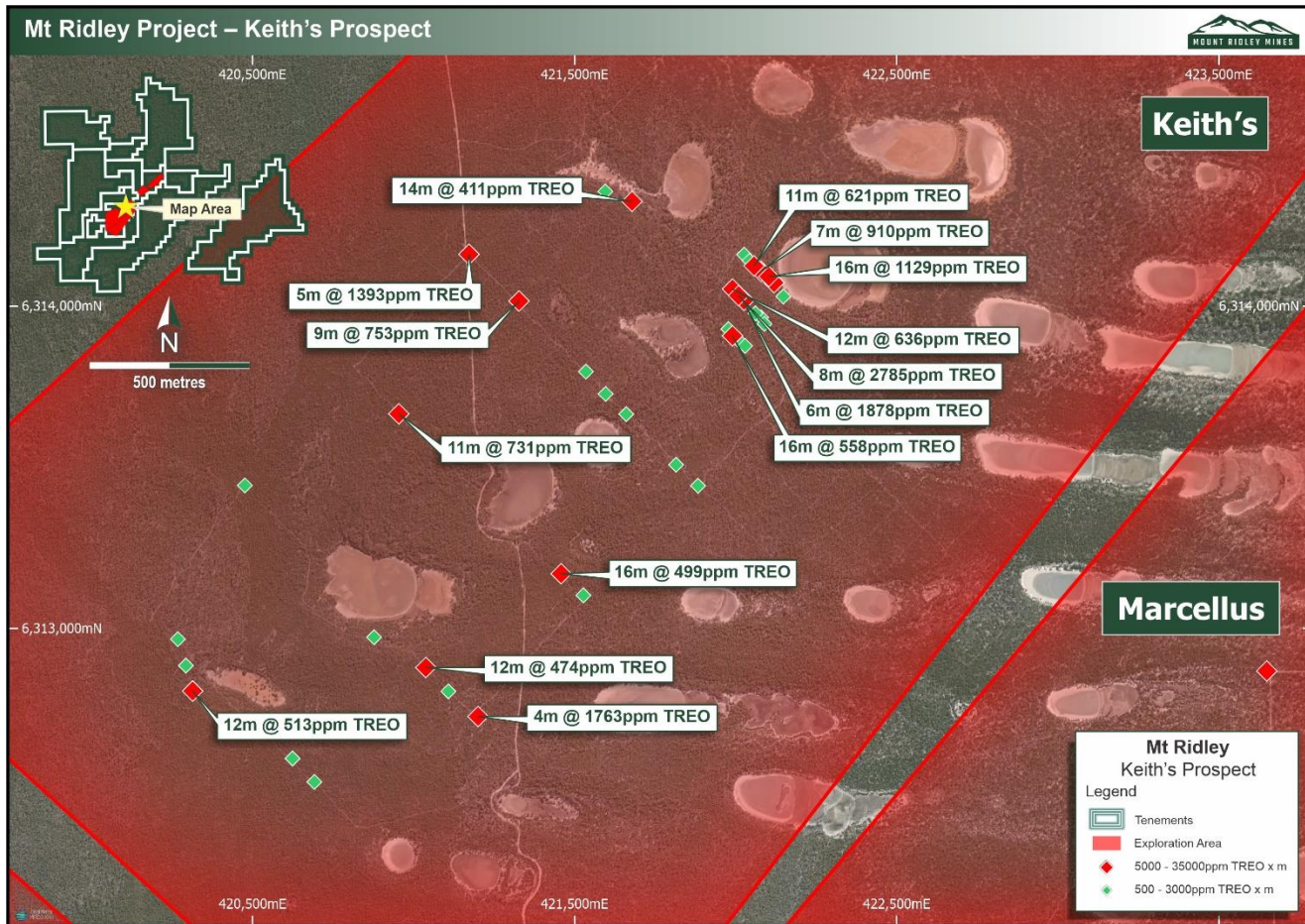
Table 3: Keith's Prospect									
Composite Drill Hole Sample Intersections > 300ppm TREO.									
Prospect	Hole ID	From	To	Intersection	TREO	TREO- Ce <sub>2</sub> O <sub>3</sub>	HREO	LREO	CREO
		(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Keith's	MRAC0523	24	28	4	667	304	363	346	526
Keith's	MRAC0524	28	32	4	347	100	247	130	232
Keith's	MRAC0527	12	24	12	493	223	270	236	357
Keith's	MRAC0528	16	24	8	539	325	214	318	444
Keith's	MRAC0529	16	21*	5	453	163	290	212	360
Keith's	MRAC0532	20	24	4	455	227	228	231	348
Keith's	MRAC0539	16	20	4	469	297	172	283	417
Keith's	MRAC0540	24	36	12	456	207	250	222	351
Keith's	MRAC0541	16	20	4	595	349	246	353	512
Keith's	MRAC0542	8	12	4	1682	808	874	889	1409
Keith's	MRAC0544	16	32	16	478	256	223	268	409
Keith's	MRAC0551	16	27*	11	702	401	301	408	594
Keith's	MRAC0554	20	25*	5	1324	317	1007	443	861

**Table 3: Keith's Prospect**  
**Composite Drill Hole Sample Intersections > 300ppm TREO.**

Prospect	Hole ID	From	To	Intersection	TREO	TREO- Ce <sub>2</sub> O <sub>3</sub>	HREO	LREO	CREO
		(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Keith's	MRAC0556	12	21*	9	728	427	301	405	585
Keith's	MRAC0559	8	12*	4	367	177	190	183	282
Keith's	MRAC0560	12	17*	5	683	474	208	438	604
Keith's	MRAC0561	8	9*	1	2550	1356	1194	1468	2423
Keith's	MRAC0563	28	34	6	684	388	296	393	579
Keith's	MRAC0564	32	36	4	819	330	489	374	606
Keith's	MRAC0567	32	40	8	499	235	265	270	429
Keith's	MRAC0568	16	24	8	324	117	207	121	208
Keith's	MRAC0568	32	38*	6	1790	961	829	1083	1708
Keith's	MRAC0573	16	30*	14	393	163	230	182	291
Keith's	MRAC0574	20	26	6	519	226	294	247	398
Keith's	MRAC0690	32	40	8	461	244	217	253	400
Keith's	MRAC0692	36	37*	1	1003	598	405	607	872
Keith's	MRAC0694	16	20	4	316	170	146	155	241
Keith's	MRAC0694	28	40	12	608	291	317	332	518
Keith's	MRAC0695	24	40	16	1081	574	506	622	945
Keith's	MRAC0696	28	35*	7	863	417	446	485	775
Keith's	MRAC0697	20	31*	11	596	321	275	312	483
Keith's	MRAC0698	16	21*	5	686	312	373	309	476
Keith's	MRAC0699	12	15*	3	526	141	385	186	321
Keith's	MRAC0705	12	14*	2	498	112	387	168	304
Keith's	MRAC0706	12	24*	12	624	434	189	366	536
Keith's	MRAC0707	12	20	8	378	112	267	127	225
Keith's	MRAC0708	20	32	12	400	198	202	207	302
Keith's	MRAC0709	40	44	4	710	307	403	365	602
Keith's	MRAC0711	16	24*	8	2632	1376	1256	1646	2499
Keith's	MRAC0712	16	28	12	616	390	226	380	532

\* Denotes hole ended in mineralisation





**Figure 6:** Keith's Prospect showing drill hole locations and significant intersections.

## TYRRELL'S PROSPECT

Limited drilling took place at Tyrrell's (table 4) with few samples retained, however anomalous REE values were returned. Drilling access is good in this area with a number of existing tracks and fence lines. Due to its proximity to the Goldfields-Esperance Highway, this area will be a priority for further drilling.

Table 4: Tyrrell's Prospect Composite Drill Hole Sample Intersections > 300ppm TREO.									
Prospect	Hole ID	From	To	Intersection	TREO	TREO-Ce <sub>2</sub> O <sub>3</sub>	HREO	LREO	CREO
		(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Tyrrell's	MRAC0683	12	20*	8	778	319	459	358	555
Tyrrell's	MRAC0684	24	31	7	1441	944	497	967	1375
Tyrrell's	MRAC0689	16	35*	19	663	375	289	398	587

\* Denotes hole ended in mineralisation

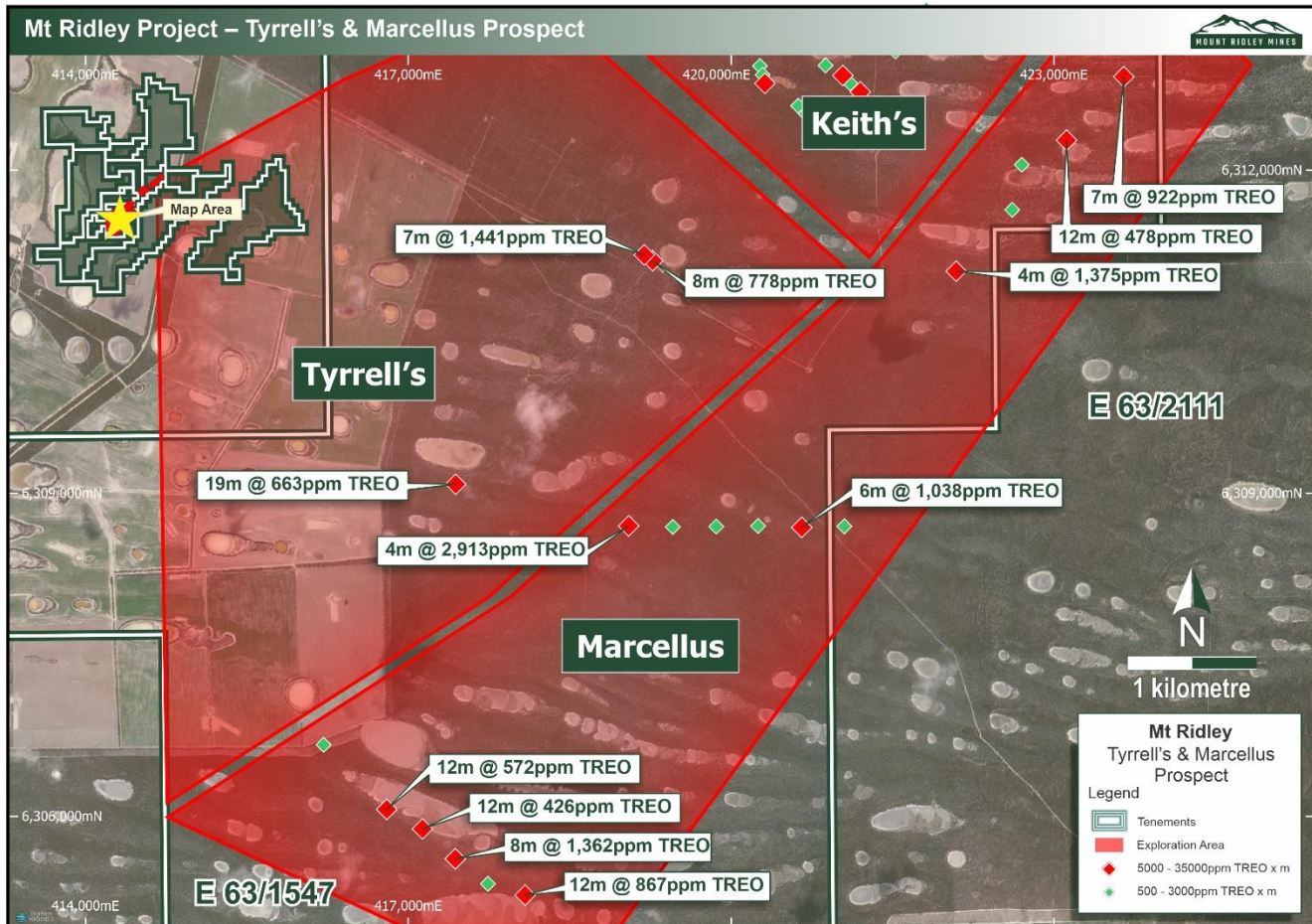
## MARCELLUS PROSPECT

Three traverses of 400m spaced holes with traverses between 2km and 4km apart indicates that REE mineralisation at Marcellus (table 5) may be very widespread.

Table 5: Marcellus Prospect Composite Drill Hole Sample Intersections > 300ppm TREO.									
Prospect	Hole ID	From	To	Intersection	TREO	TREO-Ce <sub>2</sub> O <sub>3</sub>	HREO	LREO	CREO
		(m)	(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Marcellus	MRAC0660	48	55*	7	922	657	264	604	825
Marcellus	MRAC0662	28	40	12	478	223	256	240	370
Marcellus	MRAC0663	32	40	8	458	222	236	230	340
Marcellus	MRAC0664	28	40	12	373	138	235	162	262
Marcellus	MRAC0666	32	36	4	1375	772	603	861	1296
Marcellus	MRAC0667	36	40	4	2913	1754	1159	1849	2723
Marcellus	MRAC0668	20	26*	6	700	258	441	330	526
Marcellus	MRAC0669	32	38*	6	432	147	285	170	280
Marcellus	MRAC0670	24	32	8	415	134	281	160	271
Marcellus	MRAC0671	24	30*	6	1038	456	583	500	766
Marcellus	MRAC0672	32	36*	4	519	144	375	191	332
Marcellus	MRAC0673	16	22*	6	736	95	641	136	277
Marcellus	MRAC0675	8	20	12	572	85	487	165	327
Marcellus	MRAC0675	25	26*	1	681	319	362	336	505
Marcellus	MRAC0676	16	28	12	426	231	196	232	336
Marcellus	MRAC0677	12	20	8	1362	188	1174	364	822
Marcellus	MRAC0677	36	48	12	362	65	297	90	187
Marcellus	MRAC0678	20	28	8	517	185	332	217	350
Marcellus	MRAC0679	16	28	12	867	352	515	382	593

\* Denotes hole ended in mineralisation





**Figure 7:** Tyrrell's and Marcellus Prospects showing drill hole locations and significant intersections.

## PROPOSED EXPLORATION

A comprehensive geological and litho-geochemical study has commenced to identify underlying rocks and their role as a source of REE, and therefore controls to REE ore genesis.

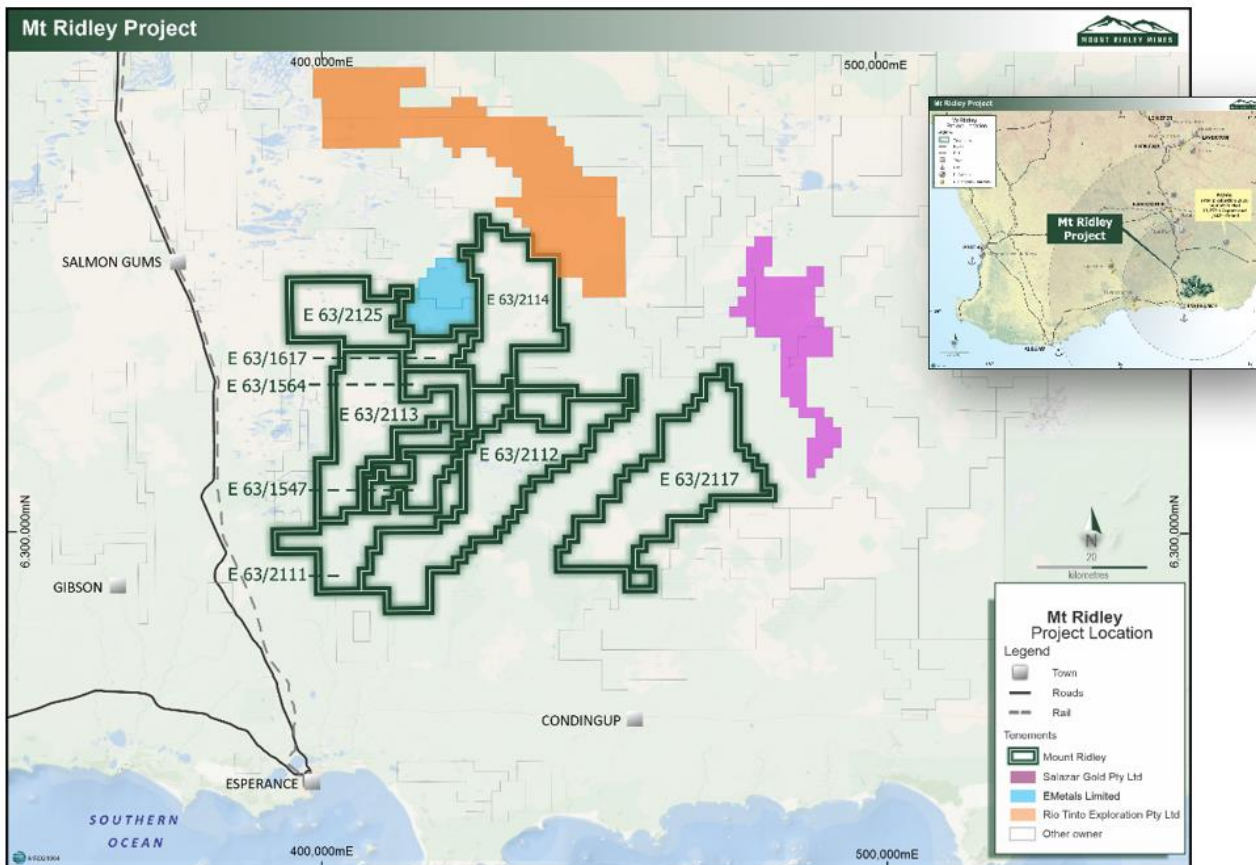
Concurrently, drilling programmes for up to 25,000m are being planned. Aircore drilling will be used to determine extensions of known mineralisation; reverse circulation drilling will be used for the Mineral Resource drill-out, and diamond or sonic drilling will be used to provide in-tact regolith for geotechnical and metallurgical testing.

Heritage, flora, and fauna Surveys will be updated over the coming months as required, focusing on the identified target areas and extensions to known REE mineralisation.

Early-stage mineralogy and metallurgical test work will be carried out using material generated from the upcoming drilling. This is considered critical in determining the nature and extractability of the REE mineralisation.



## ABOUT THE MOUNT RIDLEY REE PROJECT



**Figure 8:** Mount Ridley Project location and tenements.

The Mount Ridley Project is located from approximately 35 kilometres northeast of the deep-water port of Esperance, a town with approximately 12,000 people and a hub for tourism, agriculture, and fishing (figure 8). The Port exports minerals including nickel sulphide, iron ore and spodumene.

The Project is approximately 20 kilometres east of the sealed Goldfields Esperance Highway and infrastructure corridor which includes the Kalgoorlie-Esperance railway line and gas pipeline. The Esperance airport is located at Gibson Soak, approximately 20 kilometres from the Project. The Company holds three granted exploration licences and 6 exploration licence applications. Granted tenure is 454 km<sup>2</sup> and tenement applications total 2950 km<sup>2</sup>.

REE mineralisation is interpreted as large, horizontal sheet-like lenses that occur from near surface to as deep as 89m. REE mineralisation occurs consistently within the in-situ saprolite clay horizon. Patchy lower grade zones occur within transported cover which may vector towards stronger REE mineralisation deeper within the regolith.



Geological Survey of Western Australia (DMIRS) mapping<sup>7</sup> shows that the Mount Ridley Project REE mineralisation occurs within the weathered mantle (regolith) of the Recherche Super-suite, which is described as “Granitic and mafic gneiss; may include intrusions of Esperance Super-suite”.

While the source of the REE mineralisation is currently unknown, a detailed litho-geochemistry dataset from bottom of hole aircore samples has been established. Based on preliminary observations, this appears to be the preferred sample to best represent the underlying fresh rock.

Insufficient work has been undertaken to date to categorise the Mount Ridley REE mineralisation. With respect to the Splinter Deposit (Salazar Gold Pty Ltd) located 75 kilometres northeast of the Mount Ridley Project, in her Honours thesis, Tiffany Collins noted:

*“The regolith enrichment shows similarities to the ion-adsorption clays of China in its formation and dominantly granitic protolith, however lacks a significant adsorbed fraction and thus cannot be classed as such. It is better classified as a residual lateritic clay deposit, a type of REE deposit otherwise not recognised in Australia”<sup>8</sup>.*

## ADDITIONAL NOTES ABOUT THE AIRCORE DRILLING RESULTS REPORTED HEREIN

- Aircore drilling with REE-mineralised intersections at Mount Ridley occur over a strike length of 25 kilometres. Traverses of drilling with REE mineralisation exceed 1 kilometre in width at Winston’s, the Lake and Keith’s Prospects
- As guide for prioritising forthcoming drilling, the proportion of HREO to the TREO from the reported drilling is set out in table 6.

Table 6: REE by Prospect					
Prospect	TREO*	HREO	% HREO	CREO	%CREO
Winston’s	663	309	47%	341	51%
The Lake	807	426	53%	449	57%
Keith’s	566	282	50%	301	53%

\* Length-weighted average grade of all reported intersections > 300ppm, grouped by Prospect.

<sup>7</sup> (DMIRS) Department of Mines, Industry Regulation and Safety 1:100,000 Interpreted Bedrock Geology

<sup>8</sup> Collins, Tiffany, 2014

## RARE EARTH ELEMENTS: Use and Importance

- REE's are critical elements required when powering technology and are considered essential in the modern shift towards clean energy outcomes.
- REEs make the world's strongest permanent magnets that are fundamentally important in the manufacturing of electric generators and hybrid vehicle power systems. Other uses include: as catalysts, in rechargeable batteries and in high-end technology used in electronic products.

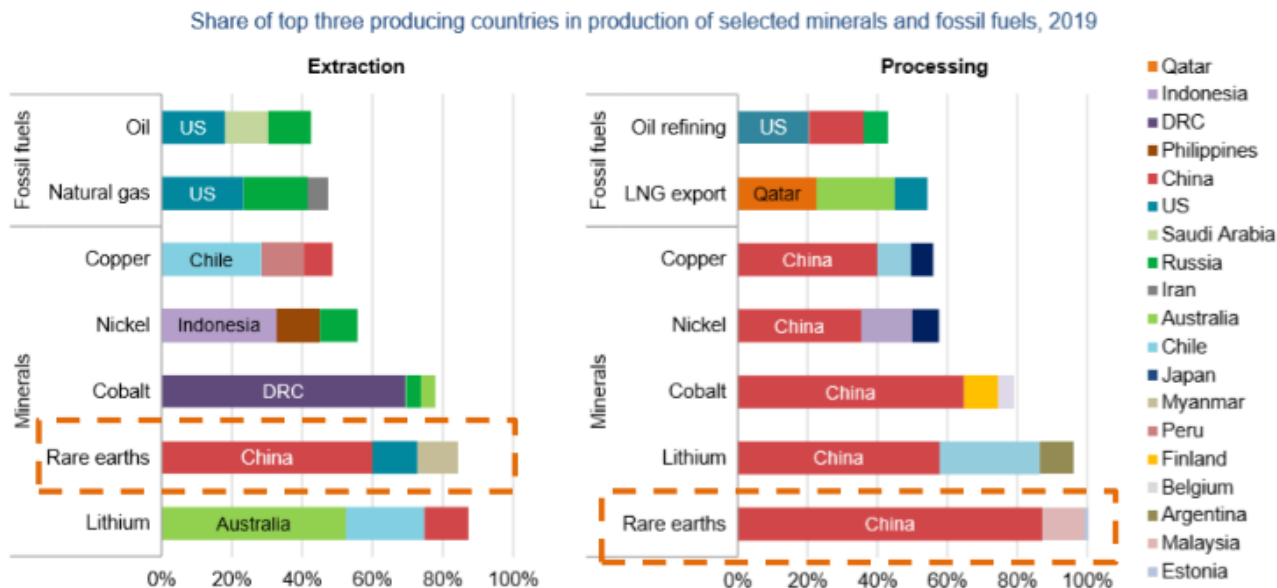


**Figure 9:** Share of world extraction and processing of selected minerals and fossil fuels (Source: International Energy Agency Report: The Role of Critical Minerals in Clean Energy Transitions, p13 (2021)).



## Ionic Clay Adsorption Deposits

Globally, deposits of Ionic Clay Adsorption (IAC)-REE are most significant in southern China and are the world's main source of Heavy Rare Earth Elements. These are recorded as occurring in the weathered crust of granitic rocks. China, which has led the world production and processing of REEs for decades, accounted for more than 90 percent of global production and supply, on average, during the past decade (Figure 10).<sup>9</sup>



**Figure 10:** Rare earth element uses. (Source: [www.frontierrareearths.com/rare-earth-uses/re\\_applications\\_1](http://www.frontierrareearths.com/rare-earth-uses/re_applications_1))

<sup>9</sup> Van Gosen, et al (Rare Earth Elements, USGS).

An attraction of IAC deposits is that they can have a low capital cost to bring into production and can produce REO directly. Ionic clay deposits are rare outside of China and have a number of benefits over hard rock resources that are summarised in table 7.

<b>*TABLE 7: Ionic Clay v Hard Rock REE Mining</b>		
<b>Mining/Processing Stages</b>	<b>REE Clay</b>	<b>REE Hard Rock</b>
<b>Mining</b>	Low Operating Costs -surface mining (0-15m) - Soft material - free digging - Minimal stripping required -Quick backfilling of pits & rehabilitation	High Operating Costs -Blasting required -Could have high-strip ratios -Could be underground -Long term rehabilitation provisions required
<b>Processing/Screening</b>	Intensive washing and screening required Very large volumes of ores to be processed	Simple screening into several size fractions
<b>Processing/Leaching</b>	Heap leaching or In situ Leaching Inorganic salt solutions required Ambient temperature (no power required) Simple plant Easy recycling of solvents + water	Strong acids required & in large quantities High temperature required (intensive power consumption) Complex plant (to withstand strong acids + high temperatures)
<b>Processing/Environmental</b>	Non-radioactive tailings Neutralisation of tailings (i.e., removal of acids/solvents) required before backfilling	Tailings often radioactive (complex + costly disposal)
<b>End Product</b>	Mixed but "liberated" REE oxalate/carbonate grading 45-50% TREO Mixed REE oxides grading >95% TREO	Mixed REE concentrate at relative low grade 10-20% TREO Mixed REE oxalate/carbonate grading c45-50% TREO
<b>CAPEX/OPEX</b>	Moderate - low capex + opex	High - low capex + opex

\*Source: Ionic Rare Earths Ltd Presentation, 4 May 2021.

## REE Outlook

- China's Export Control Ban (December 2020): This is anticipated to reduce availability of CREO & HREO and likely to place upward pressure on CREO and HREO prices.
- REO demand being driven by Government Stimulus spending on EV's, renewable energy, communications, and defence.
- EV demand in particular is placing upward pressure on NdPr pricing which are anticipated to increase up to seven-fold by 2030.
- Offshore wind turbines need DyTb – pledges to add 230 GW of offshore wind turbine demand committed by 2030, 1400GW target by 2050.
- Adamas Intelligence are projecting a strong performance over a basket of REE out to 2030 (table 8).

Oxide (Grade)	2019	2020	1Q2021	2025	2030
La <sub>2</sub> O <sub>3</sub> (3N)	\$1.73	\$1.64	\$1.50	\$2.79	\$3.23
CeO <sub>2</sub> (3N)	\$1.76	\$1.47	\$1.51	\$2.02	\$2.28
Pr <sub>6</sub> O <sub>8</sub> (2N5)	\$54.15	\$45.76	\$68.83	\$86.00	\$110.50
Nd <sub>2</sub> O <sub>3</sub> (2N5)	\$44.51	\$49.14	\$96.03	\$92.00	\$105.50
Sm <sub>2</sub> O <sub>3</sub> (3N)	\$1.82	\$1.76	\$1.88	\$2.22	\$2.77
Eu <sub>2</sub> O <sub>3</sub> (5N)	\$33.69	\$29.81	\$31.44	\$40.91	\$55.77
Gd <sub>2</sub> O <sub>3</sub> (2N5)	\$23.05	\$24.59	\$32.89	\$33.20	\$41.00
Tb <sub>4</sub> O <sub>7</sub> (4N)	\$503.51	\$671.32	\$1,382.06	\$1,250.00	\$1,375.00
Dy <sub>2</sub> O <sub>3</sub> (2N5)	\$235.41	\$260.54	\$384.16	\$500.00	\$550.00
Ho <sub>2</sub> O <sub>3</sub> (2N5)	\$50.50	\$58.07	\$116.81	\$99.60	\$123.00
Er <sub>2</sub> O <sub>3</sub> (2N5)	\$23.62	\$22.56	\$28.03	\$32.46	\$37.63
Yb <sub>2</sub> O <sub>3</sub> (4N)	\$15.80	\$14.52	\$15.48	\$17.22	\$19.96
Lu <sub>2</sub> O <sub>3</sub> (4N)	\$604.12	\$613.56	\$794.20	\$800.00	\$800.00
Y <sub>2</sub> O <sub>3</sub> (5N)	\$2.83	\$2.94	\$4.98	\$6.58	\$7.63

**Table 8:** Scenario 1: Near-Term Supply Drags Prices Down Moderately, but Prices Minimised by Ongoing Myanmar-related Uncertainty (Chinese Domestic Prices (incl. VAT) US\$/kg REO). (Source: Adamas Intelligence *in* Australian Rare Earths Prospectus, P45, 7<sup>th</sup> May 2021).





## **The Makuutu REE Project, Uganda (Ionic Rare Earths Limited (ASX: IXR) 60%)<sup>10</sup>**

In an announcement dated 3 March 2021, IXR notes the following:

The Makuutu deposit is interpreted to be an ionic adsorption REE clay-type deposits like those in south China, Myanmar, Madagascar, Chile, and Brazil.

- Total Resource (Indicated and Inferred) 315 million tonnes at 650ppm TREO, including 480ppm LREO and 170ppm HREO.
- Heavy Rare Earth Oxides (26%) and Critical Rare Earth Oxides (35%).
- The REE mineralisation is concentrated in the weathered profile where it has dissolved from its primary mineral form, then ionically bonded (adsorbed) or colloiddally bonded on to fine particles of aluminosilicate clays (e.g., kaolinite, illite, smectite). The adsorbed and colloiddal REE is the target for extraction and production of REO at Makuutu.

## **Koppamurra Deposit, South Australia, and Victoria. (Australian Rare Earths Limited, ASX: AR3) 100%)<sup>11</sup>**

In its Prospectus dated 3 March 2021, AR3 notes the following:

- Total Inferred Resource 39.9 million tonnes at 725ppm TREO, including 507ppm LREO and 218ppm HREO. Mineralisation is commonly in a 2 to 3 metre clay zone.
- Heavy Rare Earth Oxides (30%) and Critical Rare Earth Oxides (37%).
- AR3 notes that whilst Koppamurra shares similarities with both ion adsorption clay deposits and volcanic ash fall placer deposits, there are also several differences, the genetic model for REE mineralisation is not settled.

The Company acknowledges the Esperance Nyungar People, custodians of the Project area.

This announcement has been authorised for release by the Company's board of Directors.

### **For further information, please contact:**

Peter Christie  
Chairman  
+61 8 6165 8858

David Crook  
Technical Manager  
+61 8 6165 8858

ASX: MRD  
**Mount Ridley Mines Limited**  
ABN 93 092 304 964

Ground Floor  
168 Stirling Hwy  
Nedlands WA

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<sup>10</sup> Ionic Rare Earths Limited (ASX: IXR) announcement dated 3 March 2021

<sup>11</sup> Australian Rare Earths Limited Prospectus.



## About Mount Ridley Mines Limited

Mount Ridley is a company targeting demand driven metals in Western Australia.

Its namesake Mount Ridley Project, located within a Fraser Range sub-basin, was initially acquired for its nickel and copper sulphides potential, and is now recognised as being prospective for ionic clay REE deposits.

The Company also holds approximately 18% of the Weld Range West Iron Project in the mid-west of Western Australia. Drilling is progressively testing targets for direct-shipping iron ore. Areas of the tenements are also prospective for gold.

## Competent Person

*The information in this report that relates to exploration strategy and results is based on information supplied to and compiled by Mr David Crook. Mr Crook is a consulting geologist retained by Mount Ridley Limited. Mr Crook is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and has sufficient experience which is relevant to the exploration processes undertaken to qualify as a Competent Person as defined in the 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

## Caution Regarding Forward Looking Information

*This announcement may contain forward-looking statements that may involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.*



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Ionic Rare Earths Announcement to ASX dated 3<sup>rd</sup> March 2021.





## APPENDIX 1: Drill Hole Summary and Significant Assay Results

<b>Hole ID</b>	<b>East</b>	<b>North</b>	<b>RL</b>	<b>Depth</b>	<b>Dip</b>	<b>Azimuth</b>
	<b>(m)</b>	<b>(m)</b>	<b>(m)</b>	<b>(m)</b>	<b>(°)</b>	<b>(°)</b>
MRAC0438	426,337	6,318,098	184.4	45	-90	0
MRAC0439	426,826	6,318,157	184.1	48	-90	0
MRAC0440	426,762	6,318,233	186.4	53	-90	0
MRAC0441	426,698	6,318,310	185.6	25	-90	0
MRAC0442	426,634	6,318,387	185.4	44	-90	0
MRAC0443	428,308	6,320,293	186.2	53	-90	0
MRAC0445	428,180	6,320,447	185.9	53	-90	0
MRAC0446	428,153	6,320,561	184.0	46	-90	0
MRAC0448	428,038	6,320,721	184.7	45	-90	0
MRAC0450	427,868	6,320,813	184.3	52	-90	0
MRAC0451	428,651	6,319,873	182.7	51	-90	0
MRAC0453	428,756	6,319,757	183.0	45	-90	0
MRAC0454	428,820	6,319,680	185.3	43	-90	0
MRAC0455	428,434	6,319,360	184.4	38	-90	0
MRAC0456	428,370	6,319,437	184.4	38	-90	0
MRAC0457	428,306	6,319,513	184.4	34	-90	0
MRAC0458	428,242	6,319,590	186.0	55	-90	0
MRAC0459	428,178	6,319,667	184.7	46	-90	0
MRAC0460	428,114	6,319,743	184.6	23	-90	0
MRAC0461	428,050	6,319,820	185.0	45	-90	0
MRAC0463	426,250	6,318,847	183.2	35	-90	0
MRAC0467	425,994	6,319,153	183.2	72	-90	0
MRAC0470	427,214	6,319,257	183.0	18	-90	0
MRAC0471	427,472	6,319,730	182.3	39	-90	0
MRAC0472	427,986	6,319,897	183.8	42	-90	0
MRAC0473	427,922	6,319,973	183.6	48	-90	0
MRAC0474	426,892	6,318,937	183.8	51	-90	0
MRAC0475	426,956	6,318,783	184.1	42	-90	0
MRAC0476	427,278	6,319,103	184.6	27	-90	0
MRAC0521	420,824	6,312,384	185.3	34	-90	0
MRAC0522	420,754	6,312,455	185.7	22	-90	0
MRAC0523	420,692	6,312,524	187.6	30	-90	0
MRAC0524	420,624	6,312,597	186.8	36	-90	0
MRAC0525	420,553	6,312,669	185.9	31	-90	0
MRAC0526	420,458	6,312,734	184.6	27	-90	0
MRAC0527	420,314	6,312,806	183.1	31	-90	0
MRAC0528	420,293	6,312,885	184.2	28	-90	0
MRAC0529	420,268	6,312,967	187.8	21	-90	0
MRAC0530	420,190	6,313,029	189.7	25	-90	0
MRAC0531	420,133	6,313,078	188.0	24	-90	0
MRAC0532	420,476	6,313,444	188.1	26	-90	0
MRAC0533	420,559	6,313,360	187.4	28	-90	0
MRAC0534	420,619	6,318,299	191.9	18	-90	0
MRAC0535	420,677	6,313,224	184.5	6	-90	0
MRAC0536	420,667	6,313,140	182.7	3	-90	0
MRAC0537	420,662	6,313,075	181.8	4	-90	0

**Table 9**  
**Collar Locations for Re-Assayed Drill Holes**

Hole ID	East (m)	North (m)	RL (m)	Depth (m)	Dip (°)	Azimuth (°)
MRAC0538	420,737	6,313,007	183.4	12	-90	0
MRAC0539	420,877	6,312,973	182.2	22	-90	0
MRAC0540	421,038	6,312,879	182.7	41	-90	0
MRAC0541	421,108	6,312,805	179.9	26	-90	0
MRAC0542	421,200	6,312,727	180.8	22	-90	0
MRAC0543	421,527	6,313,103	180.4	25	-90	0
MRAC0544	421,458	6,313,170	181.4	34	-90	0
MRAC0545	421,381	6,313,228	184.2	12	-90	0
MRAC0546	421,210	6,313,316	181.2	2	-90	0
MRAC0547	421,197	6,313,373	181.3	2	-90	0
MRAC0548	421,172	6,313,457	187.9	2	-90	0
MRAC0549	421,097	6,313,524	192.3	3	-90	0
MRAC0550	421,027	6,313,594	191.7	12	-90	0
MRAC0551	420,954	6,313,666	191.1	27	-90	0
MRAC0554	421,172	6,314,161	191.2	25	-90	0
MRAC0555	421,255	6,314,082	189.0	35	-90	0
MRAC0556	421,327	6,314,016	187.8	21	-90	0
MRAC0557	421,396	6,313,941	187.9	12	-90	0
MRAC0559	421,535	6,313,797	187.4	12	-90	0
MRAC0560	421,596	6,313,728	186.8	17	-90	0
MRAC0561	421,660	6,313,665	183.5	9	-90	0
MRAC0563	421,815	6,313,508	183.5	35	-90	0
MRAC0564	421,883	6,313,443	186.3	37	-90	0
MRAC0567	422,089	6,313,945	182.4	41	-90	0
MRAC0568	422,026	6,314,018	185.7	38	-90	0
MRAC0569	421,953	6,314,088	188.0	13	-90	0
MRAC0573	421,678	6,314,325	184.9	30	-90	0
MRAC0574	421,595	6,314,356	183.7	27	-90	0
MRAC0603B	431,110	6,322,416	190.5	30	-90	0
MRAC0604	431,156	6,322,355	191.8	40	-90	0
MRAC0605	432,369	6,322,773	189.8	48	-90	0
MRAC0606	432,315	6,322,843	190.8	46	-90	0
MRAC0607	432,244	6,322,863	190.1	36	-90	0
MRAC0608	431,955	6,323,003	188.9	42	-90	0
MRAC0609	431,932	6,323,091	190.3	46	-90	0
MRAC0611	431,980	6,323,224	190.6	40	-90	0
MRAC0612	431,910	6,323,296	191.7	45	-90	0
MRAC0613	431,834	6,323,379	193.7	52	-90	0
MRAC0615	431,701	6,323,520	193.6	52	-90	0
MRAC0617	432,151	6,323,791	198.1	45	-90	0
MRAC0618	432,216	6,323,700	197.3	33	-90	0
MRAC0620	432,357	6,323,564	190.6	13	-90	0
MRAC0621	432,415	6,323,494	189.8	13	-90	0
MRAC0622	432,474	6,323,418	189.9	20	-90	0
MRAC0623	432,540	6,323,337	191.6	15	-90	0
MRAC0624	432,612	6,323,296	191.1	17	-90	0
MRAC0628	433,048	6,323,532	187.4	28	-90	0
MRAC0629	432,997	6,323,602	192.6	29	-90	0

**Table 9**  
**Collar Locations for Re-Assayed Drill Holes**

Hole ID	East (m)	North (m)	RL (m)	Depth (m)	Dip (°)	Azimuth (°)
MRAC0630	432,914	6,323,692	193.1	31	-90	0
MRAC0631	432,850	6,323,754	191.1	21	-90	0
MRAC0632	432,777	6,323,836	187.2	17	-90	0
MRAC0660	423,649	6,312,868	182.2	55	-90	0
MRAC0662	423,117	6,312,278	182.8	43	-90	0
MRAC0663	422,701	6,312,051	180.6	43	-90	0
MRAC0664	422,612	6,311,632	180.5	44	-90	0
MRAC0665	422,496	6,311,347	178.6	45	-90	0
MRAC0666	422,091	6,311,062	180.8	52	-90	0
MRAC0667	419,048	6,308,697	181.5	50	-90	0
MRAC0668	419,458	6,308,688	180.3	26	-90	0
MRAC0669	419,861	6,308,691	183.4	38	-90	0
MRAC0670	420,250	6,308,696	180.0	48	-90	0
MRAC0671	420,656	6,308,684	181.1	30	-90	0
MRAC0672	421,052	6,308,693	179.9	36	-90	0
MRAC0673	416,213	6,306,665	177.4	22	-90	0
MRAC0675	416,799	6,306,065	175.3	26	-90	0
MRAC0676	417,131	6,305,884	175.0	29	-90	0
MRAC0677	417,437	6,305,607	178.0	56	-90	0
MRAC0678	417,740	6,305,374	177.0	34	-90	0
MRAC0679	418,085	6,305,269	174.5	29	-90	0
MRAC0683	419,271	6,311,159	183.0	20	-90	0
MRAC0684	419,193	6,311,213	184.1	32	-90	0
MRAC0689	417,440	6,309,084	180.6	35	-90	0
MRAC0690	422,079	6,313,965	183.7	52	-90	0
MRAC0692	422,148	6,314,030	183.2	37	-90	0
MRAC0693	422,132	6,314,053	183.6	37	-90	0
MRAC0694	422,119	6,314,073	183.4	42	-90	0
MRAC0695	422,103	6,314,092	184.4	41	-90	0
MRAC0696	422,079	6,314,108	185.6	35	-90	0
MRAC0697	422,057	6,314,125	186.8	31	-90	0
MRAC0698	422,043	6,314,141	188.0	21	-90	0
MRAC0699	422,026	6,314,160	188.6	15	-90	0
MRAC0705	421,977	6,313,929	182.7	14	-90	0
MRAC0706	421,990	6,313,908	182.8	24	-90	0
MRAC0707	422,008	6,313,894	182.8	22	-90	0
MRAC0708	422,029	6,313,877	182.8	39	-90	0
MRAC0709	422,061	6,313,978	184.2	48	-90	0
MRAC0711	422,009	6,314,033	186.4	24	-90	0
MRAC0712	421,990	6,314,053	187.6	29	-90	0
MRAC0714	428,178	6,319,808	184.7	30	-90	0
MRAC0715	428,196	6,319,790	184.7	26	-90	0
MRAC0716	428,213	6,319,773	184.9	35	-90	0
MRAC0717	428,231	6,319,755	185.0	51	-90	0
MRAC0718	428,249	6,319,738	184.8	54	-90	0
MRAC0719	428,267	6,319,720	184.8	55	-90	0
MRAC0720	428,284	6,319,702	184.8	58	-90	0
MRAC0721	428,302	6,319,685	185.1	68	-90	0

**Table 9**  
**Collar Locations for Re-Assayed Drill Holes**

Hole ID	East (m)	North (m)	RL (m)	Depth (m)	Dip (°)	Azimuth (°)
MRAC0722	428,320	6,319,667	185.0	59	-90	0
MRAC0723	428,231	6,319,614	185.9	36	-90	0
MRAC0724	428,213	6,319,632	185.9	48	-90	0
MRAC0725	428,196	6,319,649	185.2	31	-90	0
MRAC0726	428,160	6,319,685	184.7	47	-90	0
MRAC0727	428,143	6,319,702	184.6	44	-90	0
MRAC0728	428,125	6,319,720	184.5	38	-90	0
MRAC0729	428,036	6,319,667	184.6	21	-90	0
MRAC0730	428,054	6,319,649	185.0	26	-90	0
MRAC0731	428,072	6,319,632	185.3	36	-90	0
MRAC0732	428,089	6,319,614	185.2	32	-90	0
MRAC0733	428,107	6,319,596	184.8	39	-90	0
MRAC0758	416,402	6,329,486	218.2	81	-90	0
MRAC0759	416,103	6,329,265	217.6	83	-90	0
MRAC0763	415,699	6,329,046	219.6	76	-90	0
MRAC0774	415,602	6,328,697	218.6	89	-90	0
MRAC0776	416,009	6,328,693	218.0	75	-90	0
MRAC0777	416,204	6,328,698	217.0	80	-90	0
MRAC0781	415,497	6,328,498	218.3	85	-90	0
MRAC0782	415,296	6,328,499	218.1	74	-90	0
MRAC0783	415,607	6,329,047	219.7	86	-90	0
MRAC0784	415,800	6,329,049	219.2	76	-90	0
MRAC0785	416,000	6,329,045	218.4	85	-90	0
MRAC0788	416,401	6,328,897	217.3	80	-90	0
MRAC0789	416,201	6,328,890	217.5	93	-90	0
MRAC0791	416,050	6,328,894	218.0	73	-90	0
MRAC0792	416,000	6,328,901	218.1	60	-90	0
MRAC0793	415,797	6,328,897	218.6	68	-90	0
MRAC0794	415,604	6,328,891	219.1	72	-90	0
MRAC0795	415,497	6,328,698	218.7	71	-90	0
MRAC0796	415,701	6,328,690	218.0	77	-90	0
MRAC0797	415,902	6,328,691	218.2	67	-90	0
MRAC0798	416,100	6,328,699	217.5	69	-90	0
MRAC0800	416,048	6,328,483	217.3	67	-90	0
MRAC0801	416,000	6,328,496	217.1	72	-90	0
MRAC0802	415,802	6,328,496	217.1	71	-90	0
MRAC0822	415,997	6,328,300	216.5	39	-90	0
MRAC0823	416,086	6,328,297	216.8	52	-90	0
MRAC0826	414,898	6,327,507	216.3	59	-90	0
MRAC0828	415,100	6,327,500	216.5	27	-90	0
MRAC0830	415,297	6,327,516	215.6	41	-90	0
MRAC0831	415,400	6,327,512	215.6	51	-90	0
MRAC0850	442,472	6,320,856	195.3	32	-90	0
MRAC0851	441,172	6,319,192	187.1	45	-90	0
MRAC0852	440,443	6,318,254	190.1	42	-90	0
MRAC0853	436,876	6,324,566	194.0	48	-90	0
MRAC0854	436,949	6,324,514	193.9	41	-90	0
MRAC0855	437,039	6,324,455	194.9	25	-90	0





Table 9 Collar Locations for Re-Assayed Drill Holes						
Hole ID	East	North	RL	Depth	Dip	Azimuth
	(m)	(m)	(m)	(m)	(°)	(°)
MRAC0856	437,119	6,324,406	194.9	45	-90	0
MRAC0857	437,193	6,324,350	196.1	22	-90	0
MRAC0858	437,287	6,324,296	194.2	29	-90	0

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0858	MR16723	28	29	135.5	12.3	7.0	3.2	13.6	2.5	65.7	0.9	8.2	14.5	2.1	0.9	72.6	5.7	503	165	338
MRAC0858	MR16722	26	28	137.0	14.8	8.6	3.9	17.3	3.1	72.3	1.0	7.8	16.8	2.4	1.1	92.2	6.7	566	205	361
MRAC0857	MR16719	17	21	107.5	6.9	3.9	1.7	7.9	1.4	47.9	0.6	14.2	8.9	1.2	0.6	37.5	3.7	341	90	251
MRAC0856	MR16716	40	44	85.7	8.3	4.9	1.9	8.3	1.8	37.8	0.7	12.3	8.5	1.3	0.7	50.3	4.8	312	112	200
MRAC0856	MR16715	36	40	70.9	9.4	6.3	1.7	9.0	2.1	32.0	0.9	13.2	8.2	1.4	0.9	62.8	5.9	306	133	173
MRAC0855	MR16713	21	24	87.6	7.5	4.0	2.3	8.5	1.5	36.1	0.5	6.3	9.1	1.3	0.6	37.8	3.5	303	95	208
MRAC0854	MR16711	37	40	171.0	9.2	4.5	2.9	11.1	1.6	76.1	0.6	16.8	14.2	1.6	0.6	41.9	4.0	511	112	399
MRAC0853	MR16710	47	48	112.0	6.4	3.5	2.8	7.9	1.3	54.3	0.5	10.2	9.5	1.1	0.5	35.6	3.3	360	88	272
MRAC0853	MR16709	46	47	110.5	5.9	3.3	2.4	7.2	1.2	55.5	0.5	9.4	8.7	0.9	0.5	34.3	3.2	355	84	271
MRAC0853	MR16708	43	46	133.0	5.8	3.3	2.9	7.9	1.2	66.9	0.4	11.7	10.5	1.0	0.4	33.3	2.8	409	83	326
MRAC0852	MR16707	41	42	110.5	7.0	3.9	1.8	8.2	1.4	52.7	0.6	17.4	9.1	1.1	0.6	40.1	3.7	357	94	263
MRAC0852	MR16706	40	41	105.0	5.7	3.2	1.6	6.9	1.2	50.8	0.5	15.4	8.3	0.9	0.5	33.0	2.9	330	80	250
MRAC0852	MR16705	36	40	126.5	7.7	4.5	1.7	8.5	1.6	61.0	0.7	14.7	10.1	1.3	0.6	43.9	4.2	405	104	301
MRAC0851	MR16704	44	45	304.0	13.6	6.3	3.7	19.1	2.4	137.5	0.8	11.0	27.1	2.6	0.9	51.9	5.3	910	160	750
MRAC0851	MR16703	40	44	138.0	6.3	3.2	1.5	7.6	1.1	61.2	0.5	14.1	11.7	1.1	0.5	25.0	3.1	405	75	330
MRAC0850	MR16701	29	31	180.0	8.8	5.3	2.3	9.8	1.8	66.9	0.8	12.9	12.1	1.5	0.8	53.8	5.4	512	124	388
MRAC0802	MR16344	70	71	281.0	8.0	3.8	1.9	10.7	1.5	98.1	0.4	9.7	14.4	1.5	0.5	42.9	3.1	672	108	564
MRAC0801	MR16325	71	72	176.5	8.9	4.8	2.1	10.7	1.8	73.1	0.6	6.7	14.7	1.6	0.7	47.1	4.4	526	118	408
MRAC0797	MR16246	66	67	701.0	5.0	2.0	3.0	8.5	0.8	463.0	0.2	9.4	21.5	1.1	0.3	16.2	1.8	1708	71	1637
MRAC0795	MR16207	70	71	175.0	3.3	2.0	0.8	3.4	0.6	22.8	0.3	8.7	5.0	0.6	0.3	15.7	2.1	307	41	266
MRAC0794	MR16187	71	72	195.5	45.5	25.9	10.3	45.5	8.6	251.0	3.1	12.9	52.1	7.4	3.5	213.0	23.4	1430	530	900
MRAC0793	MR16167	67	68	365.0	8.2	3.8	3.3	10.9	1.3	83.1	0.5	11.8	20.1	1.6	0.5	24.7	3.8	769	94	675
MRAC0791	MR16131	68	72	86.0	7.3	3.7	1.6	7.9	1.3	61.5	0.5	5.6	12.2	1.2	0.5	32.6	3.3	359	87	272
MRAC0791	MR16130	64	68	285.0	2.1	1.2	0.4	2.3	0.4	21.1	0.2	5.9	3.2	0.4	0.2	10.3	1.2	410	24	386
MRAC0789	MR16088	92	93	96.7	7.0	4.1	1.3	7.3	1.4	55.1	0.5	6.4	9.1	1.2	0.5	38.3	3.3	340	91	249
MRAC0789	MR16087	88	92	114.5	8.2	4.6	1.4	8.6	1.6	56.6	0.5	6.9	10.0	1.4	0.6	44.2	3.7	379	104	275
MRAC0789	MR16086	84	88	100.5	6.5	3.6	1.2	7.1	1.2	53.1	0.5	5.7	8.7	1.1	0.5	33.9	3.0	329	80	249
MRAC0788	MR16063	79	80	301.0	8.1	4.1	2.1	10.2	1.5	89.1	0.5	7.8	14.3	1.4	0.6	36.8	3.5	680	102	578
MRAC0788	MR16062	76	79	307.0	5.3	2.9	1.5	7.1	1.1	74.4	0.4	6.8	9.4	0.9	0.4	27.7	2.5	603	70	533
MRAC0785	MR15996	84	85	125.0	20.0	9.9	5.6	25.3	3.8	168.5	1.2	9.6	31.8	3.6	1.3	101.0	8.1	843	254	589
MRAC0785	MR15995	80	84	119.0	23.8	11.3	7.0	30.4	4.3	177.0	1.3	8.2	38.8	4.4	1.6	105.0	9.5	925	286	639
MRAC0785	MR15993	72	76	144.5	1.8	0.9	0.7	2.5	0.3	56.2	0.1	10.3	4.1	0.4	0.1	7.6	0.8	300	23	277
MRAC0784	MR15974	75	76	346.0	5.3	2.6	2.0	7.0	0.9	48.5	0.3	8.1	10.3	1.0	0.3	21.6	2.5	599	63	536
MRAC0783	MR15953	85	86	448.0	33.2	16.0	8.5	35.4	5.6	223.0	1.8	9.5	54.0	6.1	2.1	122.0	13.8	1529	358	1171
MRAC0781	MR15907	84	85	92.5	17.2	10.1	3.0	17.5	3.6	97.5	1.2	6.7	17.7	2.8	1.4	104.0	8.1	577	227	350
MRAC0776	MR15802	74	75	136.0	8.9	4.4	1.9	10.2	1.7	71.3	0.5	5.3	13.8	1.5	0.6	42.3	3.6	460	109	351
MRAC0774	MR15761	88	89	95.3	12.3	7.6	2.5	12.0	2.6	63.3	1.1	12.9	10.7	1.9	1.1	74.6	6.8	425	162	263
MRAC0763	MR15520	75	76	92.9	12.2	7.1	2.8	12.6	2.6	62.9	0.9	13.7	13.5	2.0	1.0	71.4	6.3	440	160	280

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0759	MR15435	82	83	170.0	18.5	9.9	5.4	24.9	3.5	240.0	1.2	8.0	37.4	3.3	1.4	91.0	8.0	1055	246	809
MRAC0758	MR15412	80	81	128.5	20.8	9.9	5.4	25.6	3.7	207.0	1.2	8.5	36.3	3.7	1.4	86.0	8.8	933	243	690
MRAC0733	MR15317	38	39	42.6	16.9	10.1	5.1	17.0	3.5	36.6	1.2	3.7	13.9	2.7	1.3	106.0	7.9	393	226	167
MRAC0733	MR15316	36	38	82.1	22.9	12.1	9.1	25.2	4.2	58.7	1.5	5.1	26.0	4.0	1.7	108.0	10.5	579	273	306
MRAC0732	MR15306	31	32	84.7	30.4	19.6	8.0	32.1	7.0	79.2	2.3	8.4	21.4	4.8	2.5	266.0	14.0	824	502	322
MRAC0732	MR15305	28	31	142.0	54.4	32.5	16.0	61.1	11.8	157.0	3.8	9.7	45.2	8.8	4.3	406.0	24.1	1443	815	628
MRAC0731	MR15294	28	32	123.5	18.7	9.9	7.0	20.6	3.7	50.3	1.3	6.6	19.8	3.1	1.4	93.3	8.6	550	226	324
MRAC0730	MR15286	25	26	71.4	11.6	7.8	3.9	11.4	2.5	34.9	1.1	9.2	9.4	1.8	1.1	75.9	7.3	346	161	185
MRAC0730	MR15285	24	25	211.0	36.0	20.7	12.8	40.4	7.4	118.0	2.5	8.9	34.4	5.8	2.7	233.0	15.9	1104	502	602
MRAC0730	MR15284	20	24	203.0	26.6	15.3	10.3	28.0	5.5	121.0	2.1	12.7	29.2	4.3	2.2	151.5	13.2	924	348	576
MRAC0729	MR15277	20	21	146.0	13.4	7.3	4.8	13.3	2.7	42.2	1.0	9.7	13.5	2.2	1.1	59.3	6.7	452	151	301
MRAC0729	MR15276	16	20	157.0	13.8	7.3	5.2	14.7	2.8	48.1	1.0	9.5	15.2	2.3	1.0	59.1	6.9	491	156	335
MRAC0728	MR15271	37	38	32.0	21.1	11.3	8.3	21.8	4.3	49.5	1.4	2.3	20.8	3.5	1.6	110.0	9.4	469	260	209
MRAC0728	MR15270	36	37	46.4	31.3	16.0	13.1	34.2	6.1	73.8	2.0	3.1	32.0	5.3	2.2	151.5	12.9	687	370	317
MRAC0728	MR15269	32	36	48.7	28.8	15.2	12.0	30.2	5.7	67.9	2.0	3.9	30.6	4.8	2.1	132.5	13.5	641	334	307
MRAC0727	MR15260	43	44	47.6	20.7	13.5	4.7	18.0	4.8	24.6	1.7	4.5	12.5	3.1	1.8	165.5	10.8	460	315	145
MRAC0727	MR15259	40	43	49.8	17.7	11.3	4.7	16.2	3.9	32.1	1.4	4.9	13.0	2.8	1.6	126.0	8.8	417	254	163
MRAC0726	MR15247	46	47	104.5	107.0	48.5	42.5	150.5	18.8	297.0	3.4	3.2	110.5	19.3	5.2	580.0	24.7	2446	1347	1099
MRAC0726	MR15246	44	46	98.6	126.0	64.6	46.5	170.5	26.3	354.0	5.4	4.1	118.5	22.4	7.9	803.0	37.5	2945	1740	1205
MRAC0726	MR15245	40	44	56.0	61.3	37.8	17.1	53.5	11.9	109.5	5.0	3.5	47.2	8.9	5.0	292.0	34.2	1160	697	463
MRAC0724	MR15217	16	20	144.5	9.1	2.3	6.7	15.7	1.2	220.0	0.3	25.0	28.9	1.9	0.3	19.1	1.8	789	102	687
MRAC0722	MR15202	58	59	45.5	30.6	16.7	10.2	33.6	6.2	64.0	1.9	3.9	32.1	5.0	2.2	166.0	12.5	683	384	299
MRAC0722	MR15201	56	58	58.6	69.2	33.4	27.5	86.4	13.1	174.5	3.4	4.1	90.3	12.4	4.2	329.0	24.2	1613	839	774
MRAC0721	MR15185	67	68	42.0	16.7	9.2	5.1	22.7	3.4	49.4	0.7	3.6	13.1	2.8	1.0	159.0	4.9	479	294	185
MRAC0721	MR15184	64	67	23.0	18.0	10.6	4.6	20.0	3.7	32.7	1.0	5.2	12.0	2.8	1.3	125.0	6.5	380	250	130
MRAC0721	MR15183	60	64	79.1	76.2	41.4	22.6	101.5	15.3	208.0	3.2	2.9	59.6	12.9	4.5	596.0	22.4	1850	1171	679
MRAC0721	MR15182	56	60	172.0	179.5	92.2	60.3	236.0	36.5	505.0	9.8	3.1	164.5	31.3	12.3	1005.0	69.0	4039	2303	1736
MRAC0721	MR15181	52	56	81.7	96.2	42.5	44.0	122.5	17.3	222.0	5.4	3.2	136.0	17.6	6.3	375.0	39.7	2162	1084	1078
MRAC0720	MR15167	57	58	56.5	22.1	12.6	6.5	22.3	4.6	46.6	1.6	3.5	19.2	3.6	1.7	128.5	10.3	512	283	229
MRAC0720	MR15166	56	57	55.3	33.2	18.6	10.2	33.8	6.9	67.1	2.4	2.9	29.5	5.4	2.5	172.5	15.6	711	401	310
MRAC0720	MR15165	52	56	84.8	17.9	12.5	3.6	13.3	4.2	50.1	1.8	4.6	10.9	2.5	1.8	131.5	10.9	482	258	224
MRAC0719	MR15151	54	55	28.8	14.8	8.7	4.0	17.0	3.4	38.2	1.0	3.0	10.5	2.4	1.1	130.5	5.8	384	246	138
MRAC0719	MR15149	52	54	48.8	41.3	24.0	11.3	45.1	9.0	94.2	2.6	3.4	31.4	6.7	3.1	301.0	16.2	944	600	344
MRAC0719	MR15148	48	52	52.7	51.0	30.1	13.4	49.9	11.1	104.5	3.5	3.9	36.7	7.9	4.0	330.0	21.9	1072	684	388
MRAC0718	MR15133	48	52	51.5	19.5	13.5	5.3	19.6	4.6	31.4	1.4	9.5	14.5	3.0	1.7	207.0	9.2	539	369	170
MRAC0718	MR15132	44	48	32.4	19.3	12.3	5.2	19.2	4.2	31.5	1.5	3.6	13.6	3.2	1.6	155.0	9.4	445	301	144
MRAC0717	MR15117	40	44	64.9	35.0	19.6	11.7	41.6	7.2	80.6	2.2	3.8	33.0	6.0	2.5	231.0	14.6	842	492	350
MRAC0717	MR15116	36	40	187.5	111.5	55.6	44.7	145.0	21.2	363.0	5.9	3.8	130.0	20.5	7.1	650.0	41.3	2907	1497	1410

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0717	MR15115	32	36	76.1	49.0	30.7	14.8	50.2	10.5	105.5	3.7	4.4	41.4	7.9	4.0	322.0	24.6	1129	681	448
MRAC0716	MR15105	32	34	53.3	19.0	11.1	6.6	21.4	3.9	47.3	1.2	1.8	18.7	3.3	1.4	124.5	8.4	488	269	219
MRAC0715	MR15095	25	26	122.0	19.0	11.6	6.8	19.6	3.9	46.5	1.4	6.1	17.4	3.1	1.6	116.5	9.7	551	257	294
MRAC0715	MR15094	24	25	210.0	27.9	16.4	10.1	28.9	5.7	68.4	2.1	6.4	26.0	4.6	2.2	154.0	13.8	835	354	481
MRAC0714	MR15086	28	29	106.0	6.6	3.7	3.6	7.4	1.3	39.3	0.6	6.1	9.5	1.2	0.5	30.1	3.5	315	82	233
MRAC0712	MR15071	24	28	43.3	12.7	8.5	3.6	13.5	2.9	29.6	1.2	3.8	9.5	1.9	1.2	98.9	7.4	337	197	140
MRAC0712	MR15070	20	24	72.3	29.3	20.7	8.8	31.4	7.0	66.7	2.8	2.7	22.0	4.5	2.9	225.0	17.2	747	455	292
MRAC0712	MR15069	16	20	98.7	30.8	21.0	8.5	31.0	7.4	48.3	3.0	4.1	23.3	4.5	2.9	278.0	18.3	824	525	299
MRAC0711	MR15064	23	24	212.0	385.0	199.0	177.0	486.0	77.6	1340.0	24.5	6.2	475.0	63.6	27.0	2310.0	159.0	10461	5323	5138
MRAC0711	MR15063	20	23	176.5	121.0	63.8	55.7	154.5	24.6	442.0	8.0	5.1	149.0	20.1	8.7	750.0	51.8	3393	1709	1684
MRAC0711	MR15062	16	20	41.8	12.3	6.3	6.3	16.6	2.4	54.5	0.9	7.8	20.4	2.1	0.9	55.2	5.6	410	154	256
MRAC0709	MR15051	40	44	91.8	22.7	11.4	12.8	33.5	4.2	111.5	1.1	5.9	32.7	4.3	1.3	122.0	7.9	748	308	440
MRAC0709	MR15048	32	36	61.5	10.9	6.8	4.9	10.1	2.3	24.1	1.1	11.4	10.4	1.7	1.0	56.4	6.5	300	137	163
MRAC0708	MR15036	28	32	77.6	11.9	7.3	5.4	14.0	2.5	45.4	0.9	7.1	13.7	1.9	1.0	84.2	5.9	412	181	231
MRAC0708	MR15035	24	28	119.0	13.6	9.3	5.4	14.9	3.0	41.2	1.2	8.5	14.0	2.1	1.2	95.3	7.8	474	204	270
MRAC0708	MR15034	20	24	56.5	13.0	9.8	4.5	13.3	3.1	17.1	1.5	10.5	10.9	2.0	1.3	106.5	8.5	358	213	145
MRAC0707	MR15026	16	20	121.5	12.5	6.7	5.2	12.6	2.5	36.9	1.0	5.1	13.2	2.1	1.0	55.9	6.3	409	142	267
MRAC0707	MR15025	12	16	141.0	8.7	5.3	2.6	6.3	1.7	64.2	0.8	7.2	6.7	1.2	0.8	30.0	5.4	379	83	296
MRAC0706	MR15021	23	24	94.4	25.3	16.9	7.7	23.1	5.5	59.1	2.3	5.5	19.2	3.8	2.4	134.5	15.7	598	311	287
MRAC0706	MR15020	20	23	64.7	25.9	20.1	5.9	19.6	6.1	35.0	3.0	5.8	14.4	3.5	2.9	156.5	19.2	524	338	186
MRAC0706	MR15019	16	20	77.8	33.6	25.6	7.0	24.5	7.9	30.8	4.1	7.0	16.5	4.6	4.0	174.0	26.7	597	398	199
MRAC0706	MR15018	12	16	75.5	49.3	40.9	8.8	30.0	12.0	25.7	6.9	9.6	20.5	6.2	6.3	259.0	45.8	786	590	196
MRAC0706	MR15017	8	12	119.5	2.5	1.4	1.2	2.4	0.5	67.8	0.3	6.9	4.4	0.4	0.2	8.6	1.6	306	28	278
MRAC0705	MR15014	13	14	221.0	15.1	5.2	9.6	18.6	2.3	101.0	0.5	7.2	24.7	2.9	0.7	43.6	4.0	704	152	552
MRAC0705	MR15013	12	13	110.5	7.2	2.5	4.9	9.1	1.1	50.5	0.2	5.5	12.3	1.4	0.3	20.3	1.9	347	72	275
MRAC0822	MR14946	38	39	136.0	4.3	2.2	1.1	4.9	0.8	30.3	0.3	5.7	8.4	0.8	0.3	15.7	2.3	309	49	260
MRAC0828	MR14903	26	27	129.5	3.7	1.6	1.2	4.7	0.7	49.1	0.2	7.4	7.1	0.7	0.2	14.0	1.4	311	42	269
MRAC0831	MR14884	50	51	99.9	6.9	3.6	1.4	7.2	1.3	48.6	0.5	7.1	9.0	1.1	0.5	33.3	3.2	322	82	240
MRAC0699	MR13987	14	15	195.0	17.8	8.2	7.9	19.8	3.3	77.9	1.0	5.5	22.4	3.1	1.2	70.3	7.1	660	194	466
MRAC0699	MR13986	12	14	165.5	10.8	4.8	6.1	13.2	1.8	61.5	0.5	5.6	17.9	1.9	0.6	35.3	3.8	498	116	382
MRAC0698	MR13981	20	21	119.5	32.3	25.8	6.8	23.6	7.7	35.9	4.2	4.8	17.4	4.2	3.9	214.0	26.5	707	447	260
MRAC0698	MR13980	16	20	194.0	26.9	15.2	9.5	26.4	5.1	57.4	2.0	4.5	27.0	4.3	2.1	103.0	14.3	710	282	428
MRAC0697	MR13975	30	31	112.0	33.7	20.4	15.1	43.2	7.0	136.5	2.6	5.7	45.4	5.8	2.7	189.5	16.8	1031	463	568
MRAC0697	MR13974	28	30	98.2	24.1	16.0	8.8	25.9	5.1	93.9	2.2	5.9	26.0	3.8	2.2	144.5	14.0	716	330	386
MRAC0697	MR13973	24	28	59.0	24.2	19.1	5.4	18.4	5.8	25.3	3.1	6.6	13.5	3.4	2.8	135.5	19.0	464	305	159
MRAC0697	MR13972	20	24	131.5	27.9	19.5	8.0	22.2	6.0	46.5	3.1	7.6	22.2	4.0	3.0	118.0	21.3	628	308	320
MRAC0696	MR13966	34	35	39.9	15.7	8.8	7.7	20.3	3.1	76.4	1.0	4.3	21.1	2.8	1.1	84.9	7.0	477	209	268
MRAC0696	MR13965	32	34	44.4	22.9	11.8	16.0	35.4	4.2	177.0	1.4	4.3	42.9	4.3	1.5	109.5	9.3	865	312	553



Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0438	MR10465	40	44	161.5	62.2	36.0	21.8	71.7	13.0	306.0	3.4	3.3	60.3	9.8	4.1	359.0	24.9	1767	810	957
MRAC0438	MR10466	44	45	76.2	28.3	15.3	9.6	28.5	5.8	107.5	1.6	3.6	24.9	4.5	2.0	153.0	11.0	721	345	376
MRAC0439	MR10479	40	44	359.0	97.3	57.1	37.5	97.3	21.1	351.0	7.1	6.9	93.7	15.4	7.7	704.0	45.8	2885	1446	1439
MRAC0439	MR10480	44	47	120.0	57.2	40.9	19.3	55.9	14.2	124.5	4.7	5.5	37.8	8.6	5.3	466.0	30.6	1414	907	507
MRAC0439	MR10482	47	48	230.0	115.5	78.6	39.1	125.5	28.3	276.0	8.0	3.6	73.3	18.0	9.9	980.0	51.2	2893	1873	1020
MRAC0440	MR10483	0	4	77.2	30.4	17.9	11.1	31.3	6.5	70.8	1.9	3.8	23.3	4.9	2.3	194.0	12.7	715	409	306
MRAC0440	MR10491	32	36	95.9	11.3	6.0	6.7	15.5	2.0	60.7	0.8	13.8	16.0	2.1	0.8	42.8	5.2	414	132	282
MRAC0440	MR10492	36	40	70.2	13.0	7.5	6.0	17.0	2.6	51.2	0.8	10.3	15.4	2.3	1.0	71.5	5.9	408	175	233
MRAC0441	MR10503	20	24	159.5	73.3	39.0	42.5	101.5	14.1	350.0	3.5	8.2	84.8	13.1	4.5	491.0	24.7	2217	1084	1133
MRAC0441	MR10504	24	25	210.0	87.3	55.2	41.6	109.0	18.8	329.0	5.6	9.5	78.0	14.6	6.5	756.0	37.0	2582	1481	1101
MRAC0442	MR10505	0	4	32.5	10.9	6.4	5.7	15.2	2.3	44.4	0.6	4.1	10.8	1.9	0.8	78.9	4.5	328	169	159
MRAC0442	MR10514	36	40	168.0	5.6	4.5	1.6	4.6	1.3	19.9	0.7	13.1	3.6	0.9	0.7	29.2	4.5	311	68	243
MRAC0442	MR10515	40	43	87.0	13.1	8.1	5.7	15.3	2.7	49.4	1.0	11.6	13.5	2.3	1.1	77.8	7.1	420	180	240
MRAC0442	MR10516	43	44	162.5	53.8	31.6	23.6	66.9	11.0	150.5	3.2	10.8	53.0	9.2	3.9	408.0	22.6	1516	839	677
MRAC0443	MR10517	0	4	81.9	32.3	19.1	13.4	38.9	6.6	97.3	1.9	6.7	30.6	5.3	2.3	234.0	13.1	878	486	392
MRAC0445	MR10560	48	52	151.5	25.9	16.8	7.6	28.3	5.7	82.8	2.3	13.9	26.3	4.4	2.4	165.5	14.0	797	365	432
MRAC0446	MR10563	0	4	89.5	16.3	9.0	4.5	17.4	3.3	45.1	1.1	8.7	15.6	2.8	1.3	92.4	7.3	453	206	247
MRAC0446	MR10575	45	46	155.0	8.1	5.0	2.6	6.9	1.7	17.6	0.9	3.6	7.6	1.2	0.8	33.6	5.6	335	89	246
MRAC0450	MR10628	36	40	110.5	3.4	1.8	1.3	4.4	0.7	71.0	0.3	23.8	6.2	0.6	0.3	19.8	1.5	326	49	277
MRAC0450	MR10630	44	48	53.9	14.7	7.5	4.8	15.1	2.9	55.4	0.9	2.2	13.2	2.4	1.0	75.3	6.1	388	175	213
MRAC0450	MR10631	48	51	136.5	10.3	4.5	4.1	12.2	1.8	92.2	0.5	2.5	14.0	1.8	0.6	43.0	3.4	492	117	375
MRAC0450	MR10632	51	52	74.1	8.2	3.9	2.8	8.7	1.5	49.5	0.4	2.0	9.1	1.4	0.5	39.0	3.3	305	96	209
MRAC0451	MR10645	48	50	29.7	14.8	6.0	10.2	17.5	2.4	68.0	0.7	0.8	22.0	2.8	0.8	53.0	5.0	410	163	247
MRAC0451	MR10646	50	51	35.5	14.8	6.4	9.9	17.2	2.6	67.6	0.9	0.2	21.3	2.7	0.9	50.2	5.9	412	159	253
MRAC0453	MR10671	44	45	123.0	27.5	16.2	8.8	28.9	5.4	67.1	1.8	3.6	26.0	4.6	2.1	149.5	12.7	702	342	360
MRAC0454	MR10681	36	40	137.0	8.2	3.6	6.3	10.2	1.4	50.9	0.5	16.7	14.6	1.5	0.5	26.0	3.2	405	92	313
MRAC0454	MR10682	40	42	314.0	53.2	29.3	30.2	56.6	11.0	136.5	3.9	19.8	51.9	8.7	4.2	275.0	26.3	1483	666	817
MRAC0455	MR10694	32	36	135.5	17.1	11.4	5.5	14.4	3.8	37.7	1.9	5.4	13.4	2.5	1.8	83.6	12.0	478	202	276
MRAC0455	MR10695	36	37	96.4	77.5	35.4	45.5	84.8	14.0	196.5	5.0	6.6	114.0	13.8	5.3	225.0	34.6	1739	781	958
MRAC0455	MR10696	37	38	43.5	20.0	11.4	10.7	19.4	4.0	54.3	2.0	6.6	23.4	3.2	1.8	70.2	13.2	464	214	250
MRAC0456	MR10700	12	16	47.1	2.6	1.3	3.9	3.8	0.5	142.5	0.3	8.8	14.0	0.5	0.2	7.9	1.7	436	43	393
MRAC0456	MR10701	16	20	74.5	4.1	2.1	6.3	5.4	0.7	164.5	0.6	10.6	23.8	0.8	0.4	9.7	3.5	609	67	542
MRAC0456	MR10704	28	32	223.0	97.2	59.5	38.8	88.6	20.9	143.0	7.9	11.6	74.3	15.0	8.3	561.0	50.9	2063	1243	820
MRAC0456	MR10705	32	36	108.0	99.9	56.3	45.2	110.0	21.5	216.0	6.4	8.8	95.9	16.8	7.3	577.0	41.6	2200	1309	891
MRAC0456	MR10706	36	37	55.2	29.5	16.6	14.1	31.2	6.1	61.2	2.3	6.1	28.5	4.9	2.3	141.0	14.3	640	352	288
MRAC0456	MR10707	37	38	62.4	33.2	18.7	15.9	35.4	7.0	71.2	2.5	6.0	32.3	5.6	2.6	163.0	16.1	733	401	332
MRAC0458	MR10729	40	44	35.9	25.2	18.8	3.2	19.2	6.5	10.0	1.9	4.3	8.1	3.4	2.3	316.0	13.3	599	517	82
MRAC0458	MR10730	44	48	43.4	91.2	58.6	16.9	74.6	20.6	74.3	7.0	4.2	49.9	13.0	7.9	676.0	49.3	1666	1306	360

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0458	MR10731	48	52	16.8	41.9	25.4	10.7	36.3	9.0	63.0	3.2	5.0	29.2	6.3	3.5	259.0	21.3	798	543	255
MRAC0459	MR10745	44	45	107.5	237.0	131.0	78.7	261.0	49.2	489.0	15.5	4.9	212.0	38.9	17.6	1500.0	99.7	5095	3218	1877
MRAC0459	MR10746	45	46	85.5	175.0	99.2	50.9	209.0	37.0	379.0	10.3	3.9	150.5	29.5	12.5	1285.0	71.3	3963	2604	1359
MRAC0460	MR10747	0	4	20.7	18.2	10.6	5.6	20.0	3.8	42.7	1.1	5.6	15.2	3.0	1.3	128.0	7.1	426	260	166
MRAC0460	MR10749	8	12	31.2	13.1	7.3	4.0	14.1	2.7	36.6	0.7	5.1	11.0	2.2	1.0	87.3	5.1	332	182	150
MRAC0460	MR10752	20	22	144.5	39.0	22.8	14.2	37.8	7.9	64.2	2.9	10.6	31.4	6.1	3.2	203.0	19.9	890	471	419
MRAC0461	MR10763	36	40	235.0	17.1	10.1	7.0	19.9	3.6	126.0	1.3	7.1	22.5	3.0	1.4	94.3	8.4	821	229	592
MRAC0463	MR10788	32	34	145.0	47.8	27.6	15.2	48.5	9.4	120.0	4.6	3.2	55.4	8.2	4.3	204.0	29.4	1163	548	615
MRAC0463	MR10789	34	35	89.8	30.9	18.7	9.4	30.6	6.1	75.4	3.3	2.9	32.9	5.1	3.0	143.5	20.5	741	365	376
MRAC0467	MR10834	44	48	174.5	59.1	40.3	12.0	48.2	13.2	87.6	5.0	13.2	32.7	8.9	5.5	376.0	32.8	1237	773	464
MRAC0467	MR10835	48	52	54.7	20.2	13.9	4.2	16.1	4.6	25.6	1.8	3.0	11.4	3.1	1.9	131.5	11.4	413	268	145
MRAC0470	MR10858	16	17	110.5	8.0	5.0	3.4	7.5	1.6	29.1	0.8	7.0	7.7	1.3	0.8	35.0	5.3	303	93	210
MRAC0470	MR10859	17	18	643.0	37.3	17.6	19.9	45.1	6.8	149.5	1.9	7.6	47.7	6.7	2.3	159.0	14.0	1663	432	1231
MRAC0471	MR10867	28	32	119.5	8.3	4.7	3.4	8.8	1.6	32.4	0.6	16.7	9.5	1.4	0.6	37.7	4.1	335	98	237
MRAC0471	MR10868	32	36	108.5	53.0	31.5	17.8	53.9	11.0	94.9	3.7	16.5	43.9	8.5	4.3	317.0	25.1	1182	694	488
MRAC0471	MR10869	36	39	199.5	115.5	67.8	37.0	120.0	24.6	208.0	7.5	9.2	88.9	18.8	8.7	754.0	48.5	2564	1575	989
MRAC0472	MR10880	36	40	132.5	23.0	12.8	8.7	26.9	4.6	94.1	1.6	7.3	25.2	4.0	1.7	136.0	10.0	731	309	422
MRAC0472	MR10881	40	41	106.0	22.0	12.7	7.8	25.4	4.6	77.8	1.6	4.5	22.6	3.8	1.7	139.5	9.9	653	304	349
MRAC0473	MR10892	36	40	169.0	32.0	16.8	16.0	35.1	5.9	93.1	2.2	8.1	38.7	5.5	2.3	133.5	14.5	878	363	515
MRAC0473	MR10893	40	44	111.0	32.1	20.0	10.4	32.0	7.1	69.9	2.7	5.0	23.9	5.0	2.8	195.0	17.1	758	424	334
MRAC0474	MR10904	32	36	119.5	7.5	4.8	3.2	8.6	1.5	52.6	0.9	51.6	10.2	1.3	0.7	42.0	5.1	382	105	277
MRAC0474	MR10905	36	40	137.5	55.7	35.8	19.1	57.7	12.1	86.9	4.6	12.9	42.4	9.1	4.9	364.0	28.7	1252	774	478
MRAC0474	MR10906	40	44	114.5	45.9	33.4	11.7	45.7	11.2	141.5	3.9	8.7	30.7	7.0	4.2	493.0	22.9	1375	875	500
MRAC0474	MR10907	44	48	38.5	23.8	16.4	5.6	22.0	5.5	53.8	1.9	5.0	15.9	3.6	2.2	236.0	12.1	621	424	197
MRAC0474	MR10908	48	50	56.9	21.8	14.8	6.2	21.0	5.1	45.7	1.8	4.3	17.7	3.4	1.9	210.0	10.8	606	387	219
MRAC0475	MR10919	36	40	124.5	44.8	23.9	20.2	59.7	9.0	206.0	2.4	7.1	56.1	8.2	2.9	294.0	15.1	1404	651	753
MRAC0475	MR10920	40	41	50.7	10.7	6.1	4.0	14.1	2.3	55.0	0.6	4.0	10.9	1.9	0.8	84.4	4.0	367	172	195
MRAC0475	MR10921	41	42	102.5	9.1	5.3	3.9	12.9	2.0	73.8	0.6	4.8	12.4	1.7	0.7	71.3	3.7	452	151	301
MRAC0476	MR10923	0	4	65.5	39.4	18.0	19.7	58.4	7.3	232.0	1.5	7.7	53.3	7.5	2.1	241.0	10.3	1258	557	701
MRAC0476	MR10924	4	8	69.4	7.0	2.1	6.3	12.3	1.0	97.7	0.2	23.7	18.6	1.6	0.2	17.4	1.3	413	79	334
MRAC0476	MR10926	12	16	132.0	6.4	4.2	2.5	6.3	1.3	29.0	0.8	21.4	8.2	1.1	0.7	25.4	5.0	316	74	242
MRAC0476	MR10927	16	20	437.0	11.7	5.8	6.1	15.3	2.1	66.9	0.9	18.2	19.9	2.3	0.8	43.4	5.4	853	136	717
MRAC0476	MR10928	20	24	159.5	69.9	46.0	17.8	59.5	15.5	59.5	6.1	10.2	38.1	10.6	6.5	407.0	39.6	1290	873	417
MRAC0476	MR10929	24	26	68.4	24.1	16.0	7.4	21.4	5.3	32.1	2.2	3.7	14.6	3.8	2.2	140.0	14.2	494	307	187
MRAC0476	MR10930	26	27	104.0	35.1	21.8	10.7	30.1	7.5	48.3	2.9	4.3	22.6	5.3	3.1	196.5	21.1	726	433	293
MRAC0521	MR12334	32	33	39.2	14.2	7.8	3.8	14.2	2.8	42.2	0.9	4.8	11.7	2.1	1.1	89.3	6.9	356	188	168
MRAC0522	MR12341	20	21	61.4	9.2	4.8	3.4	10.1	1.8	37.2	0.6	4.4	10.5	1.5	0.7	45.2	4.4	301	113	188
MRAC0523	MR12350	24	28	120.0	22.3	12.5	8.7	24.0	4.4	77.3	1.4	7.0	24.3	3.6	1.6	137.5	10.2	696	306	390

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0524	MR12407	16	20	71.6	4.6	1.9	3.8	6.9	0.8	106.0	0.2	11.8	12.0	0.9	0.3	13.9	1.7	379	55	324
MRAC0524	MR12410	28	32	97.8	8.4	3.8	7.4	10.7	1.5	55.7	0.5	20.8	11.9	1.5	0.5	33.4	3.1	364	101	263
MRAC0526	MR12428	24	26	124.0	11.3	6.1	5.2	12.0	2.3	58.6	0.8	12.4	11.9	1.9	0.8	63.9	5.4	446	148	298
MRAC0526	MR12429	26	27	104.5	8.8	4.7	4.2	9.2	1.7	47.4	0.6	15.0	9.7	1.5	0.6	45.2	4.0	356	110	246
MRAC0527	MR12433	12	16	176.0	19.5	10.3	9.8	21.6	3.8	54.9	1.5	11.4	24.6	3.2	1.5	79.1	9.8	632	222	410
MRAC0527	MR12434	16	20	108.0	20.0	13.4	9.3	19.7	4.5	47.4	2.3	22.7	18.0	3.1	2.0	138.0	13.2	584	297	287
MRAC0527	MR12435	20	24	64.2	11.2	7.9	4.9	11.1	2.5	29.9	1.2	12.3	9.6	1.7	1.2	70.4	7.4	324	156	168
MRAC0528	MR12444	16	20	56.0	16.2	11.4	4.1	15.1	3.8	22.4	1.4	12.1	11.4	2.4	1.5	141.5	8.8	419	268	151
MRAC0528	MR12445	20	24	106.0	28.3	17.1	8.3	29.6	6.2	54.0	2.3	10.7	21.1	4.3	2.6	182.5	14.7	692	386	306
MRAC0529	MR12452	16	20	74.9	9.8	5.3	4.0	11.5	1.9	50.0	0.8	5.6	14.9	1.7	0.8	46.0	5.0	368	122	246
MRAC0529	MR12453	20	21	99.3	26.3	12.9	11.6	33.3	4.9	167.5	1.6	3.9	44.1	4.8	1.9	124.0	11.0	938	332	606
MRAC0532	MR12475	20	24	91.0	17.1	10.0	4.9	17.4	3.7	44.4	1.3	6.6	15.2	2.8	1.5	104.5	8.6	471	228	243
MRAC0538	MR12502	11	12	141.5	13.4	6.0	6.7	16.5	2.2	86.7	0.7	9.2	19.0	2.4	0.7	57.7	4.8	552	156	396
MRAC0539	MR12508	16	20	44.8	19.0	13.1	4.8	18.1	4.0	55.8	1.8	2.5	11.1	2.7	1.8	155.5	11.2	482	299	183
MRAC0540	MR12518	24	28	107.5	21.5	11.5	7.3	24.2	3.8	79.0	1.1	5.1	22.9	3.4	1.4	100.5	8.9	614	250	364
MRAC0540	MR12519	28	32	94.8	10.9	8.1	2.7	11.4	2.3	60.6	0.9	3.7	8.9	1.4	1.0	83.4	6.1	422	167	255
MRAC0540	MR12520	32	36	67.9	11.5	9.3	2.0	10.2	2.7	43.8	1.2	6.5	6.5	1.4	1.3	113.5	8.5	387	206	181
MRAC0541	MR12527	16	20	70.6	23.7	15.3	6.9	23.7	5.0	64.9	1.6	5.9	16.3	3.4	2.0	178.5	10.9	615	351	264
MRAC0542	MR12534	8	12	233.0	79.6	40.8	29.8	85.9	13.8	184.0	4.8	5.4	80.0	12.2	5.4	287.0	37.5	1763	813	950
MRAC0542	MR12537	20	21	44.3	10.6	7.4	2.6	10.8	2.3	31.8	0.8	4.1	7.0	1.5	0.9	105.5	5.6	321	190	131
MRAC0543	MR12542	12	16	79.0	9.2	5.2	3.3	9.8	1.7	32.0	0.6	8.7	10.2	1.5	0.7	39.2	4.9	301	106	195
MRAC0544	MR12550	16	20	63.5	14.2	8.1	4.9	14.8	2.6	42.4	0.8	14.7	12.3	2.2	1.1	67.7	6.9	367	164	203
MRAC0544	MR12551	20	24	85.4	19.0	11.0	5.8	17.4	3.5	45.6	1.3	6.9	15.2	2.7	1.5	85.2	9.9	453	210	243
MRAC0544	MR12552	24	28	42.7	27.7	13.8	10.2	31.2	5.0	83.7	1.4	4.4	28.4	4.2	1.8	137.5	10.8	646	331	315
MRAC0544	MR12553	28	32	44.1	18.0	12.2	5.1	19.6	3.8	63.1	1.2	5.7	12.2	2.4	1.5	178.0	7.8	528	323	205
MRAC0545	MR12559	11	12	85.0	14.5	7.8	4.1	14.5	2.5	38.8	1.0	3.7	12.9	2.1	1.1	62.5	7.3	377	157	220
MRAC0551	MR12576	16	20	74.7	24.5	16.4	6.3	23.0	4.9	54.9	1.5	4.2	22.4	3.4	2.0	197.5	11.3	658	385	273
MRAC0551	MR12577	20	24	60.8	24.5	15.5	5.3	22.6	4.8	48.9	1.8	3.0	17.1	3.3	2.1	167.0	12.8	561	338	223
MRAC0551	MR12578	24	26	200.0	45.8	22.9	15.4	53.5	7.8	133.5	2.3	2.6	52.5	7.2	3.0	218.0	18.9	1234	541	693
MRAC0551	MR12579	26	27	68.7	32.9	22.2	5.9	29.3	6.8	55.4	2.8	2.0	17.2	4.4	3.1	231.0	19.5	696	459	237
MRAC0554	MR12593	20	24	469.0	34.9	16.0	14.2	40.4	6.2	305.0	1.7	15.7	48.2	6.2	2.1	131.0	12.5	1659	375	1284
MRAC0554	MR12594	24	25	101.5	7.9	3.9	2.9	8.7	1.5	42.4	0.5	7.5	8.9	1.4	0.5	36.1	3.2	330	92	238
MRAC0556	MR12610	12	16	63.0	39.7	29.6	5.9	26.2	8.5	29.9	3.6	16.3	16.6	4.8	4.0	281.0	26.4	728	548	180
MRAC0556	MR12611	16	20	172.5	30.6	16.7	8.7	33.2	5.6	76.5	1.9	7.3	29.4	4.6	2.2	158.5	14.1	818	368	450
MRAC0556	MR12612	20	21	156.5	18.5	9.8	5.2	20.0	3.1	63.6	1.2	5.9	20.4	2.9	1.3	80.5	8.4	590	206	384
MRAC0557	MR12617	11	12	125.0	5.0	2.7	2.8	6.3	1.1	42.5	0.3	7.2	7.7	0.9	0.4	26.0	2.1	323	65	258
MRAC0559	MR12624	8	11	74.0	14.7	9.0	6.1	14.0	3.1	40.2	1.3	13.1	12.4	2.3	1.3	81.4	8.5	395	186	209
MRAC0559	MR12625	11	12	66.8	12.5	7.5	5.3	12.3	2.6	36.1	1.1	14.3	11.2	2.0	1.1	63.8	7.1	339	152	187

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0560	MR12629	12	16	63.2	31.6	24.7	6.5	22.1	7.0	32.6	3.3	6.3	15.4	4.0	3.4	240.0	21.8	654	466	188
MRAC0560	MR12630	16	17	80.7	36.5	22.8	10.9	40.0	7.3	94.1	2.7	4.1	30.9	5.3	3.0	254.0	18.3	903	526	377
MRAC0561	MR12634	8	9	108.0	98.7	58.6	40.6	111.5	18.6	484.0	6.2	3.4	96.2	14.6	7.3	624.0	44.0	2676	1363	1313
MRAC0563	MR12652	28	32	103.5	34.7	21.5	11.9	33.8	6.7	73.7	2.5	5.9	31.0	5.0	2.7	207.0	17.9	834	457	377
MRAC0563	MR12653	32	34	62.7	19.8	12.0	5.5	18.8	3.7	45.7	1.4	4.1	14.4	2.7	1.5	121.0	9.8	469	258	211
MRAC0564	MR12663	32	36	182.0	25.8	13.7	10.5	30.3	4.6	110.0	1.4	3.5	28.1	4.0	1.7	141.5	10.4	856	332	524
MRAC0567	MR12690	32	36	56.5	24.6	12.7	12.0	29.2	4.1	98.7	1.4	9.4	32.0	3.8	1.5	114.5	10.5	680	298	382
MRAC0567	MR12691	36	40	63.4	12.2	7.2	6.2	12.8	2.6	43.5	1.0	11.4	11.5	1.9	1.0	81.1	5.9	373	174	199
MRAC0568	MR12698	16	20	133.5	6.0	3.8	2.3	5.2	1.2	67.5	0.6	10.4	6.6	0.9	0.6	21.7	4.2	357	65	292
MRAC0568	MR12699	20	24	65.3	14.3	8.9	4.9	13.2	3.1	13.7	1.3	6.3	11.2	2.2	1.3	70.8	8.4	317	171	146
MRAC0568	MR12702	32	36	80.4	68.7	35.0	32.3	90.4	14.2	421.0	3.6	8.4	78.0	11.9	4.4	507.0	23.9	2225	1060	1165
MRAC0568	MR12703	36	37	42.1	37.6	28.4	8.5	33.5	8.3	53.9	3.3	8.6	19.8	5.0	3.4	331.0	22.1	830	616	214
MRAC0568	MR12704	37	38	53.9	57.9	37.3	18.4	64.1	11.9	198.5	3.9	7.2	47.7	8.4	4.3	483.0	26.1	1539	935	604
MRAC0569	MR12708	12	13	163.5	10.6	4.0	5.8	13.6	1.6	95.8	0.4	5.3	16.9	1.8	0.5	35.1	2.7	544	113	431
MRAC0573	MR12722	16	20	73.0	21.2	10.6	8.8	27.2	3.7	50.9	1.1	14.9	23.2	3.3	1.3	95.7	8.4	519	245	274
MRAC0573	MR12723	20	24	107.0	11.2	6.2	4.5	12.8	2.0	51.5	0.7	11.2	13.1	1.7	0.8	51.7	5.3	405	133	272
MRAC0573	MR12724	24	28	76.4	10.5	5.9	3.0	10.7	1.8	37.5	0.7	7.4	9.5	1.6	0.7	57.4	4.8	323	129	194
MRAC0573	MR12725	28	29	97.8	11.0	5.8	4.3	12.3	1.9	45.1	0.8	16.7	12.6	1.7	0.8	55.6	5.0	384	137	247
MRAC0573	MR12726	29	30	96.5	10.9	5.8	4.6	12.5	1.9	43.0	0.7	17.3	12.3	1.7	0.7	52.8	4.9	375	131	244
MRAC0574	MR12732	20	24	109.0	19.1	10.0	5.4	20.9	3.3	76.7	1.2	8.4	20.6	2.8	1.3	84.3	8.7	560	213	347
MRAC0574	MR12733	24	26	92.1	16.2	11.8	4.2	15.9	3.4	54.6	1.4	7.1	12.1	2.2	1.4	130.0	9.2	507	255	252
MRAC0605	MR13055	36	40	157.5	104.5	55.2	40.2	136.5	20.7	505.0	6.1	9.2	126.5	17.8	7.2	680.0	44.6	3109	1508	1601
MRAC0605	MR13056	40	44	76.9	35.8	20.6	12.7	44.1	7.7	144.0	2.4	6.4	38.3	5.9	2.7	246.0	17.2	1031	529	502
MRAC0605	MR13057	44	47	45.3	14.0	8.2	5.0	16.7	3.0	52.8	1.0	4.8	15.1	2.4	1.1	95.7	7.1	410	205	205
MRAC0606	MR13068	36	40	73.6	15.1	8.1	9.1	17.1	2.5	49.9	1.0	9.4	18.9	2.4	1.0	55.8	7.3	423	166	257
MRAC0606	MR13069	40	44	71.6	63.7	34.5	32.5	71.0	11.6	200.0	4.1	8.4	63.1	9.4	4.4	340.0	28.1	1514	803	711
MRAC0606	MR13071	45	46	53.5	18.1	9.7	9.0	20.6	3.2	64.6	1.2	5.3	17.4	2.6	1.2	94.7	8.0	478	224	254
MRAC0607	MR13080	32	35	58.0	13.1	7.9	7.1	13.9	2.8	38.0	1.1	6.2	12.5	2.1	1.1	89.0	6.7	382	190	192
MRAC0608	MR13089	28	32	161.5	9.0	4.9	2.9	11.7	1.6	52.7	0.5	12.3	13.4	1.5	0.7	47.0	3.9	471	118	353
MRAC0608	MR13091	36	40	132.0	12.8	6.6	6.5	14.2	2.1	75.7	0.9	23.3	17.4	2.0	0.9	48.3	6.8	496	142	354
MRAC0608	MR13092	40	41	100.5	51.8	30.2	18.7	55.9	9.6	170.5	3.4	11.1	48.8	7.6	3.6	312.0	23.8	1300	688	612
MRAC0608	MR13093	41	42	81.0	43.4	26.1	15.4	47.2	8.3	144.0	3.1	9.6	40.0	6.3	3.2	276.0	21.5	1104	596	508
MRAC0609	MR13100	24	28	126.0	8.1	3.1	3.4	12.1	1.1	66.7	0.3	19.9	14.4	1.5	0.3	26.7	2.3	423	88	335
MRAC0609	MR13101	28	32	147.5	8.9	2.9	4.2	13.9	1.1	68.5	0.3	25.6	20.4	1.7	0.3	18.2	2.0	471	86	385
MRAC0609	MR13103	36	40	148.0	67.3	45.9	11.1	47.5	15.4	90.8	6.6	24.5	36.3	9.3	6.8	412.0	45.9	1325	859	466
MRAC0609	MR13104	40	44	148.0	76.8	50.1	14.2	69.2	17.5	90.4	6.2	19.1	47.9	11.2	6.8	513.0	41.3	1566	1043	523
MRAC0609	MR13105	44	45	74.8	14.8	9.0	3.6	13.8	3.1	33.4	1.2	14.6	11.7	2.2	1.3	89.5	7.8	387	193	194
MRAC0609	MR13106	45	46	82.3	14.3	8.5	3.7	14.3	3.0	37.1	1.2	15.3	12.3	2.3	1.2	88.2	7.3	402	188	214



Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0611	MR13114	20	24	108.0	8.7	3.8	4.3	11.8	1.5	73.7	0.6	27.8	18.4	1.6	0.6	25.8	3.8	441	97	344
MRAC0611	MR13115	24	28	78.9	8.0	4.5	3.0	9.2	1.6	34.6	0.7	28.9	11.7	1.4	0.7	35.2	4.6	302	98	204
MRAC0611	MR13116	28	32	188.0	21.9	8.5	11.6	35.5	3.4	92.4	1.2	32.3	42.9	4.5	1.2	66.8	7.8	805	244	561
MRAC0611	MR13117	32	36	180.5	32.8	11.3	16.0	52.5	4.9	111.5	1.3	31.4	57.4	6.8	1.4	86.6	8.9	970	335	635
MRAC0611	MR13118	36	39	131.0	33.0	19.9	8.2	33.6	7.0	67.1	2.9	28.5	28.0	5.3	2.9	189.5	18.9	805	423	382
MRAC0611	MR13119	39	40	128.0	41.9	27.8	8.4	37.5	9.6	62.0	4.0	23.4	28.6	6.3	4.0	265.0	25.7	931	559	372
MRAC0603B	MR13126	24	28	107.5	30.0	20.6	8.5	28.7	6.9	97.4	3.2	7.0	25.7	4.5	3.0	240.0	19.1	882	478	404
MRAC0603B	MR13127	28	29	117.0	22.3	12.1	6.0	22.1	4.6	43.9	1.4	5.0	16.8	3.5	1.6	135.5	9.7	570	287	283
MRAC0603B	MR13128	29	30	72.2	15.4	9.3	4.1	14.4	3.3	29.7	1.1	4.6	10.6	2.3	1.2	100.5	7.5	390	209	181
MRAC0604	MR13135	24	28	135.0	19.1	10.3	6.3	21.4	3.8	97.4	1.2	21.4	20.3	3.1	1.4	98.9	8.2	647	236	411
MRAC0604	MR13136	28	32	87.7	22.2	10.5	7.5	26.1	4.2	49.2	1.2	4.6	22.5	3.9	1.4	94.2	8.3	534	244	290
MRAC0604	MR13137	32	36	62.4	16.9	9.2	4.9	18.3	3.4	31.6	1.1	4.4	14.3	2.9	1.2	91.0	7.2	399	207	192
MRAC0612	MR13146	24	28	108.0	4.4	2.6	1.3	4.9	0.8	58.0	0.3	21.7	5.9	0.7	0.4	24.2	2.4	308	59	249
MRAC0612	MR13147	28	32	108.5	6.4	4.0	1.9	7.3	1.3	40.5	0.6	13.1	8.5	1.1	0.6	41.7	3.7	338	94	244
MRAC0612	MR13148	32	36	59.8	37.6	21.8	10.8	34.2	7.7	51.7	2.8	9.1	30.4	5.9	3.0	189.0	19.1	710	438	272
MRAC0612	MR13149	36	40	70.2	24.7	15.0	6.5	21.9	5.2	33.5	1.9	7.7	18.3	3.9	2.1	135.5	12.7	507	299	208
MRAC0612	MR13150	40	44	80.0	46.1	26.1	14.2	54.1	10.1	119.5	2.5	10.0	39.4	7.7	3.1	342.0	16.7	1156	688	468
MRAC0612	MR13151	44	45	55.0	23.2	14.5	5.6	23.1	5.3	45.1	1.6	8.2	15.6	3.5	1.9	198.0	10.5	574	372	202
MRAC0613	MR13160	28	32	103.5	5.2	2.9	1.6	5.8	1.0	51.9	0.4	16.5	7.5	0.8	0.4	32.0	2.7	317	73	244
MRAC0613	MR13163	40	44	74.5	11.7	7.1	4.4	11.9	2.4	31.7	1.0	11.2	11.4	1.8	1.0	56.4	6.6	332	140	192
MRAC0613	MR13166	51	52	64.2	10.7	6.5	3.2	10.7	2.3	28.0	0.9	11.9	9.7	1.7	0.9	71.1	6.0	315	150	165
MRAC0615	MR13179	24	28	118.0	5.0	3.2	1.6	5.8	1.0	64.3	0.5	19.1	7.2	0.8	0.5	32.4	3.1	351	76	275
MRAC0615	MR13183	40	44	71.0	28.3	16.1	8.7	25.8	5.7	72.6	2.2	5.1	27.5	4.5	2.3	127.0	15.2	641	316	325
MRAC0617	MR13197	24	28	178.5	43.8	26.6	14.0	42.3	9.2	122.0	3.8	7.1	54.1	6.9	3.9	242.0	25.6	1254	571	683
MRAC0617	MR13198	28	32	242.0	97.7	55.6	26.1	100.0	20.5	314.0	6.5	25.5	92.9	15.5	7.3	609.0	43.2	2531	1307	1224
MRAC0617	MR13199	32	36	144.0	22.3	12.1	7.4	26.0	4.5	124.5	1.5	5.3	27.6	3.8	1.6	123.0	10.2	800	292	508
MRAC0617	MR13202	44	45	147.5	22.5	12.2	7.7	27.7	4.3	126.0	1.4	6.2	30.2	4.0	1.6	121.0	10.4	825	296	529
MRAC0618	MR13208	16	20	104.0	12.2	5.7	6.3	15.3	2.0	79.0	0.8	15.2	19.2	2.2	0.8	39.5	5.7	474	131	343
MRAC0618	MR13209	20	24	128.0	21.1	10.7	8.4	25.2	3.8	63.9	1.4	9.9	24.5	3.7	1.4	91.8	9.4	614	243	371
MRAC0618	MR13210	24	28	75.4	13.9	8.3	4.2	13.7	2.9	34.9	1.2	7.4	12.4	2.2	1.2	78.0	7.3	375	175	200
MRAC0620	MR13222	12	13	205.0	22.2	11.4	9.5	26.1	4.0	90.0	1.4	9.7	28.6	3.9	1.5	100.5	9.6	793	265	528
MRAC0622	MR13231	12	16	91.4	17.7	9.2	11.1	24.5	3.2	71.7	1.1	15.0	26.2	3.4	1.2	84.2	7.9	588	227	361
MRAC0622	MR13232	16	18	287.0	40.3	18.6	25.1	57.4	6.9	126.0	2.1	17.0	62.8	7.7	2.3	178.0	15.0	1361	500	861
MRAC0622	MR13233	18	19	291.0	40.6	18.6	25.8	58.7	6.9	126.5	2.0	18.0	64.9	7.8	2.3	174.5	15.0	1376	502	874
MRAC0623	MR13237	12	14	71.8	24.0	16.3	6.3	18.2	5.5	34.7	2.3	13.4	15.8	3.4	2.3	163.0	15.1	539	333	206
MRAC0623	MR13238	14	15	119.0	29.2	18.2	9.1	24.6	6.4	55.9	2.4	12.4	23.7	4.3	2.6	176.5	16.0	719	381	338
MRAC0624	MR13242	12	16	98.6	14.9	8.1	5.8	16.8	3.0	76.3	0.9	5.9	14.9	2.4	1.0	130.5	6.1	558	250	308
MRAC0624	MR13243	16	17	165.5	23.1	11.9	10.1	26.7	4.6	122.0	1.4	8.0	25.8	4.0	1.6	140.5	9.8	830	317	513

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0628	MR13267	20	24	105.0	16.2	8.6	8.8	18.4	3.2	84.7	1.1	7.8	21.6	2.8	1.2	79.7	7.4	573	203	370
MRAC0628	MR13268	24	27	53.7	17.6	9.9	7.9	19.5	3.7	82.7	1.1	7.6	17.7	2.8	1.3	113.0	7.8	521	244	277
MRAC0628	MR13269	27	28	49.7	11.2	6.3	4.9	11.8	2.4	52.3	0.8	6.1	10.6	1.7	0.9	75.7	5.5	351	161	190
MRAC0629	MR13275	20	23	152.5	21.3	11.4	12.2	24.5	4.2	77.5	1.5	7.3	28.0	3.6	1.6	98.7	10.4	707	261	446
MRAC0629	MR13276	23	27	85.8	20.5	11.8	9.6	23.6	4.4	73.1	1.4	5.4	19.8	3.4	1.5	163.5	9.0	639	329	310
MRAC0629	MR13277	27	28	78.7	16.7	9.9	7.9	18.5	3.6	59.6	1.2	6.1	15.8	2.7	1.2	133.5	7.5	526	265	261
MRAC0629	MR13278	28	29	54.8	15.3	9.8	6.1	15.0	3.4	44.2	1.2	5.9	11.7	2.4	1.3	128.5	7.5	437	248	189
MRAC0630	MR13287	28	30	60.5	10.2	5.6	3.8	11.0	2.1	35.8	0.8	9.9	11.1	1.7	0.8	58.3	5.2	310	134	176
MRAC0631	MR13293	16	20	145.0	38.5	20.8	15.9	46.0	7.2	174.5	2.5	10.2	46.7	6.6	2.6	215.0	16.8	1187	507	680
MRAC0631	MR13294	20	21	83.9	32.5	20.5	10.6	35.2	6.7	120.0	2.4	6.5	28.6	5.3	2.6	248.0	15.5	921	499	422
MRAC0632	MR13297	4	8	105.5	4.1	1.4	2.5	6.5	0.6	74.6	0.2	16.8	10.6	0.8	0.2	10.7	1.4	349	47	302
MRAC0632	MR13298	8	12	159.0	4.3	2.3	1.8	5.3	0.8	53.8	0.4	21.6	8.0	0.7	0.3	19.4	3.2	370	56	314
MRAC0632	MR13299	12	16	436.0	116.0	51.8	44.6	157.5	20.6	258.0	5.8	16.3	160.0	21.4	7.2	540.0	47.5	3067	1416	1651
MRAC0632	MR13300	16	17	250.0	53.3	28.0	18.5	66.3	10.4	105.0	3.7	13.3	63.1	9.3	4.1	299.0	27.2	1449	706	743
MRAC0660	MR13585	48	52	72.8	20.9	11.8	6.6	25.7	4.3	41.0	1.5	11.2	21.3	3.6	1.6	123.5	11.1	528	283	245
MRAC0660	MR13586	52	54	101.5	79.1	50.1	16.5	79.8	17.3	51.6	6.1	9.8	45.1	12.2	6.8	595.0	43.6	1525	1165	360
MRAC0660	MR13587	54	55	86.5	79.4	51.3	15.2	75.5	17.8	41.9	6.3	8.5	39.4	12.1	7.0	603.0	44.7	1460	1167	293
MRAC0662	MR13602	28	32	106.5	12.8	6.0	6.0	15.1	2.3	62.4	0.7	7.2	18.5	2.3	0.8	53.5	5.1	459	149	310
MRAC0662	MR13603	32	36	91.8	20.2	11.0	7.2	21.4	4.1	47.6	1.4	5.9	20.5	3.3	1.5	118.5	9.6	542	267	275
MRAC0662	MR13604	36	40	79.2	19.0	10.7	5.9	19.8	3.9	46.6	1.3	4.6	17.3	3.1	1.4	119.0	8.8	499	257	242
MRAC0663	MR13617	32	36	132.0	10.6	6.2	3.8	10.9	2.2	28.8	0.8	6.6	12.2	1.8	0.9	60.2	5.8	398	140	258
MRAC0663	MR13618	36	40	68.2	19.6	12.2	5.8	20.2	4.5	56.4	1.6	4.7	16.9	3.1	1.6	155.5	9.7	552	307	245
MRAC0664	MR13629	28	32	146.5	6.6	3.4	2.2	7.2	1.2	42.8	0.4	3.9	9.6	1.1	0.5	33.2	3.0	384	83	301
MRAC0664	MR13631	36	40	88.8	24.2	11.9	9.1	28.6	4.6	79.1	1.3	5.3	29.4	4.3	1.5	122.0	9.1	659	298	361
MRAC0666	MR13659	32	36	67.3	59.3	30.3	21.6	67.1	11.0	172.5	2.8	8.4	68.8	10.3	3.6	342.0	20.8	1454	775	679
MRAC0667	MR13676	36	40	162.5	123.0	67.8	36.3	148.0	26.1	331.0	8.0	4.2	118.0	20.0	9.1	836.0	52.9	3035	1763	1272
MRAC0668	MR13688	20	24	151.0	17.8	7.6	9.5	25.9	2.9	107.5	0.8	35.5	35.3	3.5	0.9	63.6	6.3	755	208	547
MRAC0668	MR13689	24	25	133.5	23.6	13.6	6.7	25.1	4.6	46.9	1.6	23.4	21.4	3.9	1.8	146.0	11.0	647	316	331
MRAC0668	MR13690	25	26	151.5	29.9	18.4	7.6	29.4	6.0	48.6	2.3	24.8	23.8	4.7	2.4	195.0	15.2	770	410	360
MRAC0669	MR13700	32	36	143.0	11.0	5.5	4.3	12.7	2.0	53.7	0.7	5.7	14.8	1.9	0.8	47.7	4.8	457	128	329
MRAC0669	MR13701	36	37	98.4	14.2	8.4	4.0	14.5	2.9	39.1	1.1	4.5	13.6	2.3	1.1	73.6	7.7	409	174	235
MRAC0669	MR13702	37	38	112.0	16.6	10.2	4.6	16.1	3.2	44.5	1.3	6.0	15.3	2.6	1.4	85.6	9.4	470	203	267
MRAC0670	MR13710	24	28	164.0	5.3	1.7	3.8	8.6	0.7	81.7	0.2	12.3	14.2	1.1	0.2	10.6	1.2	451	54	397
MRAC0670	MR13711	28	32	80.9	14.9	10.5	4.0	13.3	3.3	32.9	1.6	9.2	11.6	2.2	1.5	102.5	10.6	416	215	201
MRAC0671	MR13725	24	28	253.0	29.6	17.4	10.7	34.7	5.8	125.5	2.0	20.5	35.1	5.0	2.2	175.5	13.2	1082	403	679
MRAC0671	MR13726	28	29	216.0	40.3	25.8	11.3	42.0	8.4	102.0	3.2	18.6	34.9	6.4	3.3	290.0	21.4	1175	595	580
MRAC0671	MR13727	29	30	169.0	36.5	24.1	9.8	36.8	7.8	75.4	3.0	16.4	28.8	5.8	3.1	268.0	19.8	995	541	454
MRAC0672	MR13736	32	35	120.5	10.5	5.8	4.2	12.7	2.0	68.8	0.7	12.8	12.5	1.9	0.8	61.3	4.7	458	142	316

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0672	MR13737	35	36	277.0	12.7	6.3	6.0	15.8	2.2	111.0	0.7	8.3	20.9	2.3	0.8	55.2	5.2	802	155	647
MRAC0673	MR13742	16	20	434.0	7.3	4.1	3.9	9.4	1.5	71.9	0.7	8.0	11.2	1.2	0.7	38.9	4.3	780	101	679
MRAC0673	MR13743	20	21	271.0	5.3	2.5	3.3	8.6	1.0	147.5	0.2	10.6	10.9	1.0	0.3	34.9	1.4	691	84	607
MRAC0673	MR13744	21	22	344.0	6.0	2.9	3.6	8.9	1.2	110.0	0.4	14.0	11.8	1.1	0.4	34.6	2.6	727	87	640
MRAC0675	MR13752	8	12	106.5	6.3	2.3	3.4	9.1	0.9	57.5	0.2	15.8	12.0	1.3	0.2	15.4	1.5	338	64	274
MRAC0675	MR13753	12	16	354.0	11.4	3.6	7.3	17.5	1.6	176.0	0.3	14.1	28.2	2.5	0.4	25.4	2.2	974	118	856
MRAC0675	MR13754	16	20	166.5	6.8	2.3	4.3	10.3	1.0	67.8	0.2	12.3	18.5	1.4	0.3	15.6	1.7	505	74	431
MRAC0675	MR13756	24	25	67.2	9.5	6.5	3.0	9.0	2.0	31.2	0.9	4.6	9.4	1.5	0.9	60.4	6.1	305	133	172
MRAC0675	MR13757	25	26	150.5	25.2	15.2	8.5	26.4	4.9	58.6	2.0	5.7	25.3	4.2	2.1	138.0	14.0	708	321	387
MRAC0676	MR13762	16	20	75.8	25.0	15.7	6.9	27.1	5.2	39.5	1.9	10.9	18.5	4.1	2.0	178.0	12.5	595	362	233
MRAC0676	MR13763	20	24	85.1	14.4	8.8	4.1	14.5	3.0	36.0	1.1	12.6	13.5	2.3	1.2	83.8	7.4	405	186	219
MRAC0676	MR13764	24	28	69.0	11.5	7.0	3.2	11.2	2.4	29.8	0.9	10.3	9.8	1.8	1.0	67.2	5.9	324	148	176
MRAC0677	MR13770	12	16	285.0	10.7	5.6	2.9	13.4	1.9	214.0	0.7	57.5	25.8	2.0	0.8	50.1	5.0	951	142	809
MRAC0677	MR13771	16	20	638.0	19.0	7.9	5.6	27.8	3.1	418.0	0.9	59.6	52.5	3.8	1.0	70.4	6.4	1935	236	1699
MRAC0677	MR13776	36	40	226.0	6.9	4.0	2.0	8.0	1.3	126.5	0.6	14.1	14.1	1.2	0.6	36.5	3.4	632	95	537
MRAC0677	MR13778	44	48	156.5	6.1	3.9	1.2	5.6	1.3	38.8	0.6	14.6	7.5	0.9	0.6	28.2	4.1	350	72	278
MRAC0677	MR13780	52	55	59.3	11.7	6.8	2.8	12.6	2.3	41.6	0.9	6.8	13.5	1.9	1.0	63.4	6.4	345	148	197
MRAC0678	MR13788	20	24	202.0	20.4	9.3	8.3	22.4	3.7	81.3	0.9	12.1	25.2	3.5	1.2	79.9	7.5	710	219	491
MRAC0678	MR13789	24	28	83.1	11.7	6.8	4.2	13.0	2.5	38.7	0.8	13.5	11.7	1.9	0.9	66.6	5.6	369	153	216
MRAC0679	MR13797	16	20	327.0	18.4	9.9	8.5	23.4	3.5	127.0	1.1	23.1	29.8	3.3	1.3	89.1	8.0	972	236	736
MRAC0679	MR13798	20	24	253.0	33.6	21.7	9.9	35.1	7.2	91.3	2.8	19.3	32.0	5.2	2.9	207.0	18.8	1054	456	598
MRAC0679	MR13799	24	28	121.0	24.1	17.3	5.6	23.5	5.7	52.8	2.3	17.4	17.2	3.6	2.3	185.0	14.7	674	370	304
MRAC0683	MR13833	12	16	156.5	9.6	5.0	5.9	10.8	1.8	85.6	0.8	21.4	13.2	1.6	0.7	38.7	5.2	501	112	389
MRAC0683	MR13834	16	19	271.0	43.6	25.1	21.6	46.7	9.3	109.5	3.2	11.4	43.9	6.9	3.4	291.0	20.9	1338	629	709
MRAC0683	MR13835	19	20	84.9	15.5	9.8	7.7	15.2	3.5	43.7	1.4	15.7	12.2	2.4	1.3	116.0	8.4	463	236	227
MRAC0684	MR13842	24	28	70.8	91.2	60.1	31.0	80.7	21.4	212.0	6.4	5.4	63.0	13.4	7.6	734.0	41.3	2136	1412	724
MRAC0684	MR13843	28	31	36.1	26.3	12.9	13.8	31.3	5.1	81.0	1.4	4.1	30.2	4.6	1.6	136.5	9.6	654	331	323
MRAC0689	MR13878	16	20	80.3	17.6	8.2	8.4	17.9	3.3	54.4	1.0	7.5	21.3	3.0	1.2	61.3	7.4	478	180	298
MRAC0689	MR13879	20	24	89.7	41.5	21.4	17.1	41.5	8.3	85.1	2.6	8.1	40.4	6.6	2.9	204.0	18.2	924	490	434
MRAC0689	MR13880	24	28	58.4	55.1	31.9	20.3	58.3	11.8	122.0	3.9	4.9	47.4	8.9	4.1	360.0	24.8	1246	762	484
MRAC0689	MR13881	28	32	26.4	14.3	9.1	4.8	14.2	3.2	33.2	1.1	3.5	9.9	2.2	1.2	111.5	7.2	348	218	130
MRAC0689	MR13882	32	34	63.9	14.0	8.5	4.6	14.0	3.1	38.3	1.2	13.1	12.2	2.2	1.2	89.9	7.6	385	193	192
MRAC0689	MR13883	34	35	94.7	12.6	7.8	4.6	13.4	2.8	46.5	1.1	21.1	12.8	2.1	1.1	76.1	6.8	419	170	249
MRAC0690	MR13893	32	36	64.5	12.8	8.3	4.2	11.7	2.7	39.1	1.2	5.7	10.0	2.0	1.2	79.7	7.5	350	171	179
MRAC0690	MR13894	36	40	39.0	23.7	12.7	9.1	27.6	4.7	94.8	1.3	4.8	22.4	4.1	1.6	145.5	9.2	614	320	294
MRAC0692	MR13918	32	36	21.1	11.1	7.3	3.7	11.0	2.4	46.1	1.0	4.2	9.2	1.7	1.0	76.3	6.7	301	161	140
MRAC0692	MR13919	36	37	111.5	32.5	22.7	10.0	34.1	8.0	122.0	2.7	5.5	23.4	5.0	2.8	332.0	15.8	1035	601	434
MRAC0693	MR13930	36	37	40.4	18.6	11.7	6.2	20.4	4.0	78.6	1.4	3.8	14.2	3.1	1.5	147.5	8.7	521	291	230

Table 10  
Anomalous Sample Analyses: TREO>300ppm

Hole ID	Sample	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Sm	Tb	Tm	Y	Yb	TREO	HREO	LREO
		(m)	(m)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
MRAC0694	MR13936	16	20	64.3	15.0	10.5	4.1	12.3	3.4	25.7	1.9	9.0	10.3	2.2	1.6	70.3	10.9	327	172	155
MRAC0694	MR13939	28	32	77.5	15.9	8.4	9.1	18.1	3.0	61.1	1.0	8.1	22.3	2.7	1.1	76.1	7.1	503	199	304
MRAC0694	MR13940	32	36	102.0	23.8	12.4	11.6	26.9	4.7	86.4	1.4	10.6	24.5	4.0	1.6	134.0	9.8	686	308	378
MRAC0694	MR13941	36	40	51.1	25.5	13.6	11.6	29.3	5.2	107.5	1.5	5.9	25.9	4.3	1.7	176.0	9.8	727	371	356
MRAC0695	MR13951	24	28	150.5	10.5	7.1	4.0	8.8	2.3	21.5	1.1	11.5	7.8	1.5	1.0	59.8	6.8	380	135	245
MRAC0695	MR13952	28	32	118.0	35.4	17.9	22.2	43.5	6.9	178.5	2.1	13.9	43.9	6.2	2.4	182.0	14.0	1097	455	642
MRAC0695	MR13953	32	36	128.0	101.5	55.7	48.9	112.0	21.3	301.0	6.3	10.7	90.8	16.5	7.1	684.0	40.8	2505	1443	1062
MRAC0695	MR13954	36	40	65.5	18.1	10.9	10.6	20.3	4.0	62.1	1.4	11.0	16.4	3.0	1.4	131.0	8.7	532	276	256
MRAC0696	MR13964	28	32	99.0	37.2	22.3	16.4	41.6	7.8	130.0	2.4	8.7	40.9	6.2	2.7	239.0	16.1	1040	526	514



## Appendix 2

### JORC Code, 2012 Edition – Table 1 Report for the Mount Ridley Project

#### Section 1 Sampling Techniques and Data: Aircore Drilling

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>	Mount Ridley Mines Limited (ASX: MRD) has re-assayed parts 194 aircore holes (MRAC0438 – MRAC0858) drilled by the Company in 2017 and 2018. Samples from these holes were available for re-assay as the pulps were stored at ALS Laboratories, Perth, since the first assays were completed. In the respective years' Annual Technical Report, the Company notes that samples were generally 4m composites and a 1m end of hole sample.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Drill hole collar locations reported herein were picked-up using a Garmin hand-held GPS with approximately +/-3m accuracy. No downhole surveying was undertaken
	<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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i>	Aircore drilling to deliver 1m interval sample piles. Samples of between 1 metre and 4 composited metres taken for analysis. The size of the sample submitted to the laboratory was 2-4kg in weight, which was dried, pulverized and packaged in a computer-coded packet. A sub-sample was analysed and the coded packed then stored. Analyses reported herein by ALS Laboratory's ME-MS81, a lithium borate fusion with ICP-MS finish. Selected samples were also analysed by the ALS ME-ICP06 whole rock package.
Drilling techniques	<i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	Aircore. A type of reverse circulation drilling using slim rods and a blade bit.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Recovery was visually assessed, recorded on drill logs, and considered to be acceptable within industry standards.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	Samples were visually checked for recovery, moisture, and contamination. A cyclone was used to deliver the sample into buckets.
	<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>	Not evaluated
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>	Geological logging appropriate for this style of drilling and the stage of the project.

	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Geological logging is inherently qualitative. More specific logging may be undertaken if chemical analyses warrant it.
	<i>The total length and percentage of the relevant intersections logged.</i>	Logging of the drill holes was cursory.
<i>Sub-sampling techniques and sample preparation</i>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Not applicable.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Original aircore samples were collected by a cyclone into a bucket and laid out in rows. 1m or up to 4m composite samples were 'speared' from the sample piles.
	<i>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</i>	Sampling technique is appropriate for the stage of the project.
	<i>Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.</i>	Not undertaken, as reported analyses are of previously prepared sample pulps.
	<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>	While field QAQC procedures included the insertion of field duplicates and commercial standards at pre-specified intervals at the time of drilling, these were not available for the program of re-analysis.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Sample size meets the industry standard.
<i>Quality of assay data and laboratory tests</i>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	Analyses reported herein by ALS Laboratory's ME-MS81, a lithium borate fusion with ICP-MS finish. Selected samples were also analysed by the ALS ME-ICP06 whole rock package. A suite of 15 Rare Earth Elements was targeted, plus whole rock analysis to assist with identifying the underlying geological units. The analytical techniques were recommended by the Company's geochemical consultant, and nominated as appropriate by ALS.
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	None used
	<i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i>	ALS analysed 6 different standards, which were predominantly 3 <sup>rd</sup> party independently manufactured.
<i>Verification of sampling and assaying</i>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Significant intersections verified by an independent consultant.
	<i>The use of twinned holes.</i>	Not applicable.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	All collected data stored in a commercially managed database.
	<i>Discuss any adjustment to assay data.</i>	Raw assays are stored in the commercially managed database
<i>Location of data points</i>	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	Preliminary drill hole collar locations noted in Table 6 were surveyed using a handheld GPS with +/- 3m accuracy.
	<i>Specification of the grid system used.</i>	GDA94-51

	<i>Quality and adequacy of topographic control.</i>	RL's estimated from a digital elevation model with points gained as a component of an aeromagnetic survey. The datum may have some error, but RL of holes should be fit for purpose on a hole to hole basis.
<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	Varies. Generally 400 x 100m. Occasional infills on 100 x 20m, and additional semi regional traverses.
	<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>	Insufficient data collected for an Mineral Resource Estimate.
	<i>Whether sample compositing has been applied.</i>	1m intervals and 2-4m composites analysed.
<i>Orientation of data in relation to geological structure</i>	<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>	Not determined yet. Likely unbiased as vertical holes are sampling a horizontal mineralized feature.
	<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>	Unlikely to be biased.
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	Samples were stored at the laboratory.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Sampling techniques are consistent with industry standards. A third party geochemical specialist is reviewing the data.

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<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>	Tenements E63/1547, E63/1564 and E63/1617, located from 35km northwest of Esperance, Western Australia. Registered Holder is Mount Ridley Mines Limited (Company) (100%). The Project is subject to a Full Determination of Native Title: which is held by the Esperance Nyungars NNTT Number: WC2004/010, Federal Court Number : WAD28/2019
	<i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</i>	The tenements are in good standing, and there are no impediments to operating in the targeted areas other than requirements of the DMIRS and Heritage Protection Agreements, all of which are industry-standard.
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Many parties, including Government organisations, private and public companies, have explored the area. A substantial compilation of work prior to Mount Ridley was by Bishop who was the first to research and champion the potential of Grass Patch, interpreted as a large, crudely layered, amphibolite-gabbro complex beneath shallow cover sediments. The mafic complex is considered to have the potential to host nickel-copper sulphide deposits and PGE deposits. completed detailed litho-geochemistry interpretation from 'best available' end of hole assays, development of a geological map based on this information. Additional drilling tested the models but didn't return assays of commercial consequence. Mount Ridley has completed a large complement of geophysical surveys and drilling, aimed at nickel sulphides and gold. The samples reported herein were generated during the search for nickel sulphides. Nearby, Salazar Gold Pty Ltd were the first company to search for REE in the Great Southern, identifying the Splinter REE deposit. Work started in 2010 and continues now.
<i>Geology</i>	<i>Deposit type, geological setting, and style of mineralisation.</i>	Ionic Adsorption Clay or Saprolite-hosted Rare Earth Deposit.
<i>Drill hole Information</i>	<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: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length.  If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	All relevant data for the drilling conducted is tabulated in Appendix 1 of this announcement. It should be noted that RL is estimated from a digital elevation model gained during an aeromagnetic survey.

<p><i>Data aggregation methods</i></p>	<p><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></p> <p><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></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>Assay results not reported.</p> <p>Conversions from elements to oxides:</p> <table border="1"> <tr><td>Ce_ppm</td><td>1.1713</td><td>Ce2O3_ppm</td></tr> <tr><td>Dy_ppm</td><td>1.1477</td><td>Dy2O3_ppm</td></tr> <tr><td>Er_ppm</td><td>1.1435</td><td>Er2O3_ppm</td></tr> <tr><td>Eu_ppm</td><td>1.1579</td><td>Eu2O3_ppm</td></tr> <tr><td>Gd_ppm</td><td>1.1526</td><td>Gd2O3_ppm</td></tr> <tr><td>Ho_ppm</td><td>1.1455</td><td>Ho2O3_ppm</td></tr> <tr><td>La_ppm</td><td>1.1728</td><td>La2O3_ppm</td></tr> <tr><td>Lu_ppm</td><td>1.1372</td><td>Lu2O3_ppm</td></tr> <tr><td>Nd_ppm</td><td>1.1664</td><td>Nd2O3_ppm</td></tr> <tr><td>Pr_ppm</td><td>1.2082</td><td>Pr6O11_ppm</td></tr> <tr><td>Sm_ppm</td><td>1.1596</td><td>Sm2O3_ppm</td></tr> <tr><td>Tb_ppm</td><td>1.1762</td><td>Tb4O7_ppm</td></tr> <tr><td>Tm_ppm</td><td>1.1421</td><td>Tm2O3_ppm</td></tr> <tr><td>Y_ppm</td><td>1.2695</td><td>Y2O3_ppm</td></tr> <tr><td>Yb_ppm</td><td>1.1387</td><td>Yb2O3_ppm</td></tr> </table> <p>Source:  <a href="http://www.geol.umd.edu/~piccoli/probe/molweight.html">www.geol.umd.edu/~piccoli/probe/molweight.html</a></p> <p>TREO: the sum of Sm<sub>2</sub>O<sub>3</sub>, Dy<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Tm<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Ce<sub>2</sub>O<sub>3</sub>, La<sub>2</sub>O<sub>3</sub>, Nd<sub>2</sub>O<sub>3</sub>, and Pr<sub>2</sub>O<sub>3</sub>.</p> <p>TREO-Ce: TREO- Ce<sub>2</sub>O<sub>3</sub></p> <p>HREO: the sum of Sm<sub>2</sub>O<sub>3</sub>, Dy<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Tm<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>, and Yb<sub>2</sub>O<sub>3</sub>.</p> <p>LREO: the sum of Ce<sub>2</sub>O<sub>3</sub>, La<sub>2</sub>O<sub>3</sub>, Nd<sub>2</sub>O<sub>3</sub>, and Pr<sub>2</sub>O<sub>3</sub>.</p> <p>CREO: the sum of Dy<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Nd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, and Y<sub>2</sub>O<sub>3</sub>.</p>	Ce_ppm	1.1713	Ce2O3_ppm	Dy_ppm	1.1477	Dy2O3_ppm	Er_ppm	1.1435	Er2O3_ppm	Eu_ppm	1.1579	Eu2O3_ppm	Gd_ppm	1.1526	Gd2O3_ppm	Ho_ppm	1.1455	Ho2O3_ppm	La_ppm	1.1728	La2O3_ppm	Lu_ppm	1.1372	Lu2O3_ppm	Nd_ppm	1.1664	Nd2O3_ppm	Pr_ppm	1.2082	Pr6O11_ppm	Sm_ppm	1.1596	Sm2O3_ppm	Tb_ppm	1.1762	Tb4O7_ppm	Tm_ppm	1.1421	Tm2O3_ppm	Y_ppm	1.2695	Y2O3_ppm	Yb_ppm	1.1387	Yb2O3_ppm
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<p><i>Relationship between mineralisation widths and intercept lengths</i></p>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).</i></p>	<p>The interdependence of mineralisation width and length has not been established. To date the targeted mineralisation seems to be a flat-lying sheet. The sheet margins have not been determined.</p>																																													
<p><i>Diagrams</i></p>	<p><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></p>	<p>Refer to Figures 2 to 6 in the body of text.</p>																																													



Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Assay results where TREO > 300ppm is reported in Table 7.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	All new, meaningful, and material exploration data has been reported
Further work	<p>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	Analysis of additional samples is progressing and will be reported when received. Drilling is then planned.