PETRATHERM LIMITED
ACN 106 806 884
ASX: PTR

www.petratherm.com.au
admin@petratherm.com.au

ASX ANNOUNCEMENT **22/06/2022**

Confirmation of Broad Scale Rare Earths at Comet

HIGHLIGHTS

- Additional results from previous RAB saprolite clay samples confirms significant extent of rare earth mineralisation at Comet in the Northern Gawler Craton of South Australia.
- High-value Scandium Oxide credits occur with the REE's and may offer an additional revenue potential. Scandium Oxide (Sc_2O_3) averaged 32 ppm with peak value of 122 ppm.
- Systematic air core drilling of prospective clay horizon to define rare earth mineralisation continues at a good pace, with 253 holes completed for a total of 7,387 metres.
- Drill samples from the first phase of drilling targeting the rare earth mineralisation have been lodged for geochemical analysis with results due in coming weeks.

INTRODUCTION

Petratherm Limited (ASX: **PTR**) is pleased to report additional rare earth (REE) results from re-assaying of previous RAB drill samples at the Comet Project in the Northern Gawler Craton of South Australia, has confirmed the regional extent of the rare earth mineralisation (Figure 1). The mineralisation is hosted in saprolitic clays (deeply weathered basement rock which has been chemically decomposed to clay) and is potentially comparable to the REE Ion-adsorption Clay REE deposits of China which are a major world supplier.

Of the 118 holes which have been assayed for rare earths, 105 drill holes have returned significant Total Rare Earth Oxide (TREO) above a nominal cut-off grade of 350 ppm, a value typically used in ionic clay rare earth resource estimation. The new results along with earlier results previously released (refer PTR ASX release 20/04/2022) are presented in Table 1 and are for the most part single 3 metre composite bottom hole samples taken from re-assaying of PTR's historical regional top of clay saprolite geochemical sampling program (refer to PTR ASX 29/04/2022).

The mineralisation reported remains open in all directions and the thickness and grade of mineralisation is still to be determined. Ionic Clay hosted REE occurrences show vertical and horizontal grade and depth variability within a clay profile. The current round of systematic air core drilling through the complete prospective clay-saprolite zone will indicate the true grade and extent of mineralisation encountered. Drilling to date has determined the favourable saprolite clay zone starts typically from 5 to 10 metres depth and extends down to approximately 25 to 35 metres depth.

The assay results have additionally highlighted scandium oxide (Sc_2O_3) credits with the REE's (Figure 2 and Table 1). Scandium is an exceptionally high-value metal used in new technology alloys and may offer an additional revenue potential. Scandium oxide from all significant TREO samples in Table 1 averages 32 ppm with a peak value of 122 ppm. These results are comparable to Ionic Rare Earths (ASX code IXR) reported Makuutu Ion Adsorption rare earth clay resource which includes a Total Inferred and Indicated Scandium Oxide grade of 30 ppm (refer to IXR ASX release 03/03/2021).

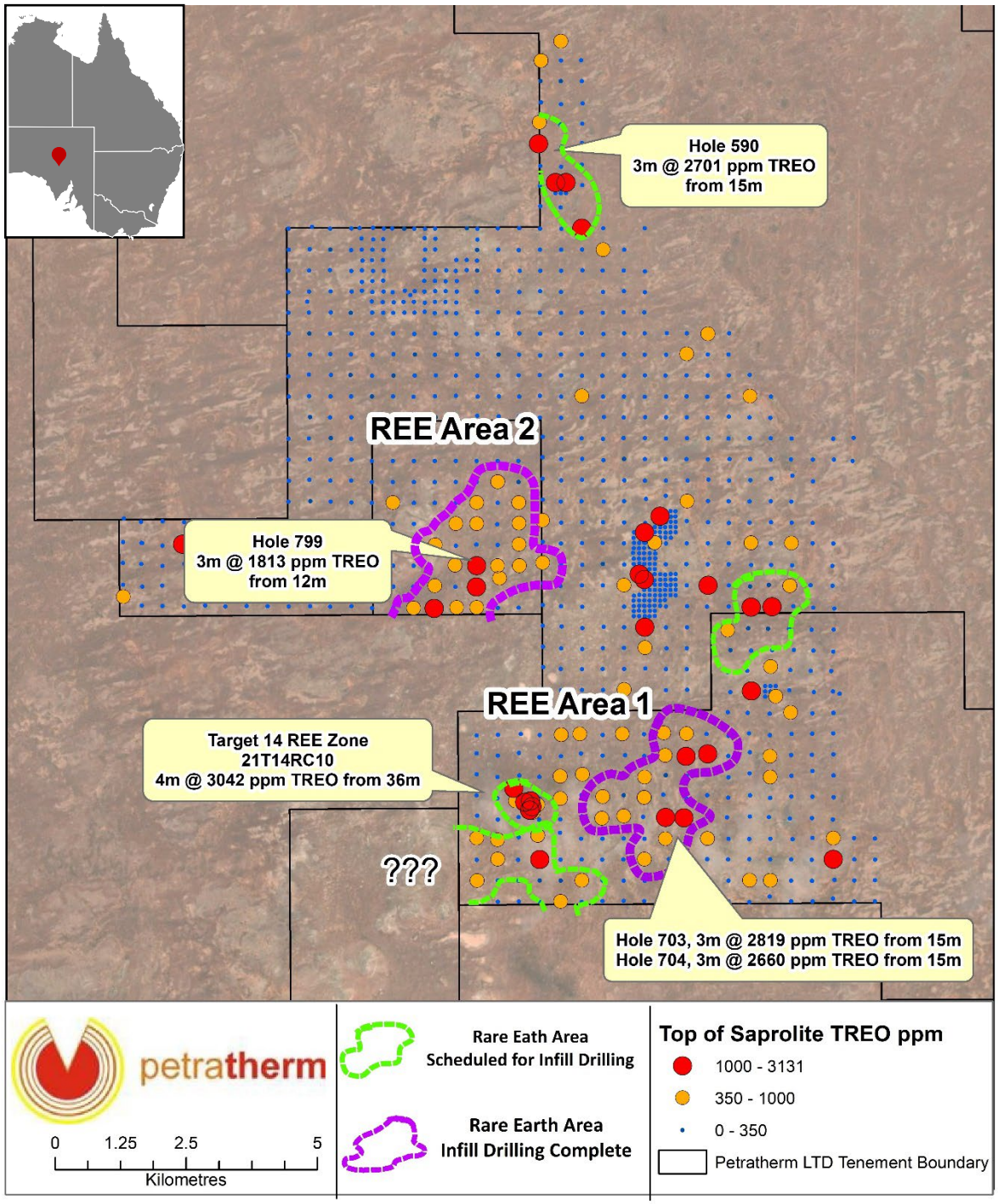

Figure 1 *Comet Project REE Results Overview Map*

Systematic drilling of the rare earth areas has been underway since late May and drilling operations are ongoing. As of Tuesday 21st June, 253 holes for 7,387 metres had been completed. Drill spacing has been on a 200 metre by 200 metre grid but also includes some 100-metre spaced drilling around perceived high-grade zones. The drill rig has completed drilling over the central REE Area 1 and in the last few days completed a 200m spaced drill grid over the REE Area 2 (Figure 1). Drilling will now expand the REE 1 Area drilling to the southwest and northeast and test other satellite REE anomalies. It is anticipated the first batch of drill results from the REE Area 1 will be completed by the first half of July.

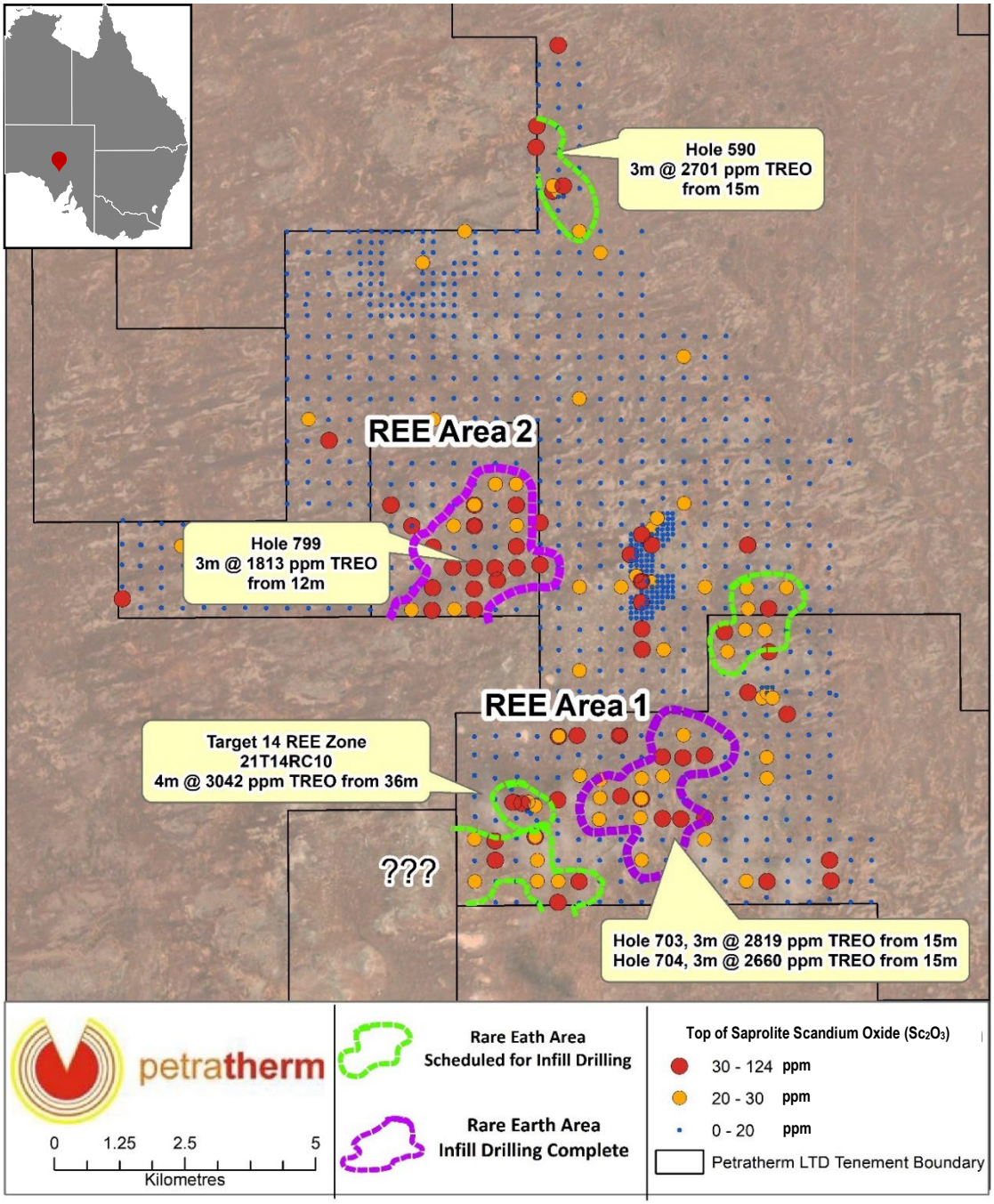

Figure 2 *Anomalous Scandium Oxide (Sc_2O_3) values and REE Anomalous Areas*

This ASX announcement has been approved by Petratherm's Board of Directors and authorised for release by Petratherm's Chairman Derek Carter.

For further information please contact :

Peter Reid (Exploration Manager) Tel: 0435 181 705 E: preid@petratherm.com.au

Competent Persons Statement: The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Peter Reid, who is a Competent Person, and a Member of the Australian Institute of Geoscientists. Mr Reid is not aware of any new information or data that materially affects the historical exploration results included in this report. Mr Reid is an employee of Petratherm Ltd. Mr Reid has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Reid consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Comet Project - Table of all Significant REE Intercepts

Drill Hole	From	To	Interval	TREO	Scandium	High Value Magnet Rare Earths							
						Praseodymium		Neodymium		Terbium		Dysprosium	
					Sc_2O_3	Pr_6O_{11}		Nd_2O_3		Tb_4O_7		Dy_2O_3	
	metres	*metres*	*metres*	*ppm*	*ppm*	*ppm*	*% TREO*	*ppm*	*% TREO*	*ppm*	*% TREO*	*ppm*	*% TREO*
1	21	24	4	558	**71**	30	5	98	18	1.5	0.3	8.1	1.4
16	13	15	4	**1046**	21	58	6	174	17	1.4	0.1	6.0	0.6
273	5	7	2	**807**	23	47	6	170	21	2.2	0.3	11.0	1.4
280	18	22	4	**980**	26	36	4	110	11	1.1	0.1	6.5	0.7
282	18	22	4	467	28	19	4	70	15	1.0	0.2	5.4	1.2
326	16	19	3	541	23	22	4	75	14	1.5	0.3	8.9	1.6
338	16	19	3	469	17	24	5	88	19	1.0	0.2	5.0	1.1
349	16	19	3	475	14	10	2	36	8	0.7	0.2	3.6	0.8
356	12	16	4	460	49	22	5	77	17	2.1	0.5	12.1	2.6
358	8	12	4	**972**	31	43	4	137	14	2.6	0.3	12.9	1.3
395	8	12	4	429	21	22	5	76	18	1.0	0.2	4.9	1.1
400	8	12	4	**877**	15	53	6	177	20	1.9	0.2	9.3	1.1
403	9	12	3	624	31	29	5	88	14	1.2	0.2	6.1	1.0
404	9	12	3	**1322**	49	68	5	205	16	2.3	0.2	10.6	0.8
428	14	18	4	654	23	29	4	92	14	1.2	0.2	6.8	1.0
433	6	9	3	**1312**	25	50	4	126	10	1.1	0.1	4.2	0.3
475	6	9	3	**1088**	23	54	5	194	18	3.0	0.3	16.4	1.5
484	8	12	4	**1205**	46	77	6	261	22	3.8	0.3	17.3	1.4
493	9	12	3	690	20	33	5	108	16	1.9	0.3	9.3	1.3
	12	15	3	**1046**	**69**	52	5	197	19	4.1	0.4	20.8	2.0
523	9	13	4	**831**	46	48	6	184	22	3.4	0.4	16.4	2.0
567	9	12	3	**1030**	26	62	6	213	21	3.0	0.3	14.5	1.4
585	18	21	3	350	8	16	4	47	14	0.4	0.1	1.9	0.6
586	18	21	3	550	8	24	4	72	13	0.6	0.1	2.9	0.5
589	15	18	3	403	**63**	17	4	59	15	0.8	0.2	3.9	1.0
590	15	18	3	**2701**	**72**	216	8	744	28	10.1	0.4	45.2	1.7
603	18	21	3	457	49	22	5	81	18	1.8	0.4	8.8	1.9
615	12	15	3	**1016**	**74**	61	6	209	21	2.7	0.3	13.1	1.3
619	10	12	2	400	11	18	5	63	16	0.4	0.1	1.7	0.4
629	9	12	3	734	**58**	23	3	97	13	4.8	0.7	30.1	4.1
638	9	12	3	**1013**	**54**	66	7	229	23	3.0	0.3	14.2	1.4
639	12	15	3	**1140**	20	74	7	245	21	3.6	0.3	18.9	1.7
642	18	21	3	360	17	16	4	53	15	0.9	0.3	5.5	1.5
	21	24	3	485	21	24	5	87	18	1.0	0.2	5.3	1.1
649	10	14	4	442	38	21	5	84	19	1.2	0.3	6.4	1.4
	14	18	4	391	28	18	5	62	16	0.8	0.2	4.4	1.1
	17	18	1	466	25	22	5	80	17	0.9	0.2	5.1	1.1
661	9	12	3	697	46	33	5	123	18	3.0	0.4	15.4	2.2
672	9	12	3	407	21	19	5	61	15	1.0	0.2	5.2	1.3
675	9	12	3	515	37	22	4	70	14	1.1	0.2	6.1	1.2
676	9	12	3	586	15	29	5	101	17	1.1	0.2	5.7	1.0
677	14	18	4	399	35	20	5	68	17	1.1	0.3	6.3	1.6
	18	22	4	399	28	20	5	70	18	1.0	0.2	5.5	1.4
	22	27	5	389	32	19	5	68	18	1.2	0.3	6.9	1.8
678	9	12	3	380	26	19	5	63	16	0.9	0.2	4.7	1.2
679	12	15	3	589	38	36	6	125	21	1.7	0.3	9.1	1.5
681	9	12	3	578	28	26	5	83	14	1.2	0.2	6.4	1.1
684	9	12	3	443	26	22	5	78	18	1.3	0.3	6.9	1.6
685	9	12	3	465	23	21	5	78	17	1.4	0.3	8.3	1.8
689	12	15	3	568	23	28	5	98	17	1.2	0.2	6.7	1.2
	15	18	3	555	29	27	5	96	17	1.4	0.3	8.5	1.5
693	9	12	3	371	14	16	4	52	14	0.5	0.1	2.6	0.7
695	6	9	3	625	31	36	6	135	22	1.7	0.3	9.3	1.5
	9	12	3	**804**	**54**	44	6	171	21	3.3	0.4	20.0	2.5
	12	15	3	692	32	36	5	136	20	2.1	0.3	11.9	1.7
696	12	15	3	379	21	19	5	65	17	0.6	0.2	3.8	1.0
699	15	18	3	502	18	23	5	77	15	0.8	0.2	4.4	0.9
700	15	18	3	546	37	27	5	92	17	1.2	0.2	7.3	1.3
703	15	18	3	**2819**	**80**	149	5	562	20	5.5	0.2	27.1	1.0
704	15	18	3	**2660**	**75**	141	5	531	20	4.5	0.2	25.7	1.0
707	16	19	3	410	**55**	23	6	80	20	1.4	0.3	7.9	1.9
	19	22	3	**1225**	44	72	6	246	20	4.4	0.4	21.1	1.7
708	18	21	3	589	21	30	5	108	18	1.7	0.3	10.1	1.7
710	12	15	3	**1081**	**64**	60	6	199	18	3.2	0.3	15.9	1.5
728	19	21	2	433	15	21	5	74	17	1.0	0.2	5.6	1.3
	21	24	3	609	25	29	5	108	18	1.5	0.2	8.4	1.4
729	20	24	4	656	25	41	6	143	22	1.4	0.2	7.8	1.2
732	26	30	4	436	31	19	4	73	17	1.2	0.3	7.5	1.7

Table 1 *Comet Project - Summary Table of all Significant REE drill intersections (Table continued overleaf)*

Comet Project - Table of all Significant REE Intercepts

Drill Hole	From	To	Interval	TREO	Scandium	High Value Magnet Rare Earths							
						Praseodymium		Neodymium		Terbium		Dysprosium	
					Sc_2O_3	Pr_6O_{11}		Nd_2O_3		Tb_4O_7		Dy_2O_3	
	metres	*metres*	*metres*	*ppm*	*ppm*	*ppm*	*% TREO*	*ppm*	*% TREO*	*ppm*	*% TREO*	*ppm*	*% TREO*
733	24	27	3	**848**	26	35	4	124	15	1.6	0.2	7.9	0.9
744	18	21	3	**1142**	21	77	7	279	24	3.6	0.3	16.9	1.5
750	20	24	4	**1165**	44	68	6	259	22	5.7	0.5	30.3	2.6
757	12	15	3	568	**104**	36	6	138	24	1.8	0.3	7.8	1.4
775	12	15	3	383	26	17	4	57	15	1.0	0.3	5.7	1.5
776	9	12	3	488	26	24	5	79	16	1.2	0.3	7.2	1.5
	12	15	3	551	43	26	5	89	16	1.6	0.3	10.2	1.9
777	16	21	5	742	35	38	5	122	16	2.0	0.3	11.1	1.5
	21	24	3	375	25	17	5	57	15	1.1	0.3	6.5	1.7
784	6	14	8	399	11	19	5	66	17	0.8	0.2	4.5	1.1
	15	18	3	478	25	22	5	76	16	1.0	0.2	5.7	1.2
785	5	11	6	510	31	12	2	46	9	1.4	0.3	8.2	1.6
	11	15	4	**926**	40	54	6	194	21	3.6	0.4	18.6	2.0
789	10	15	5	664	17	36	5	109	16	2.5	0.4	14.6	2.2
	15	18	3	510	23	26	5	79	16	2.0	0.4	11.4	2.2
790	12	15	3	626	34	22	3	78	12	2.1	0.3	12.3	2.0
791	14	18	4	408	29	20	5	66	16	1.4	0.3	8.3	2.0
795	9	15	6	530	38	28	5	100	19	2.0	0.4	10.4	2.0
796	9	11	2	572	37	28	5	103	18	2.5	0.4	12.5	2.2
799	12	15	3	**1813**	**74**	89	5	334	18	5.8	0.3	27.9	1.5
800	8	12	4	**1121**	**55**	54	5	213	19	4.6	0.4	22.6	2.0
801	10	12	2	465	35	22	5	76	16	1.6	0.3	9.6	2.1
802	10	15	5	755	25	34	5	121	16	2.2	0.3	12.6	1.7
804	8	14	6	780	**55**	41	5	155	20	2.6	0.3	11.3	1.4
	21	24	3	523	**64**	25	5	96	18	2.2	0.4	12.1	2.3
806	6	12	6	435	34	20	5	83	19	2.3	0.5	11.6	2.7
807	9	12	3	636	**52**	31	5	113	18	1.6	0.3	7.9	1.2
808	10	14	4	**1248**	44	65	5	243	19	2.6	0.2	11.5	0.9
	22	24	2	728	40	37	5	137	19	1.9	0.3	8.1	1.1
809	9	12	3	713	21	38	5	117	16	1.9	0.3	9.9	1.4
822	10	15	5	758	29	38	5	133	18	2.2	0.3	11.6	1.5
828	18	21	3	397	14	18	5	56	14	1.1	0.3	5.6	1.4
854	19	21	2	353	17	16	4	52	15	0.8	0.2	4.9	1.4
855	9	12	3	**1418**	**95**	68	5	252	18	4.9	0.3	25.7	1.8
866	9	14	5	461	17	22	5	69	15	1.1	0.2	6.5	1.4
	14	18	4	570	23	27	5	82	14	1.4	0.2	8.9	1.6
868	15	18	3	418	18	20	5	55	13	0.9	0.2	5.4	1.3
875	15	17	2	**1041**	25	64	6	237	23	2.8	0.3	14.2	1.4
877	9	15	6	712	35	37	5	133	19	2.0	0.3	10.6	1.5
879	11	15	4	660	28	39	6	123	19	1.7	0.3	9.0	1.4
884	18	21	3	369	35	18	5	52	14	0.9	0.2	5.3	1.4
886	15	18	3	728	34	42	6	144	20	1.8	0.3	9.9	1.4
901	15	18	3	495	**122**	23	5	77	15	1.4	0.3	7.6	1.5
902	9	20	11	339	17	16	5	50	15	0.9	0.3	4.9	1.4
	20	24	4	554	20	28	5	83	15	1.4	0.2	7.2	1.3
912	8	12	4	346	23	18	5	55	16	0.9	0.3	5.6	1.6
	12	18	6	518	21	27	5	85	16	1.2	0.2	5.9	1.1
931	12	15	3	**1705**	21	83	5	287	17	2.0	0.1	9.5	0.6
953	8	12	4	682	37	29	4	105	15	1.9	0.3	10.4	1.5
961	15	18	3	**873**	18	47	5	148	17	1.6	0.2	8.4	1.0
21T14RC03	12	16	4	**1298**	23	72	6	272	21	1.1	0.1	5.9	0.5
	44	48	4	**1179**	17	65	6	246	21	1.1	0.1	5.8	0.5
21T14RC08	8	12	4	**895**	3	48	5	173	19	0.6	0.1	2.6	0.3
	12	16	4	**1029**	3	56	5	201	20	0.7	0.1	3.2	0.3
21T14RC10	12	16	4	**817**	5	44	5	156	19	0.7	0.1	3.4	0.4
	36	40	4	**3042**	5	169	6	640	21	1.0	0.0	3.4	0.1
	52	56	4	829	6	46	6	174	21	0.7	0.1	3.5	0.4
21T14RC12	20	24	4	**1147**	32	63	5	239	21	1.5	0.1	8.6	0.7
21T14RC13	36	40	4	604	12	31	5	119	20	0.9	0.1	4.8	0.8
21T14RC14	8	12	4	749	5	40	5	147	20	0.6	0.1	2.7	0.4
	24	28	4	727	6	38	5	139	19	0.9	0.1	4.9	0.7
	32	36	4	**1361**	6	75	6	276	20	0.7	0.0	2.4	0.2
	44	48	4	**1295**	6	74	6	276	21	0.8	0.1	3.2	0.2
21T14RC18	24	28	4	**804**	**78**	34	4	133	17	3.0	0.4	18.3	2.3
TG1401	28	30	2	**906**	21	49	5	178	20	1.5	0.2	8.2	0.9

***Table 1 Continued** Comet Project - Summary Table of all Significant REE drill intersections*

EL 6443 & EL 6633 (Comet Project) JORC Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (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 Au that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• A total of 993 drill holes have been drilled to collect samples from the top of the saprolite on 400m spacing. Infill sampling has also been completed at select locations at 100 metre spacings. At Target 14 drillholes were at 80m spacings. • Samples were collected as composite intervals from one metre drill samples stored individually in buckets. At Target 14 samples were collected in green plastic RC bags at one metre intervals. • Composite samples were collected using a "spear" tool to collect representative samples from buckets and RC bags. Composite samples were an average weight of 2 kg. A handheld Garmin 64s was used to record the location of each drill hole. The accuracy of this GPS is +/- 3m
Drilling techniques	• *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.).*	• Drill method consists of RAB. Hole diameters are 100 mm. • At Target 14 the drill method was a combination of Air core and RC drilling. Drillhole diameter at Target 14 is 300 mm
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• RAB drilling methods were utilised throughout the regional drill program. Air Core and RC methods were

Criteria	JORC Code explanation	Commentary
	• *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.*	used at Target 14. • Hole diameters are 100mm for RAB and 300mm for RC • A Geologist was on site for every drill hole to ensure that sample recoveries were appropriate.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• All samples were geologically logged by the on-site geologist. • Geological logging is qualitative. • Representative chip trays containing 1 m geological subsamples were collected.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Samples averaging 2 kg were collected for laboratory assay. • It is considered representative samples were collected. • Laboratory sample preparation includes drying and pulverizing of submitted sample to target of p80 at 75 um. • Duplicate samples have been introduced into the sample stream by the Company. • Standard samples were introduced into the sample stream by the Company, and the laboratory will also complete standard assays. • Laboratory analytical charge sizes are standard sizes and considered adequate for the material being assayed.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining*	• ALS in Perth was used for analytical work. Samples were analysed in the following manner: • Lithium Borate Fusion and Mixed Acid Digest.

Criteria	JORC Code explanation	Commentary
	the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • *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.*	Analysed by Inductively Coupled Plasma Mass Spectrometry for 30 elements. A mixed Acid digest is also done and assayed by inductively Coupled Plasma – Atomic Emission Spectroscopy for 11 elements. • For laboratory samples, the Company has introduced QA/QC samples at a ratio of one QA/QC sample for every 40 drill samples. The laboratory will introduce additional QA/QC samples (blanks, standards, checks)
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• The company has queried the results with ALS to verify the accuracy of the results and ensure the results are not an outcome of lab contamination. • No twinned holes were drilled in the program. • Rare earth element analyses were originally reported in elemental form but have been converted to relevant oxide concentrations as in the industry standard • TREO = La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 +Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Lu_2O_3 + Y_2O_3

Criteria	JORC Code explanation	Commentary
		<table><tr><th>Element Name</th><th>Element Oxide</th><th>Oxide Factor</th></tr><tr><td>Ce</td><td>CeO2</td><td>1.2284</td></tr><tr><td>Dy</td><td>Dy2O3</td><td>1.1477</td></tr><tr><td>Er</td><td>Er2O3</td><td>1.1435</td></tr><tr><td>Eu</td><td>Eu2O3</td><td>1.1579</td></tr><tr><td>Gd</td><td>Gd2O3</td><td>1.1526</td></tr><tr><td>Ho</td><td>Ho2O3</td><td>1.1455</td></tr><tr><td>La</td><td>La2O3</td><td>1.1728</td></tr><tr><td>Lu</td><td>Lu2O3</td><td>1.1371</td></tr><tr><td>Nd</td><td>Nd2O3</td><td>1.1664</td></tr><tr><td>Pr</td><td>Pr6O11</td><td>1.2082</td></tr><tr><td>Sc</td><td>Sc2O3</td><td>1.5338</td></tr><tr><td>Sm</td><td>Sm2O3</td><td>1.1596</td></tr><tr><td>Tb</td><td>Tb4O7</td><td>1.1762</td></tr><tr><td>Th</td><td>ThO2</td><td>1.1379</td></tr><tr><td>Tm</td><td>Tm2O3</td><td>1.1421</td></tr><tr><td>U</td><td>U3O8</td><td>1.1793</td></tr><tr><td>Y</td><td>Y2O3</td><td>1.2699</td></tr><tr><td>Yb</td><td>Yb2O3</td><td>1.1387</td></tr></table>
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• All maps and locations are in UTM grid (GDA94 Z53) and have been measured by hand-held GPS with a lateral accuracy of ±3 metres and a vertical accuracy ±5m.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Drill holes were completed on a 400-metre spaced grid. A 100-metre spaced grid at Anomaly A and an 80-metre spaced grid at Target 14. • The data spacing and distribution is insufficient to establish the degree of geological and grade continuity appropriate for a JORC mineral resource.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• No Geological information regarding orientation of structure was available.

Criteria	JORC Code explanation	Commentary
Sample security	• *The measures taken to ensure sample security.*	• Company staff collected all laboratory samples. • Samples submitted to the laboratory were transported and delivered by Company staff.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Internal review and checking of data has been completed by staff members.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• EL 6443 Comet and EL 6633 Gina are located approximately 80km south south-west of Coober Pedy overlapping Ingomar and Commonwealth Hill Pastoral Stations. • The tenements are located within the Woomera Prohibited Area (Amber Zone) and the Far North Prescribed Wells Area. • Native Title Holder: SCD2011/001 Antakirinja Matu-Yankunytjatjara. • The tenement is in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous exploration work includes; • **Surface Geochemical Sampling:** Calcrete **Airborne Geophysics:** Magnetics & Radiometrics. **Ground Geophysics:** Magnetics and Gravity. **Exploration Drilling:** 202 Mechanised Auger, 103 Aircore, 9 Rotary Air, 27

Criteria	JORC Code explanation	Commentary
		Reverse Circulation & 3 Diamond.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The tenements are within the Northern Gawler Craton, South Australia • Petratherm are exploring for gold and other critical minerals. • This release refers to ion adsorption REE mineralisation bound to clays within the weathered saprolite profile. • Anomalous primary REE minerals are recorded from fresher rock samples below the clays at Target 14 Prospect.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	• The type of drilling performed, comprised vertical shallow holes to an average depth of 20 metres on a 400m grid spacing. The drilling is effectively a regional deep auger geochemical sampling program and as a result tabulation of drill hole information is considered not necessary as it does not add further material information and does not detract from the understanding of the report. • Drilling at Target 14 consisted of 18 drill holes drilled at -60 degrees on a 120 Azi. The tabulated drill hole data for Target 14 is not deemed significant at this stage of exploration and is thus not yet provided.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *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.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• All reported drill results are true results as reported by ALS. • No assumptions of metal equivalent values were made or used.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Drill holes were drilled vertically at -90 degrees. Any relationship between mineralisation widths and intercepts lengths is not known. • At Target 14 drill holes were angled -60 degrees towards the southwest. TREO values reported are down hole length.
Diagrams	• *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.*	• See figures in release attached.
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 from 118 drill holes showing elevated Ce and La were re-assayed using Lithium Borate Fusion and Mixed Acid Digest and assayed by ICP-MS are reported in the Table 1 of Significant Intercepts. A cut off value of 350 ppm was implemented which is in line with other ionic clay bound rare earth deposits. Of the 118 drill holes assayed 105 were found to have TREO greater than 350 ppm.

Criteria	JORC Code explanation	Commentary
		• All sample locations where REE grades were found to be below 350 ppm TREO are shown on the figures in the main body of the release.
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.*	• See attached ASX Release. Geological observations are included in that report.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• See attached release.

Appendix 1 - Drill Hole Collars

Hole ID	Easting (MGA94 z53)	Northing (MGA94 z53)	RL (m ASL)	Dip	Azimuth (Mag)	Total Depth EOH (m)
1	435,752	6,707,419	179	-90	0	24
16	436,881	6,708,421	174	-90	0	18
273	444,498	6,711,248	161	-90	0	7
280	444,496	6,714,450	167	-90	0	22
282	444,904	6,714,038	168	-90	0	22
326	446,498	6,712,051	163	-90	0	19
338	446,903	6,712,433	158	-90	0	19
349	447,706	6,711,245	159	-90	0	19
356	443,747	6,708,877	169	-90	0	16
358	443,750	6,708,070	167	-90	0	12
395	445,302	6,707,640	172	-90	0	12
400	445,305	6,705,648	171	-90	0	12
403	445,701	6,706,447	167	-90	0	12
404	445,696	6,706,841	168	-90	0	15
428	446,505	6,709,242	172	-90	0	18
433	446,905	6,707,639	155	-90	0	9
475	445,592	6,707,854	163	-90	0	9
484	445,693	6,708,649	173	-90	0	12
493	445,691	6,707,752	172	-90	0	15
523	445,888	6,708,452	177	-90	0	13
567	445,990	6,708,958	166	-90	0	12
585	443,719	6,717,643	169	-90	0	18
586	443,719	6,717,643	172	-90	0	21
589	443,689	6,716,467	166	-90	0	18
590	443,673	6,716,059	167	-90	0	18
603	444,095	6,718,010	165	-90	0	21
615	447,733	6,705,624	169	-90	0	15
619	448,098	6,706,087	164	-90	0	12
629	447,281	6,706,784	172	-90	0	12
638	448,125	6,707,230	163	-90	0	12
639	447,727	6,707,224	168	-90	0	15
642	448,463	6,707,628	169	-90	0	24
649	443,656	6,702,869	164	-90	0	18
661	442,887	6,702,783	161	-90	0	12
672	442,491	6,702,817	165	-90	0	12
675	444,090	6,703,570	168	-90	0	12
676	444,086	6,703,996	168	-90	0	12
677	444,106	6,704,787	168	-90	0	27
678	444,106	6,704,787	166	-90	0	12
679	444,459	6,704,802	166	-90	0	15
681	444,511	6,704,030	165	-90	0	12

Hole ID	Easting (MGA94 z53)	Northing (MGA94 z53)	RL (m ASL)	Dip	Azimuth (Mag)	Total Depth EOH (m)
684	444,881	6,703,193	163	-90	0	12
685	444,896	6,703,608	165	-90	0	12
689	445,268	6,704,804	169	-90	0	18
693	445,297	6,703,237	170	-90	0	12
695	445,687	6,703,593	170	-90	0	18
696	445,693	6,703,982	170	-90	0	15
699	446,061	6,704,824	169	-90	0	18
700	446,086	6,704,393	167	-90	0	21
703	446,097	6,703,215	166	-90	0	18
704	446,447	6,703,204	168	-90	0	18
707	446,486	6,704,378	168	-90	0	36
708	446,493	6,704,805	174	-90	0	21
710	446,898	6,704,427	172	-90	0	15
728	448,091	6,703,981	167	-90	0	24
729	448,086	6,704,377	170	-90	0	24
732	448,479	6,705,213	167	-90	0	30
733	448,195	6,705,519	160	-90	0	27
744	443,995	6,715,319	170	-90	0	21
750	444,195	6,715,319	162	-90	0	24
757	440,893	6,709,212	175	-90	0	18
775	442,093	6,708,812	162	-90	0	15
776	442,493	6,708,812	169	-90	0	15
777	442,493	6,709,212	166	-90	0	24
784	442,893	6,709,612	170	-90	0	18
785	443,293	6,709,212	166	-90	0	15
789	443,296	6,708,819	170	-90	0	18
790	443,297	6,708,418	169	-90	0	15
791	443,307	6,708,008	169	-90	0	18
795	442,926	6,707,774	162	-90	0	15
796	442,887	6,708,011	172	-90	0	11
799	442,493	6,708,013	175	-90	0	15
800	442,486	6,707,607	172	-90	0	12
801	442,492	6,707,215	176	-90	0	12
802	442,108	6,707,215	178	-90	0	15
804	442,078	6,708,023	171	-90	0	24
806	441,699	6,708,407	168	-90	0	12
807	441,692	6,707,629	169	-90	0	15
808	441,682	6,707,201	168	-90	0	24
809	441,286	6,707,202	169	-90	0	12
822	447,724	6,708,448	169	-90	0	15
828	448,497	6,708,444	161	-90	0	21
854	449,295	6,702,815	165	-90	0	21

Hole ID	Easting (MGA94 z53)	Northing (MGA94 z53)	RL (m ASL)	Dip	Azimuth (Mag)	Total Depth EOH (m)
855	449,295	6,702,416	161	-90	0	15
866	446,895	6,702,810	173	-90	0	18
868	446,090	6,702,805	173	-90	0	
875	443,696	6,702,409	156	-90	0	17
877	442,892	6,702,414	159	-90	0	27
879	442,499	6,702,006	154	-90	0	15
884	444,498	6,702,009	163	-90	0	21
886	444,092	6,701,608	160	-90	0	18
901	448,093	6,702,008	168	-90	0	18
902	447,697	6,702,013	166	-90	0	24
912	445,690	6,702,414	168	-90	0	18
931	447,763	6,695,585	168	-90	0	15
953	446,160	6,693,993	170	-90	0	15
961	448,158	6,693,192	163	-90	0	18
21T14RC03	443,518	6,703,528	160	-60	120	60
21T14RC08	443,198	6,703,770	163	-60	120	60
21T14RC10	443,546	6,703,418	168	-60	120	60
21T14RC12	443,408	6,703,504	165	-60	120	60
21T14RC13	443,571	6,703,306	165	-60	120	60
21T14RC14	443,501	6,703,352	160	-60	120	60
21T14RC18	443,232	6,703,526	162	-60	120	60
TG1401	443,657	6,703,455	164	-60	120	36