ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

10 October 2023

New REE Mineralised Ironstones and Carbonatites at Lyons

- **Drilling intersects new Rare Earth Element (REE) mineralised ironstones between carbonatite targets:**
  - **LYRC071 - 1m @ 1.12% TREO (incl 0.17% Nb_2O_5) from 29m**
    - **Drill hole located on 3km mineralised North Eastern trending magnetic lineament**
  - **LYRC079 - 11m at 0.38% TREO from 41m including:**
    - **4m @ 0.65% TREO from 44m**
    - **1m @ 0.81% TREO (0.20% Nb_2O_5+Pr_6O_{11}) from 51m**
    - **Drill hole located on 2km mineralised North South magnetic lineament**
  - **LYRC110 - 1m @ 0.36% TREO from 35m**
    - **Extends the Lyons 11 ironstone outcrop to over 1km**
- **REE mineralisation intersected along the outer magnetic halo of Carbonatite targets LI01 and LI03:**
  - **LYRD002 - 108m @ 0.14% TREO and 1.16% P_2O_5 from 183m including:**
    - **1m @ 0.27% TREO and 1.05% P_2O_5 from 197m**
    - **1m @ 0.21% TREO and 1.43% P_2O_5 from 238m**
    - **1m @ 0.21% TREO and 0.88% P_2O_5 from 253m**
  - **LYRC068: 131m @ 0.13% TREO and 1% P_2O_5 from 67m to EOH associated with an REE zone along the LI01 Carbonatite halo dipping towards its centre**

Mr Brian Thomas, Lanthanein Technical Director commented "*Results from this this year's infill and exploration drilling continues to demonstrate the exciting prospectivity of the Lyons project for significant REE mineralisation. REEs were intersected in two new previously unsampled ironstone dykes over 2km and 3km strike extents along magnetic lineament targets 5km southeast of previously known ironstones at Lyons 11. Infill drilling along the Lyons 11*

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

ironstone has extended the known mineralisation to over 1km strike length. This extension complements the infill and extensions previously reported at Lyons 12 & 13. There are numerous additional outcropping ironstone targets delineated from satellite imagery and geophysical targets undercover that are still to be drill tested. We are also greatly encouraged by the results of the diamond drilling of the Carbonatite targets at LI01 & LI03 which confirm the REE mineralisation of the magnetic rimes of these major features".

Lanthanein Resources Ltd (ASX: LNR) (**Lanthanein** or the **Company**) is pleased to announce assay results from infill drilling completed at the Lyons 11 prospect and from exploration drilling targeting magnetic and Thorium anomalies (Figures 1 and 2) a further 5km to the southeast in the Gascoyne Region Lyons Projects in Western Australia. At Lyons 11, the drill program targeted high-grade rare earth mineralisation extensions from the previously discovered outcropping ironstones (Figure 3).

Diamond drilling targeted priority high magnetic curvilinear trends with two 450-metre-deep diamond holes co funded by the Department of Mines Industry Regulation and Safety (DMIRS) Exploration Incentive Scheme. These were targeted to investigate potential for large tonnage REE carbonatites similar to Lynas Corporation's Mount Weld deposit in Western Australia.

A total of 93 RC drillholes totalling 9,507m plus two DMIRS part funded drillholes totalling 305m RC pre-collar and 594m diamond core were completed this year (Table 4) testing for REE extensions of existing ironstones at Lyons 11, 12 and 13. This drilling also explored for new ironstone and carbonatite targets undercover (Map A).

All assay results have now been received including results from the southern magnetic rim of two large 3.6km and 2.5km diameter Carbonatite Targets LI01 and LI03 (Figures 4 and 5). Results show the extensive nature of REE related to **130-220m** wide zones of **0.7-1% P_2O_5** dipping toward the centre, confirming the "funnel shaped" nature of carbonatites.

Drilling Results along Ironstone Magnetic Lineament Targets (Table 1)

RC drilling targeted anomalous magnetic and Thorium anomalies interpreted to be related to sub-cropping REE in ironstones in previously unexplored areas of the tenement to the southeast of previously drilled REE mineralised ironstone outcrops at Lyons 11, 12 and 13.

Significant drill intersections along the 3km NE magnetic lineament (Figure 2), partly related to the southeastern magnetic rim of the LI01 carbonatite target include:

- LYRC071: 1m @ 1.12% TREO + 0.17% Nb_2O_5 from 29m
- LYRC081: 2m @ 0.22% TREO from 11m and 1m @ 0.22% TREO from 147m
- LYRC072: 105m @ 0.15% TREO from 8m incl. 1m @ 0.21% TREO from 52m

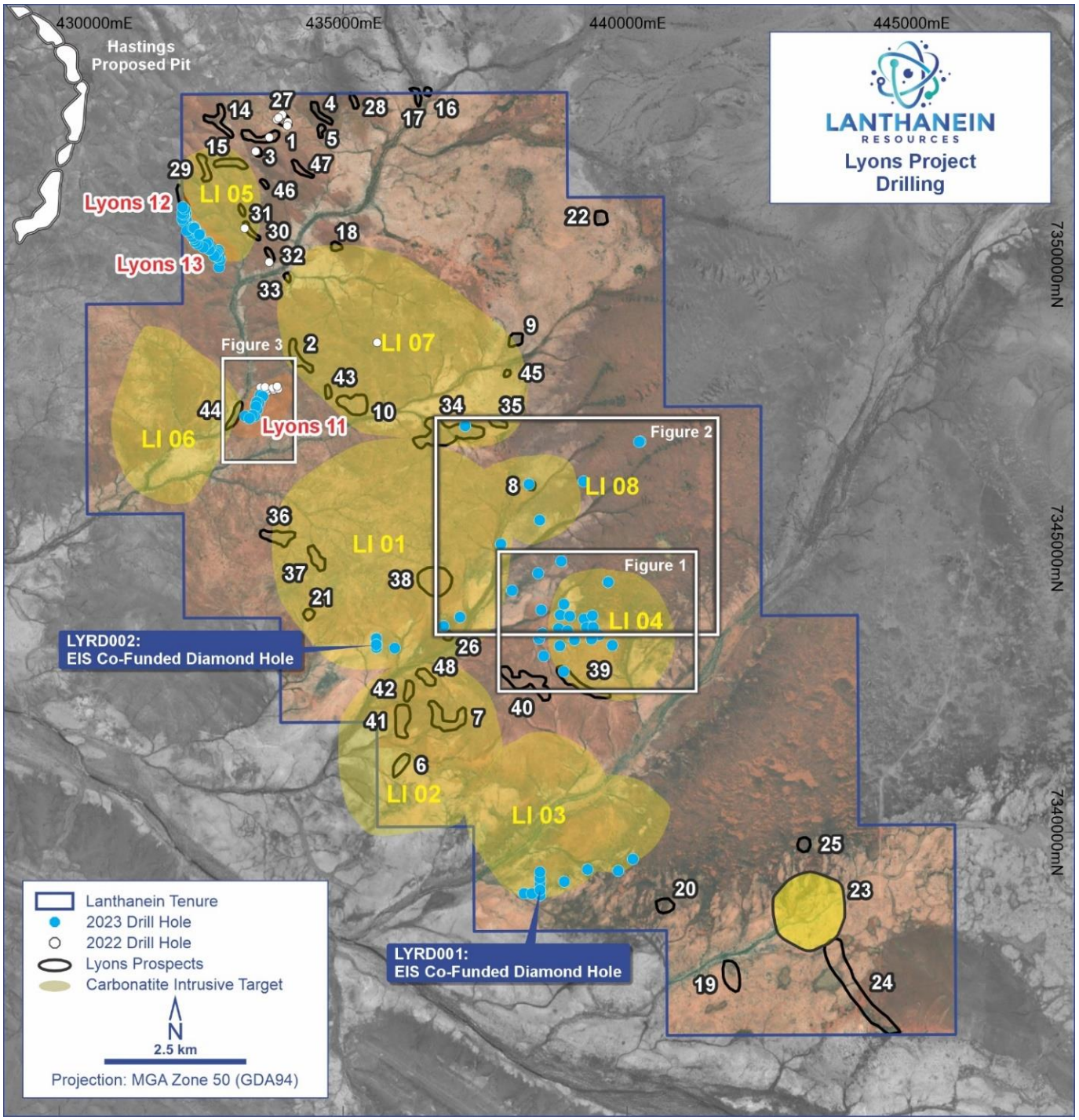
Significant drill intersection along a 2km North-South magnetic lineament (Figure 1) include:

- LYRC079: 11m @ 0.38% TREO from 41m incl.
  4m @ 0.65% TREO from 44m and
  1m @ 0.81% TREO (0.2% NdPr) from 51m
  1m @ 0.26% TREO from 60m
- LYRC080: 1m @ 0.20% TREO from 50m
  65m @ 0.62% P_2O_5 from 19m to the EOH at 84m depth

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com



Map A. Lanthanein Lyons Project Showing Drillhole Locations, Carbonatite Targets and Ironstone Prospects (Includes insets of Figures 1, 2 and 3)

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

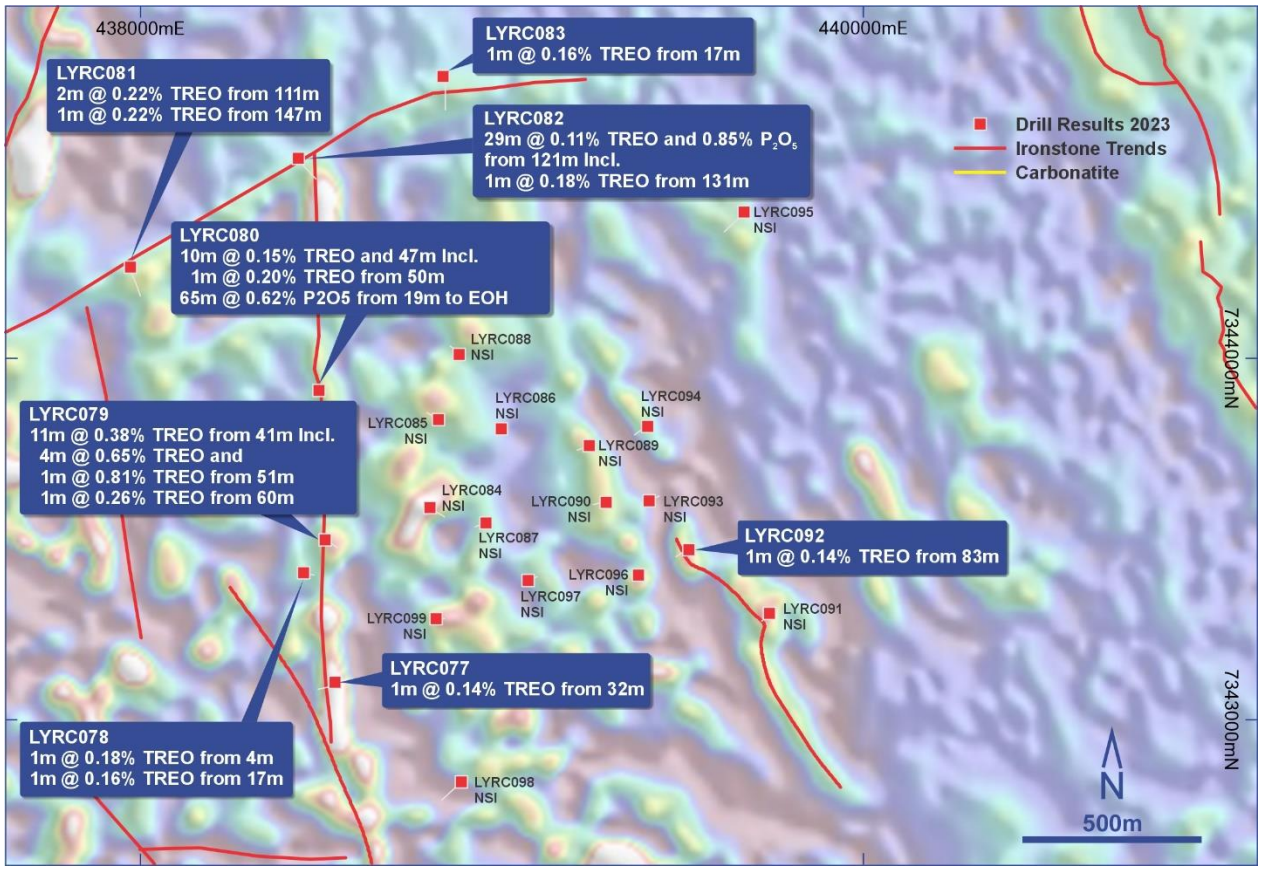


Figure 1. Plan View of the Newly Intersected Ironstones along a North-South Magnetic Lineament at LI04

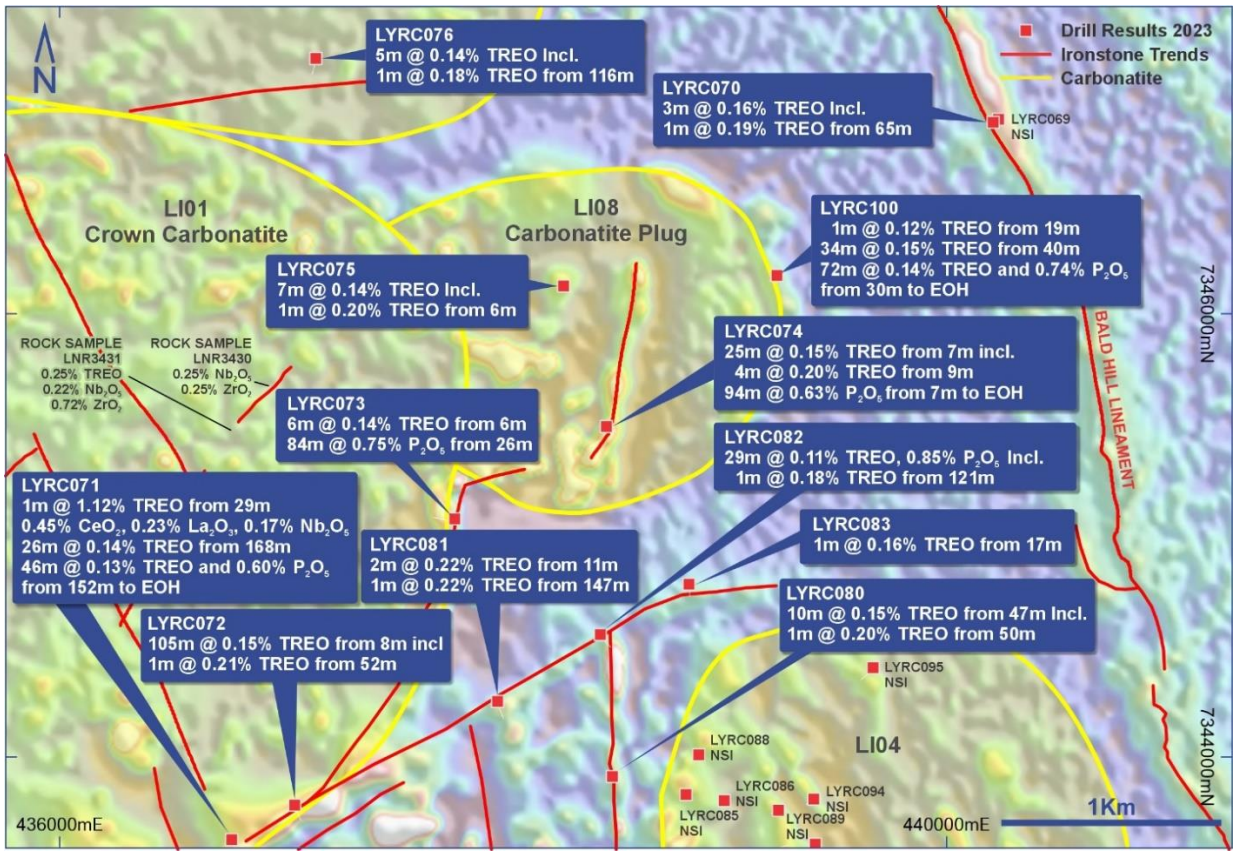


Figure 2. Plan View of the Drillholes and Results along Eastern LI01, LI08 and LI04 Carbonatite Targets

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Drilling Results Lyons 11 (LYRC101 to LYRC110):

The Company's step out drilling program from its maiden drilling program (refer to ASX Announcement dated 14 December 2022) completed a total of an additional 10 Reverse Circulation drillholes at Lyons 11 (Table 4) for 582m drilled, at an average depth of 58.2m.

Significant 2023 drill intersections (Table 2) at the Lyons 11 prospect (Figure 3) include:

- LYRC102: 1m @ 0.66% TREO and 0.53% P_2O_5 from 5m
- LYRC103: 2m @ 0.33% TREO and 0.45% P_2O_5 from 5m incl.
  1m @ 0.51% TREO and 0.74% P_2O_5 from 6m
- LYRC101: 2m @ 0.40% TREO and 0.44% P_2O_5 from 31m incl.
  1m @ 0.64% TREO and 0.54% P_2O_5 from 32m
- LYRC110: 1m @ 0.36% TREO from 35m

These results extend known mineralisation to over a 1km strike extent along an anomalous trend interpreted from Worldview-3 satellite spectral imagery and geophysical data.

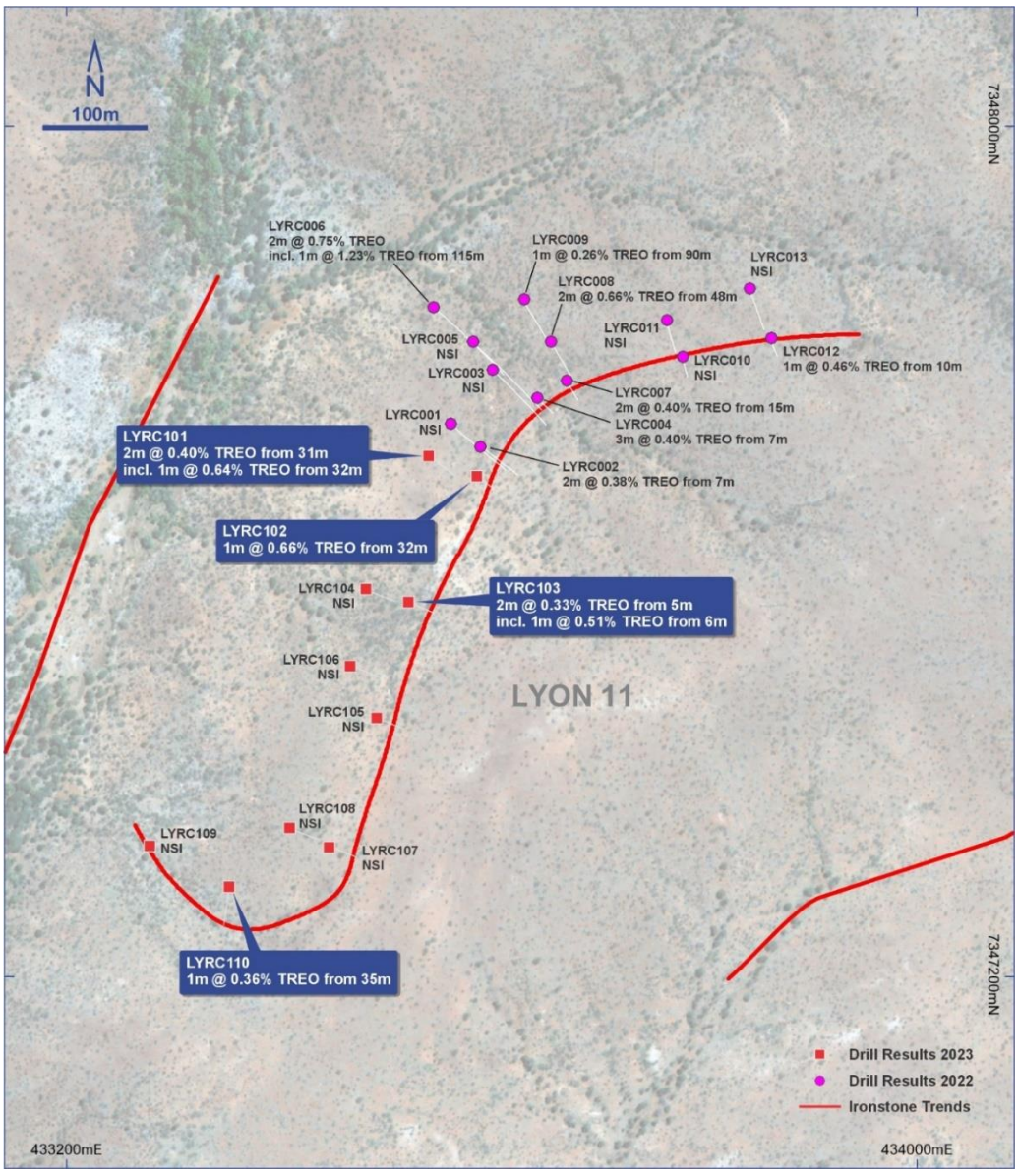


Figure 3. 2023 RC drilling Results at Lyons 11 Showing Ironstone Trends

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

RC and EIS Diamond Drilling Results at the LI01 and LI03 Carbonatite targets:

The Company's drilling program was in part designed to test for REE mineralisation along the southern magnetic rim of two carbonatite targets LI01 and LI03 (Map A) and provide drill chips and drill core for testing a new model for large tonnage intrusive REE mineralised carbonatites similar in size and geophysical characteristics to the Mount Weld rare earth element carbonatite. Co-funded EIS drilling was provided for two drill holes with WA Government.

Drill intersections (Table 3) at the LI01 Carbonatite Outer Halo (Figure 4) include:

- LYRD002 (EIS): 174m @ 0.14% TREO and 1.04% P_2O_5 from 117m
  Incl. 1m @ 0.27% TREO and 1.05% P_2O_5 from 197m
  And 1m @ 0.21% TREO and 1.43% P_2O_5 from 238m
  And 1m @ 0.21% TREO and 0.88% P_2O_5 from 253m
- LYRC066: 1m @ 0.19% TREO from 105m
  1m @ 0.20% TREO and 0.70% P_2O_5 from 130m
  157m @ 0.14% TREO and 0.70% P_2O_5 from 157m to EOH
- LYRC068: 131m @ 0.13% TREO and 1% P_2O_5 from 76m to EOH

Large REE and P_2O_5 intercepts form part of a **140-220m wide zone of 0.8% P_2O_5** near the surface of the LI01 carbonatite outer magnetic halo, dipping north towards its centre at 17^0 to 41^0, analogous to funnel-like shaped carbonatites. Further exploration is required to extend on the source of the higher grades **1m @ 1.12% TREO and 0.17% Nb_2O_5 from 29m depth** intersected at LYRC071 along the southeastern magnetic halo, and the **0.25% Nb_2O_5** collected in surface rock samples (ASX Announcement 31/8/2023) (Figure 2).

Drill intersections (Table 3) at the LI03 Carbonatite Rim (Figure 5) include:

- LYRD001 (EIS): 7m @ 0.16% TREO from 71m
  121m @ 0.11% TREO and 0.82% P_2O_5 from 105m
  1m @ 0.24% TREO and 0.95% P_2O_5 from 378m
- LYRC054: 53m @ 0.14% TREO from 9m
  Incl. 2m @ 0.17% TREO from 29m
- LYRC059: 1m @ 0.15% TREO from 191m
  104m @ 0.10% TREO and 0.86% P_2O_5 from 80m

Large REE and P_2O_5 intercepts form part of a **130-140m wide zone of 0.8% P_2O_5** near the surface of the LI03 Carbonatite southern outer magnetic halo, dipping north towards its centre at 45^0 to 30^0. Minor and trace constituents commonly observed in rocks affected by fenitisation-type metasomatism are carbonates, magnetite, monazite-(Ce), bastnaesite-(Ce), parsite-(Ce), and goyazite. Other elements that may be introduced into country rock include REE and Nb. Enriched zones of niobium mineralisation at the Mt. Weld carbonatite have been associated with an enriched weathered zone. Further exploration is required to locate higher grade zones of REE in ironstones and potential higher grade REE and Niobium in weathered zones within the carbonatite targets (Figure 3).

Drill core from LYRD001 &002 are currently undergoing HyLogger spectral scanning by DMIRS to provide information on mineralisation. Results are pending.

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

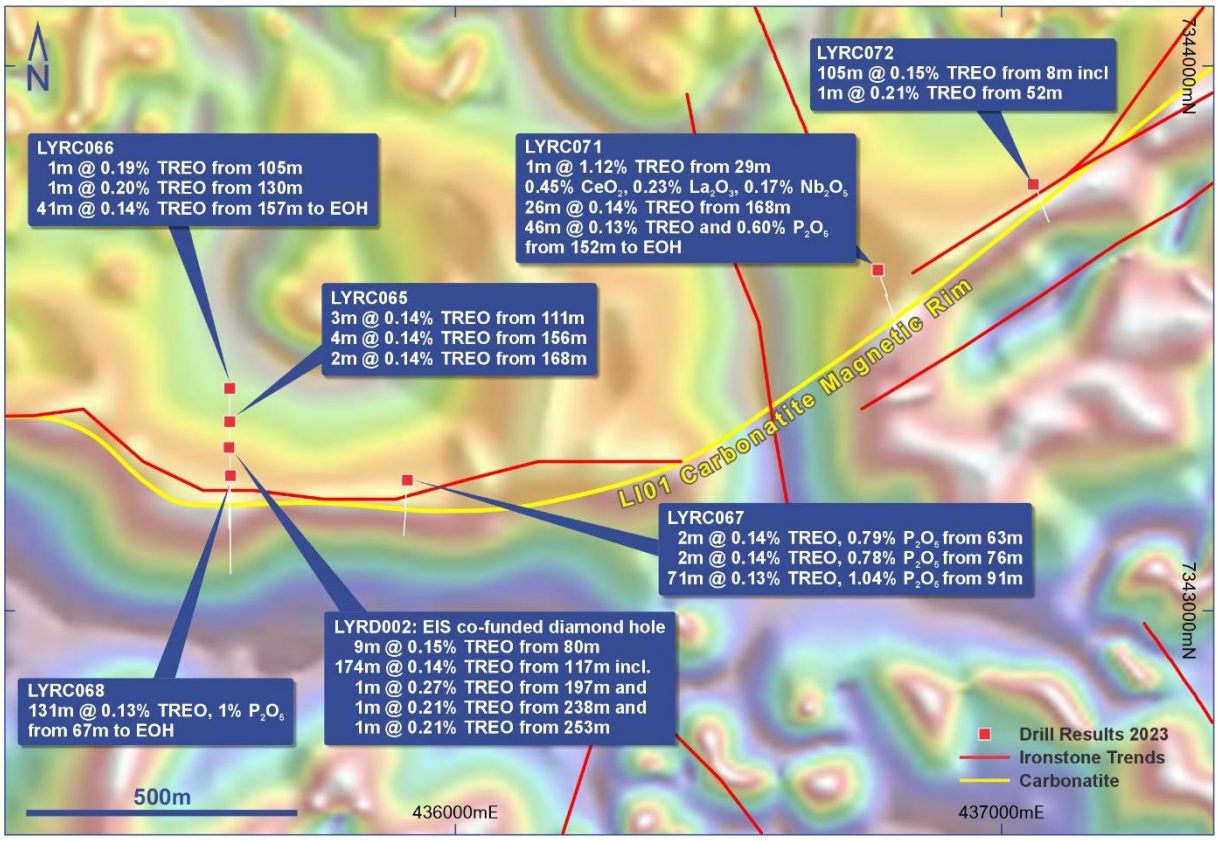


Figure 4. 2023 RC drilling Results at the LI01 Carbonatite Magnetic Rim

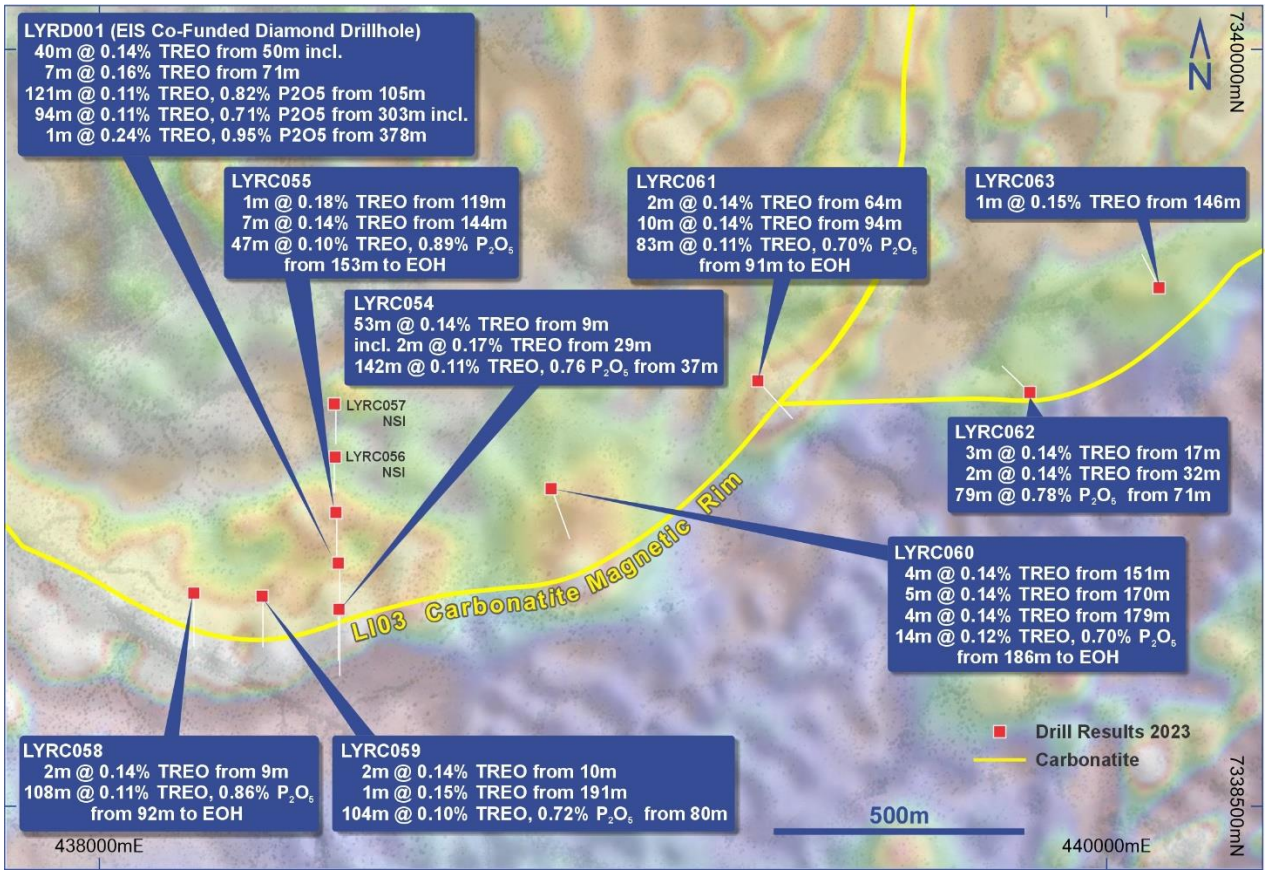


Figure 5. 2023 RC drilling Results at the LI03 Carbonatite Magnetic Rim

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

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

For additional information please visit our website at www.lanthanein.com

LANTHANEIN RESOURCES LTD

The Company confirms that it is not aware of any new information or data that materially affects the information in the original reports, and that the format and context in which the Competent Person's findings are presented have not been materially modified from the original reports.

Competent Person's Statement
The information in this document that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr. Thomas Langley who is a member of the Australian Institute of Geoscientists (MAIG) and a member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Mr. Thomas Langley is a consultant of Lanthanein Resources Limited, and is a shareholder, however Mr. Thomas Langley believes this shareholding does not create a conflict of interest, and Mr. Langley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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. Langley consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

Competent Person's Statement
The information in this report that relates to Geophysical Exploration Results is based on information compiled by Peter Swiridiuk - Member of the Aust. Inst. of Geoscientists. Peter Swiridiuk is a Technical Consultant and Non-Executive Director for Lanthanein Resources. Peter Swiridiuk has sufficient experience which is relevant to the type of mineralisation and type of deposit under consideration to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting Exploration Results, Mineral Resources and Ore Resources. Peter Swiridiuk consents to the inclusion in the report of the matters based on the information in the form and context in which it appears. Additionally, Mr Swiridiuk confirms that the entity is not aware of any new information or data that materially affects the information contained in the ASX releases referred to in this report.

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Table 1: 2023 Drilling Intersections > 0.14% TREO (Carbonatite / Magnetic Lineaments)

Hole ID	From (m)	To (m)	Interval (m)	TREO (%)	NdPr:TREO (%)	P_2O_5 (%)	Prospect / Comments
LYRC071	8	9	1	0.14	29	0.13	**LI01 Southeastern Magnetic Rim**
	29	30	1	1.12	23	0.81	1m @ 0.45% CeO_2, 0.23% La_2O_3, 0.17% Nb_2O_5
	90	91	1	0.14	21	0.59	
	100	114	14	0.14	27	0.15	
	151	155	4	0.14	20	0.52	
	168	194	26	0.14	24	0.53	
	152	198	46	0.13	24	0.60	EOH
LYRC072	8	113	105	0.15	18	0.33	
Incl.	52	53	1	0.21	20	0.27	
	121	122	1	0.14	15	0.70	
	125	126	1	0.14	20	0.76	
LYRC073	6	12	6	0.14	21	0.29	**LI01 Eastern Magnetic Rim**
	24	25	1	0.14	22	0.19	
	26	110	84	0.11	22	0.75	
	28	29	1	0.14	22	0.59	
	42	43	1	0.14	22	0.68	
	60	61	1	0.14	22	0.85	
	63	64	1	0.14	22	0.74	
	73	75	2	0.14	22	0.78	
	83	85	2	0.14	22	0.86	
	189	190	1	0.14	15	0.31	
	193	194	1	0.14	22	0.29	
LYRC074	7	32	25	0.15	20	0.32	**LI08 Carbonatite Target**
Incl.	9	13	4	0.20	14	0.34	
And.	14	15	1	0.21	14	0.43	
	44	45	1	0.14	22	0.84	
	48	49	1	0.14	29	0.84	
	55	56	1	0.14	22	0.78	
	65	66	1	0.14	22	0.80	
	70	71	1	0.14	22	0.83	
	72	73	1	0.14	22	0.83	
	85	86	1	0.14	22	0.83	
	91	92	1	0.14	22	0.80	
	93	94	1	0.14	22	0.83	
	98	99	1	0.14	22	0.84	
	7	102	94	0.13	22	0.63	EOH

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Hole ID	From (m)	To (m)	Interval (m)	TREO (%)	NdPr:TREO (%)	P_2O_5 (%)	Prospect / Comments
LYRC075	6	13	7	0.14	26	0.20	**LI08 Carbonatite Target**
Incl.	7	8	1	0.20	30	0.24	*Thorium and Magnetic anomaly*
	29	30	1	0.14	26	0.30	
	39	41	2	0.14	22	0.28	
	47	48	1	0.15	27	0.25	
	78	79	1	0.15	21	0.16	
	80	81	1	0.15	21	0.16	
	94	95	1	0.14	22	0.28	
	115	116	1	0.14	22	0.81	
	118	119	1	0.14	22	0.80	
	122	123	1	0.14	22	0.43	
	125	127	2	0.14	22	0.25	
	133	134	1	0.14	22	0.29	
LYRC100	19	21	3	0.16	14	0.27	**LI08 Carbonatite Eastern Magnetic Rim**
Incl.	19	20	1	0.21	15	0.36	
	26	27	1	0.15	14	0.27	
	29	30	1	0.14	8	0.31	
	40	74	34	0.15	19	0.74	
	80	81	1	0.14	13	0.86	
	84	87	3	0.14	13	0.73	
	90	95	5	0.14	12	0.88	
	97	99	2	0.14	11	0.83	
	100	101	1	0.14	15	0.90	
	30	102	72	0.14	14	0.74	EOH
LYRC076	42	43	1	0.14	15	0.20	**LI07 Carbonatite Target**
	44	45	1	0.16	19	0.26	*Thorium and Magnetic lineaments*
	60	61	1	0.15	22	0.27	
	76	80	4	0.14	19	0.29	
	84	85	1	0.14	22	0.29	
	88	89	1	0.15	21	0.29	
	103	104	1	0.14	22	0.28	
	105	106	1	0.14	22	0.29	
	108	109	1	0.14	15	0.25	
	110	113	3	0.14	19	0.28	
	116	121	5	0.14	20	0.32	
Incl.	116	117	1	0.18	20	0.44	
	146	147	1	0.14	22	0.30	
LYRC069		144		NSI			**Bald Hill Magnetic Lineament**
LYRC070	65	68	3	0.16	15	0.08	
Incl.	65	66	1	0.19	15	0.11	
LYRC077	32	33	1	0.14	22	0.34	**North-South Magnetic Lineament**
LYRC078	4	5	1	0.18	28	0.11	
	17	18	1	0.16	25	0.14	

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Hole ID	From (m)	To (m)	Interval (m)	TREO (%)	NdPr:TREO (%)	P_2O_5 (%)	Prospect / Comments
LYRC079	3	15	12	0.14	20	0.22	**North-South Magnetic Lineament**
	18	21	3	0.14	22	0.60	
	24	25	1	0.14	22	0.70	
	33	34	1	0.14	21	0.85	
	36	37	1	0.14	22	0.83	
	41	52	11	0.38	22	0.69	
Incl.	44	48	4	0.65	25	0.77	**0.16% Nd_2O_3+Pr_6O_{11}**
And	51	52	1	0.81	25	0.85	**0.20% Nd_2O_3+Pr_6O_{11}**
	59	63	4	0.18	22	0.37	
Incl.	60	61	1	0.26	24	0.51	
	66	67	1	0.14	22	0.35	
LYRC080	14	15	1	0.15	21	0.14	
	19	27	8	0.14	22	0.74	
	29	34	5	0.14	22	0.84	
	42	44	2	0.14	22	0.94	
	47	57	10	0.15	22	0.17	
Incl.	50	51	1	0.20	22	0.30	
	19	84	65	0.12	19	0.62	EOH
LYRC081	3	5	2	0.16	34	0.13	**NE Magnetic Lineament**
	7	9	2	0.15	27	0.33	
	111	113	2	0.22	20	0.54	
	111	112	1	0.26	20	0.52	
	147	148	1	0.22	23	0.16	
LYRC082	64	65	1	0.15	14	0.20	
	70	70	1	0.14	22	0.28	
	121	150	29	0.11	23	0.85	EOH
Incl.	131	132	1	0.18	23	0.88	
LYRC083	17	18	1	0.16	25	0.19	
LYRC084		102		NSI			**LI04 Carbonatite Magnetic Lineaments**
LYRC085		74		NSI			
LYRC086		54		NSI			
LYRC087		60		NSI			
LYRC088		84		NSI			
LYRC089		72		NSI			
LYRC090		72		NSI			
LYRC091		84		NSI			
LYRC092	83	84	1	0.14	22	0.22	EOH
LYRC093		60		NSI			
LYRC094		84		NSI			
LYRC095		150		NSI			
LYRC096		84		NSI			
LYRC097		60		NSI			
LYRC098		150		NSI			
LYRC099		54		NSI			

* NSI: No Significant Intersection

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Table 2: 2023 Lyons11 Significant Intersections > 0.2% TREO (Ironstones)

Hole ID	From (m)	To (m)	Interval (m)	TREO (%)	NdPr:TREO (%)	P_2O_5 (%)
LYRC101	31	33	2	0.40	15	0.44
Incl.	32	33	1	0.64	23	0.54
LYRC102	5	6	1	0.66	32	0.53
LYRC103	5	7	2	0.33	17	0.45
Incl.	6	7	1	0.51	27	0.74
LYRC104	23	24	1	0.22	14	0.54
LYRC105		54		NSI		
LYRC106		60		NSI		
LYRC107		54		NSI		
LYRC108		60		NSI		
LYRC109		54		NSI		
LYRC110	35	36	1	0.36	31	0.39

* NSI: No Significant Intersection

Table 3: 2023 Drilling Intersections > 0.14% TREO (LI01 and LI03 Carbonatite RIm)

Hole ID	From (m)	To (m)	Interval (m)	TREO (%)	NdPr:TREO (%)	P_2O_5 (%)	Prospect / Comments
LYRD001	13	14	1	0.14	21	0.36	**LI03 Southern Magnetic Rim**
(EIS Hole)	15	16	1	0.14	21	0.36	**(EIS Co-Funded RC + Diamond Drillhole)**
	23	24	1	0.14	21	0.38	***RC Pre-collar of LYRD001 to 125m depth***
	50	90	40	0.14	20	0.44	
Incl.	71	78	7	0.16	18	0.39	
	105	226	121	0.11	23	0.82	
	109	110	1	0.15	21	1.06	
	111	112	1	0.15	21	0.93	
	113	116	3	0.14	19	0.88	
	147	148	1	0.14	22	0.84	***Diamond Core of LYRD001 from 126m***
	170	171	1	0.14	22	0.59	***depth***
	236	237	1	0.14	22	0.23	
	261	262	1	0.14	22	0.24	
	266	267	1	0.16	25	0.23	
	283	284	1	0.16	19	0.23	
	303	397	94	0.10	22	0.71	
	339	343	4	0.14	22	0.92	
	378	379	1	0.24	21	0.95	
	401	402	1	0.14	22	0.12	
LYRC054	9	62	53	0.14	20	0.50	
Incl.	29	31	2	0.17	19	0.38	
	37	179	142	0.11	19	0.76	
	187	188	1	0.15	20	0.27	

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

LYRC055	119	120	1	0.18	22	0.53	
	126	127	1	0.15	27	0.36	
	130	132	2	0.14	21	0.38	
	134	138	4	0.14	23	0.38	
	144	151	7	0.14	24	0.45	
	153	200	47	0.10	47	0.89	EOH
LYRC056		138		NSI			Not deep enough to intersect P_2O_5
LYRC057		156		NSI			Not deep enough to intersect P_2O_5
LYRC058	56	58	2	0.14	18	0.34	87m @ 0.05% CeO2 from 32m
	63	64	1	0.14	21	0.36	
	90	92	2	0.14	18	0.49	
	115	117	2	0.14	22	0.92	
	118	120	2	0.14	22	0.95	
	121	123	2	0.14	22	1.00	
	92	200	108	0.11	18	0.86	EOH
LYRC059	10	12	2	0.14	18	0.33	
	53	54	1	0.14	21	0.37	
	58	60	2	0.14	22	0.35	
	64	66	2	0.14	21	0.39	
	75	77	2	0.14	22	0.41	
	186	187	1	0.14	21	0.26	
	191	192	1	0.15	20	0.18	
	196	197	1	0.15	13	0.82	
	80	184	104	0.10	18	0.72	
LYRC060	145	146	1	0.14	21	0.38	
	151	155	4	0.14	22	0.47	
	159	160	1	0.14	21	0.42	
	170	175	5	0.14	21	0.40	
	179	183	4	0.14	20	0.46	
	190	191	1	0.14	21	0.68	
	194	196	2	0.14	22	0.76	
	186	200	14	0.12	23	0.70	EOH
LYRC061	64	66	2	0.14	22	0.34	
	94	104	10	0.14	22	0.66	
	107	108	1	0.14	21	0.89	
	91	200	83	0.11	23	0.76	EOH
LYRC062	17	20	3	0.14	24	0.31	
	32	34	2	0.14	29	0.48	
	111	112	1	0.14	21	0.81	
	71	150	79	0.10	25	0.78	EOH
LYRC063	146	147	1	0.15	20	0.12	
LYRD002	40	41	1	0.17	18	0.20	**LI01 Southern Magnetic Rim**
(EIS Hole)	72	74	2	0.14	18	0.64	***RC Pre-collar to 180m***
	80	89	9	0.15	19	0.65	
	95	96	1	0.14	21	0.64	
	99	100	1	0.14	14	0.70	
	106	107	1	0.16	13	0.91	
	117	291	174	0.14	18	1.04	***Diamond Core from 180m***

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Incl.	197	198	1	0.27	23	1.05	
And.	238	239	1	0.21	19	1.43	
And.	253	253	1	0.21	19	0.88	
LYRC065	63	64	1	0.14	29	0.11	
	87	88	1	0.15	20	0.30	
	111	114	3	0.14	23	0.68	
	140	198	58	0.12	23	0.88	EOH
	147	148	1	0.14	21	0.89	
	151	153	2	0.14	21	0.78	
	156	161	4	0.14	23	0.80	
	168	170	2	0.14	22	0.92	
	177	179	2	0.14	22	0.98	
	185	187	2	0.14	22	0.85	
LYRC066	65	66	1	0.14	29	0.08	
	68	69	1	0.14	29	0.10	
	105	106	1	0.19	32	0.20	
	122	123	1	0.16	19	0.50	
	126	128	2	0.14	19	0.64	
	130	131	1	0.20	19	0.70	
	157	198	41	0.14	23	0.70	EOH
LYRC067	49	50	1	0.14	21	0.68	
	51	52	1	0.14	21	0.31	
	63	65	2	0.14	22	0.79	
	68	69	1	0.14	21	0.78	
	76	78	2	0.14	22	0.78	
	91	162	71	0.13	21	1.04	EOH
LYRC068	67	198	131	0.13	22	1.00	EOH
incl	77	80	3	0.15	20	0.83	

Table 4: 2023 Drill Collar Data (GDA94 MGAz50)

Hole ID	Easting	Northing	Dip	Azimuth	EOH	Type
LYRC055	438470	7339081	-60	180	200	RC
LYRC056	438467	7339192	-60	180	138	RC
LYRC057	438469	7339298	-60	180	156	RC
LYRC058	438188	7338921	-60	180	200	RC
LYRC059	438325	7338917	-60	180	200	RC
LYRC060	438898	7339128	-60	160	200	RC
LYRC061	439308	7339342	-60	138	200	RC
LYRC062	439847	7339319	-60	314	150	RC
LYRC063	440104	7339526	-60	334	150	RC
LYRC065	435586	7343347	-60	184	198	RC
LYRC066	435586	7343408	-60	184	198	RC
LYRC067	435911	7343240	-60	184	162	RC
LYRC068	435588	7343250	-60	184	198	RC
LYRC069	440236	7346877	-60	62	144	RC
LYRC070	440217	7346870	-60	62	150	RC
LYRC071	436774	7343625	-60	160	198	RC
LYRC072	437061	7343785	-60	160	150	RC
LYRC073	437782	7345071	-60	280	198	RC
LYRC074	438464	7345492	-60	110	102	RC
LYRC075	438275	7346123	-60	132	150	RC
LYRC076	437153	7347153	-60	193	150	RC

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Hole ID	Easting	Northing	Dip	Azimuth	EOH	Type
LYRC077	438536	7343102	-60	260	84	RC
LYRC078	438452	7343406	-60	100	60	RC
LYRC079	438512	7343498	-60	124	84	RC
LYRC080	438491	7343912	-60	101	84	RC
LYRC081	437977	7344253	-60	158	150	RC
LYRC082	438437	7344557	-60	138	150	RC
LYRC083	438842	7344769	-60	180	150	RC
LYRC084	438797	7343586	-60	303	102	RC
LYRC085	438824	7343822	-60	300	74	RC
LYRC086	438995	7343802	-90	0	54	RC
LYRC087	438955	7343546	-60	247	60	RC
LYRC088	438891	7344013	-60	300	84	RC
LYRC089	439242	7343755	-60	246	72	RC
LYRC090	439286	7343599	-60	258	72	RC
LYRC091	439743	7343289	-60	238	84	RC
LYRC092	439514	7343470	-60	242	84	RC
LYRC093	439407	7343604	-60	66	60	RC
LYRC094	439393	7343810	-60	235	84	RC
LYRC095	439671	7344401	-60	227	150	RC
LYRC096	439378	7343399	-60	63	84	RC
LYRC097	439074	7343384	-60	63	60	RC
LYRC098	438888	7342827	-60	227	150	RC
LYRC099	438819	7343280	-60	97	54	RC
LYRC100	439236	7346176	-60	237	102	RC
LYRC101	433541	7347691	-60	126	60	RC
LYRC102	433586	7347672	-60	126	54	RC
LYRC103	433521	7347553	-60	112	54	RC
LYRC104	433480	7347565	-60	112	60	RC
LYRC105	433493	7347444	-60	112	54	RC
LYRC106	433467	7347494	-60	112	60	RC
LYRC107	433447	7347323	-60	112	54	RC
LYRC108	433408	7347341	-60	112	60	RC
LYRC109	433278	7347323	-60	224	54	RC
LYRC110	433352	7347285	-60	187	72	RC
LYRC111	432817	7349946	-60	110	150	RC
LYRC112	432840	7350078	-60	95	102	RC
LYRC113	432819	7350132	-60	45	72	RC
LYRC114	432777	7350123	-60	45	90	RC
LYRC115	432805	7350246	-60	33	54	RC
LYRC116	432781	7350209	-60	33	72	RC
LYRC117	432756	7350185	-60	33	90	RC
LYRC118	432731	7350147	-60	33	102	RC
LYRC119	432669	7350287	-60	37	72	RC
LYRC120	432645	7350254	-60	37	90	RC
LYRC121	432645	7350254	-60	37	102	RC
LYRC122	432623	7350383	-60	41	54	RC
LYRC123	432595	7350355	-60	41	72	RC
LYRC124	432541	7350294	-60	41	102	RC
LYRC125	432437	7350351	-60	39	90	RC
LYRC126	432399	7350390	-60	40	102	RC
LYRC127	432379	7350444	-60	43	103	RC
LYRC128	432353	7350479	-60	33	90	RC
LYRC129	432311	7350536	-60	50	102	RC
LYRC130	432484	7350535	-60	40	36	RC
LYRC131	432411	7350563	-60	30	60	RC
LYRC132	432398	7350605	-60	40	42	RC
LYRC133	432247	7350764	-80	35	72	RC
LYRC134	432193	7350750	-60	37	102	RC
LYRC135	432205	7350841	-60	35	54	RC
LYRC136	432170	7350797	-60	37	90	RC

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Hole ID	Easting	Northing	Dip	Azimuth	EOH	Type
LYRC137	432233	7350897	-60	49	60	RC
LYRC138	432201	7350871	-60	49	84	RC
LYRC139	432171	7350890	-60	49	102	RC
LYRC140	432216	7350968	-60	46	102	RC
LYRC141	432178	7351004	-60	46	84	RC
LYRC142	432249	7350587	-60	50	120	RC
LYRC143	432368	7350660	-60	60	42	RC
LYRC144	432356	7350645	-60	66	48	RC
LYRC145	432389	7350644	-60	66	36	RC
LYRC146	432381	7350635	-60	42	48	RC
LYRC147	432472	7350518	-60	48	48	RC
LYRD001	438471	7338983	-60	180	126	RC Pre-collar
LYRD001	438471	7338983	-60	180	450	Diamond
LYRC064/LYRD002	435586	7343299	-60	184	180	RC Pre-collar
LYRD002	435586	7343299	-60	184	450	Diamond

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

JORC Code, 2012 Edition – 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 gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	Reverse Circulation (RC) drilling was undertaken to produce samples for assaying. Two sampling techniques were utilised for this program, 1m metre splits directly from the rig sampling system for each metre and 3m composite sampling from the spoil piles. Samples submitted to the laboratory were determined by the site geologist. **1m Splits** From every metre drilled a 2-3km samples (split) was sub-sampled into a calico bag via a Metzke cone splitter from each metre of drilling. All samples are submitted to ALS Laboratories in Perth for determination of Rare Earth Oxides by Lithium Borate Fusion XRF (ALS Method ME-XRF30).
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).*	**RC Drilling** Topdrill undertook the program utilising a Schramm T685 wheel-mounted (8x8) drill rig with additional air from an auxiliary compressor and booster. RC bit size was 5.5 inch.
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.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain*	**RC Drilling** Drilling was undertaken using a 'best practise' approach to achieve maximum sample recovery and quality through the mineralised zones. Best practise sampling procedure included: suitable usage of dust suppression, suitable shroud, lifting off bottom between each metre, cleaning of sampling equipment, ensuring a dry sample and suitable

Criteria	JORC Code explanation	Commentary
	of fine/coarse material.	supervision by the supervising geologist to ensure good sample quality. At this stage, no known bias occurs between sample recovery and grade.
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.*	RC drill chips were logged by a qualified geologist with sufficient experience in the geological terrane and relevant styles of mineralisation using an industry standard logging system which could eventually be utilised within a Mineral Resource Estimation. Lithology, mineralisation, alteration, veining, weathering and structure were all recorded digitally. Chips were washed each metre and stored in chip trays for preservation and future reference. RC pulp material is also analysed on the rig by pXRF, scintillometer and magnetic susceptibility meter to assist with logging and the identification of mineralisation. Logging is qualitative, quantitative or semi-quantitative in nature.
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.*	**RC Drilling** From every metre drilled, a 2-3kg sample (split) was sub-sampled into a calico bag via a Metzke cone splitter. QAQC in the form of duplicates and CRM's (OREAS Standards 460, 461 and 465) were inserted at a rate of 1:50 samples. Blank samples were inserted at a rate of 1:50 samples. Additionally, within mineralised zones, a standard and a blank were inserted. 2-3kg samples are submitted to ALS Laboratories (Perth), oven dried to 105ºC and pulverised to 85% passing 75um to produce a 0.66g charge for determination of Rare Earth Oxides by Lithium Borate Fusion XRF (ALS Method ME-XRF30). Standard laboratory QAQC is undertaken and monitored.
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*	**Laboratory Analysis** Lithium Borate fusion is considered a total digest and Method ME-XRF30 is appropriate for REE determination. Standard laboratory QAQC is undertaken and

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Criteria	JORC Code explanation	Commentary
	parameters used in determining 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.*	monitored by the laboratory and by the Company upon assay result receival. • All samples were submitted to ALS Laboratories in Wangara, Perth where 250g of RC sample were pulverised to better than 85% passing minus 75 micron. • A 66-gram aliquot of pulverised sample is fused with 12:22 lithium borate flux containing an oxidizing agent, and poured to form a fused disk. The resultant disk is then analysed by XRF spectrometry specifically for Rare Earths (ALS Method ME-XRF30) • Lithium borate fusion is considered a total digest and Method ME-XRF30 is appropriate for REE determination. • Standards, duplicates and blanks were submitted with RC samples every 50m and within mineralised ironstones. Airborne geophysical data including magnetics and radiometrics (eK, eTh, eU) were collected by MagSpec Airborne Surveys. The survey was flown with a Cessna 206 aircraft. Magnetic data was collected from a G-823A cesium vapour magnetometer using a 50m line spacing and 30m sensor height. Radiometric data was collected from an RSI RS-500 gamma-ray spectrometer of 32L Crystal Volume flown at 30m sensor height and 50m line spacing. All readings (X,Y,Z) were within a 2m accuracy. Traverse Line Direction was East-West.
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.*	**Logging and Sampling** Logging and sampling were recorded directly into a digital logging system, verified and eventually stored in an offsite database. Significant intersections are inspected by senior company personnel. No twinned holes have been drilled at this time. No adjustments to any assay data have been undertaken. Field data is entered into excel spreadsheets to be loaded into a database.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings*	• Collar position was recorded using a Garmin handheld GPS which has an accuracy

Criteria	JORC Code explanation	Commentary
	and other locations used in Mineral Resource estimation. • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	of +/- 5m. • GDA94 Z50s is the grid format for all xyz data reported. Azimuth and dip of the drill hole was recorded after the completion of the hole using a Reflex TN-14 Azi Aligner and Axis north seeking Gyro. A reading was undertaken every 10th metre with an accuracy of +/- 1º azimuth and +/- 0.3º dip.
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.*	See drill table for hole positions. Data spacing is suitable for Mineral Resource Estimation. Sample compositing has not been applied.
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.*	Drilling was undertaken at a near perpendicular angle to the interpretated strike and dip of the ironstone outcrops and modelled magnetic data. No sample bias is known at this time.
Sample security	• *The measures taken to ensure sample security.*	All geochemical samples were collected, bagged, and sealed by Gascoyne Geological Services staff and delivered to Bishops Transport in Carnarvon. Samples were delivered directly to ALS Laboratories in Wangara, Perth by Bishops Transport ex Carnarvon.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	The program is continuously reviewed by senior Company personnel.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral	• *Type, reference name/number,*	Lanthanein Resources Ltd entered into a conditional

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Criteria	JORC Code explanation	Commentary
tenement and land tenure status	*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.*	agreement to acquire all the shares in Dalkeith Capital Pty Ltd (Dalkeith) which holds two granted exploration licences in the Gascoyne Region of Western Australia. The acquisition was completed on 4 January 2022. • The Gascoyne Project consists of 2 granted Exploration Licenses (E09/2515 and E09/2516). • All tenements are 100% owned by Dalkeith Capital. • The Gascoyne Project covers 2 Native Title Determinations including the Thudgari (WAD6212/1998) and the Combined Thiin-Mah, Warriyangka, Tharrkari and Jiwarli (WAD464/2016). • The Gascoyne Project is located over the following pastoral leases; Edmund, Gifford Creek, and Wanna.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Historical exploration of a sufficiently high standard was carried out in the region by a few parties including: Hurlston Pty Ltd 1986-1987: WAMEX Report A23584 Newmont 1990: WAMEX Report A32886 Newcrest 1990: WAMEX Report A36887 Desert Energy 2006-2007: WAMEX Reports A78056, A80879
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Gascoyne Project is located within the Gascoyne Province of the greater Capricorn Orogen – the region that records the collision of the Pilbara-Glenburgh Terrane at 2215–2145 Ma (Ophthalmian Orogeny) and eventual collision of Pilbara/Glenburgh and Yilgarn at 2005–1950 Ma (Glenburgh Orogeny), the Gifford Creek Carbonatite Complex (GCCC) intrudes the Durlacher Supersuite (including Yangibana and Pimbyana Granites) and the Pooranoo Metamorphics. The c.1360 Ma GCCC is composed of; • ~NW striking Lyons River Sills (calcio-, magnesio- and ferrocarbonatites) • ~NE striking fenite (alteration) veins • Yangibana Ironstones (REE ore bodies) • Magnetite-biotite dykes • Carbonatites in the region are thought to have been generated from melting of the Glenburgh Orogen-fertilized mantle during reactivation of structures (e.g. Lyons River Fault) at c. 1370 Ma followed by magma ascent along the same

Criteria	JORC Code explanation	Commentary
		structures. • The Gascoyne Project is prospective for Ferrocarbonatite hosted REEs.
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.*	An overview of the drilling program is given within the text within this document.
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.*	No pXRF readings or metal equivalents are reported.
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').*	Drilling is undertaken close to perpendicular to the dip and strike of the mineralisation. The true thickness of the mineralisation intersected in drill holes cannot currently be calculated.

LANTHANEIN RESOURCES

ADDRESS
Level 8, 99 St Georges Terrace
Perth WA 6000
PHONE
+61 (08) 9486 4036

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Criteria	JORC Code explanation	Commentary
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.*	• Refer to figures within this report.
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.*	• The accompanying document is a balanced report with a suitable cautionary note.
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.*	• Suitable commentary of the geology encountered are given within the text of this document.
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.*	Rock Chip sampling HyLogger scanning Resource Modelling