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

31 August 2023

Lyons 12 and 13 Infill Drilling Extends High Grade REE and Niobium

- **Infill drilling at the Lyons 12 & 13 prospects extend known strike length of economic TREO mineralisation to 1,200 metres and remains open**
- **Maiden Resource Estimation at Lyons 12 & 13 and Project Exploration Target in process**
- **1 - 5 metre widths of REE mineralised ironstones at Lyons prospects analogous to Hastings Technology Metals Simons Find, Frasers and Bald Hill REE deposits ~2.5km away[1]**
- **Significant new intercepts from the latest round of drilling include:**
  - **LYRC135: 1m at 0.76% TREO and 1.22% Nb_2O_5 (45% NdPr:TREO) from 33m**
  - **LYRC138: 2m @ 0.57% TREO and 0.18% Nb_2O_5 (50% NdPr:TREO) from 14m**
  - **LYRC141: 2m @ 0.66% TREO and 0.49% Nb_2O_5 (46% NdPr:TREO) from 51m**
  - **LYRC140: 3m @ 0.36% TREO and 0.63% Nb_2O_5 (39% NdPr:TREO) from 34m**
  - **LYRC133: 1m at 0.36% TREO and 1.09% Nb_2O_5 (42% NdPr:TREO) from 53m**
- **Drilling of the Lyons Magnetic Intrusive Complex, related to ferrocarbonatites under cover completed, with assays awaited**
- **Kilometre scale potentially mineralised ironstones both undercover and outcropping still to be drill tested**

Mr Brian Thomas, Lanthanein Technical Director commented "The REE results of this current round of infill drilling of the high grade mineralised ironstones which outcrop over 1.2km strike at Lyons 12 and 13, demonstrates the economic potential the prospect. This current round of drilling will now allow us to begin a maiden Mineral Resource Estimation at Lyons 12 & 13.

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

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

With 10,407 metres of drilling completed this year from a total of 13,917 metres completed to date, we look forward to many more new discoveries. Diamond drilling, co funded by the DMIRS Exploration Incentive Scheme, of the outer magnetic rim of two large-scale ferrocarbonatite targets successfully intersected its intended magnetic source. Core has been logged and sampled and we are currently awaiting assay results.

There remains an exciting pipeline of drill targets recently discovered along the Y42 Splay ironstone where 4.19% TREO and 0.9% Nb_2O_5 were assayed in outcrop rock samples. As well there are numerous outcropping ironstone targets delineated from satellite imagery and geophysical targets undercover requiring additional drill testing."

Lanthanein Resources Ltd (ASX: LNR) (**Lanthanein** or the **Company**) is pleased to announce assay results from the recent infill drilling completed at its Lyons Rare Earths Project in the Gascoyne Region of Western Australia (**Lyons Project**). The drill program targeted high-grade rare earth mineralisation previously discovered at the outcropping ironstones at Lyons 12 and 13 (Figures 1 to 3).

Additional drilling of targeted priority high magnetic curvilinear trends where two 450 metre deep diamond holes co funded with $200,000 from the Department of Mines Industry Regulation and Safety (DMIRS) Exploration Incentive Scheme to investigate potential for large tonnage REE carbonatites similar to Lynas Corporation's Mount Weld deposit in Western Australia.

A total of 93 RC and two diamond drillholes totalling 10,407 metres were completed testing both the known ironstones at surface, ironstone and carbonatite targets undercover (Figure 7). Assay results will continue to be received with approximately 60% of results received to date.

RC Drilling Assay Results Lyons 12 and 13 (LYRC112 to LYRC147):

The Company's step out and infill drilling program from its maiden drilling program (refer to ASX Announcement dated 14 December 2022) completed a total of an additional 36 Reverse Circulation drillholes at Lyons 12 and 13 (Table 2) for 2,791m drilled, at an average depth of 78m. Mineral Resource Estimation is currently underway.

Significant 2023 drill intersections (Table 1) at the Lyons 12 and 13 prospects (Figure 1 to 5) include:

- LYRC135: 1m at 0.76% TREO and 1.22% Nb_2O_5 from 33m
- LYRC138: 2m @ 0.57% TREO and 0.18% Nb_2O_5 from 14m
- LYRC141: 2m @ 0.66% TREO and 0.49% Nb_2O_5 from 51m
- LYRC140: 3m @ 0.36% TREO and 0.63% Nb_2O_5 from 34m
- LYRC133: 1m at 0.36% TREO and 1.09% Nb_2O_5 from 53m

Potential remains for further discoveries of ironstones and carbonatites (Figures 6 and 7) within the Company's tenure where no historical REE exploration has occurred.

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

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

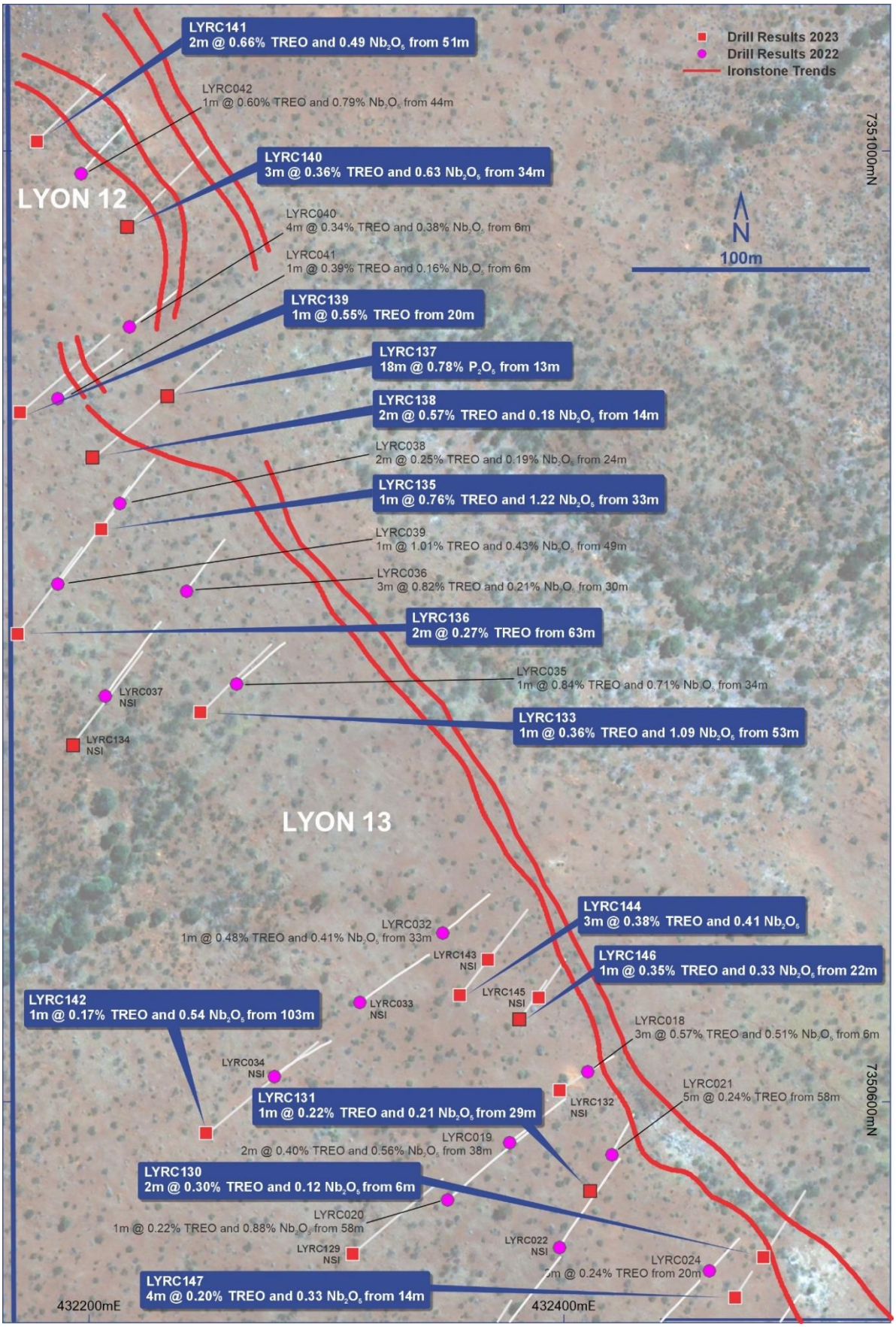

Figure 1. Plan View of the Lyons 12 and 13 Drillholes and Results

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

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

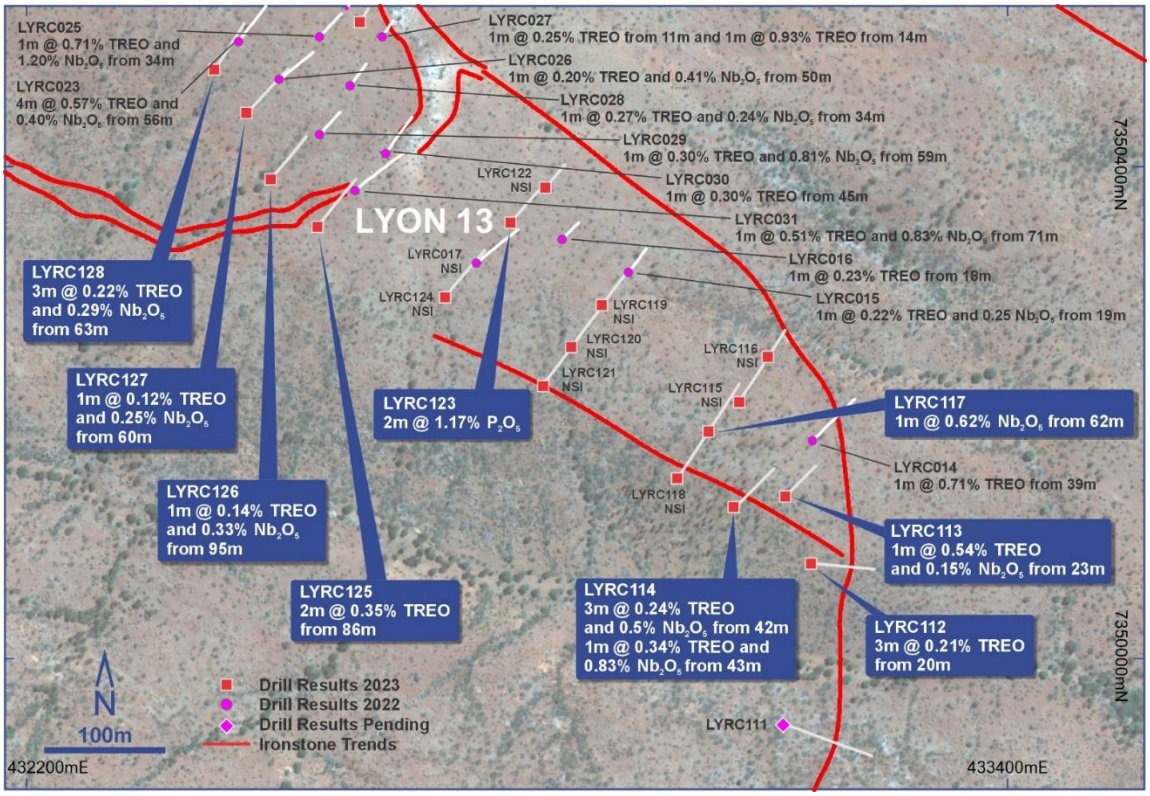

Figure 2. Plan View of the Lyons 13 Southeastern Drillholes and Results

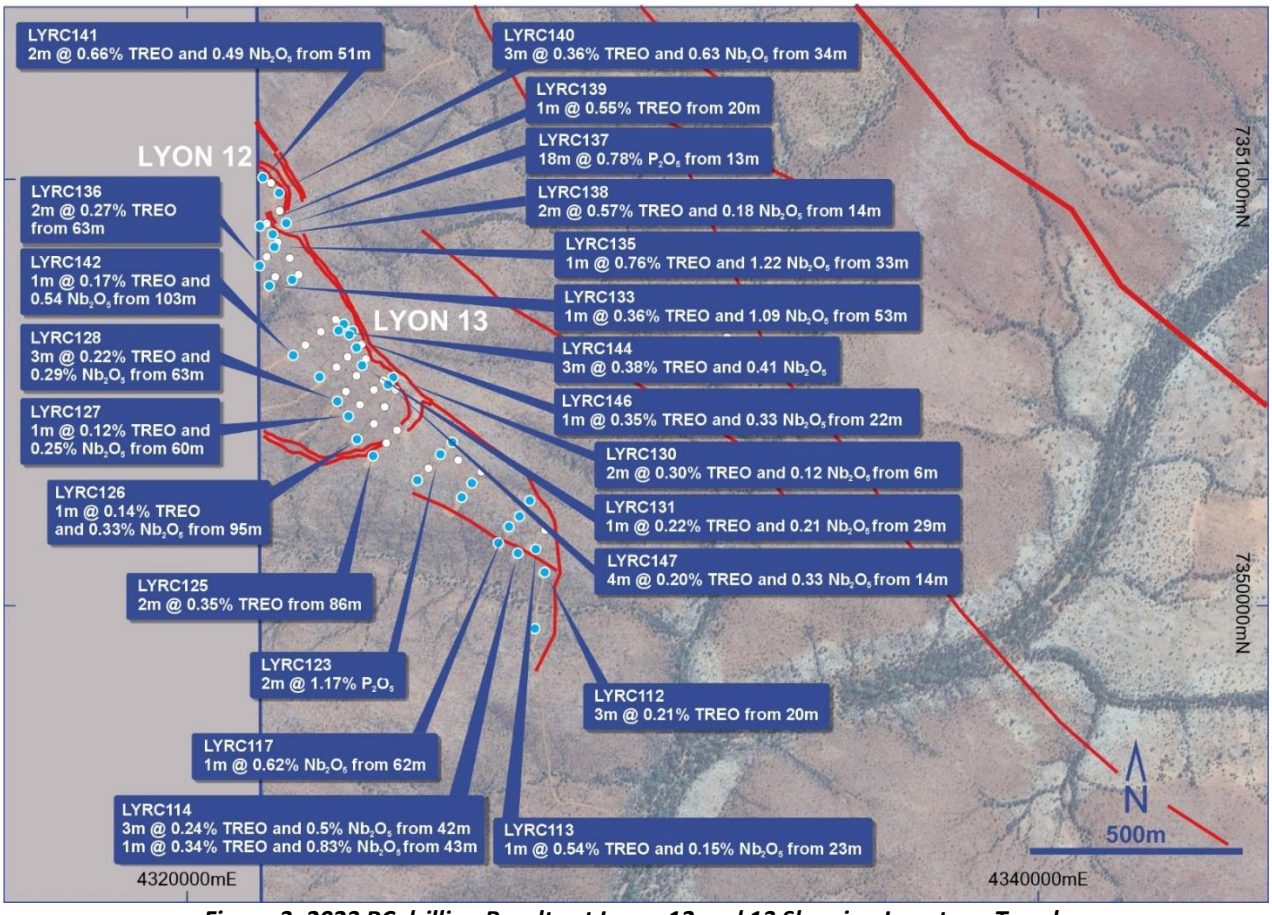

Figure 3. 2023 RC drilling Results at Lyons 12 and 13 Showing Ironstone Trends

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

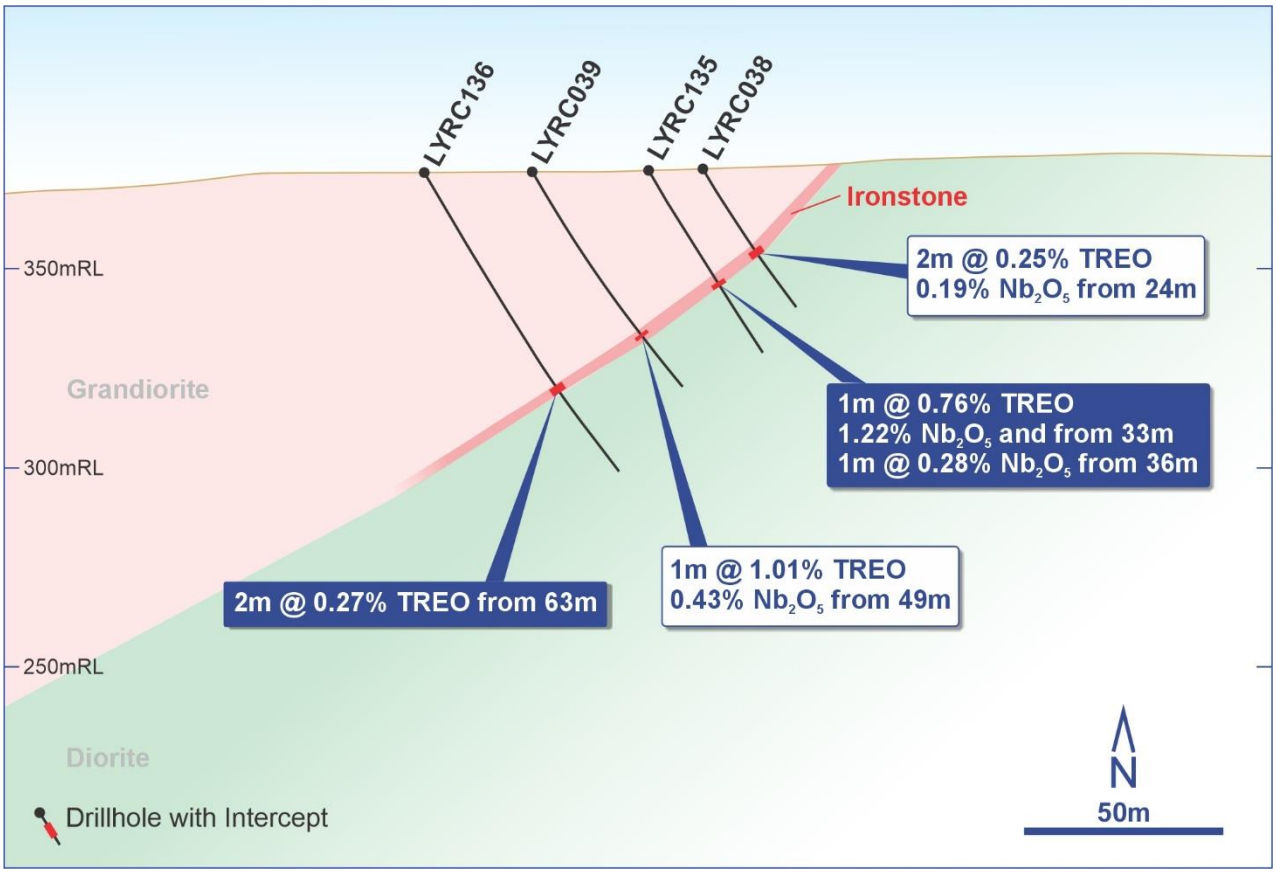

Figure 4. Cross Section LYRC136-039-135-038-137 at Lyons12/13

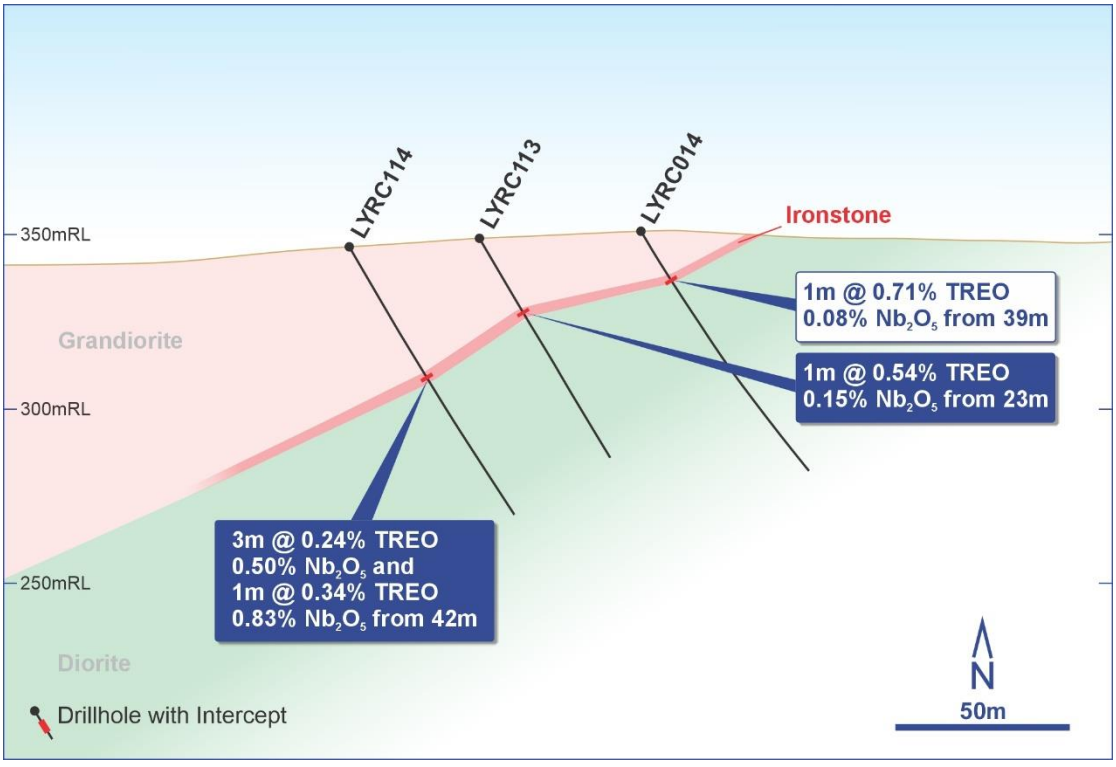

Figure 5. Cross Section LYRC114-113-014 at the Southeastern end of Lyons 13

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

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

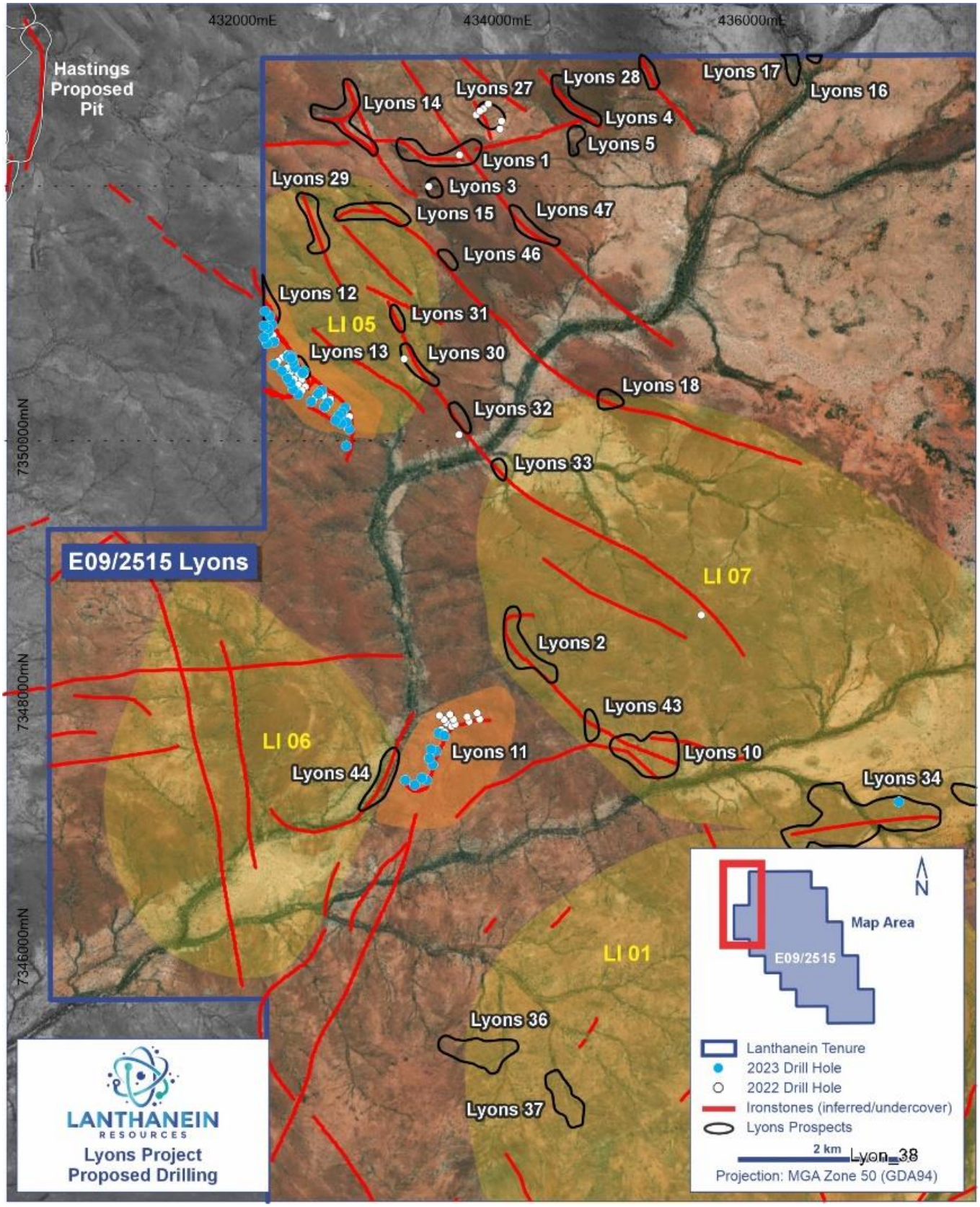

Figure 6. Interpreted intrusives Showing Lyons Prospects and Ironstones within close proximity of Hastings Technology Metals Yangibana REE mine

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

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

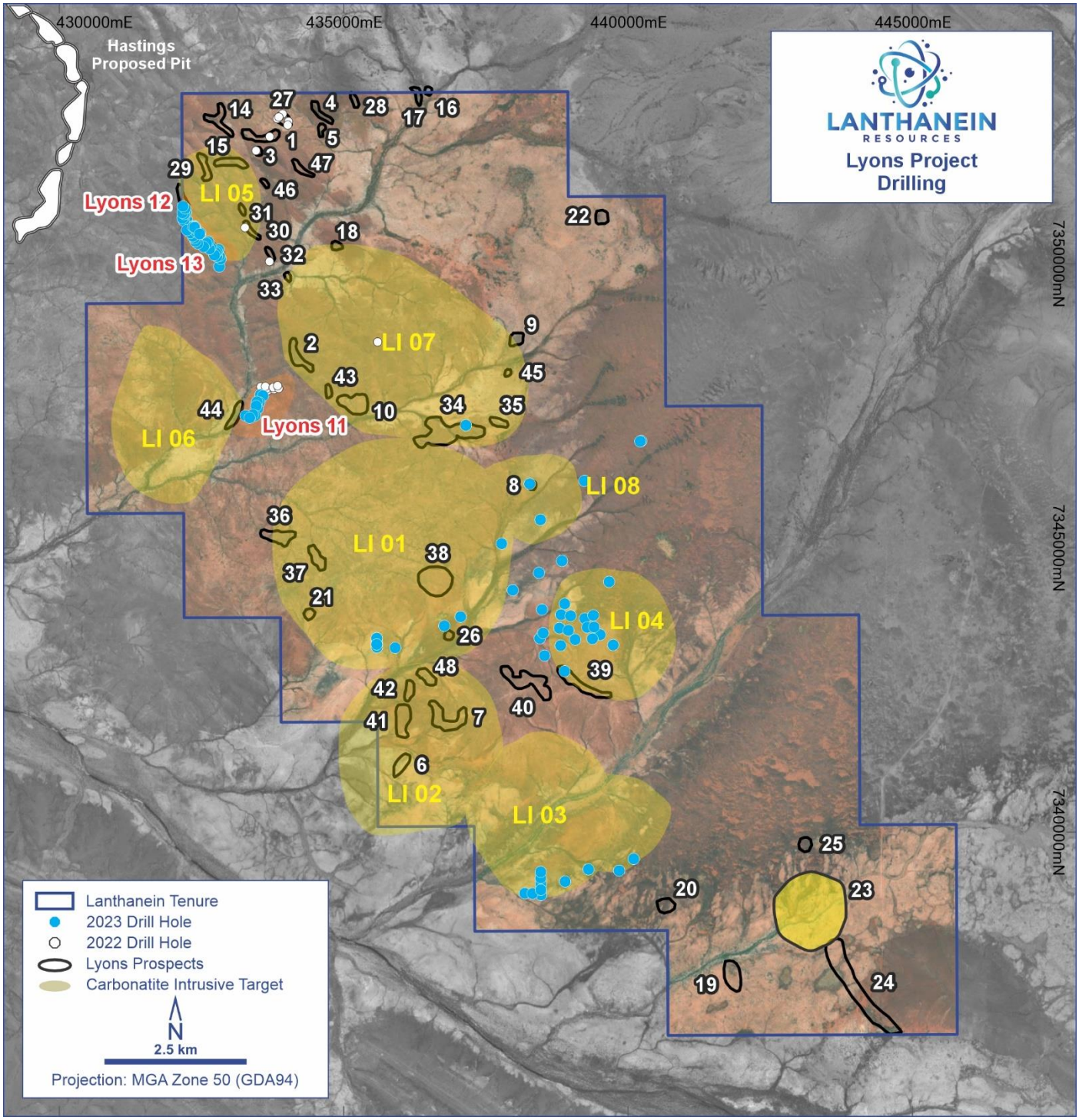

Figure 7. Lanthanein Lyons Project Showing Drillhole Locations, Carbonatite Targets and Ironstone Prospects

About Niobium

Niobium (Nb) is a ductile refractory metal that is highly resistant to heat and wear. Approximately 90% of niobium use is attributed to the steel industry, predominantly as a micro alloy with iron to make steel lighter and stronger. Applications of niobium in battery technology are evolving with potential to revolutionise the electric vehicle market.

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

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

Lighter, stronger and corrosion resistant steel

The addition of small, relatively cheap, amounts of niobium (much less than 1%) significantly increases the strength and decreases the weight of steel products. This results in more economic, beneficial products for use in the construction industry (e.g., beams in buildings, bridges, oil rigs, railway tracks), in gas and oil pipelines, and in the automotive industry where weight savings result in increased performance and fuel reduction.

The addition of approximately 300g of niobium can reduce the weight of steel in a mid-size car by 200kg which increases fuel efficiency by 5%.

Battery Technology Development

The incorporation of niobium into various battery components has shown the potential to enhance performance across a range of attributes including:

- ***Super-fast charging (<6 minutes) and discharging rates;***
- ***Prolonging the lifespan of battery-powered products (more charging cycles); and***
- ***Improved safety (lower fire risk).***

CBMM, the world's largest niobium producer, has a partnership with Toshiba to advance battery technology incorporating niobium and commercialise the next generation of batteries.

Niobium Supply

Niobium production is heavily concentrated in Brazil, primarily under the control of CBMM. Brazil accounts for approximately 95% of global niobium supply from two producers: CBMM and China Molybdenum. Magris Performance Materials (MPM), the world's only other producer, operates the Niobec niobium mine in Canada.

Niobium is a Critical Mineral

Niobium is essential for advanced technology and is identified by the Australian, US and Japanese Governments and the European Union as a critical mineral, i.e. minerals (or elements) considered vital for the well-being of the World's economies, yet whose supply may be at risk of disruption.

-ENDS-

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

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

ABN
96 095 684 389

WEBSITE
www.lanthanein.com

The information referred to in this announcement relates to the following sources:

[1] Hastings Technology Metals Ltd, COMBINED GROUP REPORT C265/2008 For the period: 1st December 2014 to the 30th November 2015 YANGIBANA PROJECT (WAMEX A107803)
ASX.HAS: 6 February 2023 "Yangibana Ore Reserves Increase by 25%"
The HAS Resource estimate comprises 4.97Mt @ 0.96% TREO in the Measured category, 19.51Mt @0.88% TREO Indicated and 5.45Mt @1.05% TREO Inferred.
[4] Geoscience Australia, https://www.ga.gov.au/scientific-topics/minerals/mineral-resources-and-advice/australian-resource-reviews/niobium

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.

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 1: LYRC112 to LYRC146 Significant Intersections > 0.2% TREO, > 0.15% Nb_2O_5

Hole ID	From (m)	To (m)	Interval (m)	TREO (%)	NdPr:TREO (%)	Nb_2O_5 (%)	P_2O_5 (%)	Prospect / Comments
LYRC112	20	23	3	0.21	47			**LYONS13**
LYRC113	23	24	1	0.54	52	0.15	1.06	
LYRC114	42	45	3	0.24	42	0.50		
Incl.	43	44	1	0.34	50	0.83		
LYRC115				NSI				
LYRC116				NSI				
LYRC117	62	63	1		44	0.62		Sub-parallel ironstone
LYRC118				NSI				
LYRC119				NSI				
LYRC120				NSI				
LYRC121				NSI				
LYRC122				NSI				
LYRC123	30	32	2				1.17	
LYRC124				NSI				
LYRC125	86	88	2	0.35	47			
LYRC126	14	15	1			0.17		
	29	30	1			0.17		
	95	96	1	0.14	43	0.33		
LYRC127	60	61	1	0.12	33	0.25		
LYRC128	12	13	1			0.20		
	63	66	3	0.22	41	0.29		
LYRC129				NSI				
LYRC130	6	8	2	0.30	36	0.12		
LYRC131	29	30	1	0.22	41	0.21		
LYRC132				NSI				
LYRC133	53	54	1	0.36	42	1.09	0.46	
LYRC134				NSI				
LYRC135	33	34	1	0.76	45	1.22	0.96	
	36	37	1			0.28		
LYRC136	63	65	2	0.27	49		0.36	
LYRC142	103	104	1	0.17	35	0.54		
LYRC143				NSI				
LYRC144	33	36	3	0.38	45	0.41		
LYRC145				NSI				
LYRC146	22	23	1	0.35	49	0.33		
LYRC147	14	18	4	0.20	49	0.33		
LYRC137	13	31	18	0.11	21		0.78	**LYONS12**
LYRC138	14	16	2	0.57	50	0.18	0.66	
	71	84	13				0.66	
LYRC139	20	21	1	0.55	47		0.62	
	81	102	21				0.72	
LYRC140	34	37	3	0.36	39	0.63	0.86	
	43	52	9				0.82	
	89	101	12	0.11	9		0.59	
LYRC141	51	53	2	0.66	46	0.49	0.86	

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 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
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

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
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
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
LYRD001	438471	7338983	-60	180	450	Diamond
LYRC064	435586	7343299	-60	184	180	RC
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 report template

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) drillrig with additional air from an auxillary 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 of fine/coarse material.*	**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 supervision by the supervising geologist to ensure

Criteria	JORC Code explanation	Commentary
		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 parameters used in determining 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 monitored by the laboratory and by the Company

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
	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.*	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 and other locations used in Mineral*	• Collar position was recorded using a Garmin handheld GPS which has an accuracy of +/- 5m.

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
	Resource estimation. • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 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 tenement	• *Type, reference name/number, location and ownership including*	Lanthanein Resources Ltd entered into a conditional agreement to acquire all the shares in Dalkeith

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
and land tenure status	*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.*	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 structures.

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
		• 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.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts*	• Refer to figures within this report.

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
	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.	
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.*	Additional RC drilling Additional Rock Chip sampling Resource Modelling