



ACTIVITIES REPORT

QUARTER ENDED 31 DECEMBER 2022

- Lyons Prospect maiden drill program commenced and completed in the quarter
 - High Grade REE and Niobium confirmed at Lyons. Significant intercepts include;
 - LYRC047: 5m at 0.69% TREO from 20m, including 2m at 1.06% TREO (41% NdPr:TREO) from 21m
 - LYRC036: 3m at 0.82% TREO from 30m, including 1m at 1.67% TREO (55% NdPr:TREO) from 31m
 - LYRC018: 3m at 0.57% TREO from 6m, including 1m at 1.11% TREO (51% NdPr:TREO) and 0.79% Nb₂O₅ from 8m
 - LYRC039: 1m at 1.01% TREO (53% NdPr: TREO) from 49m
 - LYRC025: 1m at 0.71% TREO (47% NdPr:TREO) and 1.20% Nb₂O₅ from 34m
 - Over 1km strike length of economic TREO mineralisation intersected and remains open
 - Award of \$200k EIS Funding to drill the Lyons Carbonatite Targets
 - Maiden Aircore first pass drilling completed at Koolya Project in Western Australia, total of 599m drilled
 - Samples from Koolya Project Samples sent to ALS Laboratories for XRD, XRF and ISO Brightness analysis with results expected Q1, 2023
-
-

Lanthanein Resources Limited (**Lanthanein** or the **Company**) is pleased to provide its quarterly report for the three-month period ending 31 December 2022.

Gascoyne Rare Earth Elements (REE) Project, Western Australia

The Company commenced the quarter advising that drilling had been completed at the Lyons Rare Earths Project in Western Australia (**Lyons Project**). The RC drilling programme was completed for total of 53 drill holes for 3,510m drilled, at an average depth of 66m (refer to ASX Announcement dated 21 October 2022). The drill program targeted high-grade rare earth mineralisation discovered at the outcropping ironstones at Lyons 11, 12, 13 and 27 (Figure 1).

Samples were sent for rush analysis to ALS Laboratory in Perth. The high grade REE results subsequently returned has exceeded our expectations, demonstrating economic REE mineralisation from outcrop extending over 1km strike at Lyons 12 and 13, with high grade REE mineralisation remaining open at depth and along strike. We are extremely pleased with the exceptionally high NdPr component, more than 3 times the world average¹, giving these ironstones of significant economic value.

Assay results will continue to be received during the quarter with approximately 70% of results received at present.

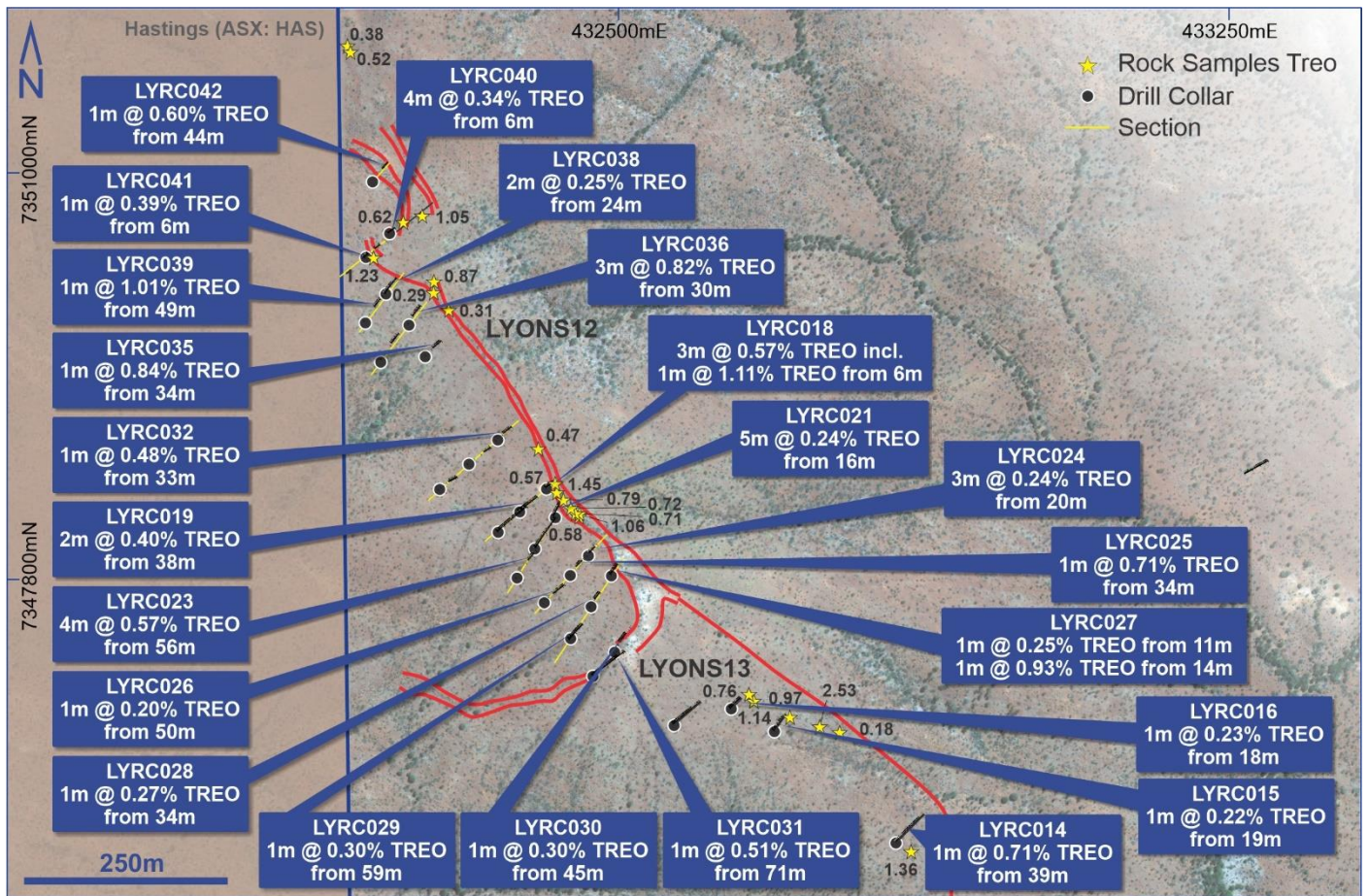


Figure 1. Plan View of the Lyons 12 and 13 Drillholes Identifying REE over 1km of Strike Length at Depth

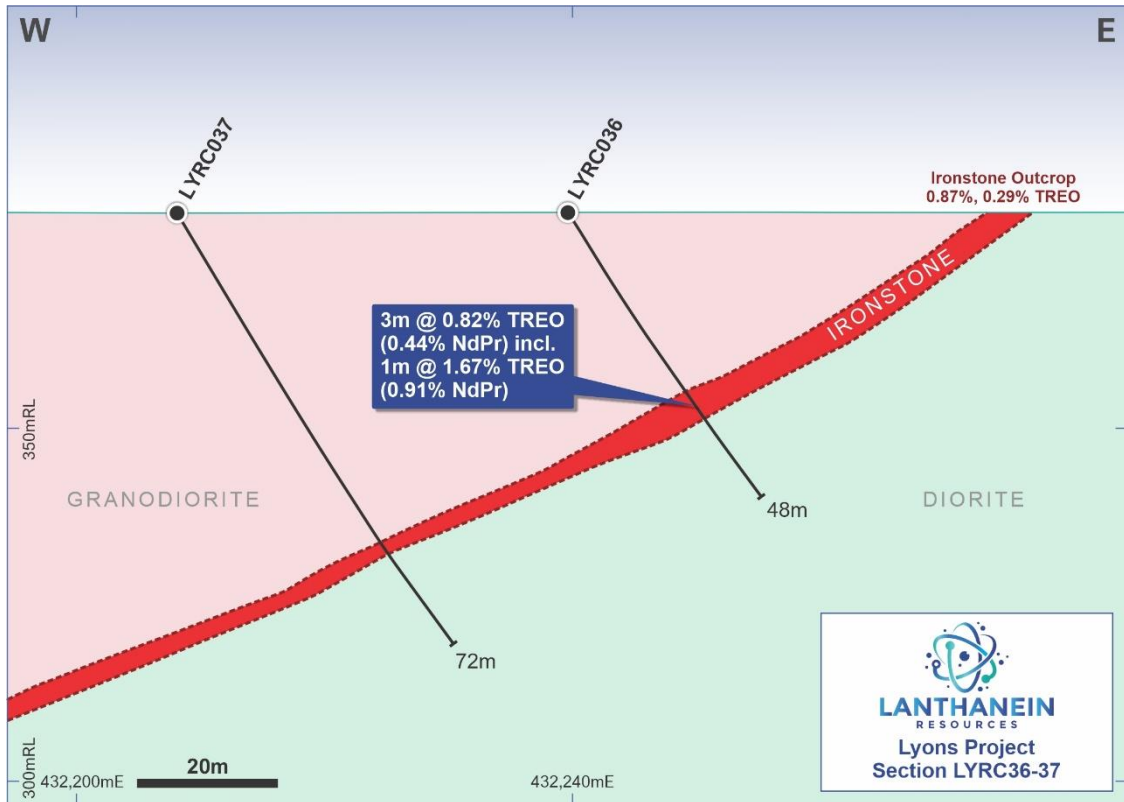


Figure 2. Cross Section LYRC36-37 at Lyons13 Project (NB: assays pending for LYRC037)

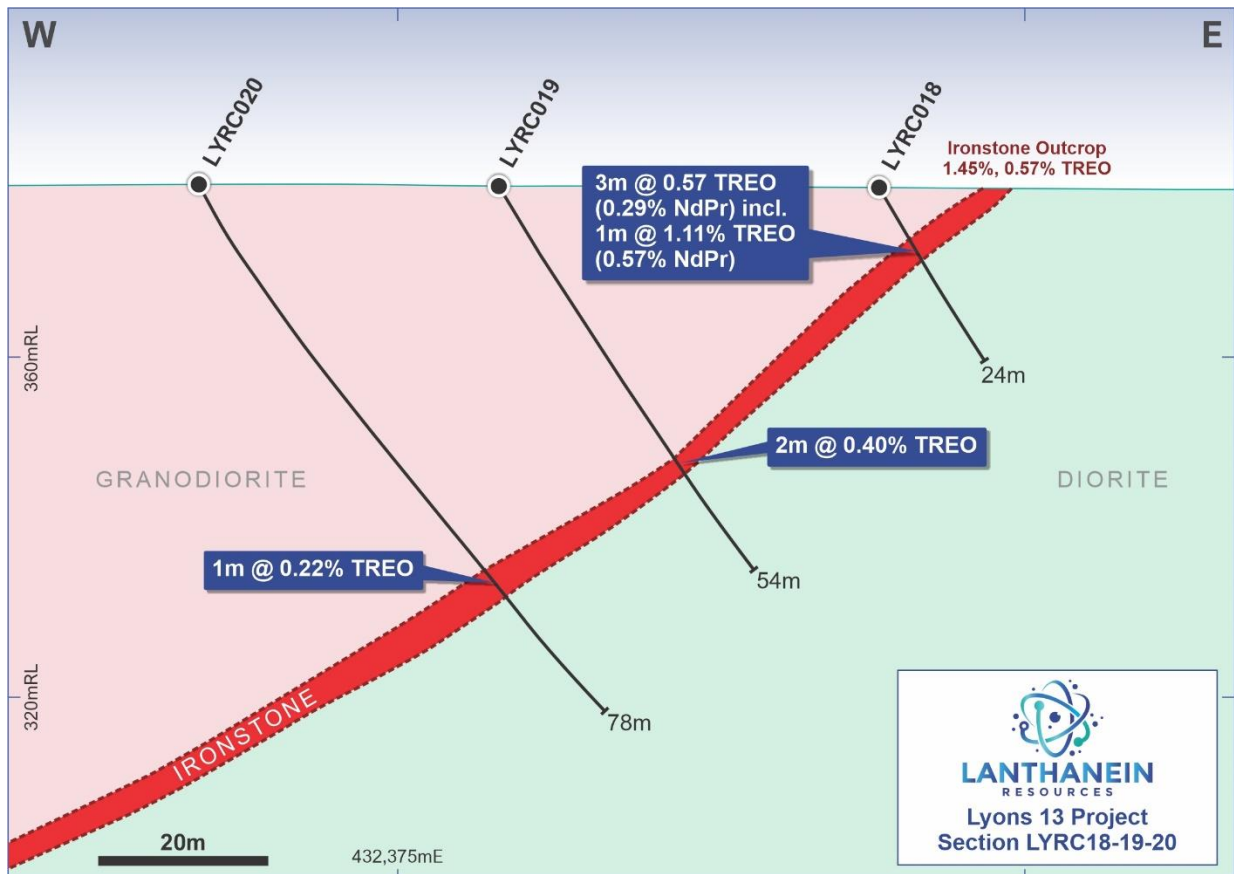


Figure 3. Cross Section LYRC18-19-20 at Lyons13

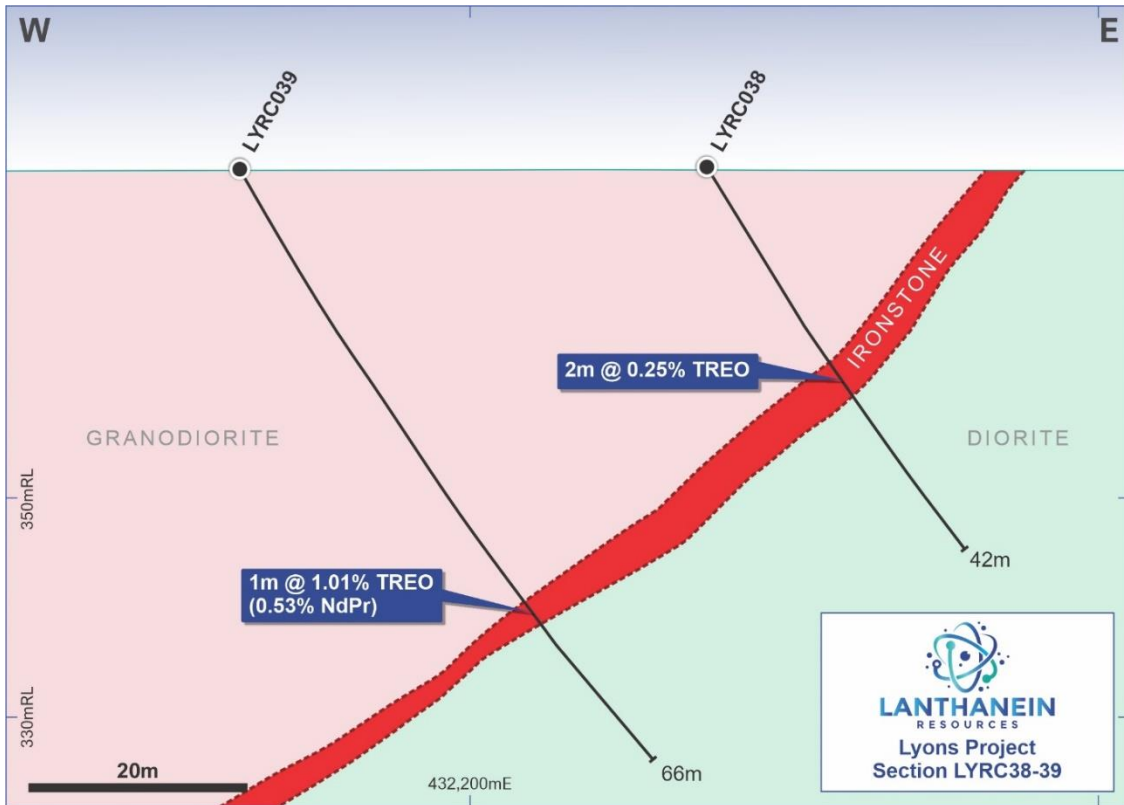


Figure 4. Cross Section LYRC38-39 at the Intersection at Lyons12

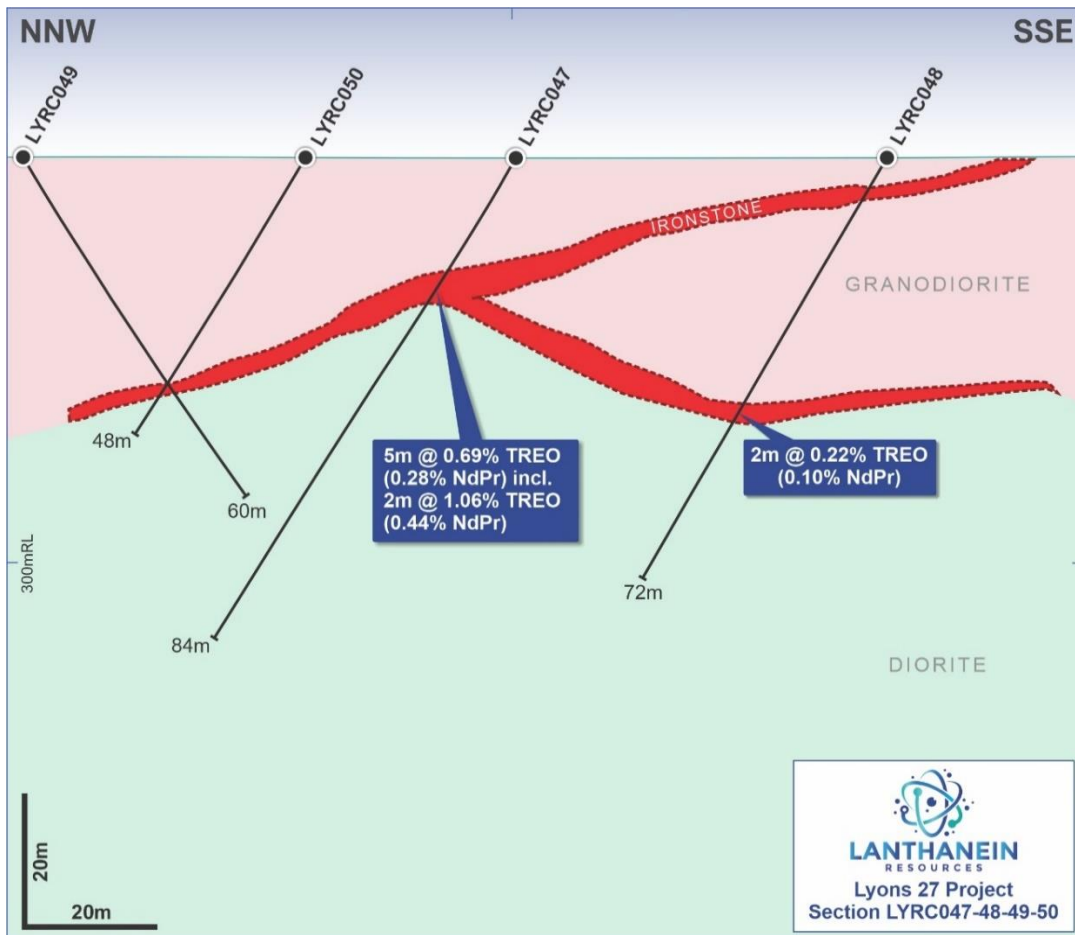


Figure 5. Cross Section LYRC47-48-49-50 at Lyons27

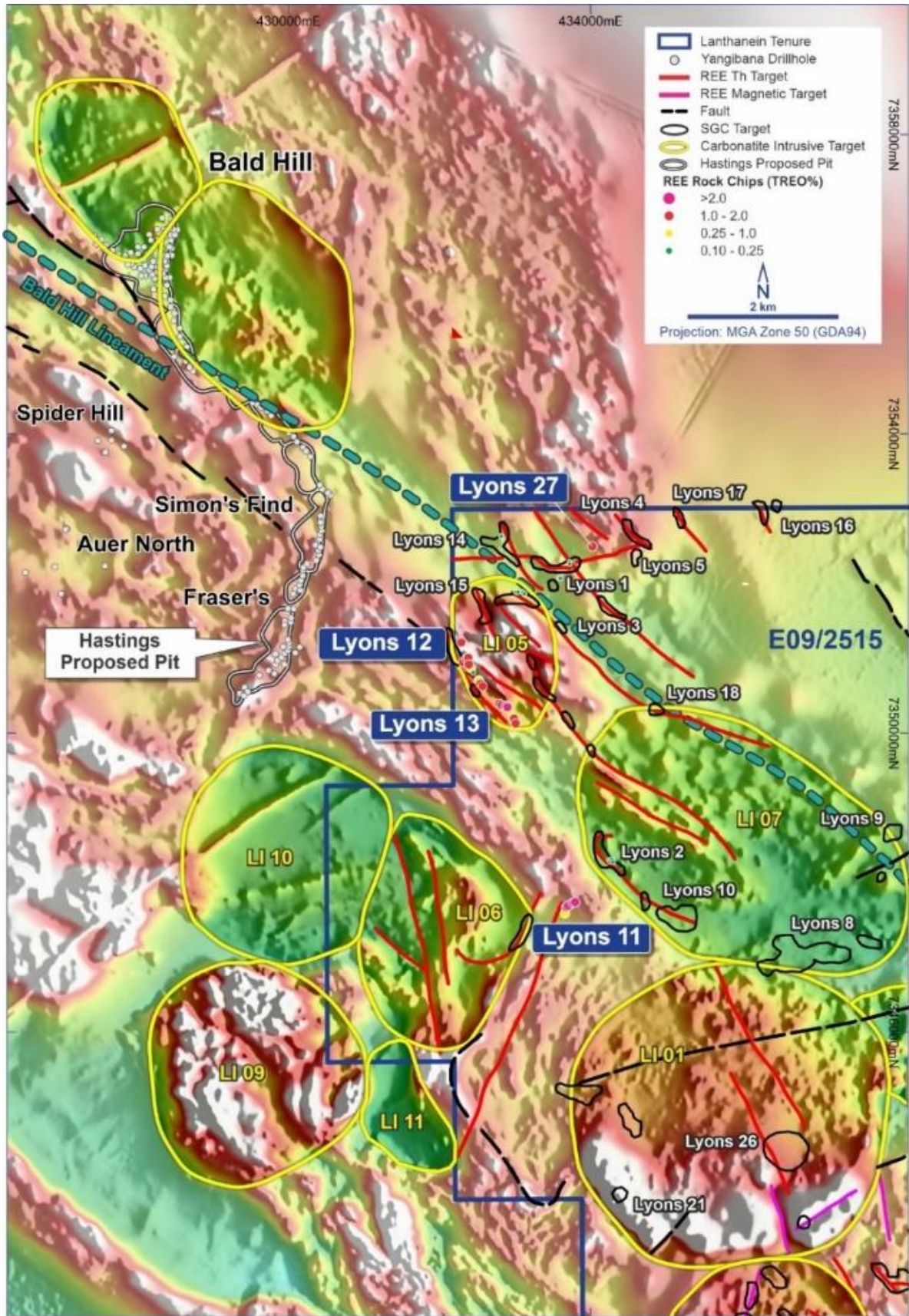


Figure 6. Interpreted intrusives with RTPVD1 filtered magnetics imagery, highlighting relationship with rare earth mineralisation at Hastings, and target areas on Lanthanein's Lyons Project



RC Drilling Assay Results (LYRC001 to LYRC053):

The Company completed a total of 53 Reverse Circulation drillholes for 3,510m drilled at an average depth of 66m.

Significant intersections at the Lyons 12 and 13 prospects (Figure 1) include:

- LYRC036: 3m at 0.82% TREO from 30m, including 1m at 1.67% TREO (55% NdPr:TREO) from 31m (Figure 2)
- LYRC018: 3m at 0.57% TREO from 6m, including 1m at 1.11% TREO (51% NdPr:TREO) and 0.79% Nb₂O₅ from 8m (Figure 3)
- LYRC039: 1m at 1.01% TREO (53% NdPr: TREO) from 49m (Figure 4)
- LYRC025: 1m at 0.71% TREO (47% NdPr:TREO) and 1.20% Nb₂O₅ from 34m

Significant intersections at the Lyons 27 prospect (Figure 5) include:

- LYRC047: 5m at 0.69% TREO from 20m, including 2m at 1.06% TREO (41% NdPr:TREO) from 21m
- LYRC048: 2m at 0.22% TREO (43% NdPr:TREO)
- LYRC045: 1m at 0.21% TREO (38% NdPr:TREO)
- Assay results are still pending for five of the six holes drilled at Lyons 27.

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

Significant drill programs are planned for 2023 to step out and infill known REE mineralisation for resource estimation in H2, 2023. Geophysical review of magnetic and radiometric surveys flown by the Company has highlighted multiple areas of interest under shallow cover, yet to be tested.

Award of \$200,000 EIS Funding

During the quarter the Company advised that it had been awarded \$200,000 in funding from the Department of Mines Industry Regulation and Safety (**DMIRS**) to investigate potential for large tonnage REE carbonatites similar to Lynas Corporation's Mount Weld deposit in Western Australia.

Drill testing the Lyons Intrusive Complex and associated Carbonatite Targets (LI01-01 and LI03-01) will provide comprehensive geologically logged drill chips and drill core, which will be invaluable data for the understanding and 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 (Figure 7).

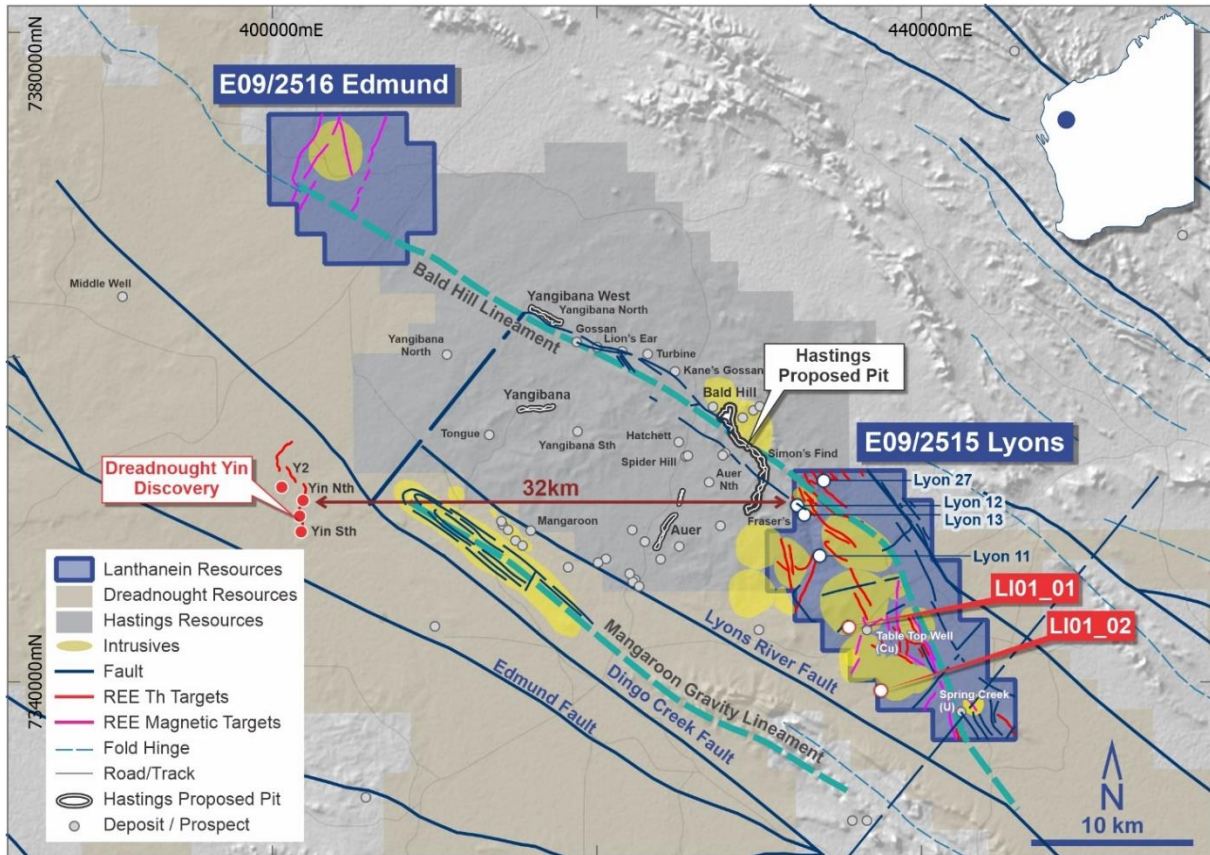


Figure 7. Lanthanein Resources Lyons and Edmund Projects showing Carbonatite Intrusive Targets located within close proximity of Hastings REE mine.

Carbonatites are becoming increasingly important due to potential to host economic quantities of Th, U, Nb, P, Y and rare earth elements, which are strategically important for modern technology. Drilling will be critical to understanding the mineralisation potential of the modelled carbonatites, to determine width, grade, and continuity at depth and along the modelled outer magnetic rim. Two drill holes are proposed to test the outer magnetic rim of two of the larger carbonatite intrusives including LI-01 at 4km diameter and LI-03 at 3km diameter.

Consultant and current adjunct Professor at the Centre for Exploration Targeting (University of Western Australia), Franco Pirajno, previously reviewed the geophysical modelling, rock sampling results and proposed drill sites, and will proceed to evaluate results from the co-funded drilling programs.

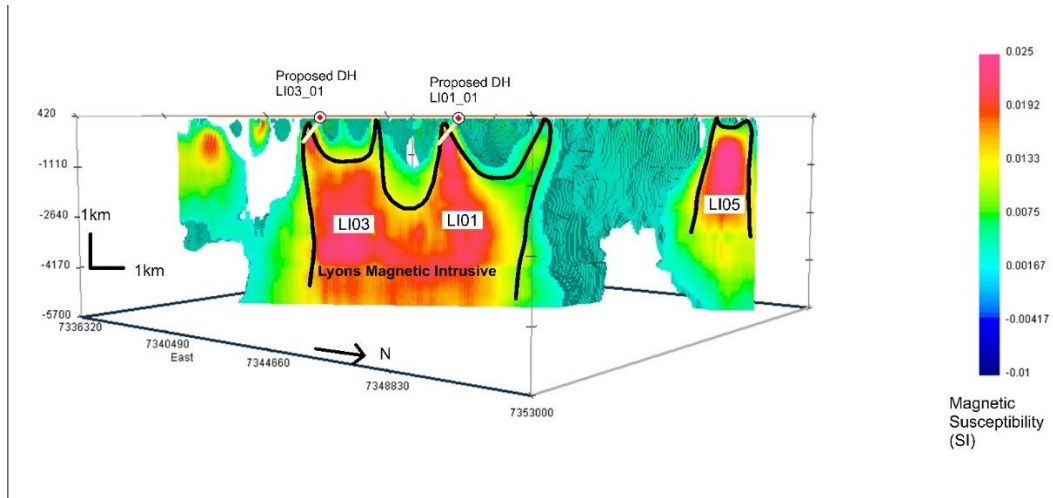


Figure 8. Lyons Block 3D Magnetic Model Cross-Section Looking Southwest showing proposed co-funded drillhole LI03_01 and LI01_01.

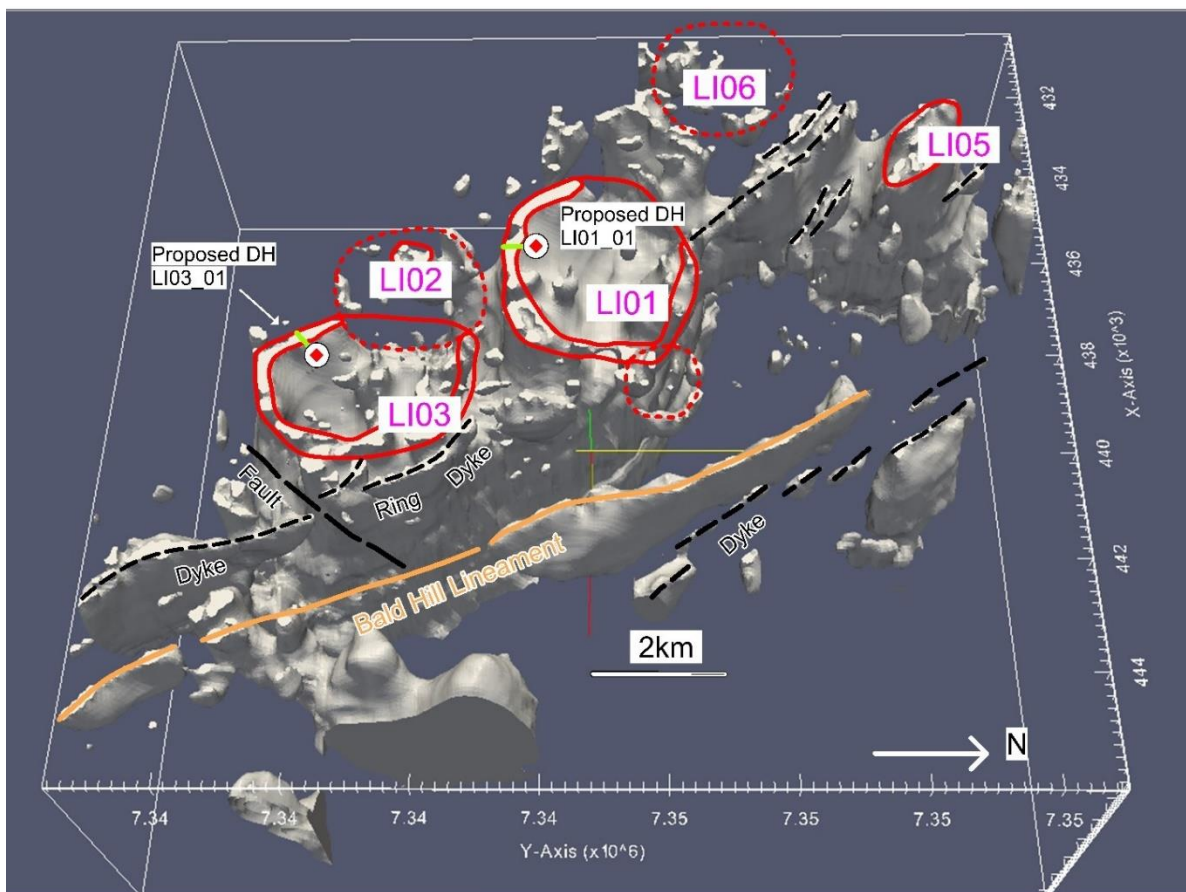


Figure 9. Lyons Block 3D Magnetic Susceptibility Model Showing Carbonatite Intrusive Targets LI01, 02, 03, 05 & 06 and Bald Hill Lineament.



Deep drill testing to 450m using a combination of diamond and reverse circulation drilling will also provide accurate depths to the geophysical targets. Drill core logging will help to further understand potential overprinting relationships between any alteration and host rock mineralogy, particularly regarding timing of fenitic alteration (incl. magnetite and Th) that are found to be associated with the outer rim of these intrusive bodies (refer to ASX Announcement dated 10 June 2022).

Within the Lyons Block and along the Bald Hill Lineament, numerous carbonatite intrusions have been modelled from the airborne magnetics (Figure 8 & 9) with a similar dimension to the Mt. Weld carbonatite. Two drill holes are proposed to test the outer magnetic rim of two of the larger carbonatite intrusives including LI-03 at 3km diameter and LI-01 at 4km diameter.

Independent consultant and expert on carbonatite intrusives, Franco Pirajno, has reviewed the geophysical modelling, rock sampling results and proposed drill sites. Franco will evaluate results from the co-funded drilling programs. He is currently adjunct Professor at the Centre for Exploration Targeting (University of Western Australia).

The ironstones discovered at the Lyons Project (refer to ASX Announcement dated 21 March 2022), like the Yangibana ironstones, are unique to REE deposits globally due to the high proportion of neodymium and praseodymium in the total rare earth oxides, with rock chips from Lyons containing up to a 58.8% Nd:Pr ratio ($\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$ content of TREO) (refer ASX release 21 March 2022).

A systematic field sampling program of 134 rock chip samples completed by the Company returned a peak result of 8.01% TREO. Of note, 54 samples returned potentially economic REE grades of >0.1% combined $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}$, and 31 samples greater than 1% TREO (refer ASX release 21 March 2022).

Koolya Project, Western Australia

During the quarter Lanthanein announced the completion of a first pass Aircore drilling program at Koolya Kaolin and High Purity Alumina Project in Western Australia, (**Koolya Project**). A wide spaced drill program with drillholes spaced 500m apart, covered 15km of prospective kaolin rich granite and intersected widespread kaolin of varying thickness, with a best result of 30m thick bright white kaolin from 4m depth (KAC014).

Analysis is being completed on the samples to quantify the specific characteristics such as ISO Brightness, Alumina content, presence of Halloysite and rare earth elements (REE). Following positive results further infill and step out drilling is planned to assist with a mineral resource estimate for H2, 2023.

While high purity kaolin is of rising importance as a critical mineral due to the processing into High Purity Alumina (HPA) which is being used in Li-ion batteries, LED lighting, Semiconductors and Sapphire glass, samples will also be sent for dual analysis for rare earths and to identify if the mineral Halloysite is present.

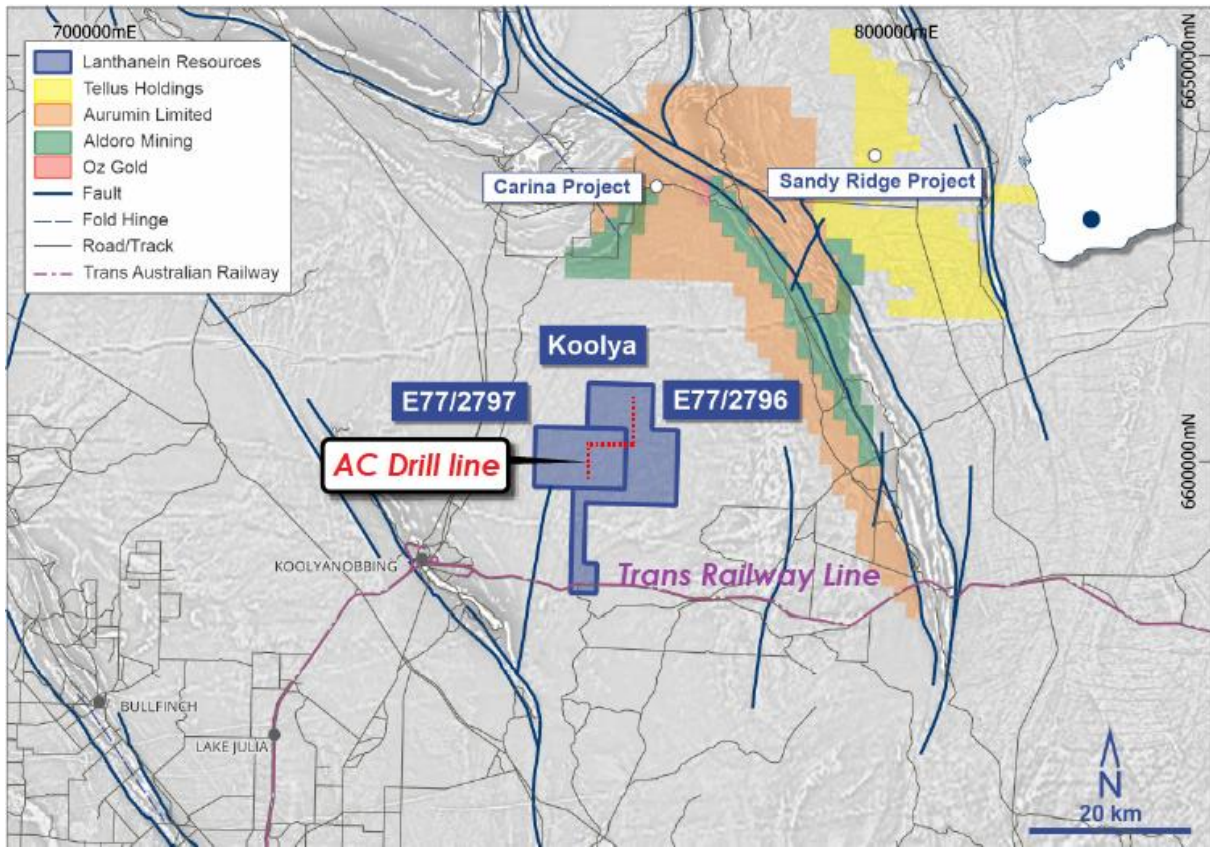


Figure 10. Koolya Project location showing the Trans Railway line running through southern area of project.

Corporate

Annual General Meeting

On 10 November 2022, the Company held its Annual General Meeting. All resolutions put to shareholders were passed on a poll.

ASX Additional Information

1. ASX Listing Rule 5.3.1: Exploration and Evaluation Expenditure during the quarter was \$1,133,000. Full details of exploration activity during the December quarter are set out in this report.
2. ASX Listing Rule 5.3.2: There was no substantive mining production and development activities during the quarter.
3. ASX Listing Rule 5.3.5: Payment to related parties of the Company and their associates during the quarter: \$118,744. The Company advises that this relates to non-executive directors' remuneration and additional technical consulting fees. Please see the Remuneration Report in the Annual Report for further details on Directors' Remuneration.

Releases submitted to the ASX during the Quarter included:

16/12/2022	Cleansing Notice
16/12/2022	Application for quotation of securities - LNR
14/12/2022	Kaolin High Purity Alumina Drilling Complete
09/12/2022	Kaolin High Purity Alumina Drilling Complete



15/11/2022	Application for quotation of securities - LNR
10/11/2022	Results of Meeting
09/11/2022	New Ironstones Discovered at Lyons
31/10/2022	Quarterly Activities/Appendix 5B Cash Flow Report
21/10/2022	Encouraging Visual Results at Lyons Maiden REE Drill Program
20/10/2022	Encouraging Visual Results at Lyons Maiden REE Drill Program
17/10/2022	Award of \$200k EIS Funding - Drilling the Lyons Carbonatite
07/10/2022	Letter to Shareholders - Notice of Annual General Meeting
07/10/2022	Notice of Annual General Meeting/Proxy Form

Reference

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)

LANTHANEIN RESOURCES LTD

Competent Person's Statement:

Papua New Guinea and South Australian Projects.

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by or compiled under the supervision of 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.

Western Australian Projects

The information in this announcement that relates to Exploration Results and other geological information has been compiled under the supervision of Mr Thomas Langley. Mr Langley is a member of the Australian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy and is a consultant to the Company. Mr Langley has sufficient experience which is relevant to the style of mineralisation and type 23 of deposit under consideration and the activity 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 ('the JORC Code')". Mr Langley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. 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 form and context in which the Competent Person's findings are presented have not been materially modified from the original reports.

ABOUT LANTHANEIN:

Lanthanein is focused on Rare Earth Elements and battery metals, directly in line with global push for carbon neutrality driven by renewable energy (particularly wind turbine) installations and Electric Vehicle adoption driving global demand for the combination of rare earths. Following the recent acquisitions of Southern Rare Earths Pty Ltd and Dalkeith Capital Pty Ltd, Lanthanein has secured 100% interest in the Murraydium, Gascoyne, Koolya and Kalgoorlie projects which are all located in Australia. Lanthanein also owns 100% of the Tolukuma project in PNG.



Schedule 1 – Tenement Information

Lanthanein Resources Limited Tenement Information (Australia) as at 31 December 2022

Tenement Number and Name	Ownership	Sub-blocks	Area (sq.km)	Application /Grant Date	Expiry Date
E 09/2515 - Gascoyne (WA)	100% Dalkeith Capital Pty Ltd	47	147.02	17-Dec-21	16-Dec-26
E 09/2516 - Gascoyne (WA)	100% Dalkeith Capital Pty Ltd	25	78.35	17-Dec-21	16-Dec-26
E 77/2796 - Koolya (WA)	100% Dalkeith Capital Pty Ltd	47	138.78	05-Nov-21	04-Nov-26
E 77/2797 - Koolya (WA)	100% Dalkeith Capital Pty Ltd	28	82.68	05-Nov-21	04-Nov-26
E 52/4012 - Mt Clere (WA)	100% Dalkeith Capital Pty Ltd	191	591.63	23-Mar-22	22-Mar-27
EL6717 - Murraydium (SA)	100% Southern Rare Earths Pty Ltd	78	876.00	06-Apr-22	05-Apr-28
Total of Granted Tenements		421	1,929.22		

No changes in tenements occurred during the quarter.

Lanthanein Resources Limited Exploration Licence Information (Papua New Guinea)

Exploration Licence Number and Name	Ownership	Sub-blocks	Area (sq.km)*	Grant Date	Expiry Date
EL2531 - Tolukuma	100% Frontier Copper PNG Ltd	65	223.00	25-Feb-19	24-Feb-23
ELA2529 - Gazelle	100% Frontier Copper PNG Ltd	211	719.51	N/A	N/A
Total of Granted EL's		65	223.00		

*1 sub-block approximately 3.41 sq.km

Notes: The PNG Mining Act-1992 stipulates that EL's are granted for a renewable 2 year term (subject to satisfying work and expenditure commitments).

The PNG Government maintains the right to purchase up to 30% project equity at "Sunk Cost" if/when a Mining Lease is granted.

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

LANTHANEIN RESOURCES LTD

ABN

96 095 684 389

Quarter ended ("current quarter")

31 December 2022

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation (if expensed)	(9)	(18)
(b) development	-	-
(c) production	-	-
(d) staff costs	-	-
(e) administration and corporate costs	(165)	(404)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	20	24
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (provide details if material)	(128)	(183)
1.9 Net cash from / (used in) operating activities	(282)	(581)

2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(d) exploration & evaluation (if capitalised)	(1,124)	(1,401)
(e) investments	-	-
(f) other non-current assets	-	-

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2 Proceeds from the disposal of:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	-	-
(d) investments	-	-
(e) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
2.6 Net cash from / (used in) investing activities	(1,124)	(1,401)

3. Cash flows from financing activities		
3.1 Proceeds from issues of equity securities (excluding convertible debt securities)	-	1,750
3.2 Proceeds from issue of convertible debt securities	-	-
3.3 Proceeds from exercise of options	-	-
3.4 Transaction costs related to issues of equity securities or convertible debt securities	-	(119)
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
3.10 Net cash from / (used in) financing activities	-	1,631

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	5,082	4,027
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(282)	(581)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	(1,124)	(1,401)
4.4 Net cash from / (used in) financing activities (item 3.10 above)	-	1,631

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	3,676	3,676

5. Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts		Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	1,660	3,082
5.2	Call deposits	2,016	2,000
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	3,676	5,082

6. Payments to related parties of the entity and their associates

- 6.1 Aggregate amount of payments to related parties and their associates included in item 1
- 6.2 Aggregate amount of payments to related parties and their associates included in item 2

**Current quarter
\$A'000**

119

-

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments

Consulting fees and directors' fees \$118,744

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 Total financing facilities	-	-
7.5 Unused financing facilities available at quarter end		-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.	

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (Item 1.9)	(282)
8.2 Capitalised exploration & evaluation (Item 2.1(d))	(1,124)
8.3 Total relevant outgoings (Item 8.1 + Item 8.2)	(1,406)
8.4 Cash and cash equivalents at quarter end (Item 4.6)	3,676
8.5 Unused finance facilities available at quarter end (Item 7.5)	-
8.6 Total available funding (Item 8.4 + Item 8.5)	3,676
8.7 Estimated quarters of funding available (Item 8.6 divided by Item 8.3)	3
8.8	If Item 8.7 is less than 2 quarters, please provide answers to the following questions:
1.	Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?
	Answer: N/A
2.	Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?
	Answer: N/A
3.	Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?
	Answer: N/A

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 27 January 2023

Authorised by: (lodged electronically)
Matthew Foy – Company Secretary

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.