

15 May 2024

Lady Grey Exploration Update

- **Drilling programme planning finalised - targeting recently generated tenement wide soil sample anomalies**
- **“Godzilla” a newly identified large lithium soil anomaly with a strike length of ~4km to be targeted along with the “Avenger” lithium soil anomaly**
- **Godzilla prospect displays similar spatial relationship to potential lithium source granite as Covalent Lithium’s (SQM & Wesfarmers, 50/50) Earl Grey Mine, 189Mt @1.53% Li₂O¹ located adjacent to Mount Holland**
- **Also targeting the >2km long gold anomaly coincident with structural flexure plus copper and nickel targets**
- **Historic Bounty Gold Mine which produced ~1.3moz Au from Covalent Lithium’s Mount Holland mine site located adjacent to Lady Grey¹**
- **A comprehensive review of open file geophysical data plus acquisition of additional multi-client data now underway**
- **Programmes of Work (PoW) and Heritage approvals process underway targeting drilling Q3 2024**

Lanthanein Resources Limited (ASX: LNR) (“Lanthanein” or the “Company”) is pleased to announce the completion of drill planning following ground proofing by Company consultants of the recently announced lithium, gold and base metal results from the tenement wide soil sampling programme at the Lady Grey Lithium Project (“Lady Grey”) which collected 1,893 samples and identified multiple discrete and coincident lithium, gold, copper and nickel anomalies (ASX: 22 April 2024, 29 April 2024). Lady Grey is directly adjacent to Covalent Lithium’s (SQM & Wesfarmers) producing Earl Grey

¹ Refer Mindat.org

**ADDRESS**

Level 8, 99 St Georges Terrace
Perth WA 6000

PHONE

+61 (08) 9486 4036

ABN

96 095 684 389

WEBSITE

www.lanthanein.com

Lithium Mine, 189Mt @1.53% Li₂O¹ which also has the nearby historic Bounty Gold Mine which produced ~1.3moz Au at Mount Holland in the Forrestania Greenstone Belt.

Mr Brian Thomas, Technical Director of Lanthanein commented: "We are very excited to be moving to the next phase of exploration at Lady Grey with the planning of the drill programme targeting significant Lithium anomalies Godzilla and Avenger plus the multiple new gold, copper and nickel anomalies identified by the recent tenement wide soil sampling programme. The proximity of Godzilla and Avenger to Covalent Lithium's Earl Grey Lithium Mine greatly encourages us to believe we have an analogous mineralising event to Earl Grey. The Forrestania region is also well known historically for its significant gold production with the historic Bounty Mine producing ~1.3moz Au, plus the region has proven nickel endowment with IGO's, Forrestania Operations ~30km to the south. We will be pressing the approvals processes to be drilling these targets by Q3."

Drill Programme

The Company is currently planning to drill approximately 4-5,000 metres of Aircore over the Lithium, Gold and Copper/Nickel anomalies.

Geophysical Review

The Company has engaged a geophysical consulting group to conduct a comprehensive review of all historical open file data plus acquire additional multi-client data to enable an assessment of the coincident geophysical features with the recent geochemical footprint.

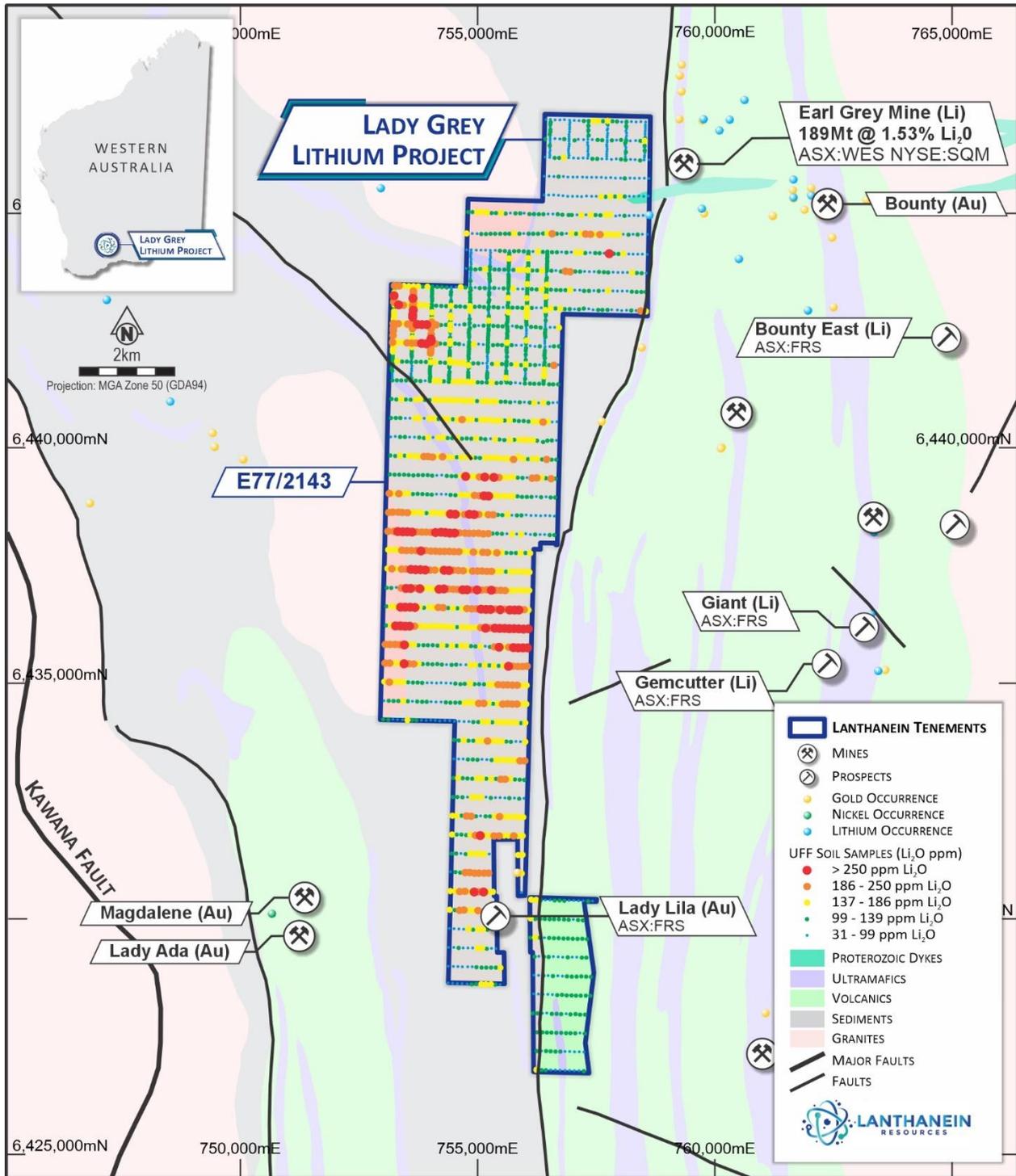


Figure 1: Lithium Anomalies at the Lady Grey Lithium Project.

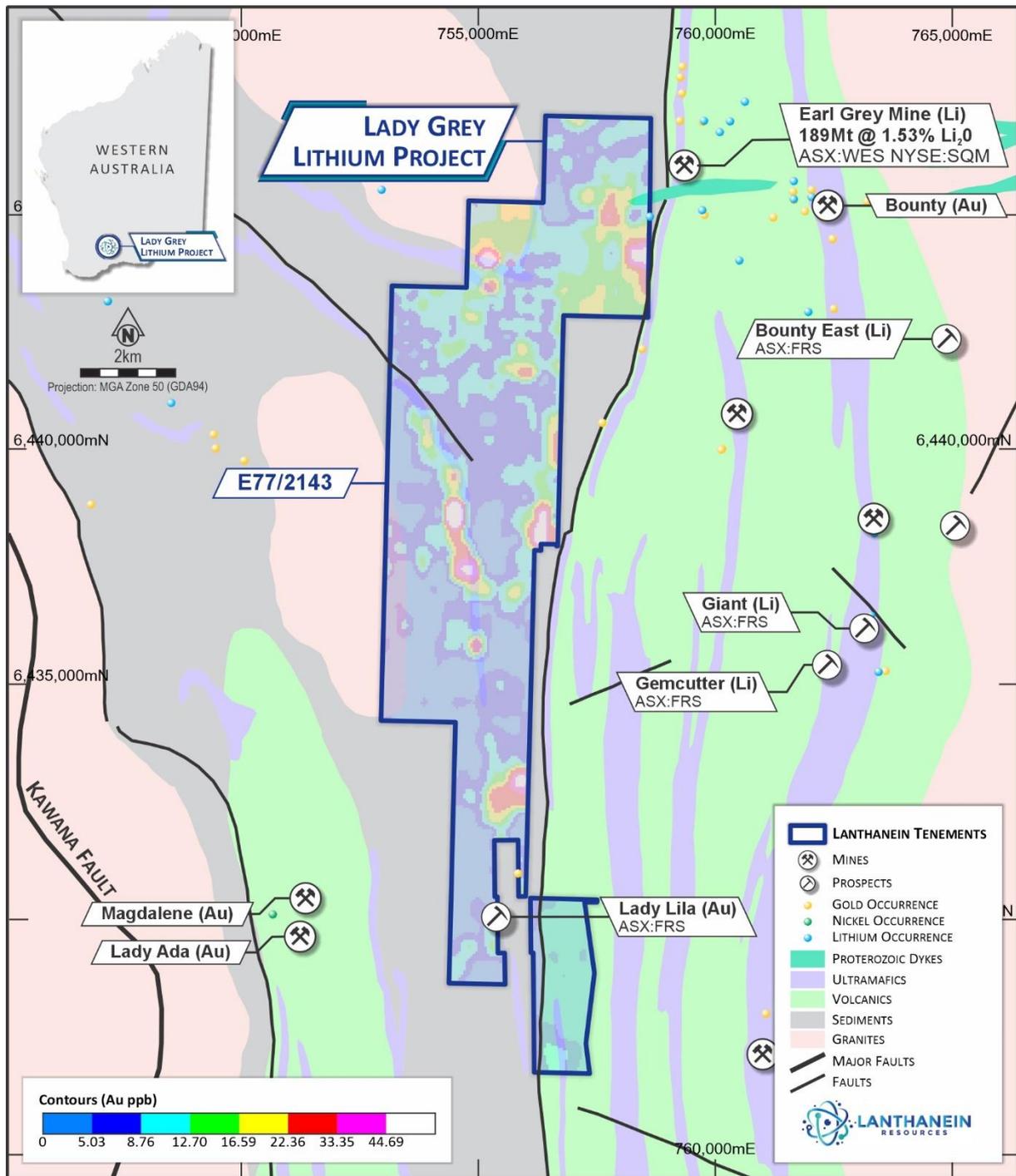


Figure 2: Gold Anomalies at the Lady Grey Lithium Project.

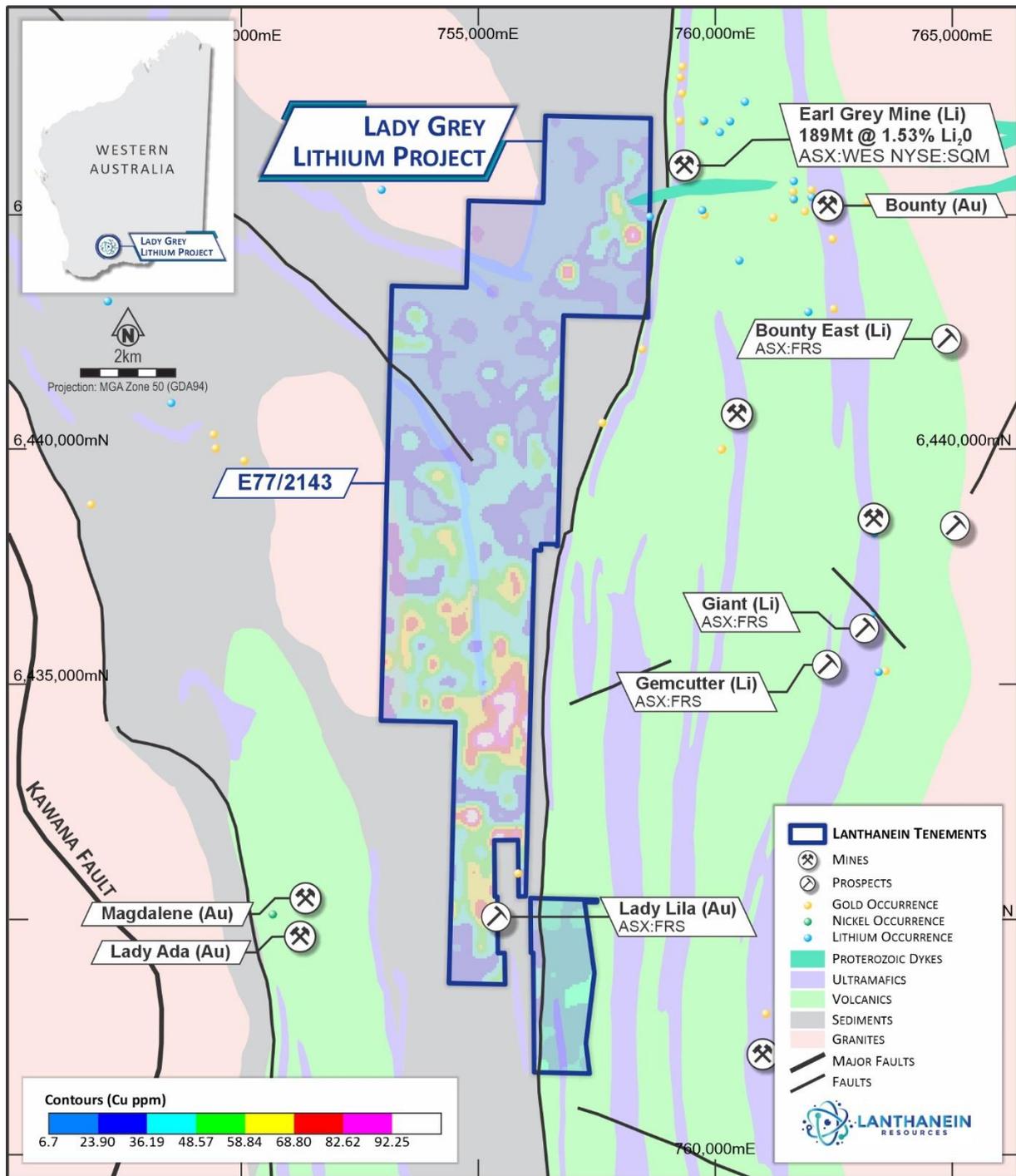


Figure 3: Copper Anomalies at the Lady Grey Lithium Project.

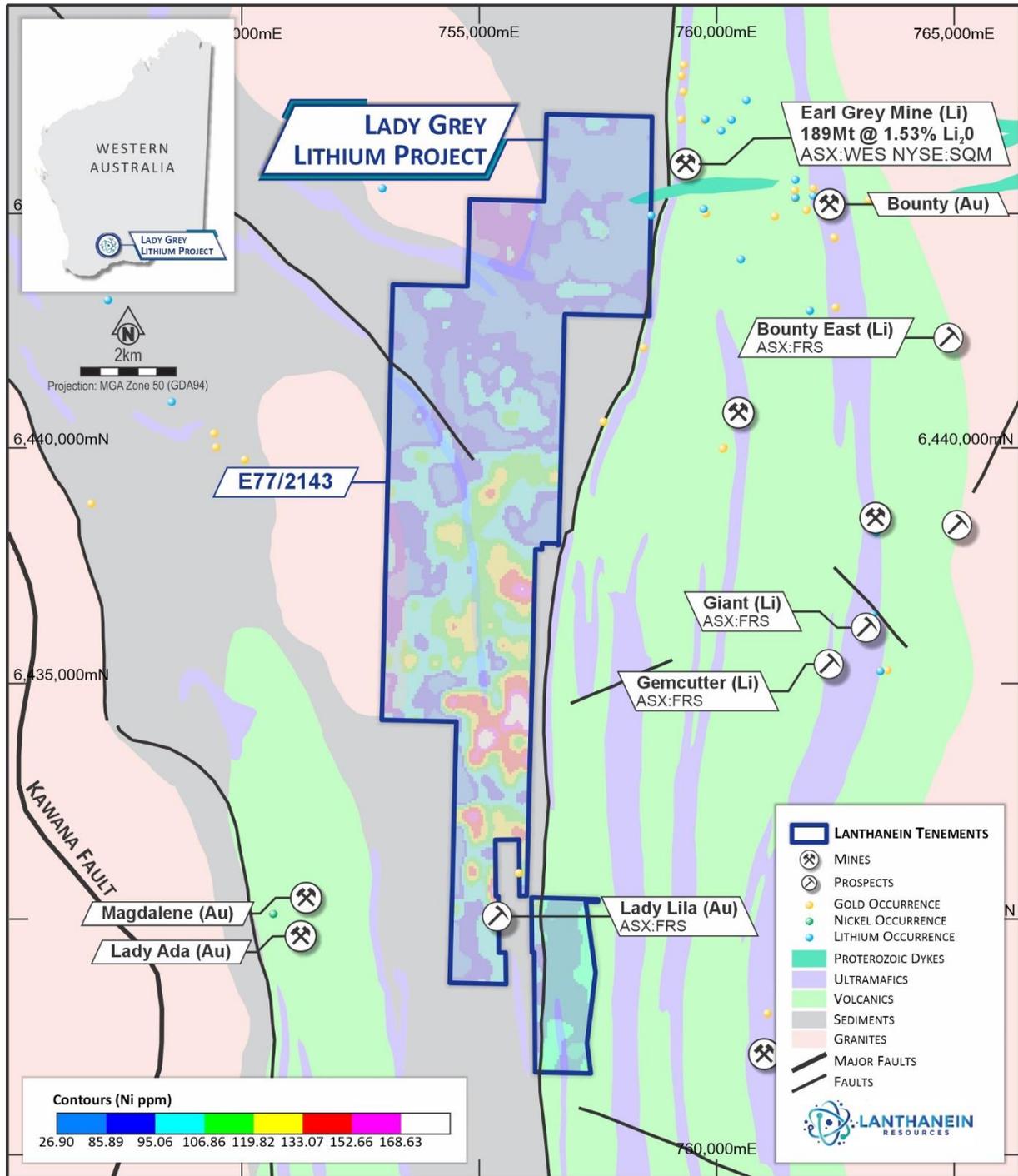


Figure 4: Nickel Anomalies at the Lady Grey Lithium Project.

ADDRESS

Level 8, 99 St Georges Terrace
Perth WA 6000

PHONE

+61 (08) 9486 4036

ABN

96 095 684 389

WEBSITE

www.lanthanein.com

High Priority Lithium Geochemical Anomalies

1. **Godzilla** – Coincident Lithium and Caesium, 4.3km² total area.

The trending anomalous zones are located on the edge of a large regional granite dome on the western area of Lady Grey Project, and lithium anomalism extends ~3km eastward. The dominant ESE trend is thought to reflect the migration of lithium rich mineralised fluids away from the source granite and into the greenstone host rocks which have potentially deposited Lithium minerals at a trap site that is commonly referred to as the 'goldilocks zone' approximately 2-4km from the source granite. If the northern granite is the source of lithium rich fluids deposited at the Earl Grey mine, then given the location of the northern granite is ~2.7km to the west of Earl Grey, the geological rationale to support another mineralising event associated with the southern granite at Godzilla Prospect is highly encouraging and makes for an extremely compelling drill target.

2. **Avenger** – Coincident Lithium and Caesium, 0.58km².

This anomaly is located in the northwest corner of the tenement covering an area 1.7km x 1km. With a peak result of 340ppm Li₂O, this prospect displays consistent elevated lithium values across the entire 0.58km² (ASX 29 April 2024).

Significantly, all lithium soil anomalies have an association with elevated values for lithium pathfinder elements – particularly caesium. This further supports the presence of a LCT (lithium caesium-tantalum) pegmatite field that is prospective for lithium mineralisation.

The results of the latest soil survey are highly encouraging and emphasise the significant lithium prospectivity of the Lady Grey Project. These new soil anomalies represent compelling targets for potential new discoveries. Extensions and in-filling of the current soil surveys are already planned to further delineate and add to the Company's current lithium targeting, in conjunction with heritage surveys and drilling.

Both Godzilla and Avenger, stand out as a high priority targets for follow up and further evaluation.

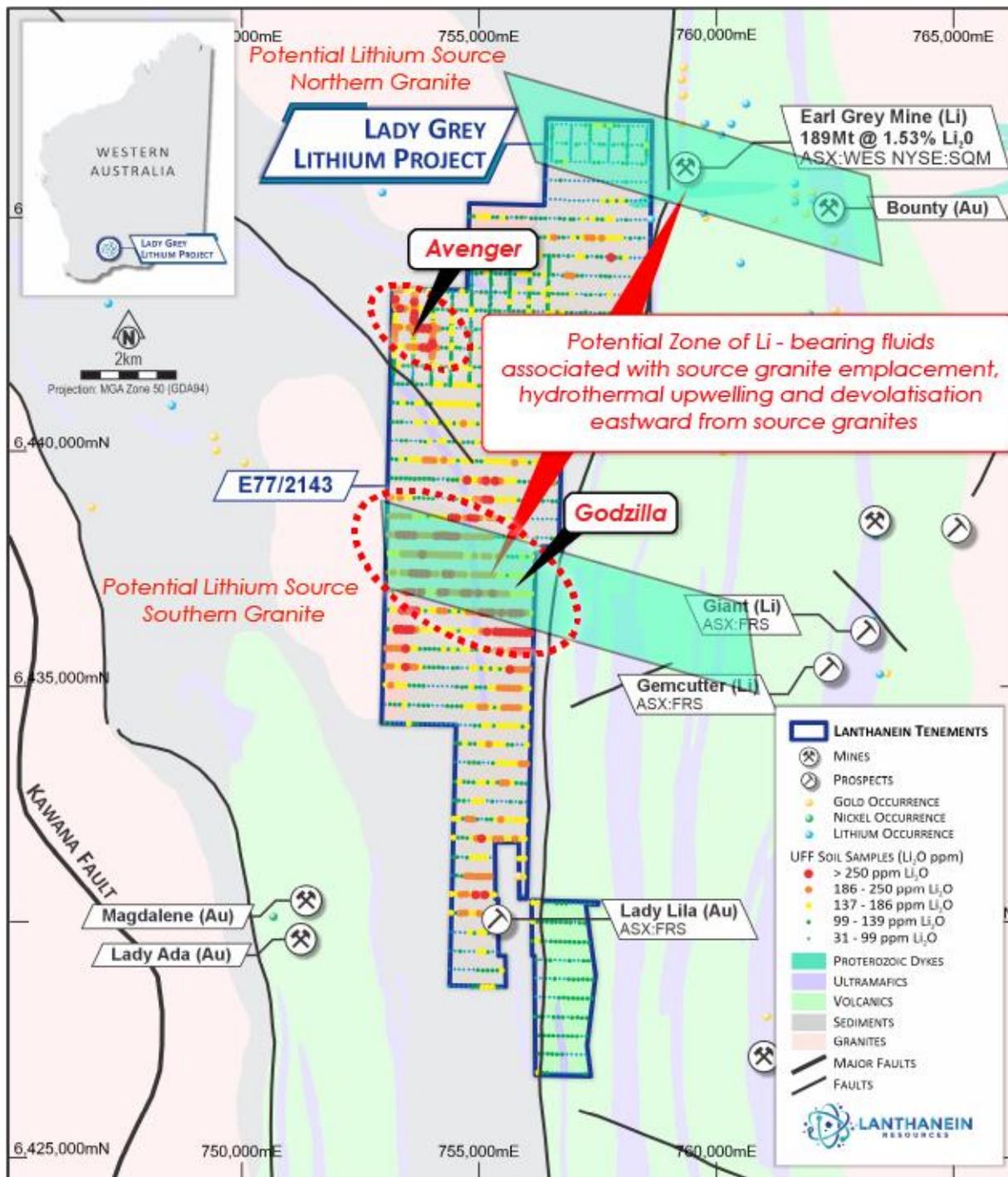


Figure 5: Lithium (Li₂O) geochemical results supporting potential for presence of LCT-type pegmatites.

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

¹ David Chapman, Geoscience Australia, Australia Resource Reviews, Lithium 2018. Comprising 66Mt @ 1.58% Li₂O Measured, 106Mt @ 1.52% Li₂O Indicated and 17Mt @ 1.11% Li₂O Inferred.

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 Non-Executive Director 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.

Forward Looking Statements

This announcement includes forward-looking statements that are only predictions and are subject to known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of Lanthanein, the directors and the Company's management. Such forward-looking statements are not guarantees of future performance.

Examples of forward-looking statements used in this announcement include use of the words 'may', 'could', 'believes', 'estimates', 'targets', 'expects', or 'intends' and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of announcement, are expected to take place.

Actual values, results, interpretations or events may be materially different to those expressed or implied in this announcement. Given these uncertainties, recipients are cautioned not to place reliance on forward-looking statements in the announcement as they speak only at the date of issue of this announcement. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Lanthanein does not undertake any obligation to update or revise any information or any of the forward-looking statements in this announcement or any changes in events, conditions or circumstances on which any such forward-looking statement is based.

This announcement has been prepared by Lanthanein Resources Limited. The document contains background information about Lanthanein Resources Limited current at the date of this announcement.

**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 announcement is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained in this announcement. The announcement is for information purposes only. Neither this announcement nor the information contained in it constitutes an offer, invitation, solicitation or recommendation in relation to the purchase or sale of shares in any jurisdiction.

The announcement may not be distributed in any jurisdiction except in accordance with the legal requirements applicable in such jurisdiction. Recipients should inform themselves of the restrictions that apply to their own jurisdiction as a failure to do so may result in a violation of securities laws in such jurisdiction. This announcement does not constitute investment advice and has been prepared without taking into account the recipient's investment objectives, financial circumstances or particular needs and the opinions and recommendations in this announcement are not intended to represent recommendations of particular investments to particular persons.

Recipients should seek professional advice when deciding if an investment is appropriate. All securities transactions involve risks, which include (among others) the risk of adverse or unanticipated market, financial or political developments. To the fullest extent of the law, Lanthanein Resources Limited, its officers, employees, agents and advisers do not make any representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of any information, statements, opinion, estimates, forecasts or other representations contained in this announcement. No responsibility for any errors or omissions from the announcement arising out of negligence or otherwise is accepted.