

8 February 2024

Lady Grey Lithium Project Soil Sampling Commences

- Extensive soil sampling programme across the entire 77km² granted tenement on the Forrestania Greenstone Belt directly adjacent to Covalent Lithium's (SQM & Wesfarmers) Earl Grey Mine, 189Mt @1.53% Li₂O¹
- 50 hole RC and 193 Air Core Drill Programme with DEMIRS PoW approval over a geochemical and radiometric anomaly immediately adjacent to Earl Grey to commence on heritage clearance
- Excellent access with graded dual lane road to Earl Grey Mine and existing tracks from historical gold exploration programs
- Lanthanein has entered into farm-in agreement to earn up to 70% of the Lady Grey Lithium-Tantalum Project, ~365km east of Perth

Lanthanein Resources Limited (ASX: LNR) ("Lanthanein" or the "Company") is pleased to announce that a team of exploration contractors have commenced an extensive tenement wide soil sampling programme at the Lady Grey Lithium Project ("Lady Grey") directly adjacent to Covalent Lithium's (SQM & Wesfarmers) Earl Grey Mine, 189Mt @1.53% Li₂O¹ at Mount Holland in the Forrestania Greenstone Belt. It is anticipated that the programme will collect approximately 1,400 samples (Figure 1) and take around two weeks to complete.

Mr Brian Thomas, Technical Director of Lanthanein commented: "We are very excited to finally get boots on the ground doing the essential exploration work to follow up on the recent site visit which confirmed the exploration potential of the highly prospective Lady Grey Project which covers ~77km² of the Forrestania greenstone belt, immediately adjacent to one of the largest operating lithium mines in Western Australia. The tenement wide soils programme will give far greater coverage than the much smaller targeted programme carried out by the previous operator which only focused on covering the radiometric anomaly in the north east corner of the tenement. Of particular interest for this new programme are the granite contact areas adjacent to the western and northwestern boundary. Following confirmation of heritage clearance of the existing tracks and grid lines for drill

access we will then be able to commence the POW approved programme of 50 RC holes and 193 Air Core holes over the area of the radiometric anomaly and geochemical responses in the north east corner immediately adjacent to Earl Grey.”

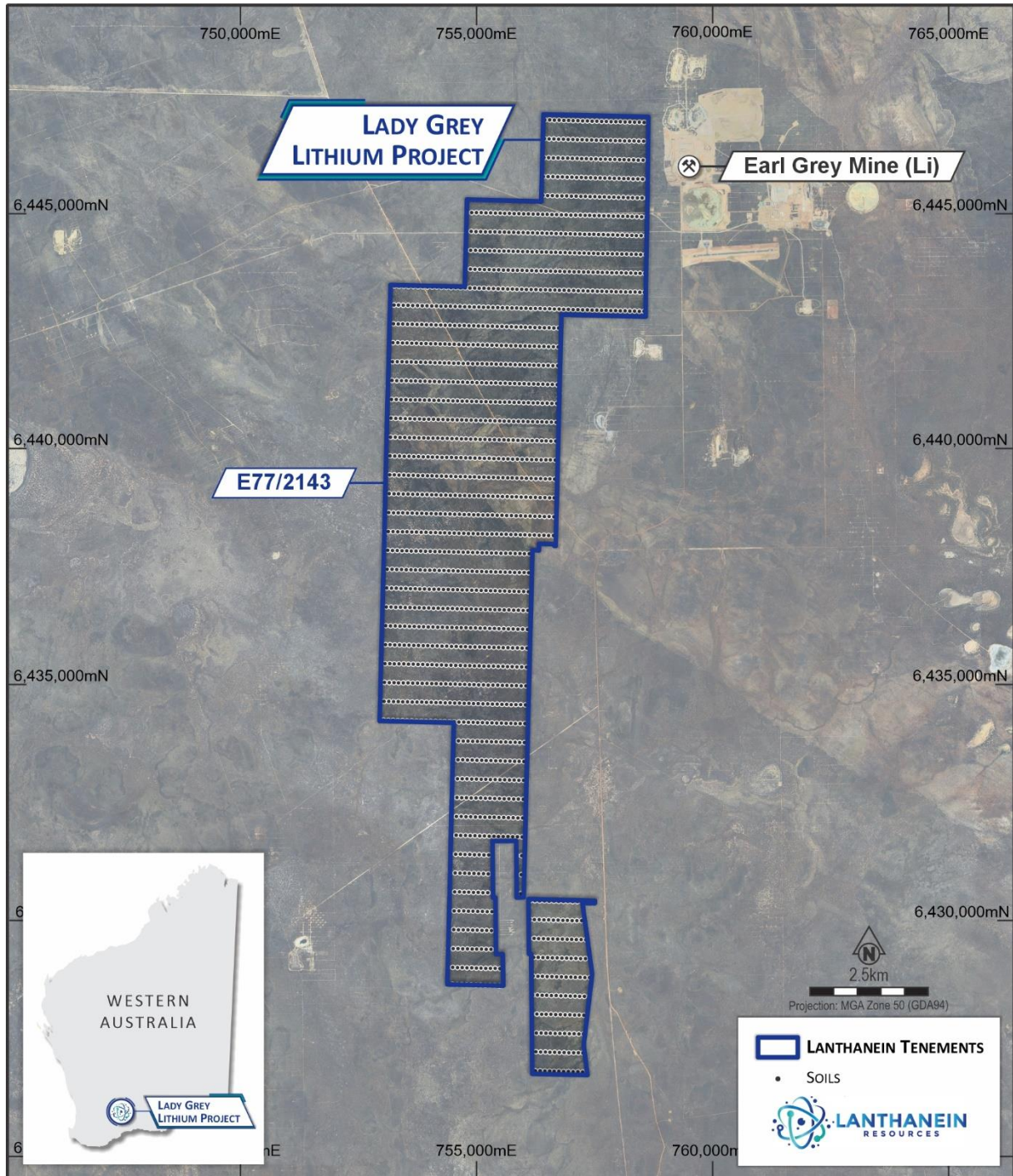


Figure 1: Proposed Soil Sampling Grid for the Lady Grey Project adjacent to the Earl Grey Lithium Mine in the Forrestania Greenstone Belt of Western Australia.

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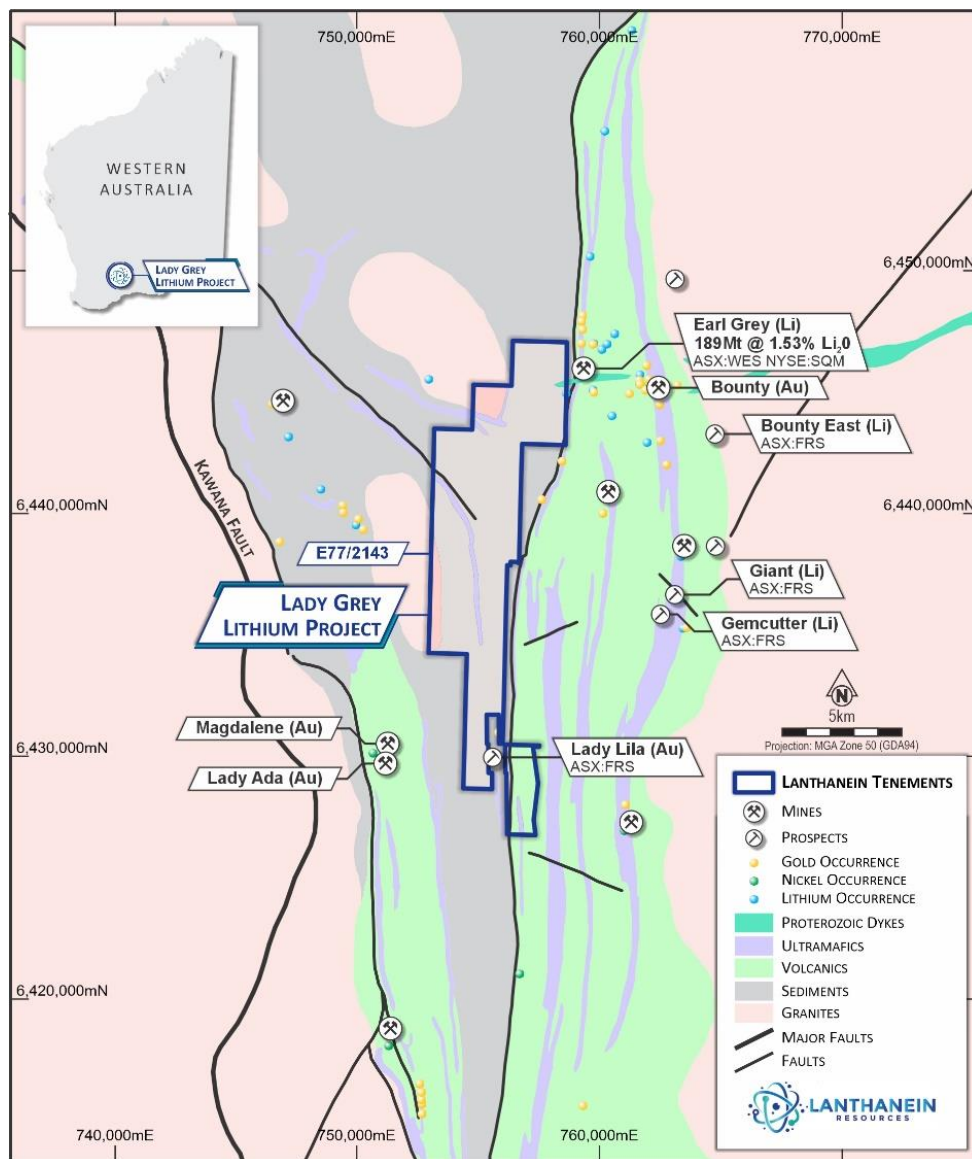


Figure 2: Location of the Lady Grey Project relative to infrastructure of Earl Grey Lithium Mine in the Forrestania Greenstone Belt of Western Australia.

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Lady Grey Lithium Exploration and Project Potential

The Lady Grey Project is located on the Southern Cross - Forrestania Greenstone Belt, a proven Tier 1 lithium mining district (Figure 2). Neighbours are major miners / developers including Covalent Lithium (Wesfarmers-SQM JV) – 189Mt @ 1.53% Li₂O at the Earl Grey Mine (Earl Grey pegmatite)¹. IGO acquired WSA's high grade nickel mines at Flying Fox & Spotted Quoll, and are exploring for lithium, and the Historic Bounty gold mine that produced ~1Moz gold.

The Earl Grey pegmatite sill is exposed only in the south-western corner of the Earl Grey deposit. The sill dips gently northward, sub-horizontally under the historic Earl Grey gold mine with Covalent Lithium's pegmatite being thickest against the western fault, thinning to stringer mineralisation along the eastern side of the deposit, indicating that the direction of injected pegmatite intrusion is most likely west to east. Rock samples from sampling program in November 2022 returned elevated Li (up to 298 ppm), Cs (up to 46 ppm), Rb (up to 1463 ppm) and Ta (up to 783 ppm) (refer ASX release 6 December 2023).

Quartz sub-crop and float in the general area of the elevated soil and rock geochemistry may represent 'quartz cores' commonly present in complex zoned rare-element pegmatites. In conjunction to the anomalous soil geochemistry a large coherent >2km long high >0.3%K radiometric signal is present that may be structurally related to the outcropping Earl Grey pegmatite (Figure 3). Mapped continuation into Lanthanein tenure of the Split Rocks Unit host to the Earl Grey pegmatite with the potential for shallow flat-lying LCT pegmatites.

Interpretation and planning underway to target zones of potential pegmatite accumulation and associated lithium mineralisation.

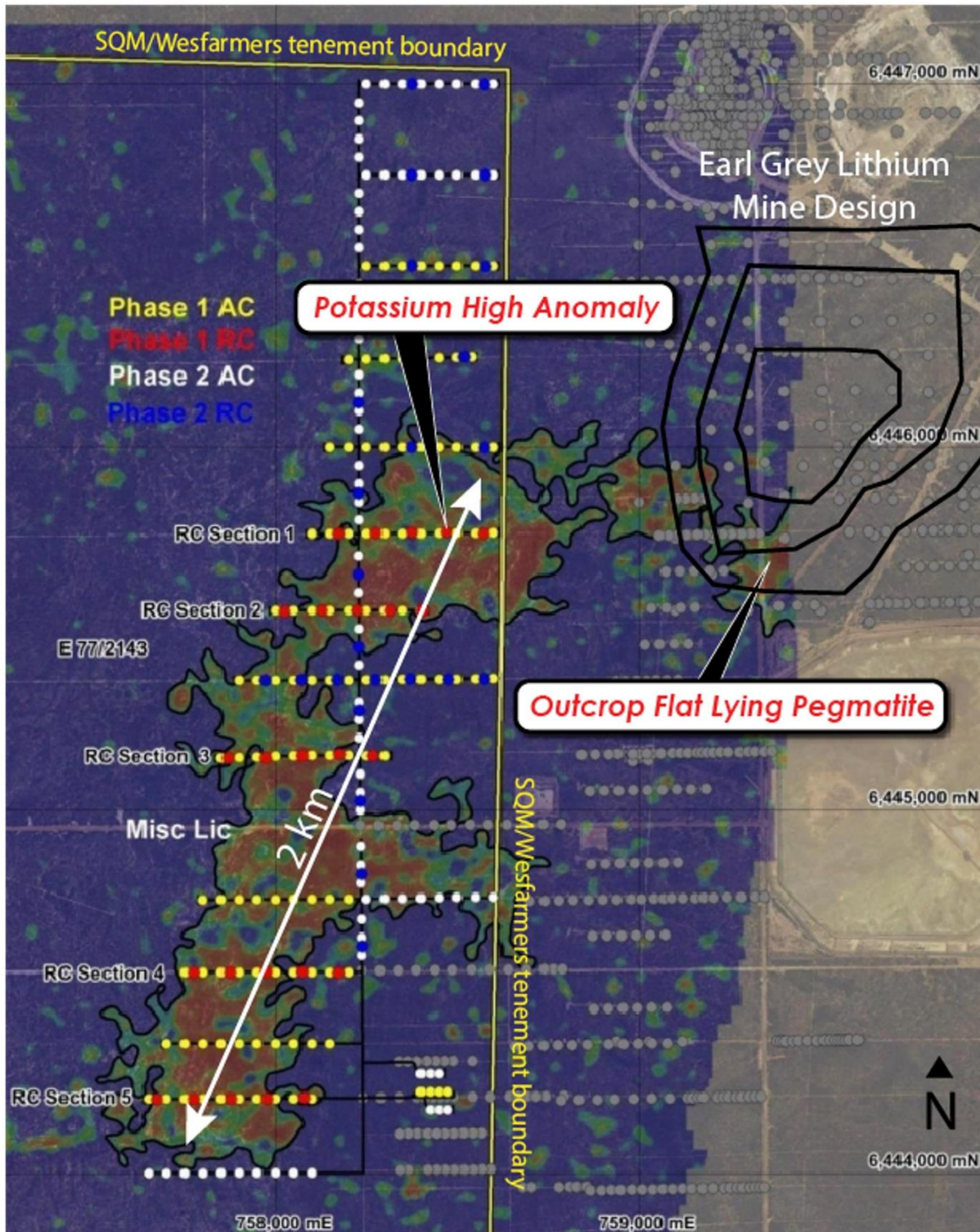


Figure 3: Locations of POW Approved proposed RC and Air Core drill holes superimposed over the Radiometric Anomaly with the neighbouring Earl Grey Pit Outline

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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.

Forward-Looking Statements

Certain information contained in this presentation may contain “forward-looking statements”. Forward-looking statements may include, but is not limited to, information with respect to the future financial and operating performance of Lanthanein, its subsidiaries and affiliates, the estimation of Mineral Reserves and Mineral Resources, realization of Mineral Reserve and Mineral Resource estimates, costs and timing of development of Lanthanein’s projects, costs and timing of future exploration, timing and receipt of approvals, consents and permits under applicable legislation, results of future exploration and drilling and adequacy of financial resources. Forward-looking statements are often characterized by words such as “plan”, “expect”, “budget”, “target”, “project”, “intend”, “believe”, “anticipate”, “estimate” and other similar words or statements that certain events or conditions “may” or “will” occur.

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.