ASX Announcement

11 March 2024

YINNETHARRA LOCKIER RANGE PROJECT UPDATE

Odessa Minerals Limited (ASX:ODE) ("Odessa" or the "Company") is pleased to provide an update to its Yinnetharra Lockier Range Project ("Project") in the Gascoyne region of Western Australia.

Highlights:

- **Heritage Survey confirmed for 24th April across Lithium-Caesium-Tantalum targets**
- **Drilling at the Project will test areas where feldspar K/Rb ratios highlight pegmatite fractionation trends vectoring undercover**
- **Coherent anomalous in-soil lithium-pegmatite trends for drill targeting:**
  - **4km x 2km** Li-Cs-Ta-Be-Rb-Bi anomaly adjacent to pegmatites at Robinson Bore
  - **2.7km x 2km** Li-Cs-Ta-Be anomaly across the blind pegmatites of the Eastern Field
- **Highly-elevated lithium-pegmatite pathfinders in rock chips, with peak results including:**
  - 1,911ppm Li_2O (22 samples above 500ppm)
  - 259ppm Ta_2O_5 (5 samples above 100ppm)
  - 712ppm Cs_2O (18 samples above 100ppm)
  - 8,245ppm BeO (9 samples above 100ppm)
  - 2,728ppm Rb (7 samples above 2,000ppm)

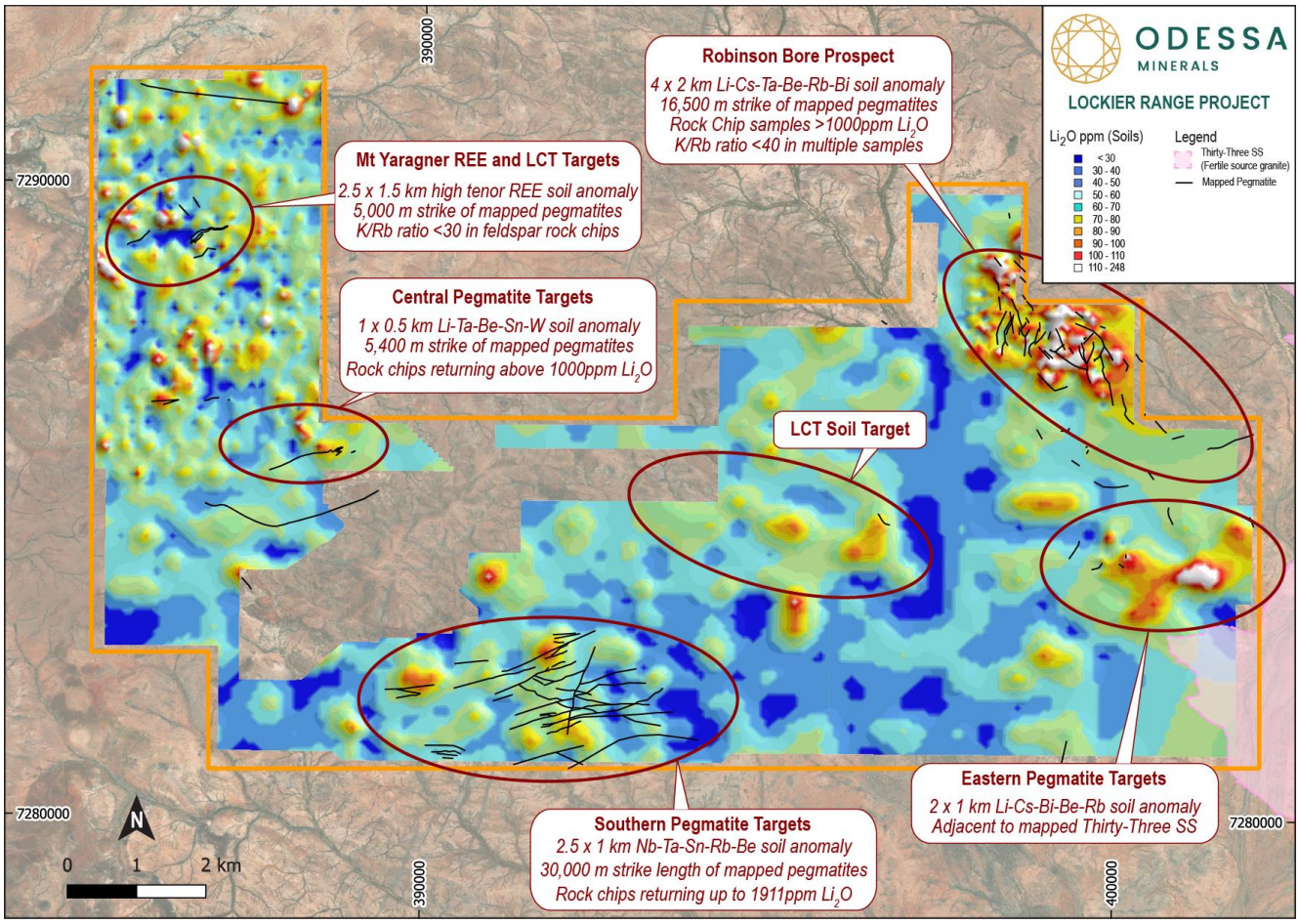

Figure 1: Principal pegmatite target areas within the Lockier Range Project underlain by gridded soil results coded by Li_2O ppm.

Lockier Range Exploration Plan

Heritage Survey

Following the promising results of the 2023 field campaigns that generated drill targets at the Yinnetharra Lockier Range Project, the Company proceeded to obtain Heritage clearances. However, Surveys are not undertaken during the summer months due to >40 degree temperatures in the Gascoyne Region.

A Heritage Survey has since been confirmed to commence at the Project on 24th April 2024. The survey will seek clearances across the LCT pegmatite targets, with follow-up RC drilling scheduled to commence immediately after clearance has been received in late May 2024.

Pending PoW approval and Heritage Clearance, drilling will focus on the Robinson Bore and Eastern Pegmatite Field, where K/Rb ratios within feldspar rock chip samples show fractionation trends vectoring under cover, accompanied by pathfinder soil anomalies.

Robinson Bore Lithium-Pegmatite Targets

Surface sampling at Robinson Bore has successfully identified a coherent 4km x 2km northwest-trending Li-Cs-Ta-Be-Rb-Bi in-soil anomaly, coincident with a 2.5km-long northwest-trending corridor of fractionated pegmatites (Figure 2).

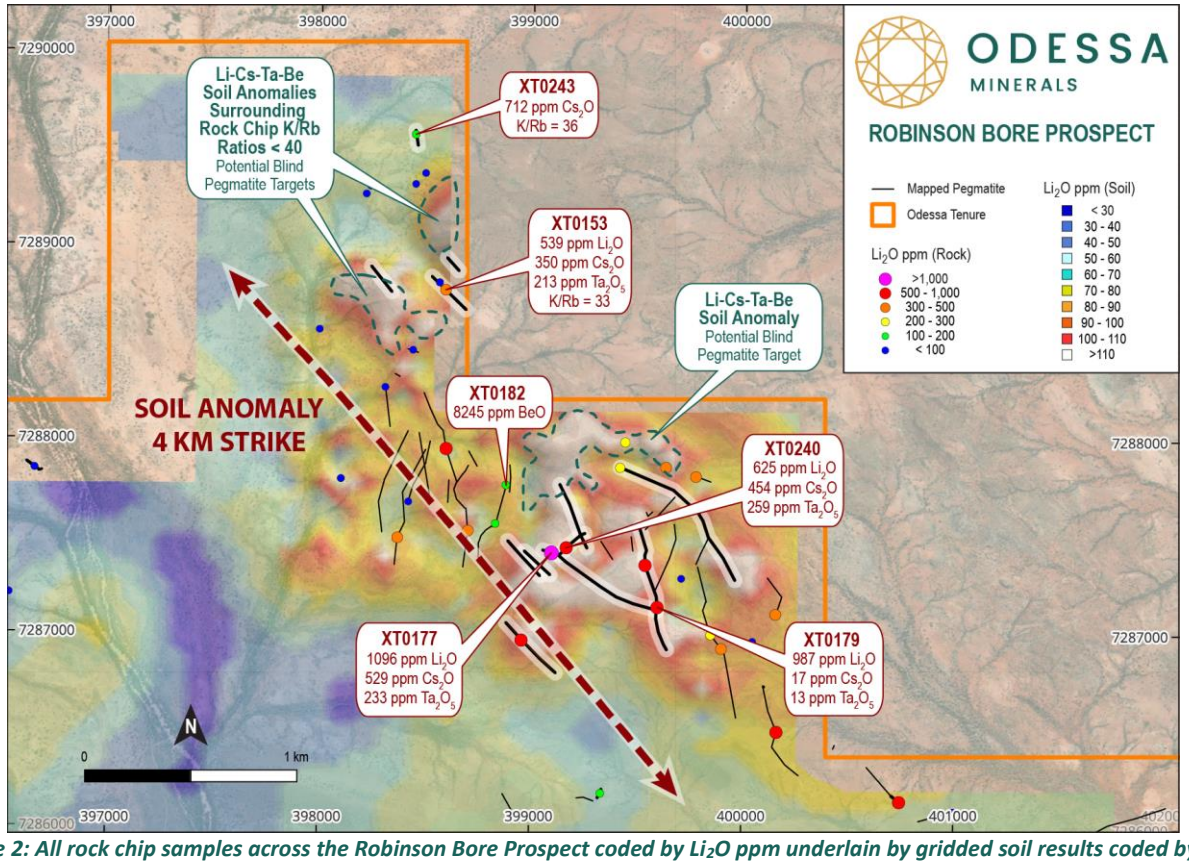

Figure 2: All rock chip samples across the Robinson Bore Prospect coded by Li_2O ppm underlain by gridded soil results coded by Li_2O ppm. Pegmatite targets and anomalous pathfinders highlighted.

The majority of pegmatites at Robinson Bore sub-crop, with vast areas concealed by cover material. Rock chip results from the pegmatite sub-crops in this region have returned favourable K/Rb ratios < 40, Cs_2O up to 712ppm, Ta_2O_5 up to 259ppm, and BeO up to 8,245ppm.

Drilling at Robinson Bore will focus on areas where soil anomalies coincide with fractionated pegmatites heading undercover, targeting for highly fractionated blind pegmatites.

Eastern Field Lithium-Pegmatite Targets

Field mapping and sampling at the Eastern Field pegmatite targets has generated a 2.7km x 2km Li-Cs-Ta-Be in-soil anomaly that is 800m from the margin of the fertile source granite, the Thirty Three Supersuite (Figure 3).

At present, the soil anomaly is unexplained due to a lack of outcropping pegmatites in the region. Drilling at the Eastern Target will aim to test for blind fractionated pegmatites related to the Thirty Three supersuite, in an analogous spatial position to Delta Lithium's Yinnetharra LCT Pegmatite resource.

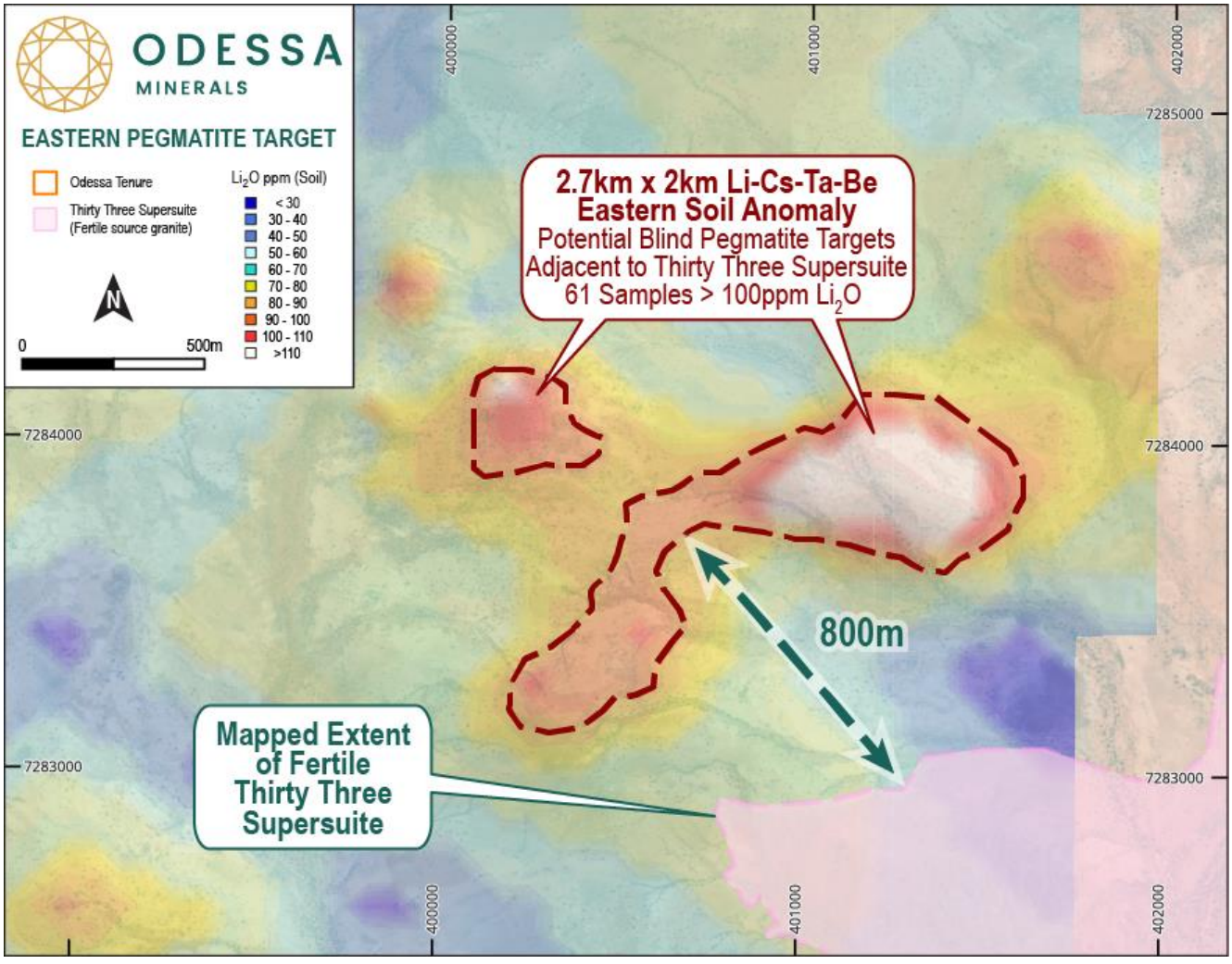

Figure 3: Gridded soil results coded by Li_2O ppm, highlighting the Eastern Field anomaly 800m from the margin of the source granite.

Additional Targets

Rock chip results from the remainder of the Project have provided additional targets for both lithium and REEs. These targets are to be tested at a later date pending results from initial drilling at Robinson Bore and the Eastern Field.

Central Pegmatite Field Targets

The Central Field consists of 5,400m strike length of pegmatites that plunge undercover to the southwest. Rock chip results from the area returned five results above 500ppm Li_2O.

Soil sample results highlighted a coherent 1.0km x 0.5km Li-Ta-Be-Sn-W anomaly adjacent to the mapped pegmatites, representing targets for blind LCT pegmatites (Figure 4).

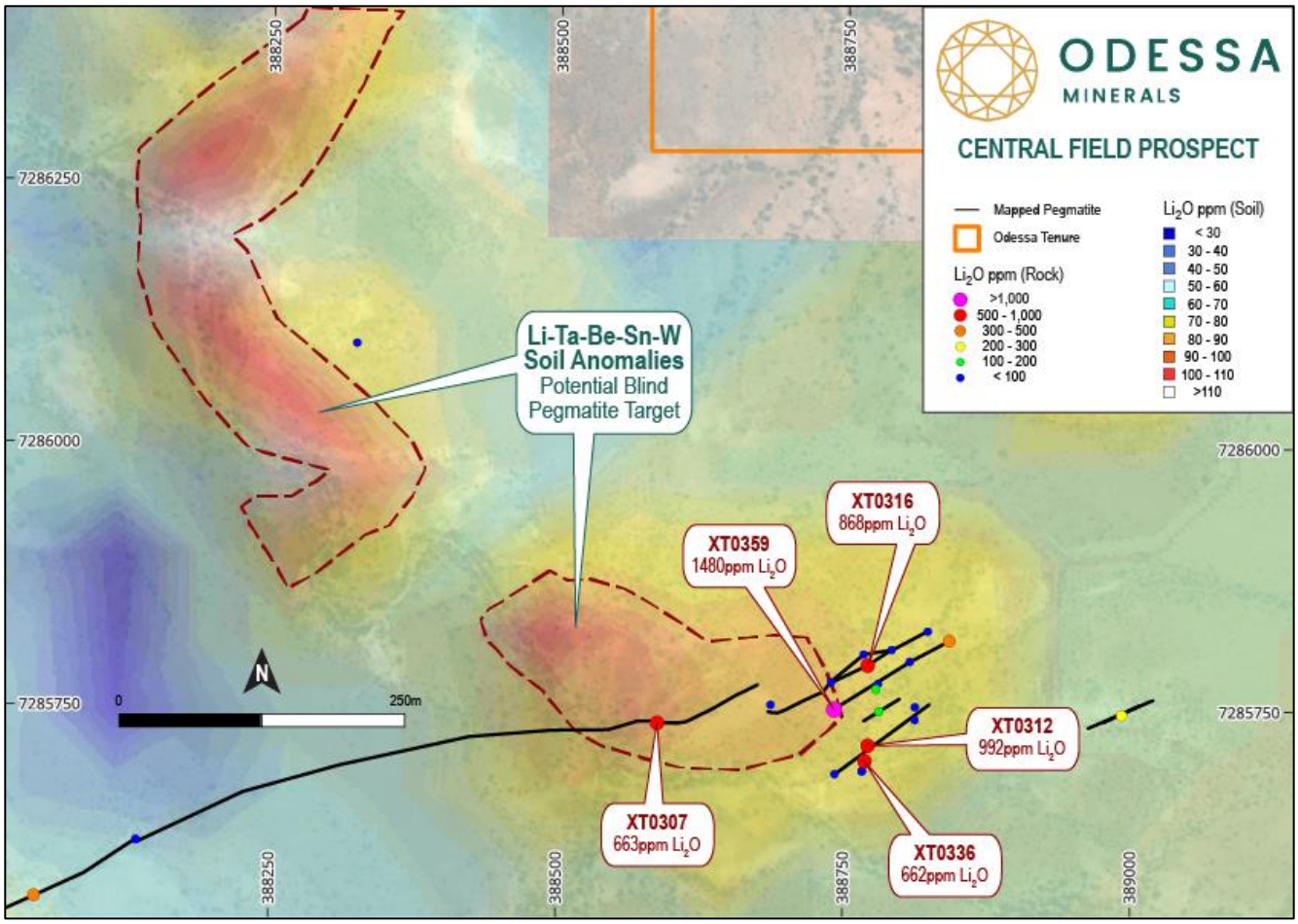

Figure 4: Rock chip samples across the Central Pegmatite Field Prospect coded by Li_2O ppm underlain by gridded soil results coded by Li_2O ppm. Pegmatite targets and anomalous in-soil pathfinders are highlighted.

Southern Field LCT and REE Pegmatite Targets

The Southern Pegmatite Field consists of two sets of cross-cutting pegmatites within a 2.5km x 1km Nb-Ta-Sn-Rb-Be in-soil anomaly. The highest Li-in-rock results across the project are located within the centre of the Southern Pegmatite Field, with four rock chips returning values >1,000ppm Li_2O and a peak result of 1,911ppm Li_2O (Figure 5).

The Southern Pegmatite Field also returned ten rock chips with TREOY > 500ppm and a peak result of 3,499ppm (22% Nd+Pr) in rock chip XT0621. As such, the prospect offers a multi-commodity target for critical elements within pegmatites.

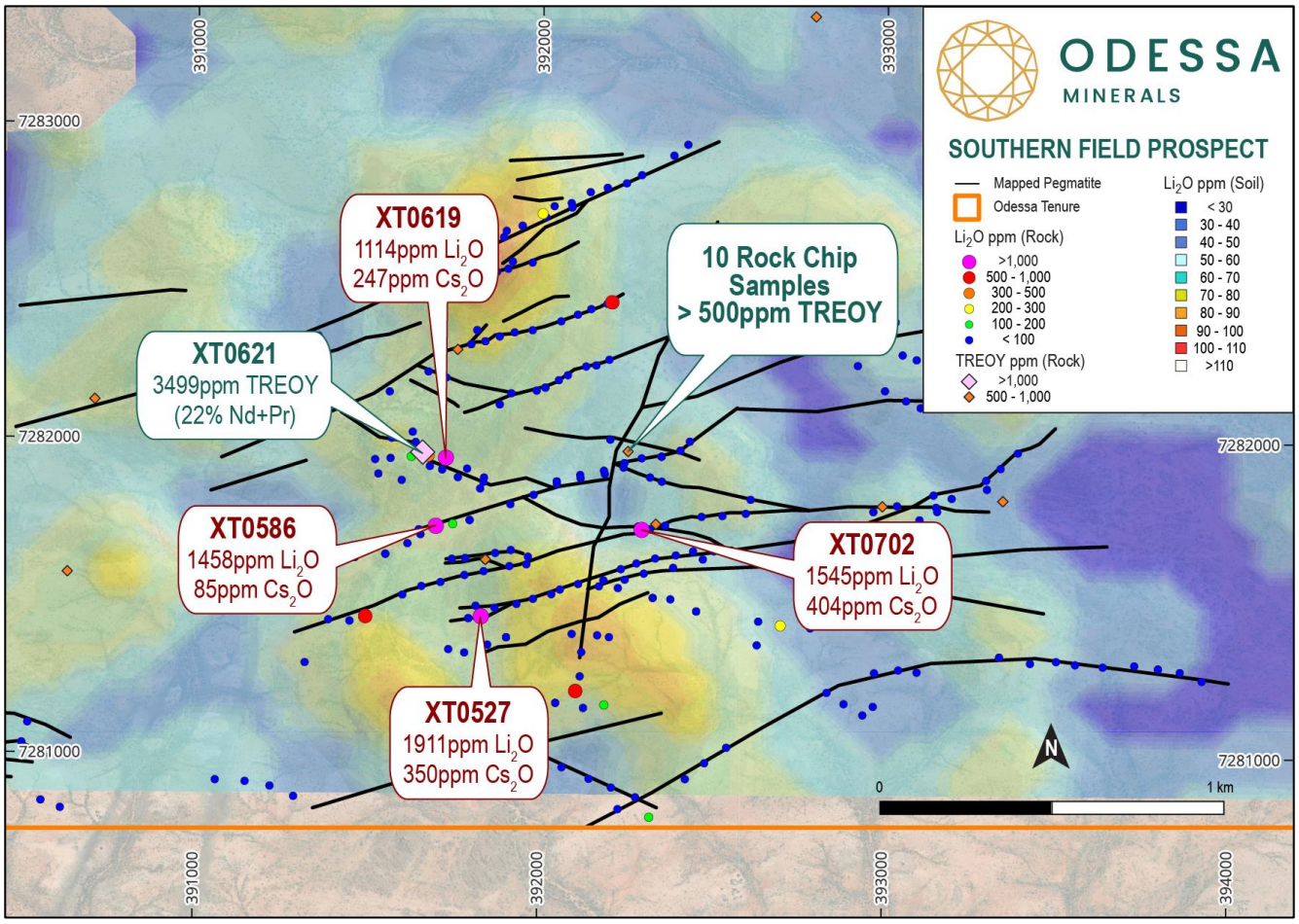

Figure 5: Rock chip samples across the Southern Pegmatite Field Prospect coded by Li_2O ppm (circles) and TREOY ppm (diamonds) underlain by gridded soil results coded by Li_2O ppm. Key rock chips highlighted.

Mt Yaragner Pegmatites and Carbonatite Targets

Mt Yaragner is host to some of the most fractionated pegmatites within the Project. Rock chip samples returned K/Rb ratios as low as 28.5, with coincident highly anomalous Cs_2O (357ppm) and Rb_2O (2,721ppm) in rock chip sample XT0295 (Figure 6).

In addition, Mt Yaragner offers potential for REE-carbonatite mineralisation. An extensive 5km x 2km highly anomalous REE in-soil anomaly is present, coincident with a high-tenor radiometric Thorium anomaly associated with ironstones that have returned rock chips up to 1,379ppm TREOY (Figure 7).

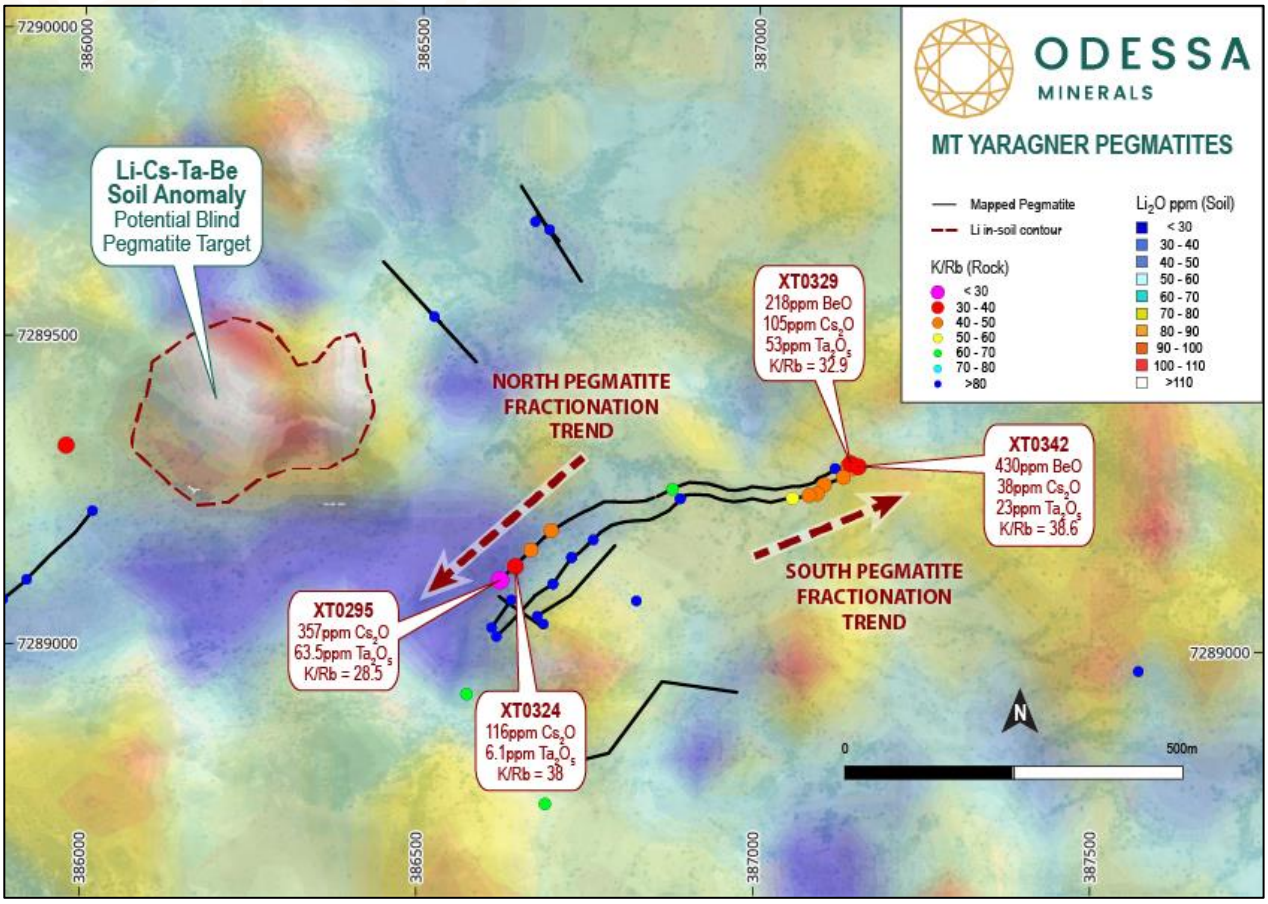

Figure 6: Rock chip samples at Mt Yaragner coded by K/Rb ratios underlain by gridded soil results coded by Li_2O ppm.

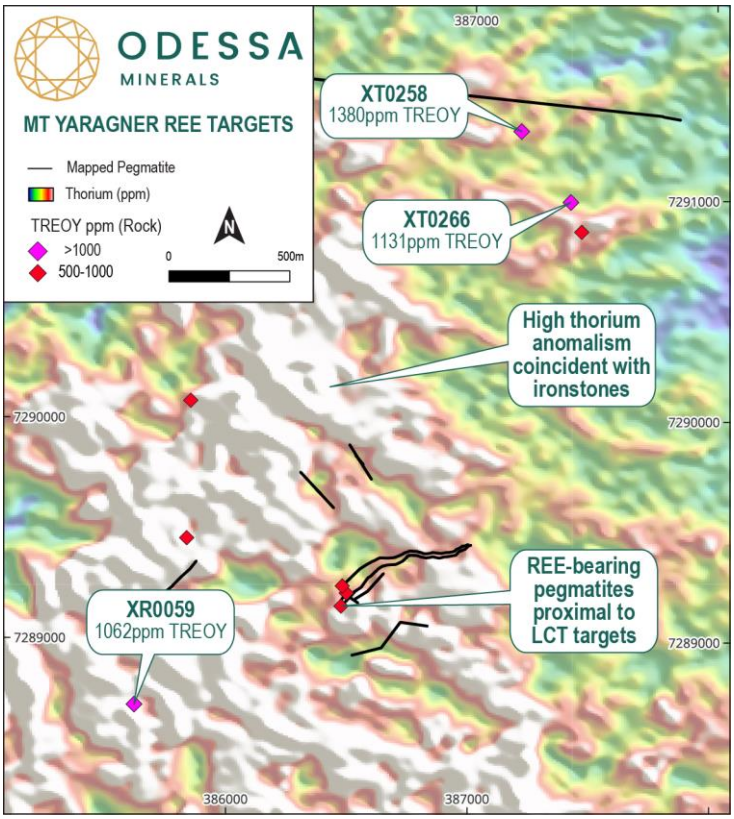

Figure 7: Rock chip samples at Mt Yaragner coded by TREOY ppm underlain by Th-band radiometric imagery.

About Odessa Minerals

Odessa Minerals Ltd is an ASX listed company (Ticker: ODE) that holds exploration licenses over 3,000 sq km of highly prospective ground in the highly sought-after Gascoyne region of Western Australia. Odessa's Projects are located in close proximity to significant recent lithium/pegmatite discoveries and lie in a north-south corridor of recent world class REE carbonatite discoveries.

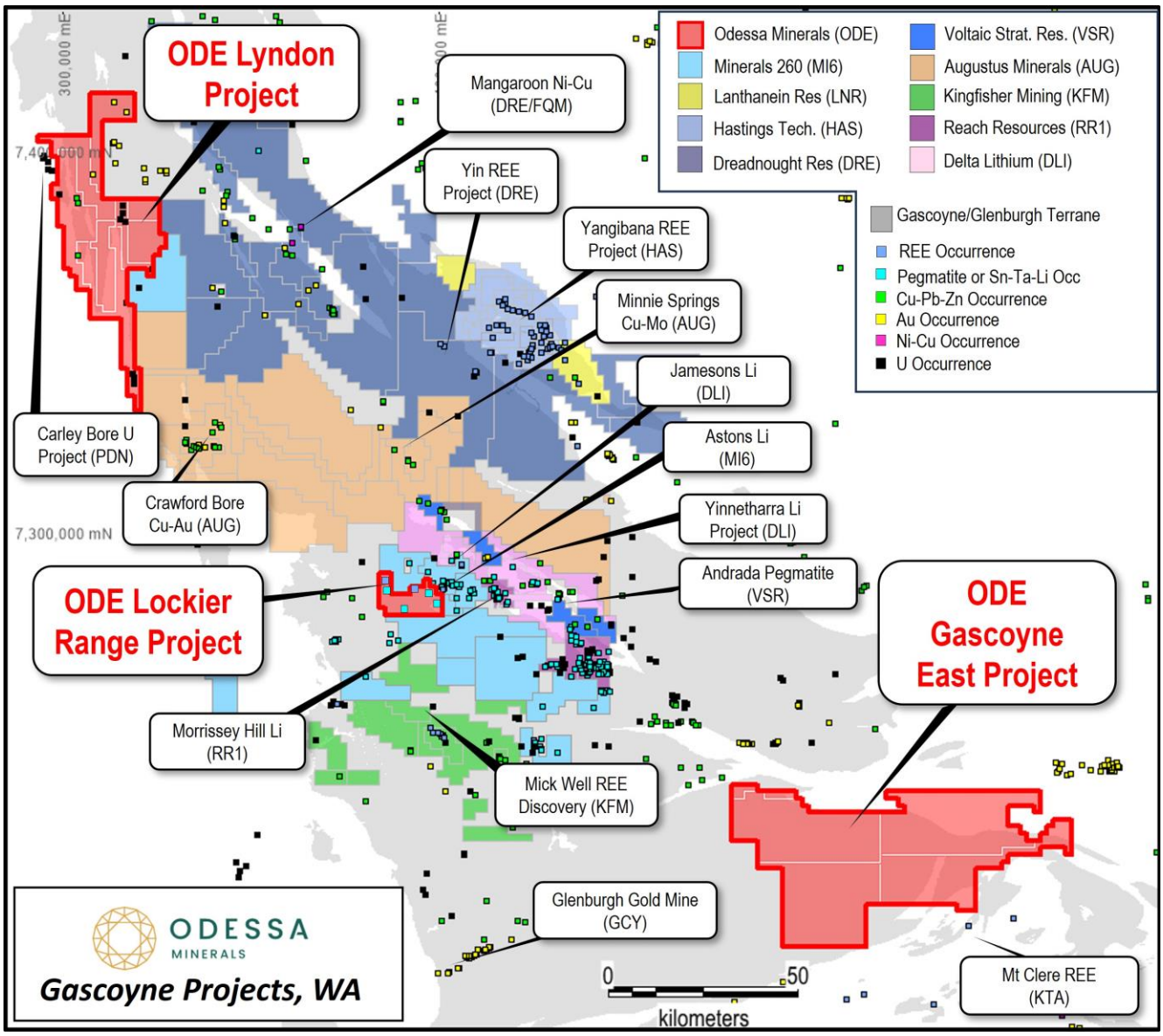

Figure 8: Odessa Minerals regional Gascoyne Project location map overlain with Geological Survey WA Minedex Occurrences.

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Competent Persons Statement

Information in this report relating to exploration information is based on and fairly represents data compiled by Odessa Minerals and reviewed by Peter Langworthy, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Langworthy is Managing Director (Principal Consultant) of Omni GeoX Ltd and 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 by the 2012 Edition of the Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Langworthy consents to the inclusion of the data in the form and context in which it appears.

JORC CODE, 2012 EDITION – TABLE 1 REPORT

1.1 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 (e.g., 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 (e.g., '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 (e.g., submarine nodules) may warrant disclosure of detailed information.*	• Soil sampling was conducted using a -2mm mesh to collect a 100g sample that was placed into a pre-numbered paper packet. • Soil samples were collected at a 100 x 100 m to 100 x 200m grid spacing in September 2023, infilling the 500 x 500 m grid spacing from March 2023 sampling. • OREAS Certified Reference Material (CRM) was inserted at a ratio of 1:50 in the sampling sequence. • Duplicate soil samples were collected at a ratio of 1:50 in the sampling sequence, alternating with CRMs. Duplicate samples were obtained from a hole dug 1m from the original sample location. • All soil samples were collected from homogenised soil 15 cm below the natural surface, dug by hand tools. Areas of transported cover or human-disturbed ground were not sampled, ensuring in situ soil was sampled. • All soil samples were submitted to ALS Perth for ME-MS61L analysis. • Rock chipping was not undertaken on a grid, instead being completed at the geologist's discretion and whether outcrop was present. For pegmatites, both whole-rock and individual mineral samples were collected as separate samples. For all other rock types, whole rock samples were taken. Samples were placed in pre-numbered calico bags. • Rock chip samples were taken both across the strike-length and width of pegmatites to ensure representivity by experienced geologists. • All rock chips were submitted to Intertek, Perth for 4A/MS48R analysis. • Handheld XRF instruments (Bruker) were utilised on site for mineral identification aid at the geologist's discretion. Prior to use, and at regular intervals throughout each day, the handheld XRF instrument was calibrated, and a CRM analysed to ensure the instrument window was not contaminated with dust and the instrument was analysing correctly. Handheld XRF data was used as an aid only, Lithium and most rare-earth elements cannot be analysed with the instrument in use.
Drilling techniques	• *Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., 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).*	• Not applicable: No drilling reported in this release.

Criteria	JORC Code explanation	Commentary
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.*	• Not applicable: No drilling reported in this release.
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.*	• Not applicable: No drilling reported in this release.
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.*	• No drilling reported in this release. • -2mm sample fraction is deemed suitable for ME analysis at ALS, Perth. • CRM and Duplicate material were included in the sample sequence. • Soil samples were taken 15 cm below the natural surface and avoided transported and human-disturbed ground. • The soil and rock chip samples are deemed representative of in situ material.
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 analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.*	• CRM and duplicate material was inserted in the sample sequence. • Handheld XRF instruments (Bruker) were utilised on site for mineral identification aid at the geologist's discretion. Prior to use, and at regular intervals throughout each day, the handheld XRF instrument was calibrated, and a CRM analysed to ensure the instrument window was not contaminated with dust and the instrument was analysing correctly. Handheld XRF data was used as an aid only, Lithium and most rare-earth elements cannot be analysed with the instrument in use.
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.*	• Duplicate sample sites at a ratio of 1:50 for soil sampling was conducted to determine sample representivity and repeatability. Duplicate samples were taken from a hole 1m away from the original sample. • All sample and mapping location data was collected using GARMIN GPSMAP 64 and recorded in hardcopy. Digital data was downloaded daily and validated. • Data is exported to GeoBase and imported into the database. GeoBase carry out external validation on data. • No adjustments to any dataset has been conducted. • 256-channel spectral noise reduction using the NASVD method • Dead time, cosmic and background radiation corrections

Criteria	JORC Code explanation	Commentary
		• Energy recalibration • Channel interaction correction (stripping) and extraction of ROIs • Height corrections using STP altitude to the nominal survey height • Radon removal using the Spectral Ratio method • Levelling where required
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 Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Sample and mapping locations were collected using a handheld GARMIN GPSMAP 64 and also recorded in hardcopy with an expected accuracy of +/-3m. • Coordinate grid system is MGA94 Zone 50S.
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.*	• Soil samples were collected at 100m intervals both in N-S and E-W orientations on a 100m grid-spacing. • Rock chip samples were collected at each outcrop as deemed necessary by the geologist. No nominal sample spacing was used for rock chipping. • No compositing has been conducted.
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.*	• Not applicable: No new sampling or drilling reported in this release
Sample security	• *The measures taken to ensure sample security.*	• Soil samples were collected in pre-numbered paper packets and stored in cardboard boxes labelled with sample IDs, Company name and Sample Submission ID. • Rock chip samples were collected in pre-numbered calico bags and stored in bulky-bags labelled with Sample IDs, Company name and Sample Submission ID. • Samples were taken directly to the laboratory by Odessa Minerals staff. • Both hard and digital submission copies were sent to the laboratory.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data*	• Not applicable: No new sampling or drilling reported in this release

1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, 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.*	**Lockier Range** • EL09/2649 is an exploration license application in the name of OD4 Noonie Pty Ltd. • Odessa Minerals owns a 100% interest in OD4 Noonie. There is a 1% royalty payable to the original vendor of OD4 Noonie on future production.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	**Lockier Range** Previous geochemistry sampling is historic and compiled from third party reports as noted; and as previously reported in company release dated 25 October 2022. Refer previous reports namely WAMEX A99061 (IGO 2013) Stream Sediments; WAMEX A99061 (IGO 2013) Soil Samples; VENUS METALS PRESS RELEASE (28 Jan 2021) and A128133 (2021) Stream Sediments; WAMEX A117396 (ARROW MINERALS 2018) Stream Sediments.
Geology	• *Deposit type, geological setting and style of mineralisation.*	**Lockier Range** • The project area is underlain by Proterozoic rocks of the Gascoyne province of Western Australia. Rock types included Durlacher Super Suite Granitoids, Moorarie Supersuite, Moogie Metamorphics (meta sediments) and Thirty-Three Supersuite leucogranites. • Based on rock type, radiometrics and geochemical anomalism the tenement area is prospective for carbonatite hosted rare earth elements comparable in style to the Yangibana Deposit located to the north in a similar geological setting. • Based on the presence of Thirty-Three super suite granitoids intruding Durlacher Supersuite, the project area is prospective for lithium bearing pegmatites analogous to the nearby Yinnetharra Pegmatite field.

Criteria	JORC Code explanation	Commentary
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:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *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.*	• Not applicable: No new drilling reported in this release
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., 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.*	• Not applicable: No new drilling reported in this release
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 (e.g., 'down hole length, true width not known').*	• Not applicable: No new drilling reported in this release

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.*	• Maps included in the body of this release.
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.*	• Maps included in the body of this release.

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.*	• All geochemistry data is reported in previous releases:
		  • Excellent Lithium Drill Targets Emerge at Lockier Range – 14 July 2023
		  • Strong Rare Earths in Soils Confirm Significance Of 14% REE – 20 July 2023
		  • Extensive Pegmatites Confirmed at Robinson Bore – 27 July 2023
		  • Exploration Update at Lockier Range Project – 7 September 2023
		  • Over 56,000m Of Mapped Pegmatites at Yinnetharra – 26 September 2023
		  • Pegmatites Return Highly Anomalous Lithium at Robinson Bore – 16 October 2023
		  • Standout Lithium Pegmatite Drill Targets at Yinnetharra – 15 November 2023
		  • Mt Yaragner Ironstones as Stand-Out REE Targets – 27 November 2023
		• Pre-Odessa Minerals sampling is historic and compiled from third party reports as noted; and as previously reported in company release dated 25 October 2022.
		• Geological mapping has been conducted by experienced geologists.
		• Mapping is conducted systematically across the strike of geological features.
		• Geological observations are noted both digitally and in hardcopy, including lithology, mineralogy, structural measurements, weathering, colour, geological contacts.
		• Handheld XRF readings are utilized to aid geological interpretation.
		• All geological observations by field geologists are validated by senior geological staff.
		• Structural measurements are obtained using a compass-clinometer.
		• Measurements are obtained using GPS-tracking and via physical tape-measuring.

Further work	• *The nature and scale of planned further work (e.g., 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.*	• Heritage Survey preparation for commencement on 24 April 2024 • PoW preparation and lodgement for drilling at Lockier Range • RC drilling at Lockier Range pending receipt of PoW and Heritage Survey