ASX Announcement

26 September 2023

OVER 56,000 METRES OF PEGMATITES MAPPED AT YINNETHARRA LOCKIER RANGE PROJECT- GASCOYNE LITHIUM PROJECTS

Highlights:

- **Over 56,000 metres strike-length of pegmatites**[1] now mapped by geology crews on Yinnetharra at the Lockier Range tenement
- **Over 10,400 metres strike-length of previously undiscovered pegmatites mapped at** the new 'Central Pegmatite Field' and Mt Yaragner
- **30 metre-wide pegmatites mapped**
- **The Central Pegmatite Field is** coincident with a 1.5km x 1km Li-Ta-Be-Cs soil anomaly
- **1,900 soil samples collected** from current exploration program are pending results
- **187 rock samples** completed are also pending results
- **Robinsons Bore** samples have been received by the laboratory with results pending
- Mapping and rock chip sampling of pegmatite targets continues

Odessa Minerals Limited (ASX:ODE) ("Odessa" or the "Company") is pleased to provide a further update on the exploration program underway at its Yinnetharra Lithium Project at Lockier Range in the Gascoyne region of Western Australia.

David Lenigas, Executive Director of Odessa, said: "Our on-going exploration program has certainly raised our expectations of a potential lithium discovery at our Yinnetharra Lockier Range Project. With over 56kms of outcropping pegmatites now mapped, many of which are close to previously identified high-order lithium soil anomalies, our main priority is to receive the assay results and commence interpretation to define LCT drill targets. Drilling these targets as soon as possible is Odessa's objective."

Lithium Pegmatite Targets

Pegmatites at the Yinnetharra Lockier Range project have surpassed 56,000 m of total strike-length mapped, with an additional 10,400 metres strike-length of previously undiscovered pegmatites now mapped and sampled at the Central Pegmatite Field and Mt Yaragner.

A total of 187 rock and 1,900 soil samples have been collected to date.

The Central Pegmatite Field is located 6 km from the margin of the lithium-caesium-tantalum ("LCT") fertile Thirty-Three Supersuite granite and is host to multiple, stacked, 30m-wide outcropping pegmatites. A coincident 1.5 km x 1 km Li-Ta-Be-Cs soil anomaly is present across the Central Pegmatite Field.

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[1] *Pegmatites are a coarse grained and fractionated granitic rock. Pegmatites are the host of spodumene (lithium) mineralisation in both the Gascoyne region and elsewhere in the world. However, pegmatites have a wide-ranging mineralogy, and the presence of pegmatites does NOT confirm the presence of spodumene. Only laboratory and/or specialist mineralogy tests can confirm lithium spodumene mineralisation associated with pegmatites.*

The newly completed soil sampling program infilled the Company's current Lithium-in-soil anomalies to 100m x 100m spacing and has provided higher definition data on potential drill targets. Rock chip samples have been collected from the outcropping pegmatites. Combined, this sampling program aims to delineate fertile pegmatites and generate drill ready LCT pegmatite targets.

The on-ground team are continuing to systematically map and sample the **>30,000m strike length of pegmatites at the Southern Pegmatite Field**.

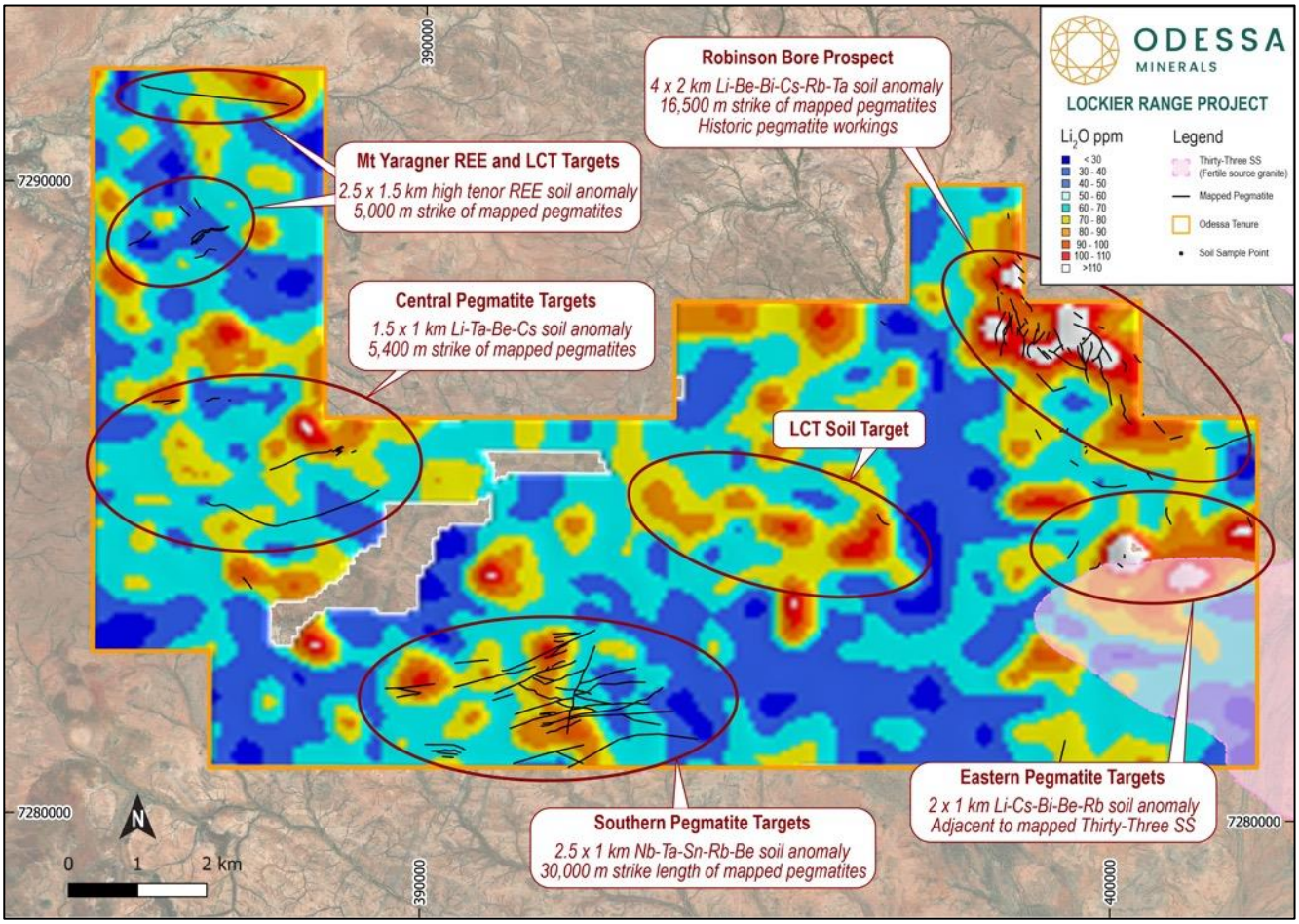

Figure 1: Principal pegmatite target areas within the Lockier Range Project showing the extent of mapped pegmatites underlain by gridded soil results coded by Li_2O ppm (refer company announcements dated 14 July 2023 & 21st August 2023).

Figure 2: Central Pegmatite Field in the foreground.

Figure 3: 35m-wide pegmatite trending southwest within the Central Pegmatite Field.

Figure 4: Coarse Grained pegmatite from Central Pegmatite Field at Lockier Range.

Figure 5: Coarse Grained pegmatite from Central Pegmatite Field at Lockier Range.

Work Program Timeline

The Company anticipates that the Lockier Range on-ground work will be completed by the end of September, depending on weather conditions, and therefore expects to receive assay lab results in batches from October.

Subject to assay results, the Company anticipates that the next steps will be the targeting and identifying drilling locations, obtaining approvals to drill, and then drilling the targets as soon as possible.

Lockier Range Project Location

Odessa's **Lockier Range Lithium** and **Rare Earth Element** ("REE") Project covers a **large area** of 125km^2 within its substantial **Gascoyne** tenement package of +3,000 km^2; and is ideally located:

- Adjoining Minerals 260's "Aston" Lithium project with extensive anomalies
- ~8.5km southwest of Delta Lithium's "Jameson" lithium pegmatite discovery
- ~15km west of Reach Resources' "Morrissey Hill" lithium pegmatite discovery
- ~25km west of Delta Lithium's "Yinnetharra" lithium pegmatite discovery
- ~40km west of Voltaic Strategic Resources' pegmatite discovery
- ~60-70km south of Hastings Technologies' and Dreadnought Resources' rare earth projects

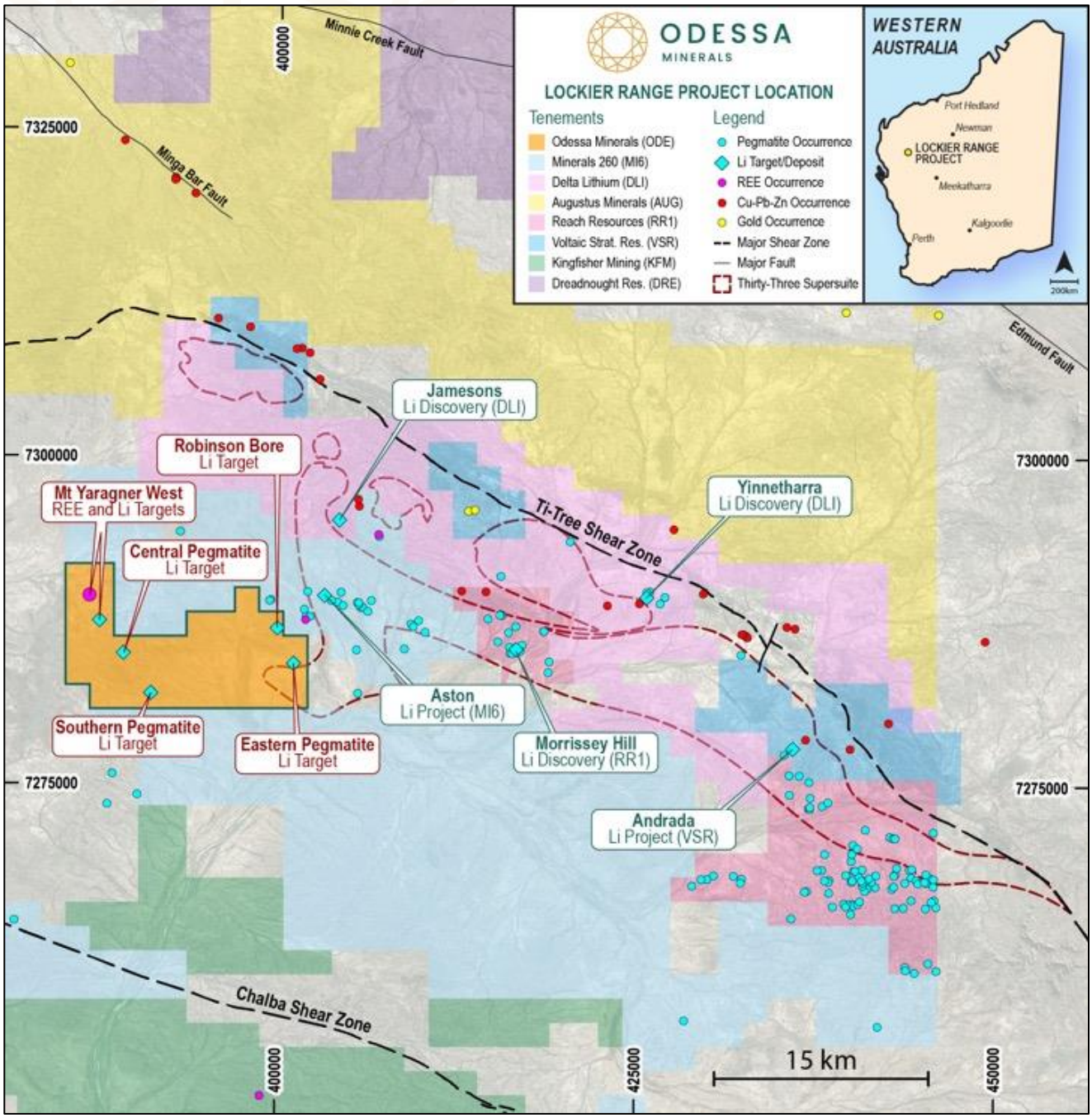

Figure 6: Lockier Range Project, proximal to the emergent Gascoyne lithium pegmatite province.

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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.

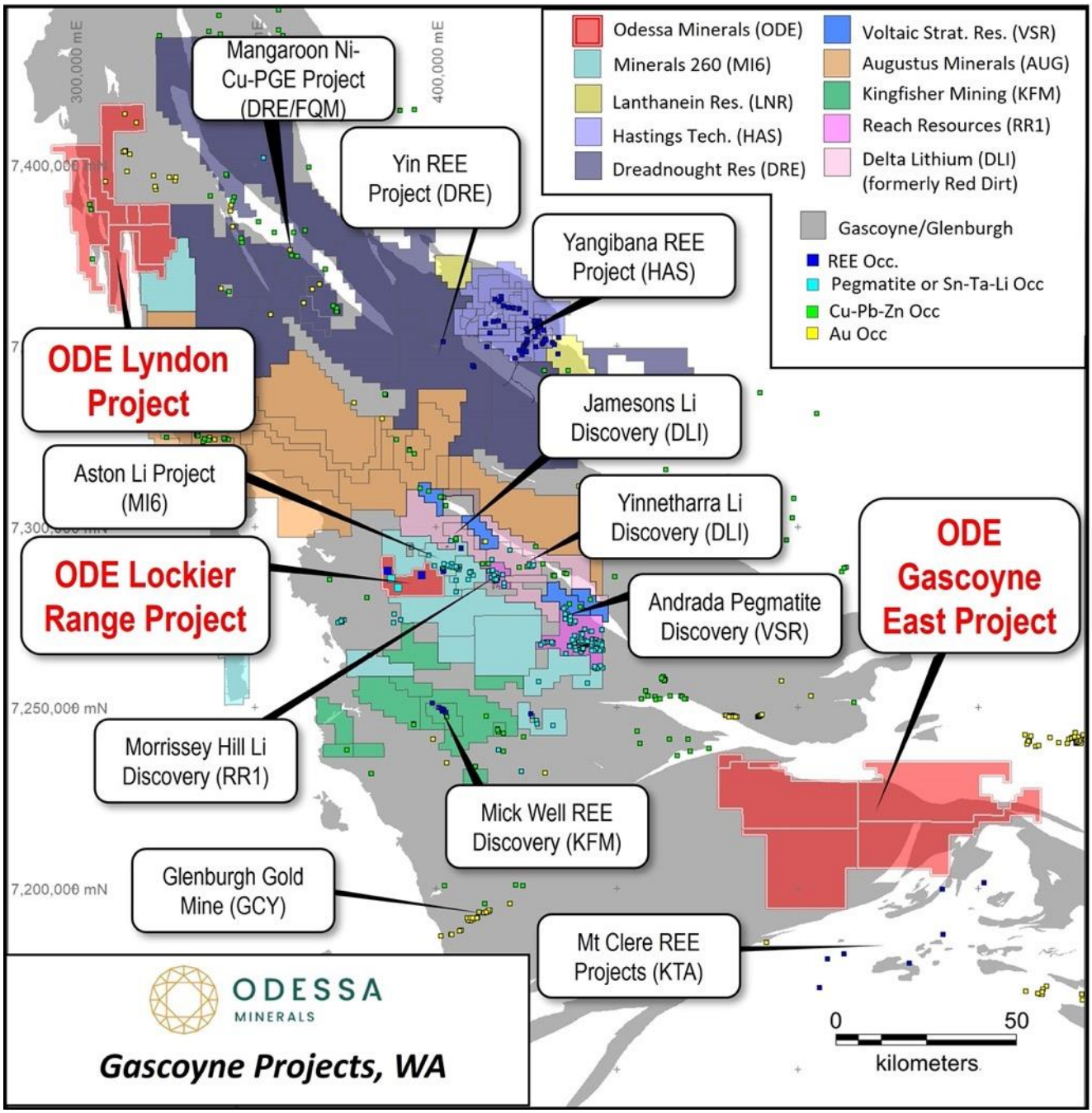

Figure 7: Odessa Minerals regional Gascoyne Project location map overlain with Geological Survey WA Minedex Occurrences.

ENQUIRIES

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Competent Persons Statement

Information in this report relating to exploration information is based on 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 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.

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*	• Not applicable: No drilling reported in this release.

Criteria	JORC Code explanation	Commentary
	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.*	
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*	• 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.

Criteria	JORC Code explanation	Commentary
	verification, data storage (physical and electronic) protocols. • *Discuss any adjustment to assay data.*	
Location of	• *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.

Criteria	JORC Code explanation	Commentary
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. Gascoyne East • E52/4182, 4183, 4184, 4186, 4187, 4198 are under the name of Odessa Lyndon Pty Ltd, a 100% owned subsidiary of Odessa Minerals. Odessa holds 85% interest in the projects. • 15% interest in the projects is held by Odette One Pty Ltd, a private company. Odette One Pty Ltd is free carried until decision to mine, and if it elects not to contribute at decision to mine stage, it dilutes to an uncapped 1.5% Net Return Royalty.
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. Gascoyne East There is minimal previous exploration work on the Gascoyne East Project area.

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. Gascoyne East The project area is 90% covered by alluvial sediments/transported cover. The interpreted bedrock geology consists of Gascoyne and Glenburgh terrane metamorphosed intrusions and meta-sediments. The Edmund Basin sediments on-lap on the northern part of the project area. The area is considered prospective for REE carbonatite, base-metal deposits, lithium pegmatites and graphite associated with the basal sequences of the Edmund Basin sediments.

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 sampling or 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 sampling or drilling reported in this release
Relationship between	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle*	• Not applicable: No new sampling or drilling reported in this release

Criteria	JORC Code explanation	Commentary
Mineralisation n widths and intercept lengths	*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').*	
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.*	• Not applicable: No new sampling or drilling reported in 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. 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.*	• As per the body of the release, the Company is instigating surface sampling and reconnaissance mapping at Lockier Range and shallow Aircore drilling at Gascoyne East. • Geophysical surveys are planned across the Gascoyne East Project.