ASX Announcement

24 January 2024

ODESSA MINERALS

QUARTERLY REPORT – ACTIVITIES
For Quarter Ended 31 December 2023

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HIGHLIGHTS:

Highly anomalous lithium identified at Robinson Bore – Yinnethara Lockier Range Project

- First assay results confirm fertility of Robinson Bore pegmatites to host lithium-bearing minerals
- >16,500m of pegmatites mapped at Robinson Bore, taking overall mapped pegmatites at Lockier Range tenement to over 56km
- Highly-elevated key lithium-pegmatite pathfinders including:
  - >2000ppm Rb in four pegmatites
  - 672ppmCs
  - 212ppmTa
  - 2970ppmBe

Standout Lithium Pegmatite Drill Targets Identified

- Assay results (Rock chip and soils) define standout DRILLING TARGETS for Lithium in Pegmatites
- Soil sampling defines coherent anomalous lithium-pegmatite trends:
  - 248 soil samples return Li_2O > 100 ppm
  - 4km x 2km northwest-trending Li-Cs-Ta-Be-Rb-Bi anomaly at Robinson Bore coincident to the 16,500m of sub-cropping fractionated pegmatites
  - 2.7km x 2km coherent Li-Cs-Ta-Be anomaly at the Eastern Pegmatite Field adjacent to the fertile Thirty Three Supersuite granite
- Pegmatite Rock chip samples at Mt Yaragner show a westward fractionation trend with K/Rb ratios within feldspars <30

Mt Yarragner Ironstones shown as outstanding REE targets

- Soil sampling defines coherent anomalous Rare Earth Element (REE) trends at the Lockier Range Project, Upper Gascoyne Region of Western Australia:
  - 5 x 2km overall highly anomalous area at Mt Yaranger (>300ppm La+Ce+Y in soils)
  - 2 to 4km strike length individual trends (>700ppm La+Ce+Y)

Gascoyne East Project - Airborne Survey underway

- 2,100 sq km airborne magnetic and radiometric survey commenced
- Due to be completed early February 2024

Odessa Minerals Limited (**ASX: ODE**) ("**Odessa**" or the "**Company**") is pleased to report on its activities for the quarter ending 31 December 2023 (the "Quarter").

Odessa's Executive Director, David Lenigas, commented:

"Odessa is well funded to kick off 2024, with cash at bank at the beginning of this year standing at $3.2 millions. The quarter saw significant on-ground exploration and interpretation at our Yinnetharra Lockier Range Project which helped to define exceptional drill targets for both lithium and REEs. In addition, a massive airborne magnetic and radio magnetic survey covering more than 2,000 square kilometres has commenced at our Gascoyne East Project, where we are hopeful of identifying new multi-metal targets under the cover there. 2023 was the year for acquisition in the Gascoyne, obtaining access permits, heritage agreements and extensive surface exploration. 2024 will be the year for drilling in the Gascoyne for Odessa."

Odessa has focused on exploration in the Gascoyne Region of Western Australia in Q4 2023. The tenement package in the Gascoyne now exceeds 3,000 km^2.

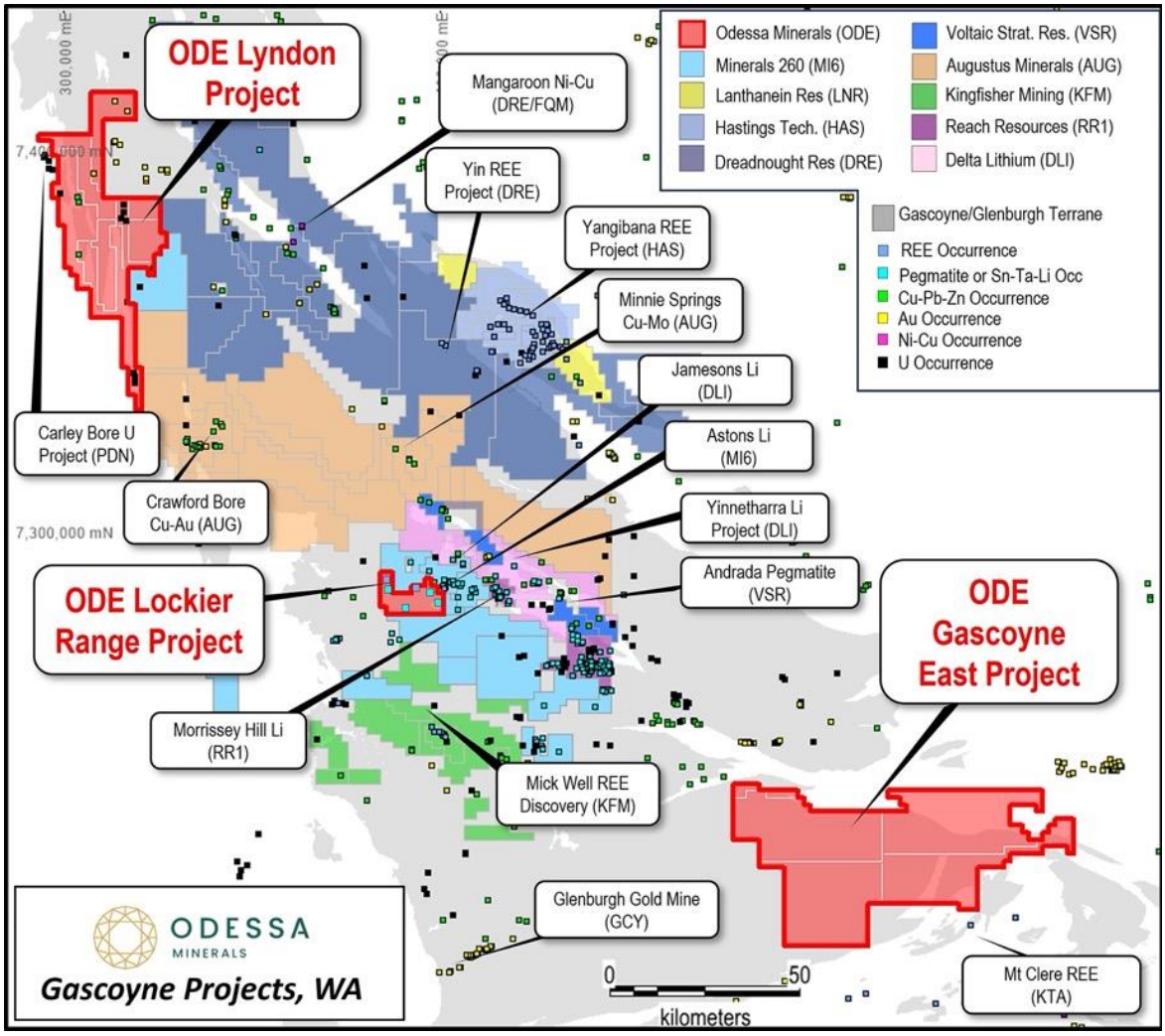

Figure 1: Odessa Minerals regional Gascoyne Project location map overlain with Geological Survey WA Minedex Occurrences.

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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

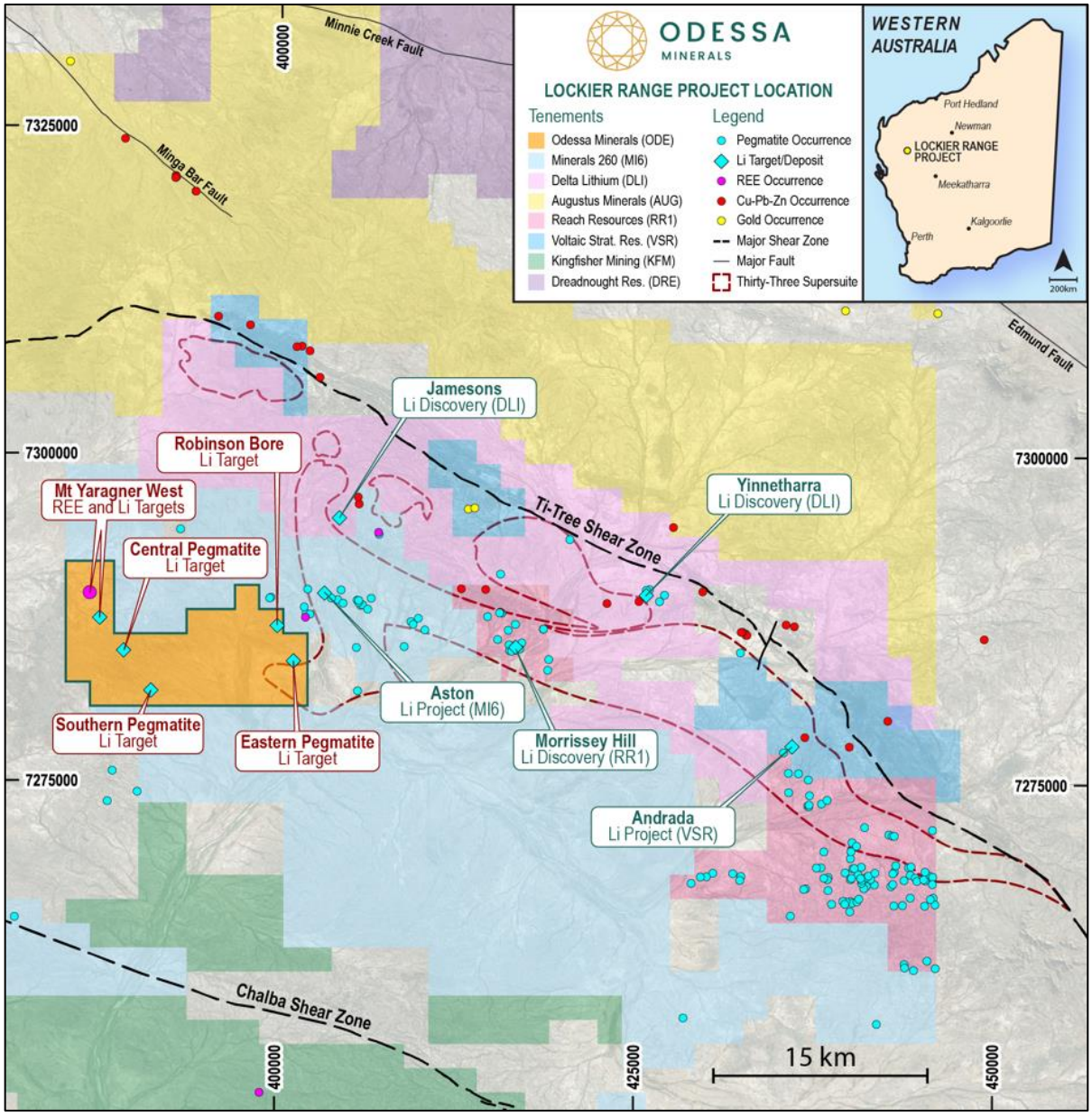

Figure 2: Lockier Range Project, proximal to the emergent Gascoyne lithium pegmatite province.

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Robinson Bore Lithium Pegmatite Targets

The Robinson Bore pegmatite field is one of four mapped pegmatite fields at the Lockier Range Project, located proximal to Delta Lithium's Yinnetharra lithium discovery. Robinson Bore contains >16,500 metres of mapped pegmatites (Figure 3). Recent rock sampling results from pegmatites have demonstrated their fertility to host lithium-bearing minerals. Previous soil sampling results have shown extensive lithium anomalies over 4 x 2km.

Recent rock chip sampling aimed to identify highly fractionated and fertile pegmatites within the Robinson Bore pegmatite field through feldspar and mica multi-element analysis, as well as whole-rock pegmatite analysis. The Company has successfully identified a 2.5km-long northwest-trending corridor of fractionated pegmatites coincident with a lithium-in-soil anomaly. Peak Li_2O in rock was 1097 ppm. A further 10 samples returned anomalous Li_2O values above 500pm, with coincident elevated pathfinders of Cs-Ta-Be.

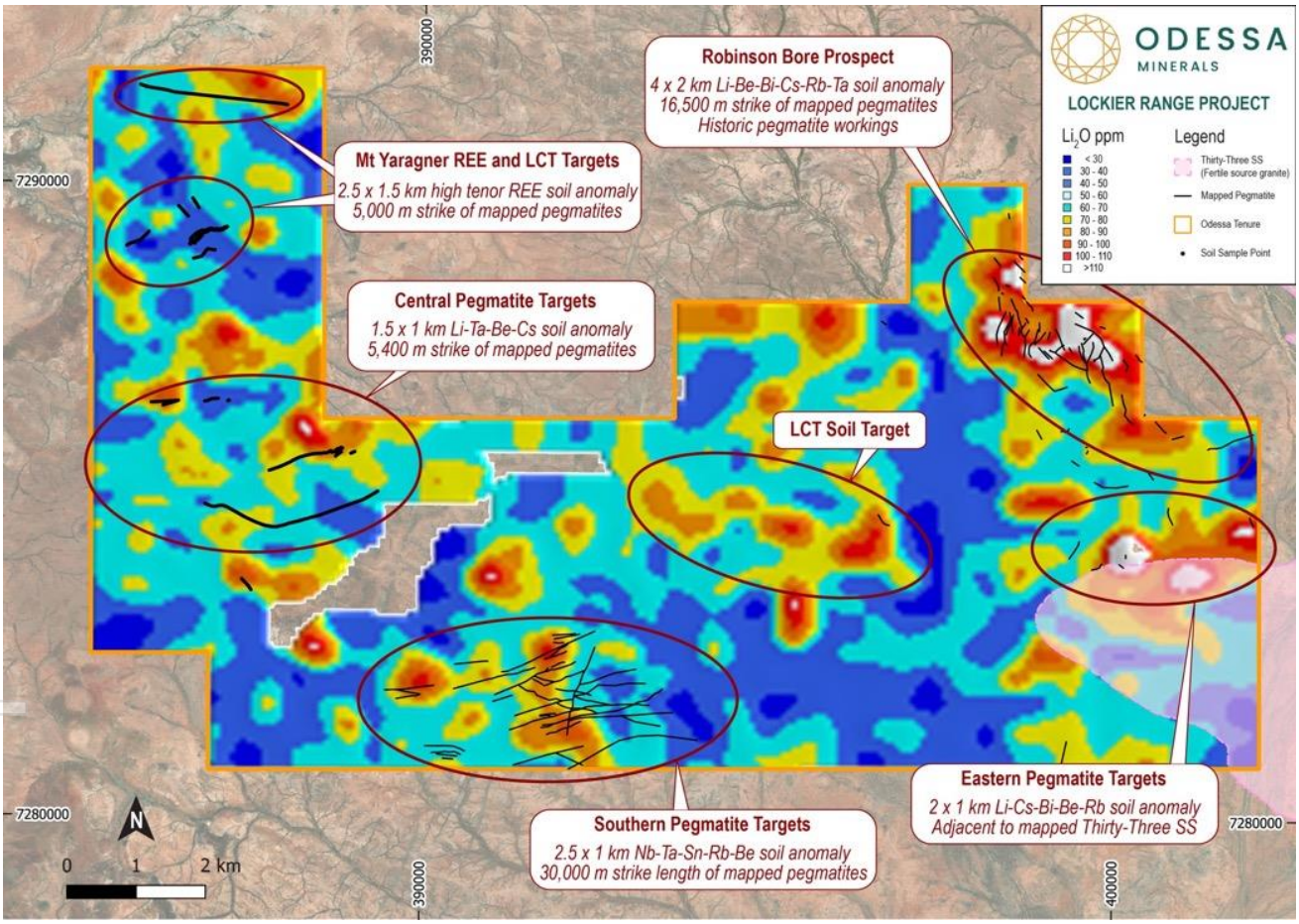

Figure 3: Principal pegmatite target areas within the Lockier Range Project showing the extent of mapped pegmatites underlain by gridded soil results coded by Li_2O ppm (refer company announcements dated 14 July 2023 & 21st August 2023).

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The Company has successfully identified a coherent 4km x 2km northwest-trending Li-Cs-Ta-Be-Rb-Bi in-soil anomaly at Robinson Bore, coincident with the recently announced 2.5km-long northwest-trending corridor of fractionated pegmatites. A total of 140 soil samples returned Li_2O results above 100ppm at Robinson Bore, mirroring the trend of sub-cropping mapped pegmatites.

The majority of pegmatites at Robinson Bore occur in sub-crop, with vast areas concealed by cover material. The in-soil anomalies have generated additional targets where potential blind pegmatites are present, notably along the fractionation trend.

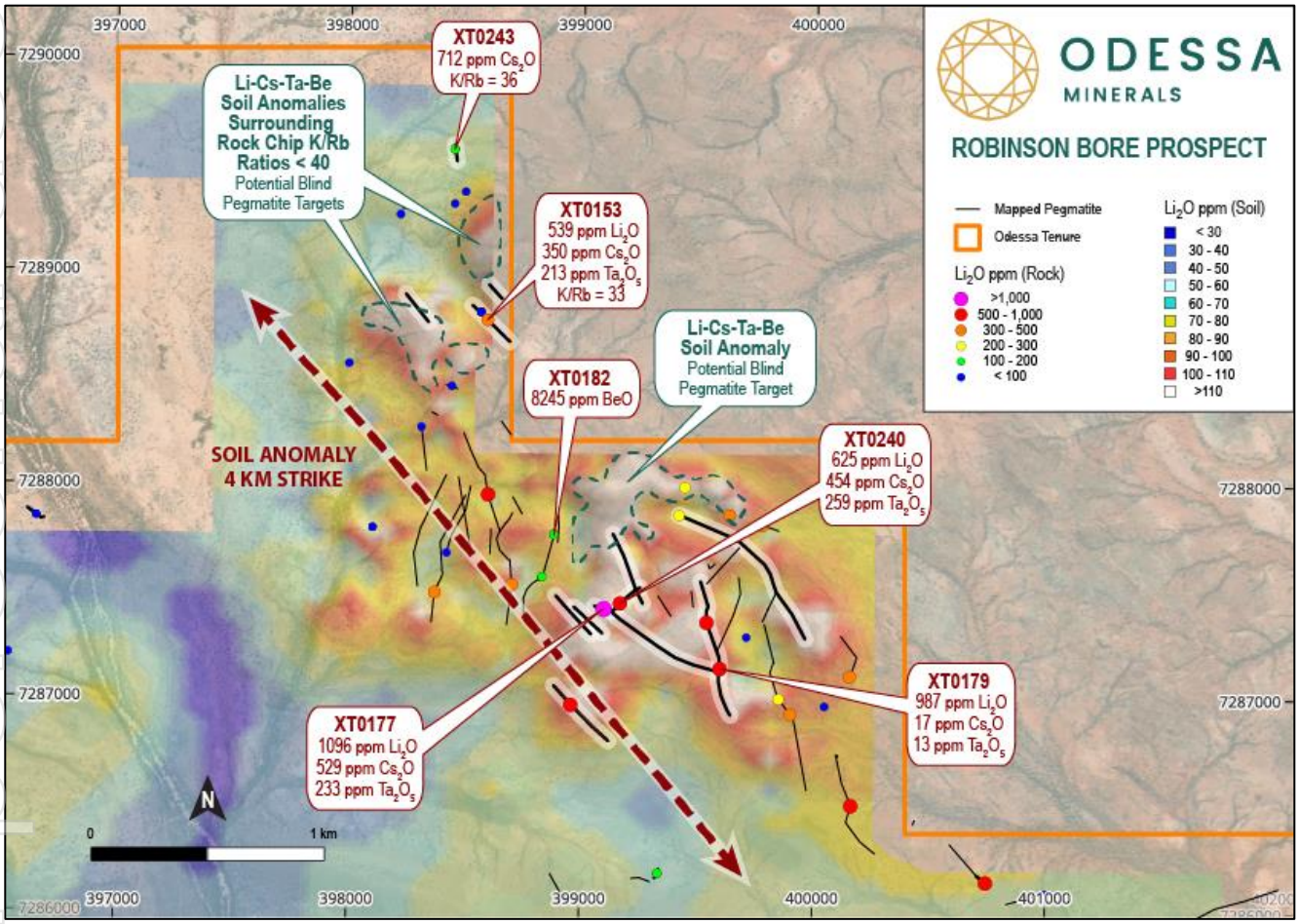

Figure 4: All rock chip samples across the Robinson Bore Prospect coded by Li_2O ppm underlain by gridded soil results coded by Li_2O ppm. Pegmatite targets and anomalous pathfinders highlighted.

Eastern Pegmatite Field

The Eastern Pegmatite Field is located directly adjacent to the fertile Thirty-Three Supersuite granite that is thought to be the source of lithium-bearing pegmatites at Delta Lithium's Yinnetharra Project. Soil Sample results at the Eastern pegmatite Field have returned a coherent 2.7km x 2km Li-Cs-Ta-Be anomaly, with 61 soil samples above 100ppm Li_2O (Figure 5). No outcropping pegmatites were found, with the in-soil anomaly generating targets for potential blind pegmatites.

A significant northwest trend in Sn-W-Bi pegmatite pathfinders extends from the mapped margin of the fertile Thirty-Three Supersuite granite from the Eastern Pegmatite Field soil anomaly through to the sub-cropping Robinson Bore Pegmatite Field.

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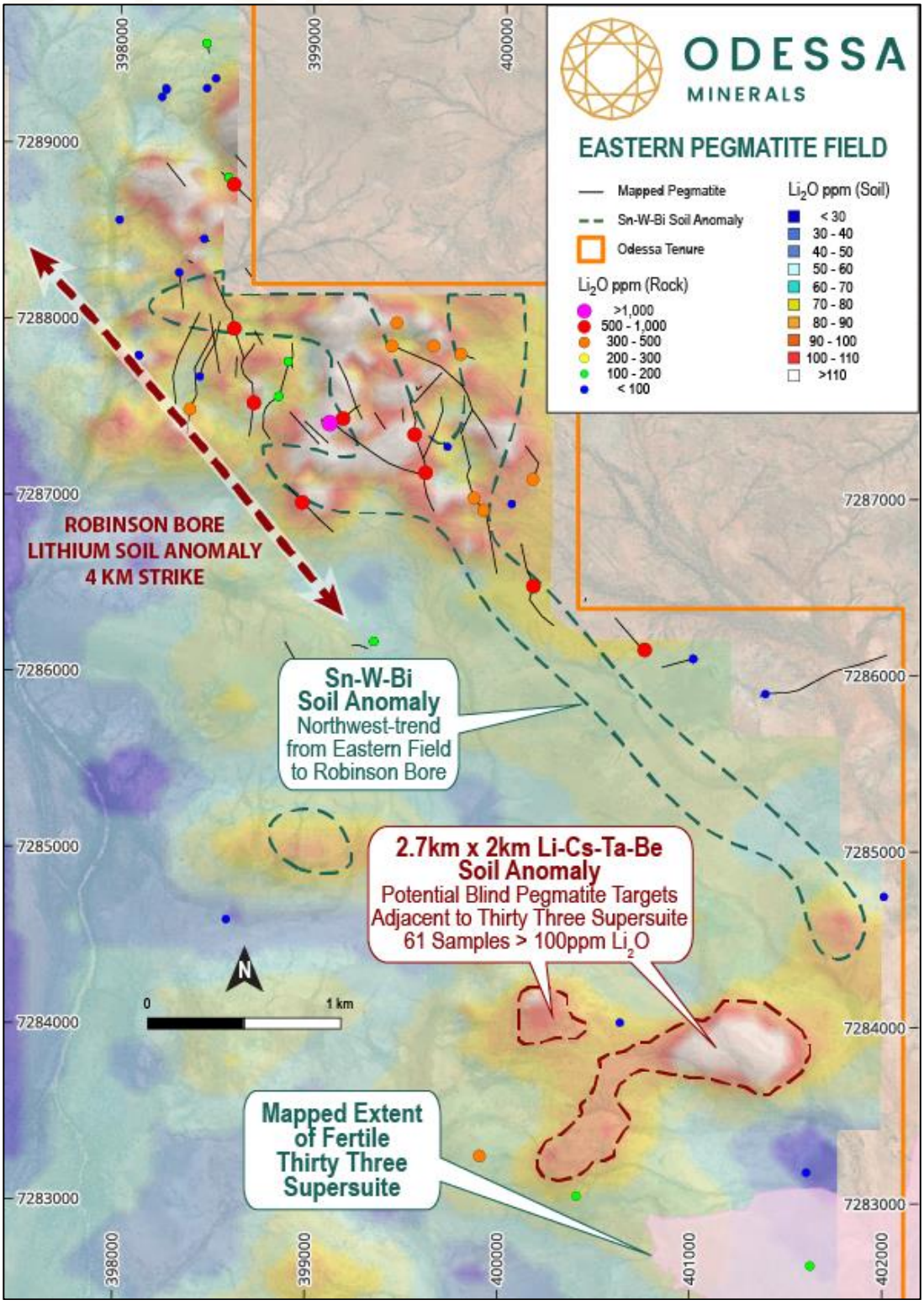

Figure 5: Rock chip samples across the Robinson Bore and Eastern Pegmatite Prospects coded by Li_2O ppm underlain by gridded soil results coded by Li_2O ppm. Pegmatite targets, anomalous pathfinders and the mapped extent of the fertile Thirty-Three Supersuite highlighted.

Mt Yaragner Pegmatite Field

Mt Yaragner is host to some of the most fractionated pegmatites within the Project. Feldspar rock chip samples returned K/Rb ratios as low as 28.5, with coincident highly anomalous Cs (336.5ppm) and Rb (2488ppm) in rock chip sample XT0295.

A westward fractionation trend has been identified through decreasing K/Rb ratios along the strike of the pegmatite, with the most fractionated sample obtained from the westernmost extent of the pegmatite before disappearing under cover (Figure 6). Fractionation of pegmatites is a key indicator for Li-Cs-Ta fertility.

A total of 44 soil samples returned Li_2O results above 100ppm across the Mt Yaragner region, with the highest result of 248ppm Li_2O proximal to the highly fractionated pegmatites.

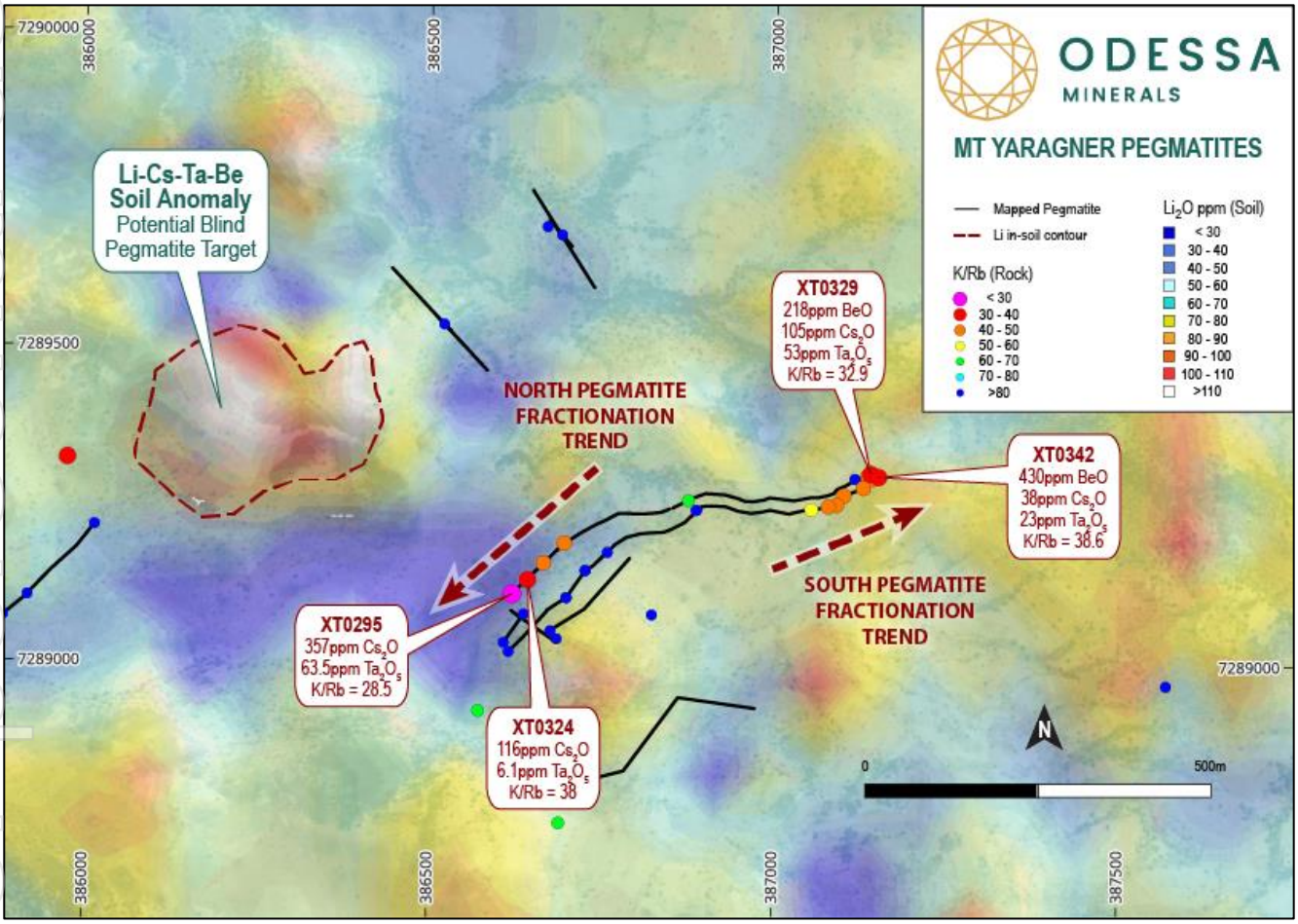

Figure 6: Rock chip samples across the Mt Yaragner Prospect coded by K/Rb ratios underlain by gridded soil results coded by Li_2O ppm. Pegmatite targets, anomalous pathfinders and fractionation trends of pegmatites highlighted.

Central Pegmatite Field

The Central Pegmatite Field was first identified during recent 2023 fieldwork, with 5,400m strike length of pegmatites being mapped to date, and five rock chips returning results above 500ppm Li_2O.

Recent soil sample results have returned a coherent 1.0km x 0.5km Li-Ta-Be-Sn-W anomaly adjacent to the mapped pegmatites, generating targets for potential blind pegmatites to the north of the outcropping and sampled pegmatites (Figure 7).

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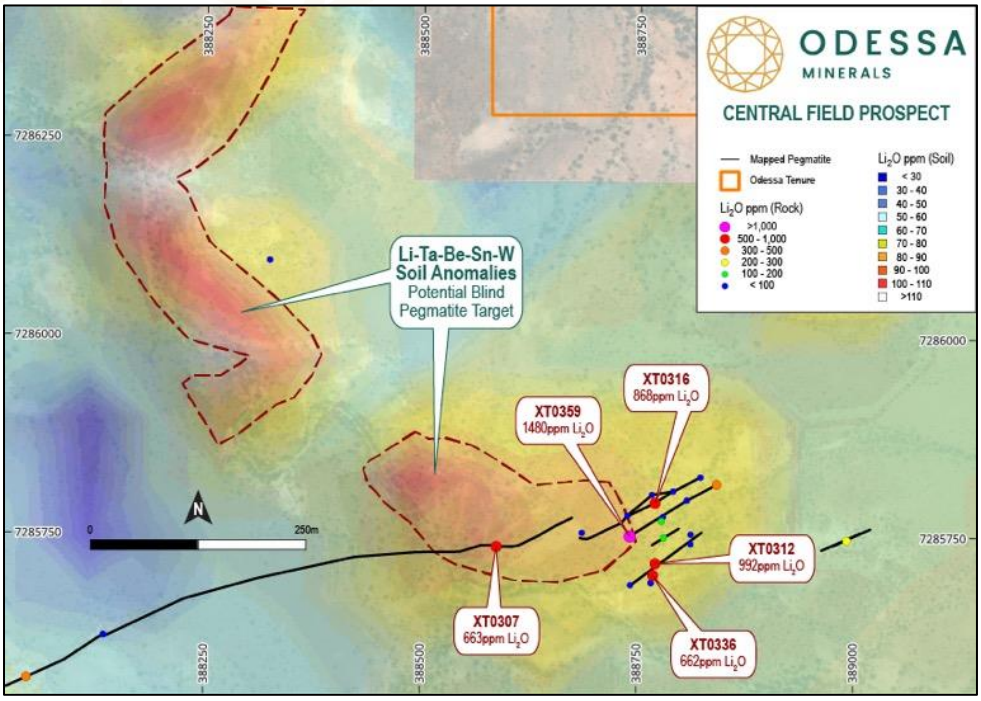

Figure 7: Rock chip samples across the Central Pegmatite Field Prospect coded by Li_2O ppm underlain by gridded soil results coded by Li_2O ppm. Pegmatite targets and anomalous in-soil pathfinders are highlighted.

Southern Pegmatite Field

Rock chip sampling was conducted across the >30,000m strike-length of pegmatites located throughout the previously announced 2.5km x 1km Nb-Ta-Sn-Rb-Be in-soil anomaly at the Southern Pegmatite Field (refer to ASX release dated 14th July 2023). The Southern Pegmatite Field returned the highest Li-in-rock results, with four returning values >1000ppm Li_2O and a peak result of 1911ppm Li_2O in rock chip XT0527 (Figure 8).

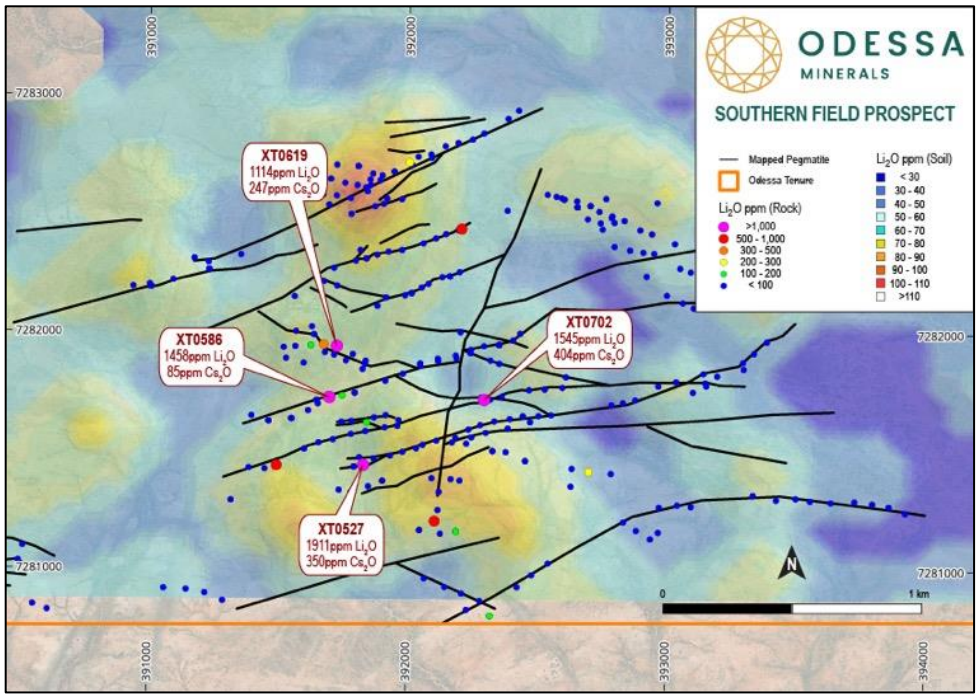

Figure 8: Rock chip samples across the Southern Pegmatite Field Prospect coded by Li_2O ppm underlain by gridded soil results coded by Li_2O ppm. Key rock chips highlighted.

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Lockier Range Rare Earth Element Targeting

In addition to the announced highly anomalous lithium results reported Odessa provided an update on targeting of rare earth elements (REE) at the Lockier Range Project in the Gascoyne region of Western Australia.

Further to the Robinson Bore rock chip results announced to the market on 16th October 2023, all rock chip and soil samples across the Yinnetharra Lockier Range Project have been received, with analysis of REE results now completed (Figure 9).

Of particular interest is the Mt Yaragner area where soil sampling has now defined an extensive area of >5km by 2km of highly anomalous REE in soils. Individual anomalies strike NW-SE and form elongate dyke like zones. The soil anomalies are coincident with highly weathered iron rich rocks, and strong thorium anomalies (from airborne radiometric surveys). This work has now defined drill targets for preliminary reconnaissance drilling scheduled for Q1-2 of 2024. In addition, the Southern Pegmatite field returned highly anomalous REE in rock sample results, which are derived from REE rich pegmatite rocks.

Figure 9: PHOTOGRAPH OF IRONSTONES RARE EARTH TARGET AT MT YARAGNER at sample location XR0258, 1379ppm TREO

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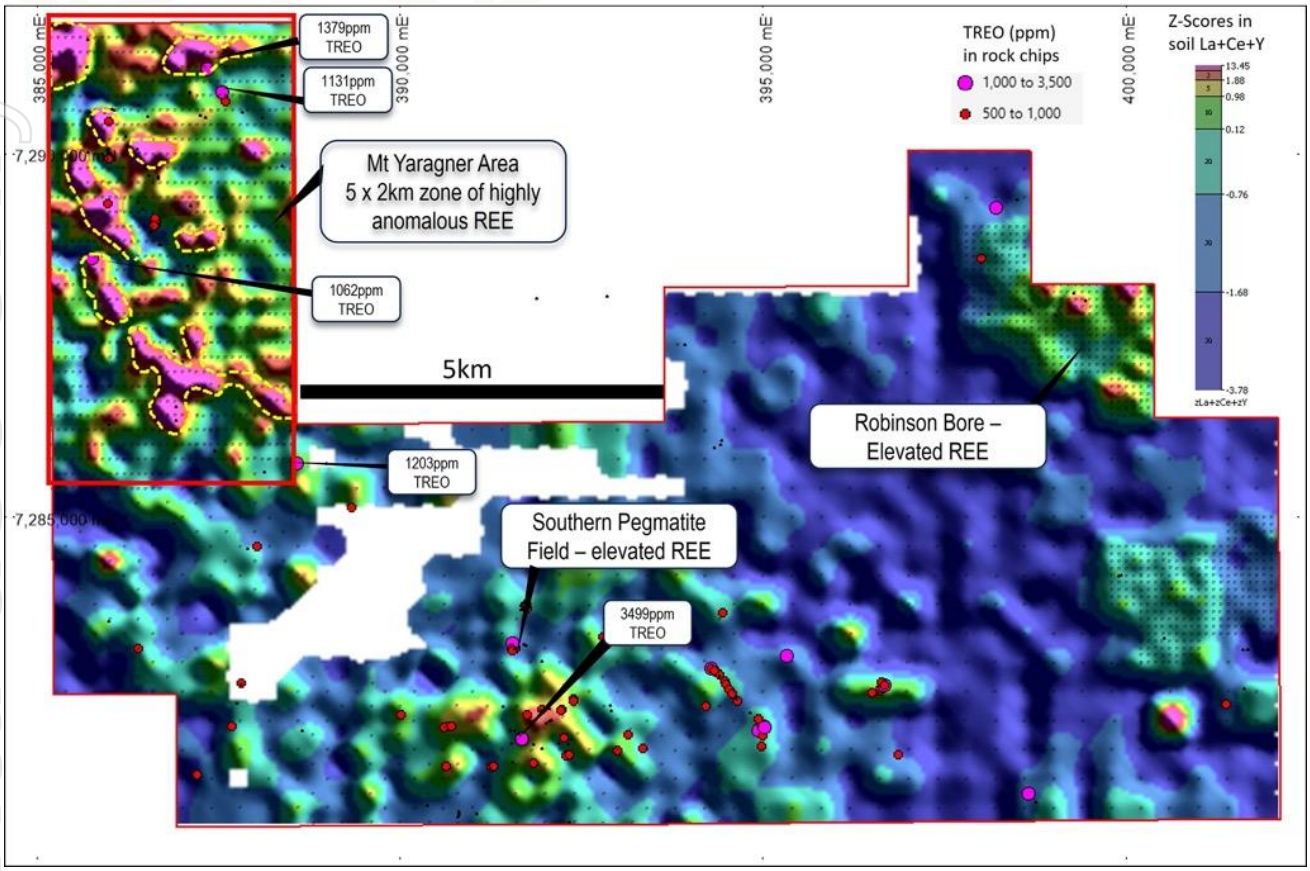

Figure 10: Rare Earth Elements in soils (Lanthanum+Cerium+Yttrium) with selected rock chips >500ppm TREO for Lockier Range Project

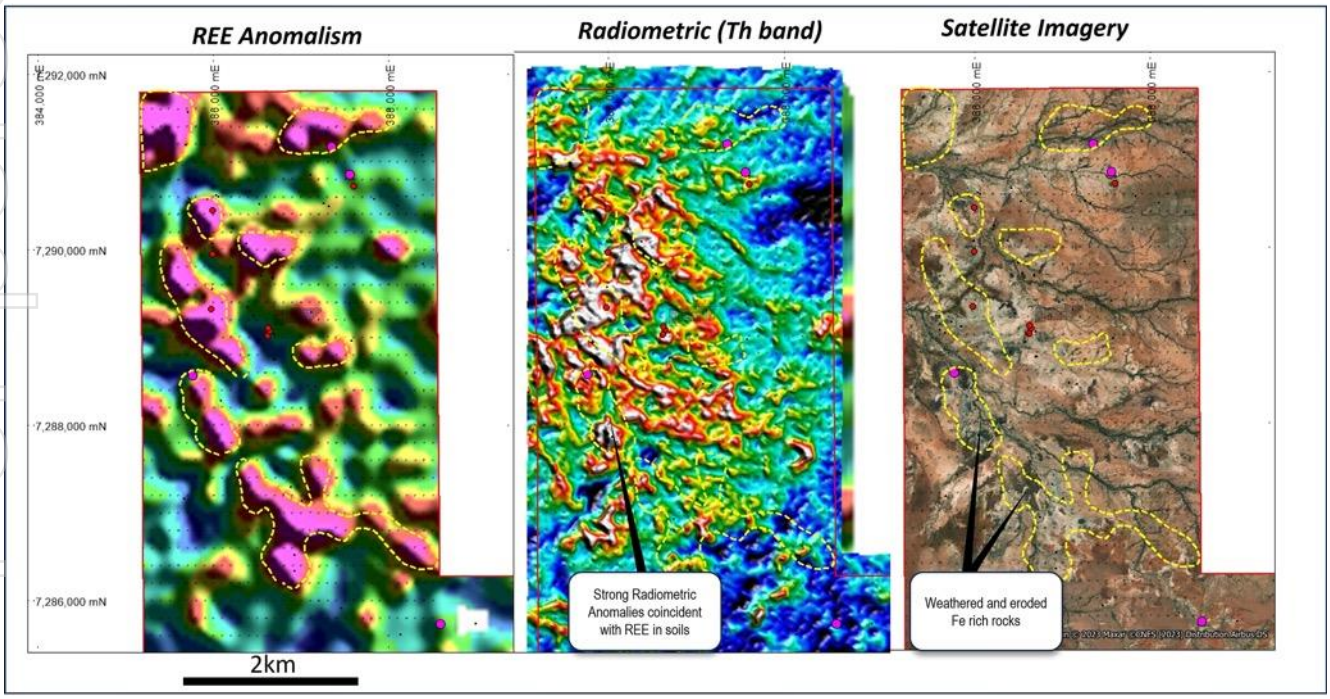

Figure 11: Mt Yaragner Area – comparison of REE in soils with Thorium Radiometrics and Satellite Imagery

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About Gascoyne Region REE Carbonatites

The Gascoyne Complex is hosted to several rare earth element carbonatite discoveries. These include the Yangibana Deposits held by Hastings Technology Metals (29.9Mt @ 0.93% TREO) and Yin Deposits held by Dreadnought Resources Ltd (20.06Mt @ 1.03% TREO), along with Kingfisher Resources Mick Well discovery. In the case of the Yangibana and Yin deposits, ironstone carbonatites intrude the Durlacher Supersuite granitoids. At Mt Yaragner (ODE), targets are also located within Durlacher Supersuite granitoids. Carbonatites are a carbonate rich intrusive rock sourced deep in the crust and rapidly emplaced into the shallow crust. Carbonatites are a major source of hardrock rare earth element deposits around the world and are noted for their strong radiometric (geophysical) signatures, particularly in thorium.

In the Gascoyne region at both Yin and Yangibana, the REE carbonatites present as surface enriched ironstone dykes. At Lockier Range, and particularly Mt Yaragner, surface rocks are deeply weathered iron rich gravels and surficial deposits, which are potentially formed from erosion and mechanical weathering ironstone carbonatite dykes. Mt Yaragner presents as an ironstone carbonatite targets due to:

1. Strongly anomalous REE in soil samples
2. Iron rich zones of weathered and erosional sediments
3. Strong thorium radiometric signature
4. Mapped regional Durlacher Supershuite granitoids (same as Yangibana and Yin).

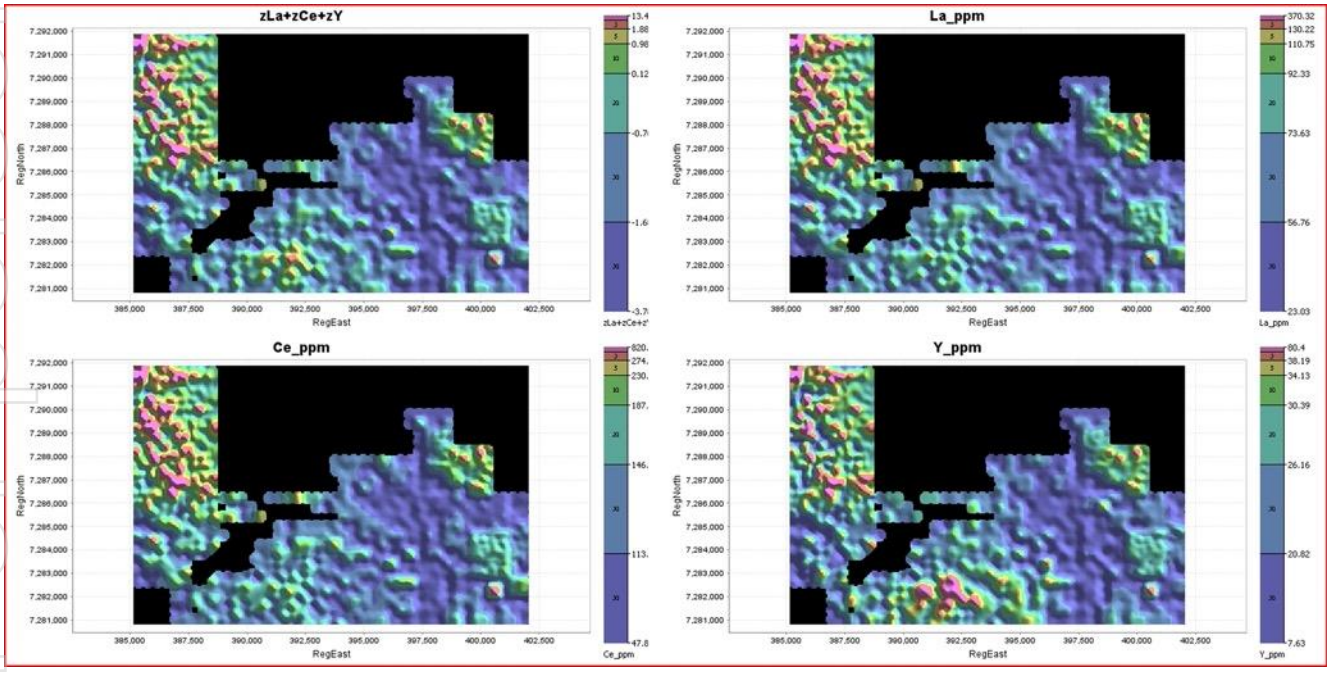

Figure 12: Lockier Range Project – Soil anomalism for Cerium, Lanthanum and Yttrium

Lyndon Lithium/REE Project

Exploration at Lyndon will commence in earnest this coming January 2024 – March 2024 Quarter.

Gascoyne East Project – Airbourne Survey Underway

The Company has engaged MAGSPEC Airborne Surveys Pty Ltd (MAGSPEC) to conduct an airborne magnetic and radiometric survey over the Company's +2,100 square kilometre tenement package at its Gascoyne East Project in the Gascoyne region of Western Australia.

The program will see a total of 24,846 line-kilometres flown at 100m spaced lines and nominal flight height of 40m. The flying program was delayed due to aircraft maintenance requirements in late December, however the program is now over 90% completed at the time of this report and it is estimated to be finished in early February. The data will then be sent for processing and interpretation.

The Gascoyne East Project consists of 2,108km^2 of exploration licences and covers the southern margin of the Edmund Basin and metamorphic core of the Proterozoic Capricorn Orogen. The Project encompasses the confluence of major, metal-endowed trans-lithospheric structural corridors (including the Ti-Tree, Errabiddy, Chalba, Cardilya, Mt Clere and Hibernian South Fault/Shear zones). The Project is also transected by a recently recognised deep crustal stability edge that is a loci for mantle-derived fluid upwelling and heat-driven hydrothermal processes. These tectonic edges are associated with 85% of large-scale sediment-hosted base metal deposits globally and is strongly correlated with porphyry, IOCG and Pb-Zn deposits.

The Project encompasses the Gascoyne-Glenburgh Terranes and Yarlarweelor Complex, which have undergone significant deformation during the Ophthalmian, Glenburgh and Capricorn Orogenies. Critically, the basement pre-dates known lithium pegmatite and rare earth events, such as the Mutherbukin event (carbonatites) and Edmundian Orogeny (Yinnetharra LCT pegmatites). The trans-lithospheric structures that converge at the Project (Ti-Tree, Errabiddy, Chalba, Mt Clere) are long-lived crustal sutures binding accreted Paleoproterozoic terranes to the Archaean Yilgarn Craton, offering favourable fluid conduits spanning multiple, overprinting metal-endowed events.

As such, the Project offers a unique geological setting of multiple metal-rich structural events converging at the location. Successful exploration has been conducted across the broader region, yet the Gascoyne East Project has remained unexplored due to 90% of the tenure being concealed by transported cover.

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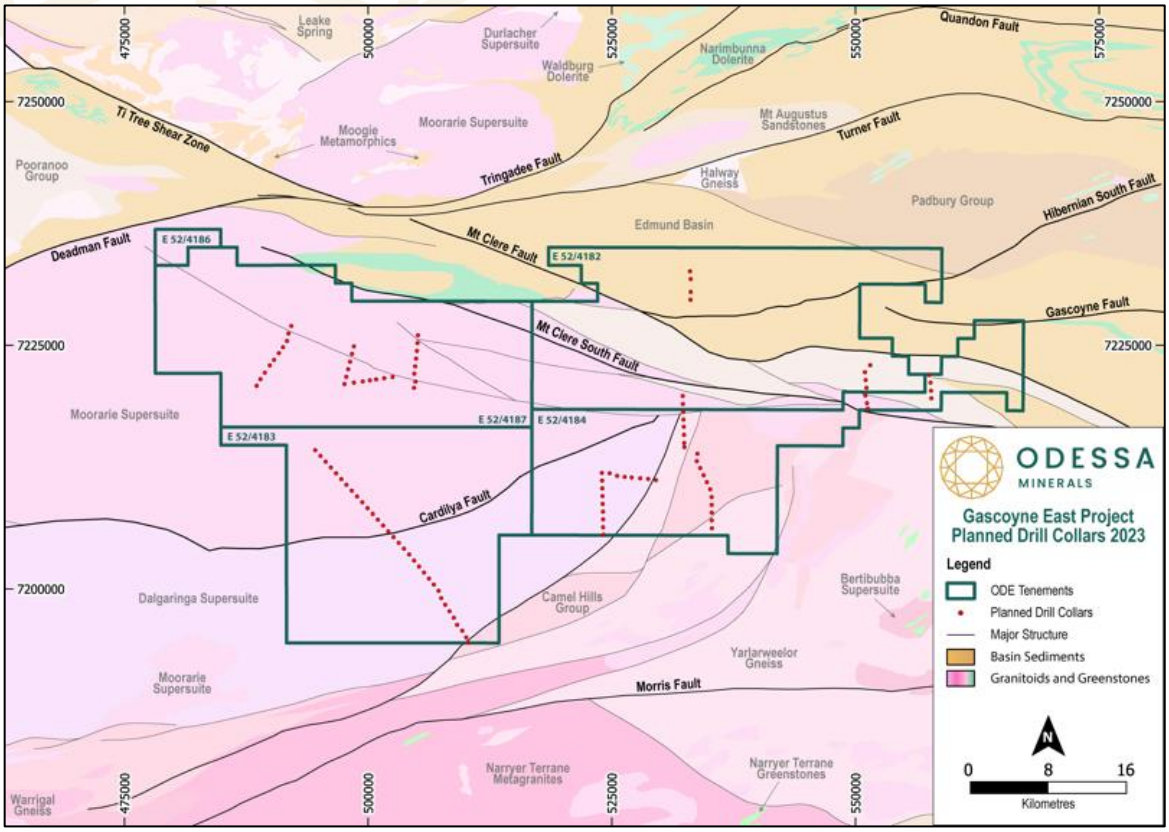

Figure 13: Gascoyne East Project planned drilling underlain with 1:500k GSWA bedrock geology and major structures.

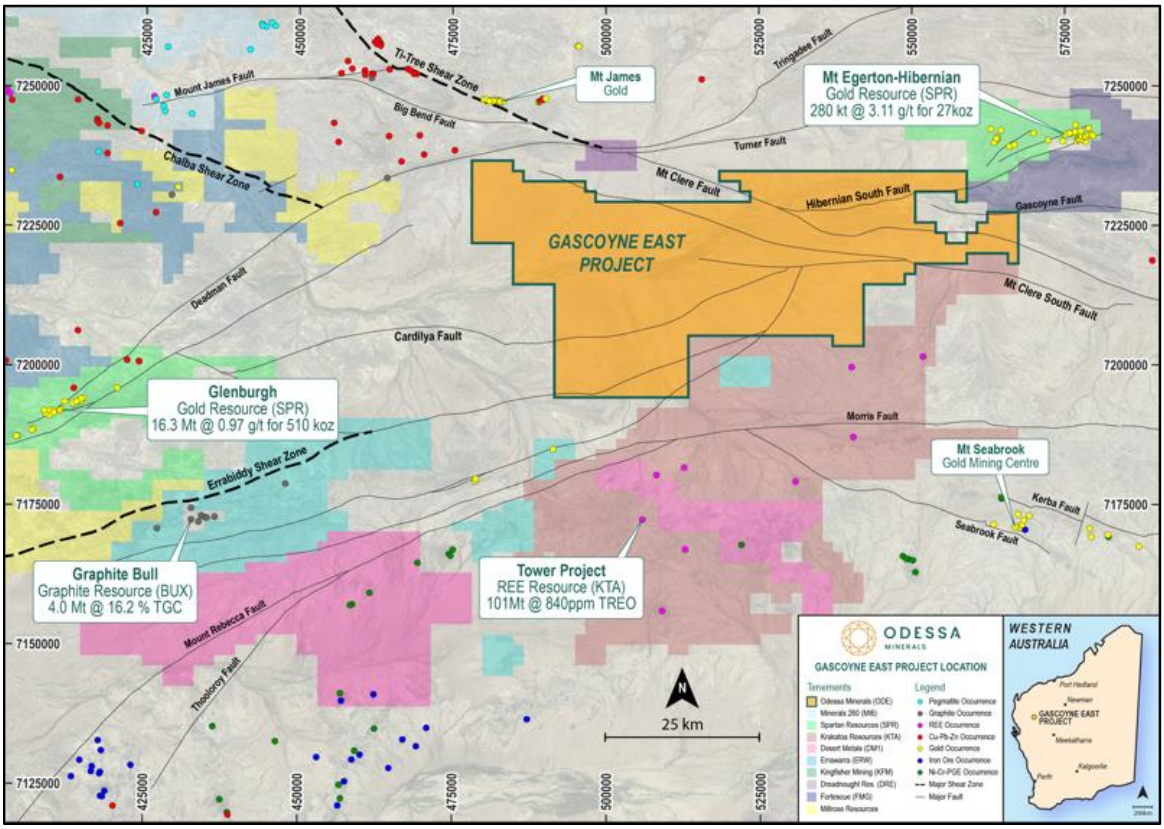

Figure 14: Gascoyne East Project within a regional context compared to other known mineral occurrences.

Kimberley Diamond Assets

No on ground activity this quarter.

CORPORATE

Use of Funds

Pursuant to ASX listing rule 4.7C.2, the Company provides the following comparison of budgeted expenditures per the Company's prospectus dated 18 November 2021 against actuals to date.

	Prospectus Use of Funds $A '000	Funds Used Total to Date $A '000	Funds Used Dec 2023 Qtr $A '000
Exploration expenditure – EL80/5027 (Aries)	2,452	782	-
Exploration expenditure – EL04/2364 (Calwynyardah)	899	108	-
Acquisition assessment	813	1,885	600
General administration fees and working capital	1,276	1,797	247
Estimated expenses of the Public Offer	560	706	-

Related Party Payments

During quarter, the Company made payments of $108,000 to related parties and their associates. These payments relate to the existing remuneration agreements for the Executive and Non-Executive Directors, as well as company secretarial and accounting services provided by director related entities.

LIST OF TENEMENTS

Project	Tenement	Status	Area (Km²)	Comments
Lockier Range				
Noonie	E09/2649	Live	120	
Lyndon				
Ebra Bore Lyndon	E08/3434	Live	183	
	E09/2605	Live	207	
	E08/3364	Live	210	
Lyndon	E09/2435	Live	57	
	E08/3217	Live	141	
	E09/2787	Application	29	
	E09/2938	Application	72	
	E09/2794	Application	18	
Ellendale				
Ellendale Air	E04/2832	Application	15	

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Ellendale East	E04/2830	Application	210	
Ellendale North	E04/2834	Application	138	
Ellendale West	E04/2833	Application	45	
Gascoyne East				
Gascoyne	E52/4186	Live	18	
	E52/4187	Live	525	
	E52/4182	Live	573	
	E52/4183	Live	516	
	E52/4184	Live	426	
Aries				
Aries East	E80/5818	Application	87	
Aries Main	E80/5027	Live	90	
Aries Northwest	E80/5815	Application	339	
	E80/5816	Application	261	
	E80/5819	Application	120	
Aries West	E80/5817	Application	177	
Beyondie				
Beyondie NW	E52/4322	Application	123	Applied on 14/12/2023
Total			**4700**	

This announcement has been approved for release by the Board of Odessa Minerals.

ENQUIRIES

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Appendix 5B

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

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Name of entity	
Odessa Minerals Limited	
ABN	**Quarter ended ("current quarter")**
99 000 031 292	31 December 2023

	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	(16)	(20)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	-	-
	(e) administration and corporate costs	(247)	(399)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	11	25
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)	-	-
1.9	**Net cash from / (used in) operating activities**	**(252)**	**(394)**

2.	**Cash flows from investing activities**		
2.1	Payments to acquire:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation	(584)	(902)
	(e) investments	-	-
	(f) other non-current assets	-	-

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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**	**(584)**	**(902)**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
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	-	(6)
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**	**-**	**(6)**

4.	**Net increase / (decrease) in cash and cash equivalents for the period**		
4.1	Cash and cash equivalents at beginning of period	4,058	4,524
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(252)	(394)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(584)	(902)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	(6)

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**	**3,222**	**3,222**

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	3,222	4,058
5.2	Call deposits		
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)**	**3,222**	**4,058**

6.	Payments to related parties of the entity and their associates	Current quarter $A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	108
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

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

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7.	**Financing facilities** *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.*	**Total facility amount at quarter end $A'000**	**Amount drawn at quarter end $A'000**
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)	(252)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	(584)
8.3	Total relevant outgoings (Item 8.1 + Item 8.2)	(836)
8.4	Cash and cash equivalents at quarter end (Item 4.6)	3,222
8.5	Unused finance facilities available at quarter end (Item 7.5)	-
8.6	Total available funding (Item 8.4 + Item 8.5)	3,222
8.7	**Estimated quarters of funding available (Item 8.6 divided by Item 8.3)**	3.85

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

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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: ..... 24 January 2024.....

Authorised by: .....By the Board of the Company.....
(Name of body or officer authorising release – see note 4)

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.

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