ASX Announcement 29 April 2024



QUARTERLY REPORT – ACTIVITIES For Quarter Ended 31 March 2024

HIGHLIGHTS:

Lyndon Uranium/Lithium/REE

- New Rock chip assay results up to 6,612ppm U₃O₈ at the Baltic Bore and Jailor Bore prospects
- 12 rock chips returned assays >1,000ppm U₃O₈
- 5 rock chips returned assays >1,000ppm V₂O₅
- Uranium anomalism spans strike lengths of 2.6km at Baltic Bore and 2km at Jailor Bore
- Lyndon Project Immediately adjoins Paladin Energy's Carley Bore Uranium Project (15.6MLbs U₃O₈)

Relief Well Uranium Project (Lyndon):

- Relief Well Uranium Prospect immediately adjoins Paladin Energy's Carley Bore Uranium Project (15.6MLbs U₃O₈ announced resource)¹
- Extensive 8km long palaeochannel confirmed at Relief Well, prospective for roll-front style uranium mineralisation
- Drill planning underway for testing of roll-front uranium mineralisation at Relief Well

Gascoyne East:

- Completion of lithological and structural interpretation from geophysical datasets
- PoW approval for Phase 1 aircore drilling to assist bedrock mapping
- Geophysical interpretation has confirmed drill targets for:
 - **o** Intrusion-related porphyry and Iron Oxide Copper-Gold (IOCG) mineralisation
 - Magmatic Ni-Cu-PGE mineralisation within a distinct layered mafic intrusion
 - $\circ~$ Orogenic and intrusion-related gold mineralisation within the Dalgaringa Supersuite and Camel Hills Metamorphics.
 - \circ $\;$ Intrusion-related gold and base metal deposits within the Edmund Basin
 - Sedimentary-hosted base metal deposits in the Edmund Basin analogous to the Abra deposit
- At-surface uranium targets identified through airborne radiometric survey data

Odessa Minerals Limited (ASX: ODE) (**"Odessa"** or the **"Company"**) is pleased to report on its activities for the quarter ending 31 March 2024 (the "Quarter").

Odessa's Executive Director, David Lenigas, commented:

"It's been a very active and successful exploration period for Odessa in the Gascoyne this past quarter, having identified very significant uranium prospects emerging at Lyndon returning some exceptional grades up to 6,600 ppm U₃O₈. Our exploration priorities in the Gascoyne are now swayed towards accelerating our uranium targeting at Lyndon and readying the uranium prospects for drilling later this quarter if possible. We are also excited with what we are seeing now at Gascoyne East with the detailed interpretation of the airborne survey highlight excellent gold copper and uranium targets. Detailed planning for air-core and RC drilling is now well underway and should also start later this quarter or early next quarter."









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

Lyndon Uranium/Lithium/REE Project

Lyndon Project Overview

The Lyndon Project is located on the margin of the Carnarvon Basin and Gascoyne Complex approximately 200km south of Onslow and 200km NE of Carnarvon, in Western Australia. The project consists of over 1,000km² of exploration licenses and applications.







Figure 2: Lyndon Project prospects in relation to Minedex occurrences and the Carley Bore Project (Paladin Energy). Underlain with GSWA 1:500k bedrock geology and structures.

The Company has previously conducted detailed airborne magnetics and radiometrics over a large part of the project area. The Project encompasses multiple MINDEX occurrences and is prospective for Lithium-pegmatites, uranium, rare earth elements, intrusive Ni-Cu-PGE, orogenic gold and sedimentary-hosted Cu-Pb-Zn mineralisation (Figure 2).

The Project area covers the unconformity between the eastern margin of the Phanerozoic Carnarvon Basin overlying Precambrian basement of the Gascoyne Province. The basement consists of Proterozoic granites,



metamorphic gneisses and schists of the Gascoyne Complex. The western parts of the Project include the Palaeozoic-Mesozoic basin margin sedimentary sequences of the Southern Carnarvon Basin including the Merlinleigh Sub-Basin, marked by Devonian sedimentary carbonates; Carboniferous-Permian glaciogene sediments of the Lyons Group; and the siliciclastic sequences of the Cretaceous Winning Group that were deposited coincident with NW-SE rifting.

Lyndon Uranium Exploration

A first pass technical review was undertaken for the **uranium** potential on Lyndon, and this was reported in January 2024.

Highlights of historic data* include:

- Reported Uranium grades (WAMEX/MINEDEX) up to 3,420ppm U₃O₈
- Ten individual uranium occurrences (MINEDEX) on the Lyndon Project
- Lyndon Project immediately adjoins Paladin Energy's Carley Bore Uranium Project, within 1.3km of the 15.6MLbs U₃O₈ announced resourceⁱ
- Calcrete-hosted uranium mineralisation in carnotite (an oxide of uranium and vanadium and an important ore mineral) present at surface at the Jailor Bore, Baltic Bore and Ben Hur Prospects (See Figure 2 for location map).
- Historic surface high-grade uranium rock chip samples
- Historic drilling and pre-JORC mineral resource reported in MINEDEX at the Jailor Bore Prospect
- Extensive radiometric uranium anomalies largely untested by drilling
- Paleochannel-hosted roll-front uranium target extends from Paladin Energy's Carley Bore Project with significant VTEM anomalies at the Relief Well Prospect



Figure 3: Carnotite (uranium) mineralisation (yellow mineral) in porous sandy limestone from the Ben Hur prospect.



*Comment on using historic data

Historic assay information in this release has been compiled from data reported in Geological Survey of Western Australia's MINEDEX Database, public filing by previous explorers or publicly available mineral exploration reports (the WAMEX archive). In the case of Jailor Bore, an historic mineral resource estimate is presented in MINEDEX, but cannot be reported here as it is non-JORC compliant. Information is considered as historic by nature, and while all care has been taken to review and compile previous reports, ground testing and confirmation works were only commenced during the quarter with the first results announced subsequent to the end of quarter. This recent work is on-going yet has confirmed the presence of uranium mineralisation at surface, with previously reported drill thicknesses yet to be confirmed.

Lyndon Project Uranium Targeting

The Lyndon Project is located on the margin of the Carnarvon Basin and Gascoyne Complex approximately 200km south of Onslow and 200km NE of Carnarvon, in Western Australia. The project consists of over 1,000 square kilometres of exploration licenses and applications. The Company has previously conducted detailed airborne magnetics and radiometrics over a large part of the project area. As well as uranium occurrences, there are several known occurrences of pegmatites for lithium mineralisation targeting and the project has the potential for copper-gold, nickel-copper, and rare earth elements.

Project Geology & Previous Exploration

The Project area encompasses the unconformity between the eastern margin of the Phanerozoic Carnarvon Basin overlying Precambrian basement of the Gascoyne Province (Figure 4). The basement consists of Proterozoic granites, metamorphic gneisses and schists of the Gascoyne Complex. The western parts of the Project include the Palaeozoic-Mesozoic basin margin sedimentary sequences of the Southern Carnarvon Basin including the Merlinleigh Sub-Basin, marked by Devonian sedimentary carbonates; Carboniferous-Permian glacigene sediments of the Lyons Group; and the siliciclastic sequences of the Cretaceous Winning Group that were deposited coincident with NW-SE rifting.

Uranium mineralisation is found across multiple styles (Figure 3). Mineralisation at Paladin Energy's Carley Bore Project is Roll Front-Type, hosted within the Cretaceous Birdrong Sandstone and concentrated at redox boundaries. VTEM (Versatile Time-Domain ElectroMagnetic Survey) data suggests the Birdrong Sandstone extends across the Odessa Lyndon Project, in which the Relief Well prospect is situated. Jailor Bore, Baltic Bore and Ben Hur prospects express calcrete-type mineralisation, where uranium is concentrated in surficial deposits of carbonate-rich material. The Langer-Heinrich Mine in Namibia (Paladin Energy) and Yeelerrie Deposit in Western Australia are calcrete type deposits.







Figure 4: Lyndon Project uranium MINEDEX occurrences in relation to the Carley Bore Project (Paladin Energy). Underlain with GSWA 1:500k bedrock geology and structure (pinks = Proterozoic granitoids/gneisses; pale brown = Proterozoic meta-sediments; blue & greens = Palaeozoic/Mesozoic Sediments).



Figure 5: Schematic model section of potential uranium mineralisation styles across the Lyndon Project area. The relative position of prospects are displayed. Modified after Newera Resources, 2014.

Between 1972 and 1974 Pacminex Ltd conducted regional reconnaissance and the first radiometric survey over the region, which included the discovery of the Carley Bore mineralisation and other prospects. Several other explorers including Samantha Mines NL, Uranerz Pty Ltd, Westfield Minerals, Minatome Australia, Aquitaine Mining, Acclaim Uranium, Metex Resources, Raisama Ltd and Newera Resources have intermittently conducted exploration between 1974 and 2014.

Relief Well / Paleochannel Uranium Target

- 5km of VTEM geophysical anomaly potentially mapping out paleochannel target horizons as hosts to uranium mineralisation.
- Historic drilling up to $2m @ 206ppm U_3O_8$ from 58m

Relief Well is directly along strike from Paladin Energy's Carley Bore deposit and is interpreted as being an upstream extension of the paleochannel host. Stratigraphy consists of a sequence of paleochannel sandstone sediments (the Birdrong Sandstone) of the Winning Formation.

In 2007, Newera Uranium Ltd conducted a VTEM survey to map out potential paleochannels (Figure 6). Newera completed two RC drill holes to test the anomaly during 2008-2009 with peak results being 2m @ 206ppm U₃O₈ from 58m (Table 1). This work highlighted a target zone of highly conductive material spanning >5km strike, with drilling confirming the presence of uranium mineralisation and intercepting channel-shales of between 10 and 50m wide.

With most of the >5km trend currently untested, Relief Well provides a drill-ready Roll Front-Type uranium target that remains open to the south and is located adjacent to Paladin Energy's existing Carley Bore deposit.





Figure 6: Relief Well VTEM survey from Newera Resources. The hotter colours, red to white, indicate the inferred paleochannel extension, a principal target for uranium mineralisation along strike of the Carley Bore deposit.

Table 1: Relief Well Drill hole results

Hole Details					Significant Intercept			
Hole ID	Depth (m)	Туре	Easting	Northing	From (m)	To (m)	Width (m)	U ₃ O ₈ (ppm)
RWRC001	69	RC	299,752	7,390,002	58	60	2	206
RWRC002	100	RC	299,459	7,390,003		No sig	nificant result	





Baltic Bore Uranium Target

- 4 individual MINEDEX Occurrences
- Multiple strong uranium anomalies in radiometrics data covering >4km strike length
- Calcrete rock samples up to 3,420ppm U₃O₈
- Historic shallow drilling up to $1m @ 1,217ppm U_3O_8$ from 3m

The Baltic Bore prospect area consists of radiogenic granitoids overlain by Cenozoic calcrete terraces and alluvial drainage channels. In 1977, Samantha Mines NL reported rock chip results with visible carnotite in calcrete with grades up to 3,420ppm U_3O_8 (Table 2). Raisama Ltd reported drill results up to 1m @ 1,217ppm U_3O_8 in 2010 and further determined that the calcrete extends beneath the alluvial cover, with potentially blind, thicker portions remaining to be tested (

Table 2).

A subsequent radiometric survey completed in 2022 by Odessa identified multiple uranium anomalies. Given the findings by Raisama and that even a thin layer of alluvial cover will obscure the uranium radiometric signature, the Company believes this prospect area has considerable untested potential for additional calcretetype uranium mineralisation.



Figure 7: Baltic Bore Uranium Prospect area displaying Raisama significant drilling intercepts coded by maximum in-hole U3O8 pp and rock chip samples collected by Samantha Mines NL, underlain by Uranium-band radiometric data (red = high uranium in airborne radiometric data).





Table 2: Rock chip samples at Baltic Bore. Coordinates in GDA94 Zone 50S obtained via georeferenced image with +/-100m accuracy.

Sample Details							
Sample ID	Туре	Easting	Northing	U ₃ O ₈ (ppm)			
3205	Rock Chip	316,800	7,384,600	200			
3206	Rock Chip	317,000	7,384,800	3,420			
3208	Rock Chip	315,400	7,386,300	755			

Table 2: Significant intercepts at Baltic Bore. Coordinates in GDA94 Zone 50S. Raisama Ltd.

			Hole De	etails	Significant Intercept					
)	Hole ID	Depth (m)	Туре	Easting	Northing	RL	From (m)	To (m)	Width (m)	U ₃ O ₈ (ppm)
\leq	BBAC10	12	AC	317,270	7,388,497	211	1	2	1	427
)	BBAC13	8	AC	316,558	7,387,290	211	3	4	1	1,217
_	BBAC20	9	AC	316,762	7,387,073	214	5	6	1	271
)	BBAC39	9	AC	317,390	7,383,086	214	0	2	2	158

As reported by the Company on 22 April 2024 on Baltic Bore exploration (post the end of the reporting period):

- Rock chip assay results up to 6,612 ppm U₃O₈ at the Baltic Bore and Jailor Bore prospects
- 12 rock chips returned assays >1,000ppm U₃O₈
- 5 rock chips returned assays >1,000ppm V₂O₅
- Uranium anomalism spans strike lengths of 2.6km at Baltic Bore and 2km at Jailor Bore
- Lyndon Project Immediately adjoins Paladin Energy's Carley Bore Uranium Project (15.6MLbs U₃O₈)

The Baltic Bore prospect area consists of multiple radiometric anomalies associated with calcrete terraces over a **strike length of 2.6km** (Figure 9). Surface mineralisation has been identified as carnotite, a potassium uranium vanadate mineral, hosted in the vugs and fractures of siliceous calcrete, and in the matrix of reworked calcretes (Figure).

Recent surface sampling has returned exceptional rock chip assay results up to 6,612ppm U₃O₈ and 2,132ppm V₂O₅ in sample XT0970, with eight samples returning >1,000ppm U₃O₈. (Table 4).





Figure 8: Baltic Bore Uranium Prospect area displaying rock chip samples coded by U₃O₈ ppm underlain by Uranium-band radiometric data (red = high uranium in radiometric data).

Table 4: Results table for announcement dated 22 April 2024

	Sample ID	Easting	Northing	RL	Grid	U (ppm)	U₃O ₈ (ppm)	V (ppm)	V₂O₅ (ppm)
$ \ge$	XT0926	323,842	7,370,264	227	GDA94_50S	157.62	185.87	46.00	82.12
	XT0927	323,886	7,370,232	227	GDA94_50S	363.60	428.76	112.00	199.94
$\left(\right)$	XT0928	323,916	7,370,368	227	GDA94_50S	179.48	211.64	46.00	82.12
V	XT0929	324,016	7,370,374	227	GDA94_50S	3,806.92	4,489.12	863.00	1,540.63
	XT0930	323,969	7,370,420	227	GDA94_50S	101.26	119.41	27.00	48.20
15	XT0931	324,161	7,370,448	227	GDA94_50S	488.75	576.33	106.00	189.23
	XT0932	324,201	7,370,540	227	GDA94_50S	485.96	573.04	124.00	221.36
2	XT0933	323,898	7,370,262	227	GDA94_50S	491.17	579.19	120.00	214.22
-	XT0934	323,935	7,370,393	227	GDA94_50S	402.85	475.04	90.00	160.67
رك	XT0935	323,988	7,370,360	227	GDA94_50S	1,883.71	2,221.27	428.00	764.07
	XT0936	323,982	7,370,465	227	GDA94_50S	320.86	378.36	81.00	144.60
	XT0937	324,189	7,370,487	227	GDA94_50S	550.37	649.00	127.00	226.72
	XT0938	324,166	7,370,511	227	GDA94_50S	1,108.03	1,306.59	249.00	444.51
	XT0939	324,000	7,370,405	227	GDA94_50S	1,474.81	1,739.10	332.00	592.69
	XT0940	323,870	7,370,245	227	GDA94_50S	477.17	562.68	314.00	560.55
)	XT0941	323,819	7,370,290	227	GDA94_50S	122.82	144.83	42.00	74.98
	XT0942	316,278	7,383,392	227	GDA94_50S	112.47	132.62	31.00	55.34
	XT0943	316,263	7,383,417	227	GDA94_50S	172.49	203.40	48.00	85.69
	XT0944	316,371	7,383,346	227	GDA94_50S	70.19	82.77	22.00	39.27
	XT0945	316,398	7,383,357	227	GDA94_50S	36.56	43.11	16.00	28.56
	XT0946	316,346	7,383,349	227	GDA94_50S	37.02	43.65	15.00	26.78
	XT0947	316,271	7,383,408	227	GDA94_50S	49.23	58.05	16.00	28.56
	XT0948	316,286	7,383,383	227	GDA94_50S	39.15	46.17	23.00	41.06
	XT0949	316,802	7,383,222	227	GDA94_50S	52.31	61.68	18.00	32.13
	XT0950	316,694	7,383,150	227	GDA94_50S	1,808.69	2,132.81	400.00	714.08
	XT0951	316,696	7,383,087	227	GDA94_50S	122.69	144.68	28.00	49.99
	XT0952	316,664	7,383,066	227	GDA94_50S	307.83	362.99	72.00	128.53
	XT0953	316,666	7,383,121	227	GDA94_50S	68.74	81.06	16.00	28.56
	XT0954	316,558	7,383,059	227	GDA94_50S	283.77	334.62	61.00	108.90





VTOOLL	Easting	Northing	RL	Grid	U (ppm)	U₃O ₈ (ppm)	V (ppm)	V₂O₅ (ppm)
XT0955	316,628	7,383,092	227	GDA94_50S	1,625.72	1,917.05	355.00	633.75
XT0956	316,651	7,383,116	227	GDA94_50S	94.28	111.18	26.00	46.42
XT0957	316,670	7,383,093	227	GDA94_50S	170.92	201.55	44.00	78.55
XT0958	316,690	7,383,116	227	GDA94_50S	174.14	205.35	47.00	83.90
XT0959	316,663	7,383,148	227	GDA94_50S	131.13	154.63	30.00	53.56
XT0960	316,637	7,383,064	227	GDA94_50S	42.83	50.51	26.00	46.42
XT0961	316,670	7,383,038	227	GDA94_50S	56.15	66.21	14.00	24.99
XT0962	316,689	7,383,068	227	GDA94_50S	57.38	67.66	13.00	23.21
XT0963	316,710	7,383,153	227	GDA94_50S	387.45	456.88	86.00	153.53
XT0964	316,704	7,383,168	227	GDA94_50S	26.47	31.21	20.00	35.70
XT0965	316,656	7,382,635	227	GDA94_50S	459.47	541.81	98.00	174.95
XT0966	316,700	7,382,671	227	GDA94_50S	28.53	33.64	22.00	39.27
XT0967	316,694	7,382,652	227	GDA94_50S	1,351.07	1,593.18	313.00	558.77
XT0968	316,689	7,382,599	227	GDA94_50S	980.88	1,156.65	198.00	353.47
XT0969	316,738	7,382,668	227	GDA94_50S	3,463.99	4,084.74	715.00	1,276.42
XT0970	316,679	7,382,668	227	GDA94_50S	5,606.84	6,611.59	1,194.00	2,131.53
XT0971	316,686	7,382,637	227	GDA94_50S	2,922.39	3,446.08	632.00	1,128.25
XT0972	316,691	7,382,610	227	GDA94_50S	249.21	293.87	52.00	92.83
XT0973	316,665	7,382,608	227	GDA94_50S	103.86	122.47	25.00	44.63
XT0974	316,710	7,382,646	227	GDA94_50S	2,700.31	3,184.21	587.00	1,047.91
XT0975	317,234	7,388,470	227	GDA94 50S	84.59	99.75	29.00	51.77
		And	Reference Part	1		P States		
					N AND AND AND AND AND AND AND AND AND AN	(Uranium) lisation		



Historically, little attention has been paid to the Baltic Bore prospects when compared to Jailor Bore. However, this first-pass rock chipping has proven that the Baltic Bore region encompasses a cluster of very high-grade atsurface uranium targets that require further assessment through systematic follow-up sampling.

Jailor Bore Uranium Target

- Calcrete-Type uranium mineralisation
- Historic mineral resource reported on MINEDEX



- Significant drilling intercepts include:
 - o 6m @ 1,099ppm U₃O₈
 - o 3m @ 1,533ppm U₃O₈
 - o 2m @ 1,165ppm U₃O₈
- 2km x 300m strong uranium radiometric anomaly

Jailor Bore consists of over 2km of strike length of uranium radiometric anomalies. Surface mineralisation has been identified as carnotite hosted in vugs within calcrete. Pacminex historically completed the majority of drilling at Jailor bore in 1973, returning up to 3m @ 1,533ppm U_3O_8 and 699ppm V_2O_5 (Table 5; Figure 11). The GSWA MINEDEX database reports a non-JORC compliant mineral resource on the project from historic exploration.¹¹



Figure 10: Jailor Bore Uranium Prospect area displaying historic Pacminex significant drilling intercepts coded by maximum in-hole U308 ppm,6 underlain by Uranium-band radiometric data (red = high uranium in radiometric data).

Table 5: Significant intercepts at Jailor Bore. Coordinates in GDA94 Zone 50S. Pacminex Ltd.

		Hole D	etails		Significant Intercept					
Hole ID	Depth (m)	Туре	Easting	Northing	From (m)	To (m)	Width (m)	U₃O ₈ (ppm)	V₂O₅ (ppm)	
88	12.75	Rotary	324,415	7,370,624	5	6	1	495	625	
89	11.5	Rotary	324,392	7,370,668	6	7	1	1,037	759	
97	4.5	Rotary	324,301	7,370,619	1	3	2	582	402	
98	12.7	Rotary	324,213	7,370,571	0	1	1	946	536	
99	3.7	Rotary	324,189	7,370,615	0	1	1	410	223	
101	7.4	Rotary	324,234	7,370,528	0	2	2	1,165	580	





		Hole D	etails			Si	ignificant Ir	ntercept	
Hole ID	Depth (m)	Туре	Easting	Northing	From (m)	To (m)	Width (m)	U₃O ₈ (ppm)	V₂O₅ (ppm)
2					5	6	1	1,031	714
102	8.4	Rotary	324,260	7,370,485	1	7	6	915	656
104	10.1	Rotary	324,170	7,370,437	3	6	3	1,533	699
105	13.5	Rotary	324,079	7,370,387	0	6	6	1,099	610
106	8	Rotary	324,055	7,370,430	0	3	3	1,061	595
108	5.1	Rotary	324,007	7,370,519	1	2	1	473	312
110	7.6	Rotary	324,105	7,370,340	4	5	1	570	402
146	16.3	Rotary	323,241	7,370,662	7	8	1	903	Not Assayed
147	11	Rotary	323,286	7,370,569	6	9	3	973	Not Assayed
149	9	Rotary	323,375	7,370,388	2	3	1	413	Not Assayed

Recent surface sampling conducted at Jailor Bore returned four rock chip assays >1,000ppm U_3O_8 from the central anomaly, with a peak of 4,489ppm U_3O_8 . Additionally, high vanadium levels are associated with the uranium mineralisation, with up to 1,541ppm V_2O_5 in rock chip XT0929 (Figure 12 and Table 5).



Figure 11: Jailor Bore Uranium Prospect area displaying rock chip samples coded by U_3O_8 ppm underlain by Uranium-band radiometric data (red = high uranium in radiometric data).





Figure 12: Carnotite (uranium) mineralisation within siliceous calcrete at the Jailor Bore prospect in Odessa sample XT0938.

Ben Hur, Giant and Red Hill Uranium Targets

- Calcrete-Type uranium mineralisation in carbonate (limestone) host
- Up to $2m @ 411ppm U_3O_8$ in drilling
- Trench assays up to $895ppm U_3O_8$
- Untested VTEM anomalies spanning >35km strike length

The Ben Hur, Giant and Red Hill prospects exhibit Calcrete-Type uranium mineralisation overlying Devonian carbonate sediments of the Gneudna Formation. The mineralisation style is similar to the Calcrete-Type deposits of Jailor Bore and Baltic Bore but with wide stratigraphic control, as such there is potential for thicker mineralisation over greater strike extents.

The project area was first explored by Uranerz Pty Ltd in 1974 who reported trench samples up to 850ppm U_3O_8 at the Giant-Red Hill region.^{II} Previous rock chips, by Newera Resources (2008), confirmed the presence of uranium mineralisation in carnotite at the Ben Hur prospect.

During 2008-2010, VTEM surveys and interpretation completed by Newera Resources returned a series of conductive anomalies spanning over 35km strike of the Devonian Gneuda Formation and overlying Cretaceous units. These anomalies are yet to be fully tested and represent potential paleochannel-hosted Roll Front-Type targets within the Cretaceous units, as well as Roll Front/Tabular-Type targets within the Devonian (Figure 13).

Newera Resources conducted drilling during 2011 at the Giant-Red Hill Prospects and reported intersections up to $2m @ 411ppm U_3O_8$ from 4m, with 64 drill holes generated 69 significant intersections above 100ppm U_3O_8 (Newera Resources annual report 2011-12).





U₃O₈ (ppm)

Significant Intercept

To (m)

Width (m)

Table 6: Signif	icant intercep	ts at Gia	nt and Red
	Hole	e Details	6
Hole ID	Depth (m)	Туре	Easting
GTRC004	70	RC	319686
GTRC005	110	RC	319849
GTRC007	100	RC	320161
GTRC019	20	RC	320085
GTRC020	20	RC	320238
GTAC045	No record	AC	320644
GTAC046	No record	AC	320634
GTAC047	No record	AC	320624
GTAC060	No record	AC	320492
GTAC061	No record	AC	320482
GTAC064	No record	AC	320452
GTAC128	No record	AC	320646
GTAC129	No record	AC	320635
GTAC134	No record	AC	320585
GTAC177	No record	AC	320120
	- 73	50000	
	- 73	50000	

Table 6: Significant intercepts at Giant and Red Hill. Coordinates in GDA94 Zone 50S. Newera Resources.

Northing

From (m)



Figure 13: VTEM imagery overlain with interpreted conductive anomalies and faults, with priority targets displayed relative to known prospects. Modified after Newera Resources.





Relief Well Uranium Project – Further Exploration Potential:

Re-processing of the 2007 Newera Uranium Ltd VTEM survey data has confirmed the presence of a palaeochannel at the Relief Well prospect with a strike length of >8km that remains open to the south (Figure 13). Depth-slice analysis of re-processed VTEM imagery has delineated the deepest portions of the palaeochannel that are most likely to host significant roll front-type uranium mineralisation.

Relief Well is directly along strike and an upstream extension of the palaeochannel that is host to Paladin Energy's Carley Bore 15.6MLbs U_3O_8 resource (Figure 15). Stratigraphy is interpreted to consist of the Birdrong Sandstone of the Winning Formation with interfingering shale units that act as an aquitard 'trap' for roll front-type uranium mineralisation.



Figure 14: Conductivity Cross Section through Relief Well Palaeochannel. Newera drill holes displayed.



Figure 15: Relief Well Prospect interpreted palaeochannel extension from the Carley Bore Uranium Deposit. Newera drill holes displayed.





Next Steps for Lyndon Uranium Exploration

Following these outstanding first-pass rock chip results, systematic gridded radiometric ground surveying will be conducted across all radiometric targets. The resultant high-resolution radiometric data will facilitate drill planning to be undertaken in Q3, in conjunction with the palaeochannel roll-front uranium targets at the Relief Well prospect. Given the particularly exceptional results at the southern Baltic Bore targets, additional surveying and sampling of the remaining Baltic Bore targets and regional uranium radiometric anomalies across Lyndon will be undertaken as a priority.

The Company will now proceed with drill planning and seek approvals from both the Native Title parties and the Department to conduct drilling at the Relief Well prospect.

Newera Uranium Ltd completed two RC holes (prefix RWRC) to test the VTEM palaeochannel anomaly during 2008-2009, confirming the presence of uranium mineralisation as well as shale horizons within the palaeochannel, ranging from 10m to 50m in thickness. Since then, no further drilling was undertaken to test the remaining 8km trend.

First-pass drilling by Odessa will be conducted in transverses to locate REDOX boundaries within the palaeochannel, with a particular focus on the deepest portions of the palaeochannel. Upon review of the results of first-pass reconnaissance drilling, infill drilling will be required to map the extents of REDOX boundaries and continuity of the shale 'trap' horizons throughout the palaeochannel. Any discovered roll-front uranium mineralisation will be systematically tested during infill drilling.

Systematic drilling along the contact between the Gneuda Formation and the underlying Durlacher and Moorarie Supersuites is required to map out the location of the unconformity and hydrothermal alteration that may indicate the presence of uranium mineralisation.

Additional VTEM surveying is required to map out the full extents of the palaeochannel along strike to the south and to the west where the paleochannel remains open but has not been surveyed to date.

Gascoyne East Project

The Gascoyne East Project consists of 2,108km² 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), offering favourable fluid conduits spanning multiple, overprinting metal-endowed events.

The Project is transected by a recently interpreted deep crustal stability edge that is a focus 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.

Critically, the basement lithologies pre-date known lithium pegmatite and rare earth events, such as the Mutherbukin event (carbonatites) and Edmundian Orogeny (Yinnetharra LCT pegmatites). 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 relatively unexplored.









Figure 16: Interpreted bedrock geology with key intrusion and uranium targets outlined.

The Gascoyne East Project is one of the most under-explored areas of the emergent Gascoyne Province. Due to being almost entirely concealed under a thin veneer of transported cover, previous explorers have largely overlooked the area encapsulated by Odessa's Gascoyne East Project, despite multiple mantle-tapping structures transecting the Project along strike from known mineralisation.

Odessa has now completed initial target generation through detailed litho-structural interpretation of the recently acquired airborne gradiometer-magnetic and radiometric data (Figure 16).

Multiple intrusion-related targets have been highlighted across the Project, including a layered mafic intrusive in the south, that is prospective for Ni-Cu-PGE, large-scale intrusions that are prospective for IOCG mineralisation, multiple discrete porphyry Cu-Au targets throughout the region, and base metal targets within the Edmund Basin.

Additionally, several uranium anomalies have been highlighted by radiometric survey data across the Project, coincident with calcrete deposits mantling fault structures, within an outcrop of the Moorarie Supersuite granite, a potential host to uranium and REE carbonatite mineralisation (Figure 17).









Figure 17: Radiometric uranium targets mantling fault splays of the Mt Clere Fault System.

With no previous drilling and a lack of exposure, the basement lithologies remain almost entirely inferred from geophysical datasets. As such, a mineral systems-based approach to exploration at the Project is required to build up high-quality regional datasets that can inform targeted and impactful exploration across the highly prospective Project. As the company has now completed acquisition and interpretation of high resolution magnetic and radiometric data, drilling is required to confirm and update current interpretations.

Phase 1 aircore drilling is planned predominantly along existing tracks with hole spacings ranging from 200m to 400m. This round of drilling aims to intercept basement lithologies in fresh rock below the transported cover material to validate the litho-structural basement geology interpretation of geophysical data (Figure 1), as well as test key structural corridors and intrusive target features. Bottom-of-hole core of fresh rock will be collected to conduct petrographical and petrophysical analysis alongside multi-element geochemical characterisation of lithologies.

Upon completion of Phase 1 drilling, the basement geology model will be updated, and targets re-ranked accordingly for follow-up Phase 2 drill testing for mineralisation at depth associated with intrusion-related systems.

The Company has received PoW approval from the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) to conduct air core drilling across the Project as part of the Phase 1 drill campaign scheduled to commence in June 2024.





Mapping and Sampling

Though the majority of the tenure is covered by transported material, a portion of the Edmund Basin carbonates in the northeast are partially exposed. According to Open File data, no work has ever been completed across the exposures.

Odessa will conduct systematic mapping and rock chipping of the carbonate sequence for sedimentary-hosted base metal potential, as well as sampling of quartz veining and sheared outcrops associated with the Hibernian South fault that is host to the Mt Edgerton Gold Deposit located 20km along strike.

First-pass rock chipping will also be conducted across the two radiometric uranium anomalies (Figure 2) to assess the tenor of anomalism, confirm the deposit style, and evaluate the link between the Mt Clere South Fault system and uranium mineralisation.

Gravity Surveying

Detailed gravity surveying is being considered across the Camel Hills Metamorphic sequence to delineate the contacts between the Quartpot pelite, Petter calc-silicate gneiss and BIF units.

The Camel Hills Metamorphics are interpreted to be folded and later transected by the confluence of the Errabiddy Shear Zone, the Mt Clere South Fault and the Hibernian South Fault. The strong rheological contrasts created by the interbedded units, iron-rich BIF and mafic chemical traps, dilation generated by folding/shearing, and the fluid conduits provided by shearing and faulting, highlight the southeastern portion of the Project as a excellent prime target for orogenic gold mineralisation.



Figure 18: Structural architecture across the Gascoyne East Project, showing the confluence of major mineral-endowed shear zones (GSWA), faults and the crustal stability edge (Czarnota et al., 2019) relative to mineral occurrences (Minedex).



Yinnetharra Lockier Range Lithium Project

- 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
 - o 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 Li₂O (22 samples above 500ppm)
 - \circ 259ppm Ta₂O₅ (5 samples above 100ppm)
 - 712ppm Cs₂O (18 samples above 100ppm)
 - 8,245ppm BeO (9 samples above 100ppm)
 - 2,728ppm Rb (7 samples above 2,000ppm)



Figure 19: Principal pegmatite target areas within the Lockier Range Project underlain by gridded soil results coded by Li₂O ppm.



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Lockier Range Project

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 seek the required Heritage clearances. However, Surveys are not undertaken during the summer months due to >40 degree temperatures in the Gascoyne Region.

A Heritage Survey details (scope and schedule) still remains to be finalised at the time of publishing this update. When the survey does commence, it will seek clearances across the LCT pegmatite targets, with follow-up RC drilling to commence thereafter.

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 20).



Figure 20: All rock chip samples across the Robinson Bore Prospect coded by Li₂O ppm underlain by gridded soil results coded by Li₂O 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 21).

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 21: Gridded soil results coded by Li₂O 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 Li₂O.

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 22).



Figure 22: Rock chip samples across the Central Pegmatite Field Prospect coded by Li₂O ppm underlain by gridded soil results coded by Li₂O 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 Li₂O and a peak result of 1,911ppm Li₂O (Figure 23).

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 23: Rock chip samples across the Southern Pegmatite Field Prospect coded by Li₂O ppm (circles) and TREOY ppm (diamonds) underlain by gridded soil results coded by Li₂O 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 Cs₂O (357ppm) and Rb₂O (2,721ppm) in rock chip sample XT0295 (Figure 24).

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 25).



Figure 24: Rock chip samples at Mt Yaragner coded by K/Rb ratios underlain by gridded soil results coded by Li₂O ppm.



Figure 25: Rock chip samples at Mt Yaragner coded by TREOY ppm underlain by Th-band radiometric imagery.





Kimberley Diamond Assets

No on ground activity this quarter.

CORPORATE

Related Party Payments

During quarter, the Company made payments of \$116,000 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	Relinquished 31/01/2024
Ellendale East	E04/2830	Application	210	Relinquished 31/01/2024
Ellendale North	E04/2834	Application	138	Relinquished 31/01/2024
Ellendale West	E04/2833	Application	45	Relinquished 31/01/2024
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	Relinquished 31/01/2024
Aries Main	E80/5027	Live	90	
Aries Northwest	E80/5815	Application	339	Relinquished 31/01/2024

		E80/5816	Application	261	Relinquished 31/01/2024
		E80/5819	Application	120	Relinquished 31/01/2024
	Aries West	E80/5817	Application	177	Relinquished 31/01/2024
	Beyondie				
	Beyondie NW	E52/4322	Application	123	Relinquished 27/03/2024
	Total			4700	
П	nis announcement has	been approve	d for release by th	e Board of Oo	lessa Minerals.
RE	NQUIRIES				
5					

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Appendix 5B

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

Name of entity	
Odessa Minerals Limited	
ABN	Quarter ended ("current quarter")
99 000 031 292	31 March 2024

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(6)	(26)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	-	-
	(e) administration and corporate costs	(292)	(691)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	8	33
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	(290)	(684)

		•••••••••••••••••••••••••••••••••••••••
2.	Cash flows from investing activities	
2.1	Payments to acquire:	
(a) entities	-
(b) tenements	-
(c) property, plant and equipment	-
(d) exploration & evaluation	(390)
(e) investments	-
(f) other non-current assets	-

Con	solidated statement of cash flows	Current quarter Year to date \$A'000 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	(390)	(1,292)

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	3,222	4,524
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(290)	(684)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(390)	(1,292)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	(6)

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	2,542	2,542

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	2,542	3,222
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)	2,542	3,222

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	116
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

	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.	amount at quarter end \$A'000	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 qu	uarter end	
7.6	Include in the box below a description of eac rate, maturity date and whether it is secured facilities have been entered into or are propo- include a note providing details of those faci	or unsecured. If any addit	tional financing
8.	Estimated cash available for future op	perating activities	\$A'000
8.1	Net cash from / (used in) operating activities	(Item 1.9)	(290)
8.2	(Payments for exploration & evaluation class activities) (item 2.1(d))	sified as investing	(390)
8.3	Total relevant outgoings (Item 8.1 + Item 8.2	2)	(680)
8.4	Cash and cash equivalents at quarter end (I	tem 4.6)	2,542
8.5	Unused finance facilities available at quarter	r end (Item 7.5)	
8.6	Total available funding (Item 8.4 + Item 8.5)		2,542
8.7	Estimated quarters of funding available (Item 8.3)	Item 8.6 divided by	3.7
8.8	If Item 8.7 is less than 2 quarters, please pro	ovide answers to the follow	ving questions:
	1. Does the entity expect that it will cor cash flows for the time being and, if		evel of net operating
	Answer: N/A		
	2. Has the entity taken any steps, or do cash to fund its operations and, if so believe that they will be successful?	, what are those steps and	
	Answer: N/A		
	3. Does the entity expect to be able to objectives and, if so, on what basis?		d to meet its business

7.

Financing facilities

Answer: N/A

Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
-	-
-	-
-	-
-	-

-

(290)

(390)

(680)

2,542

2,542

3.7

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.

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

Notes

- 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.