AURORA TENEMENT CONSULTING

PROSPECT ORES PTY LTD

HARTS RANGE PROJECT
FINAL SURRENDER REPORT

EL33109

FOR THE PERIOD 12-Sep-2023 to 12-Sep-2024

Tenement ID: EL33109
Type: Final Surrender
Datum/Zone: GDA94/Zone 53
Map: 1:250k: ILLOGWA CREEK SF53-15
Map 1:100k: Quartz 5951
Target: Lithium, REE
Date: 06-11-2024
Report Period: 12-09-2023 to 12-09-2024
Holder: Prospect Ores Pty Ltd
Operator: Prospect Ores Pty Ltd
Author: Prospect Ores Pty Ltd

TABLE OF CONTENTS

1 ABSTRACT

The Exploration Licence EL33109 is located in Harts Range Area, which is approximately 170km northeast of Alice Springs. Access to the project area from Alice Springs is achieved by taking the all-season sealed Stuart Highway northward, followed by Plenty Highway eastward, then with some bush tracks to reach the tenement area. This licence was granted to Prospect Ores Pty Ltd since 12 Sep 2022 with 6 years period, and total area is 8 blocks.

This project is entirely situated within the Entia Dome, positioned in the eastern Arunta Region. It constitutes a segment of the Aileron Province, a window of Palaeoproterozoic basement rocks in an area dominated by the Neoproterozoic to Palaeozoic Irindina Province.

Historically, the project area is considered prospective for Ni-Cu-PGE mineralisation associated with mafic and ultramafic intrusions. Vein-style REE-Th-U mineralisation has also been identified in the area as well as multiple occurrences of mica. Certain areas also identified gossans with anomalous values of Au and Cu.

During the reporting period, the company compiled historical data and reports and conducted literature review. No field work has been conducted during the reporting period.

Upon reviewing the literature and historical data, the project area is deemed highly prospective for Pegmatites hosted REE and Lithium mineralisation.Past exploration has focussed on Uranium potential in this area with little consideration to base metal prospectivity and may not have been adequately tested with modern exploration techniques which may suggest there is further technical upside to exploration in the area.

However, Prospect Ores Pty Ltd surrendered the tenement due to its company strategy and budget planning.

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3 LOCATION AND ACCESS DETAILS

The Harts Range Project is situated within the Harts Range area, approximately 180km ENE of Alice Springs. Access to the project area from Alice Springs is achieved by taking the all-season sealed Stuart Highway northward, followed by Plenty Highway eastward, then with some bush tracks to reach the tenement area (*Figure 1*).

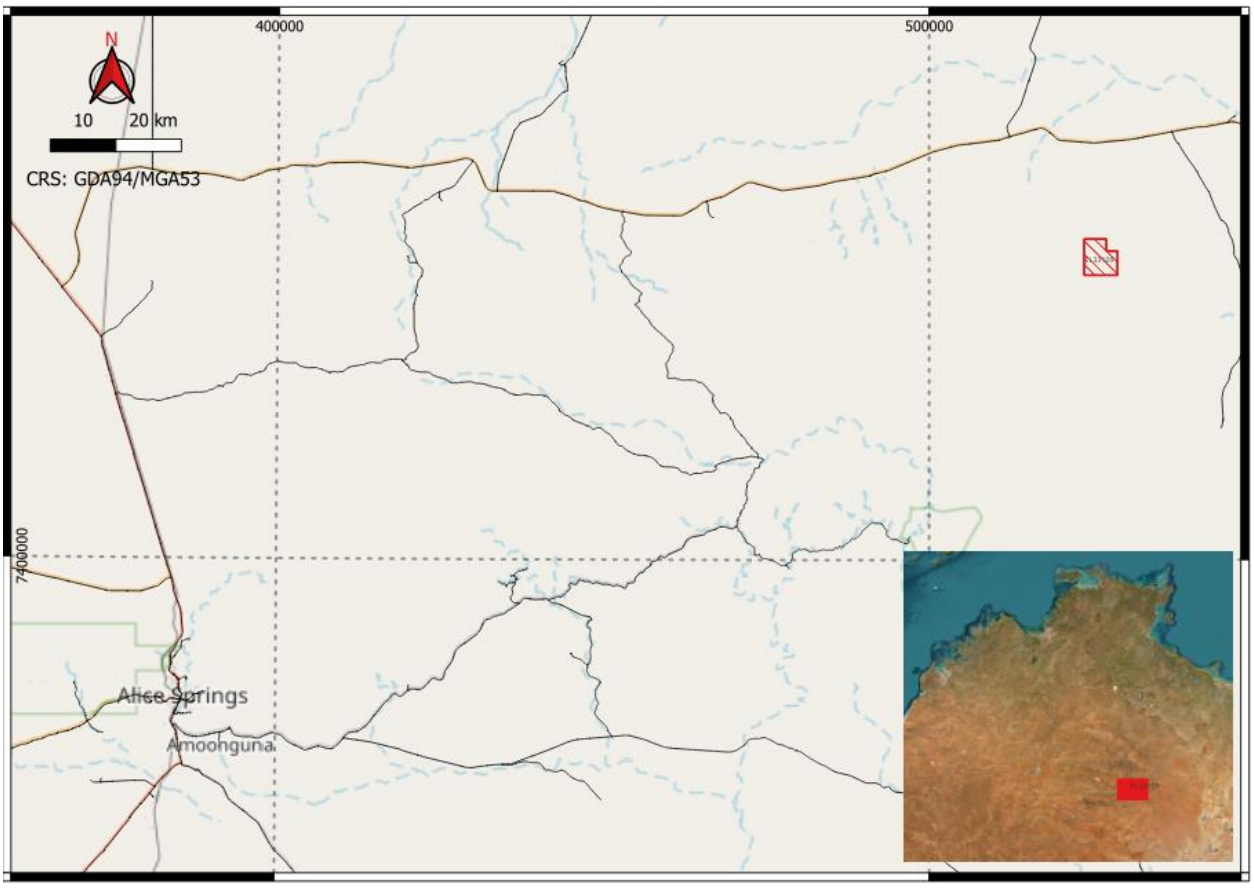

Figure 1: Harts Range Project Location Map

4 GEOLOGY

4.1 REGIONAL GEOLOGY

The project situated within the Entia Dome, 180km NE of Alice Springs, central Australia, in the eastern Aileron Province (*Figure 2*). The Aileron Province consists of >1700 Ma Palaeoproterozoic crust in the Arunta Inlier. Structurally, the Entia Dome is a basement-cored antiformal dome, measuring 25 × 15 km wide, with two internal sub-domes separated by high strain zones. These sub-domes are referred to as the Inkamulla Dome in the west and the Huckitta Dome in the east.

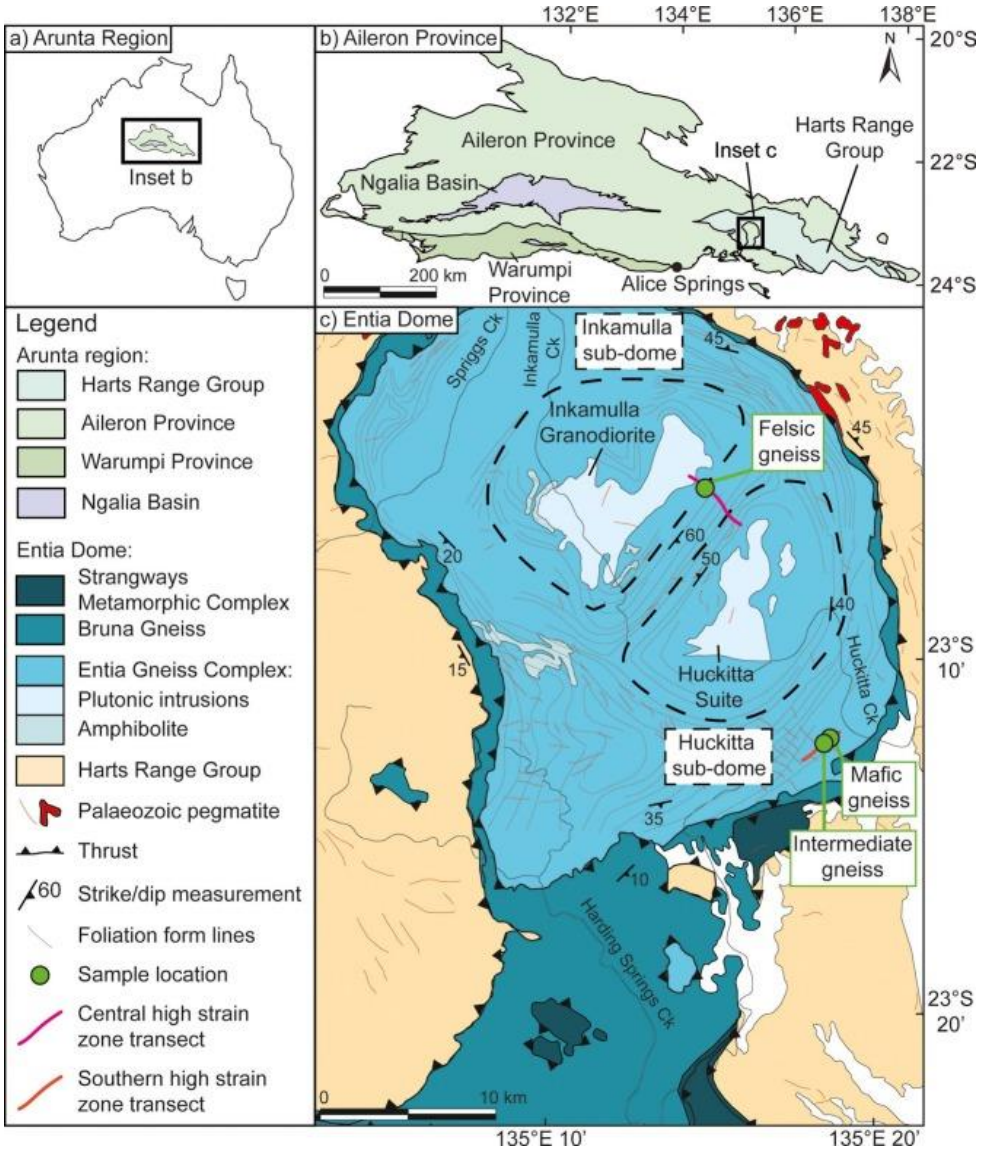

Figure 2: Geological Map of Entia Dome

The Entia Dome comprises three main components: first, a cover sequence called the Harts Range Group; second, a detachment zone involving extensional and reverse shear zones; and third, two basement

sequences, the Strangways Metamorphic Complex and the Entia Gneiss Complex. The Harts Range Group, which is a thick supracrustal association, spans the Neoproterozoic to Ordovician period and filled the Larapintine Graben. During the syn-rift phase, high-pressure and high-temperature metamorphism occurred, reaching temperatures of approximately 880°C and pressures of 10.5 kbar, around 480–460 million years ago. This process led to the formation of metabasites and metapelites, along with minor occurrences of marble, quartzites, and felsic gneiss.

The Strangways Event, occurring between 1735 to 1690 Ma, is marked by intense metamorphism, reaching upper amphibolite- to granulite-facies conditions. This event stands out as the predominant tectonothermal occurrence in the eastern Aileron Province. The metamorphism during this period was characterized by high temperature, low pressure conditions and in some areas, it led to partial melting. Concurrently, felsic magmas intruded the eastern Arunta region, alongside the metamorphic processes. The Strangways Orogeny has been interpreted as the conclusive phase of plate-margin tectonism in the southeastern Arunta region.

The Larapinta Event, occurring between 480 to 460 Ma, is characterised by high-grade (up to granulite-facies) metamorphism, and is accompanied by the intrusion of mafic dykes and the deposition of fine-grained sediments in an extensional environment.

The Alice Springs Orogeny, spanning from 450 to 300 Ma, represents a significant period of both extensional and compressional deformation in central Australia. This orogeny is characterized by intraplate shortening, primarily occurring in a north-south to northeast-southwest direction. The intensity of these tectonic activities was most pronounced in the Entia Dome and Harts Ranges. During this period, amphibolite-facies metamorphism took place alongside the intrusion of felsic magmas, including the formation of extensive pegmatites. Notably, the Harts Range Metamorphic Complex underwent exhumation and was thrust southwards over the underlying Palaeoproterozoic basement.

In the southern and eastern sections of the Entia Dome, a series of felsic pegmatites, the youngest lithologic unit, becomes more prevalent. These pegmatites consist of quartz, plagioclase, and variable amounts of K-feldspar, muscovite, biotite, and garnet. They exhibit varying degrees of deformation, suggesting multiple instances of emplacement. This observation is supported by U-Pb ages from zircon and monazite samples taken from pegmatites across the Entia Gneiss Complex and Harts Range Group, indicating episodic emplacement during the Arunta Orogeny.

Within the Entia Dome, zircon rims from a deformed pegmatite, cutting across the host orthogneiss fabric, and an undeformed pegmatite yield U-Pb ages of 330 ± 6 Ma and 334 ± 15 Ma, respectively. These ages set a lower limit for the deformation of the Entia Dome. Although some pegmatites have been linked to the syn-tectonic Inkamulla and Huckitta Granodiorites according to Joklik (1955), they are generally considered highly fractionated granitic melts.

Additionally, Palaeoproterozoic zircon grains found within the pegmatites are interpreted as xenocrysts within Carboniferous melts. This interpretation supports the speculation that xenocrystic zircon is also predominant in the Inkamulla and Huckitta Granodiorites. While some researchers suggest the presence of an extensive Alice Springs-aged pluton as the source of the pegmatites, the exposed plutons seem to be a more straightforward explanation.

4.2 LOCAL GEOLOGY

The Harts Range Project area is predominantly covered by a veneer of aeolian and colluvial sand and gravel. Strongly weathered biotite, garnet-biotite and quartzofeldspathic gneiss, calcsilicate rocks and amphibolite are sporadically exposed. There are numerous ferricrete, calcrete and silcrete rises, some of which may be indicative of the targeted mafic and ultramafic rocks. No detailed mapping has been undertaken in the area with the best regional maps compiled prior to detailed aeromagnetics and the current understanding of the geological history (*Figure 3*).

Abundant pegmatites encircle and intersect the tenement, also informally named as the Entia Pegmatite Field. Voluminous pegmatites, some containing anomalous REE and others with minor Lithium content, intrude both the basement rocks of the Entia Gneiss Complex and the Palaeozoic Harts Range Group.

The tenement is located 5km SE of three REE prospects, Holsteins (12% Ce, 7% La), Indiana and Mt Mary.

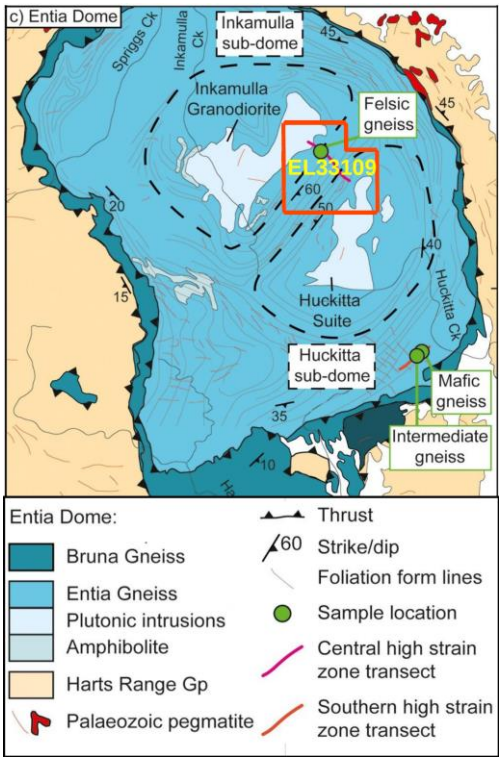

Figure 3: The Project Location in Entia Dome

5 PREVIOUS EXPLORATION

Numerous companies and individuals have explored in the general area targeting the Uranium, summarised as below:

Year	Company	Description
1994	PNC Exploration	Airborne Mag/Rad, ground checked and sampled anomalies. 1:1000 mapping, ground Mag/Rad, petrology
2006	Hale Energy	Mapping, rock chips
2008	Mithril	Airborne (VTEM), Aircore, RC, DD, Mapping, rock chips sampling

Exploration has focussed on the uranium potential of this area with little consideration given to the base metal prospectivity. Oklo completed a review of the REE and uranium potential of the licence and identified several different model styles of uranium mineralisation.

One style is described as Vein and disseminated hard rock uranium mineralisation located within and around Paleo-Proterozoic peralkaline to alkali granites perhaps associated with their differentiated zones alkali pegmatites. Preservation of the upper zones in such intrusive systems in rocks of this great age does pose some significant problems. The most significant vein type uranium deposits are located in Western and Central Europe. These are invariably hosted within Variscan age (280 – 310 mybp) alkali two mica granites and their contact metamorphic aureoles. Examples include Margnac, Boir Noirs – Limouzat, Mille Vache, Pribram, Jachymov (Joachimstal) and Erzberg to name but a few significant deposits. Lower grade “episyenite” styles of mineralisation present small exploration targets having complex structural and geometric controls. Hence, given these geologic features, such systems may not have been recognized hitherto.

Marginal uraniferous vein and stockwork vein styles of mineralisation developed at the margins or contact aureoles of tin – tungsten, “S type”, peralkaline , tourmaline bearing, granites of the Paleo to Middle Proterozoic. There is the possibility of disseminated uranium mineralisation occurring within tourmaline bearing greisen systems.

The final style is scope within the Tertiary – Pleistocene drainage system to locate valley calcrete hosted carnotite uranium mineralization.

6 CURRENT EXPLORATION

During the reporting period, the company compiled historical data and reports and conducted literature review. No field work has been conducted during the reporting period.

7 CONCLUSION AND RECOMMENDATIONS

Upon reviewing the literature and historical data, the project area is deemed highly prospective for Pegmatites hosted REE and Lithium mineralisation.

Past exploration has focussed on Uranium potential in this area with little consideration to base metal prospectivity and may not have been adequately tested with modern exploration techniques which may suggest there is further technical upside to exploration in the area.

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8 REFERENCES

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