Exploration Licence 6421

Final Technical Report

for the period

29 September 2023 to 28 September 2024

Tenement Number	EL 6421
Tenement Holder	Lincoln Minerals Limited
Project Operator	Lincoln Minerals Limited
Project Name	Northern Eyre Project
Date of Report	21 November 2024
Report Author(s)	Peter Edwards
Tenement Manager/Agent	AMETS
Contact Details	sa@amets.com.au

DISTRIBUTION

- SA Department for Energy and Mining
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SUMMARY

This is the Final Technical Report for EL 6421, and describes exploration activities conducted during the reporting period from 29 September 2023 to 28 September 2024. The title was located in the northern part of the Eyre Peninsula, approximately 100 km WSW of Port Augusta, and formed part of LML's Northern Eyre Project.

The Project area was considered to be prospective for Menninnie Dam-style Pb-Zn-Ag (Cu-Au) mineralisation, U mineralisation and Middleback Range iron ore (both haematite and magnetite). LML's primary exploration targets were iron ore and uranium.

A review of historical surface and near-surface sampling, combined with GIS assessment of the title's prospectivity, found that:

- There are no standout electrical anomalies;
- The Hutchison Group is not found within the title;
- There is only low-grade manganese along a ridge which lies only partly within the title.

Results of surface sampling on this title and neighbouring tenure were disappointing; previously-identified geochemical anomalism was not replicated. Further exploration was not justified, and the title was relinquished on 28 September 2024.

Key Words

Map Sheet:	1:250K Port Augusta SI 53-4 1:100K Uno 6232
Location:	Kimba, Lake Gilles
Commodities Sought:	Iron ore, uranium, gold, base metals
Exploration Methods:	Surface and near-surface sampling, desktop assessment, GIS
Geological Units Targeted:	Hutchison Group
Prospect Name:	
Geological Province:	Hutchison Group
Geological Age:	Palaeoproterozoic
Earth Science Terms:	Polymetallic sulfide, saprolitic or unconformity uranium deposits, palaeochannel uranium, epithermal mineralisation

1 INTRODUCTION

This is the Final Technical Report for Exploration Licence (EL) 6421 (the title), and describes exploration activities conducted over the title during the reporting period from 29 September 2023 to 28 September 2024. EL 6421 was held and operated by Lincoln Minerals Limited (LML, or the Company), and formed part of the Company's Northern Eyre Project (the Project).

The Project area was considered to be prospective for Menninnie Dam-style Pb-Zn-Ag (Cu-Au) mineralisation, U mineralisation and Middleback Range iron ore (both haematite and magnetite).

In 2007 LML discovered greenfields uranium mineralisation near Jungle Dam, about 45 km northeast of Kimba, on its neighbouring title EL 3690. Uranium anomalies detected by calcrete sampling were tested by air core (AC) drilling, and returned assays up to 0.06% U.

Mineralisation is associated with vein quartz, chalcedony, pyrite, and sericite and chlorite alteration. There is also an association with anomalous base metals, Ni, and Co. The host rocks, albeit identified from drill chips (the area around the drill sites is completely hidden by surficial cover), are graphitic and sulfidic paragneiss and schist, quartzite, and leucogranite. The presence of françoisite-(Ce) was observed. Follow-up drilling and biogeochemical sampling suggested that the mineralisation occurs over a width of 250 m, with a strike length exceeding 2 km.

1.1 Tenure

The title was originally granted as EL 4310 on 29 September 2009. It was renamed on renewal in 2014, and again in 2019 (see Table 1). EL 6421 was relinquished on 28 September 2024.

Table 1:EL 6421 Title History

Title	Grant Date	Expiry Date
EL 4310	29/09/2009	28/09/2014
EL 5523	29/09/2014	28/09/2019
EL 6421	29/09/2019	28/09/2024

1.2 Location

The title was located in the northern part of the Eyre Peninsula, approximately 90 km WNW of Whyalla, immediately northwest of Lake Gilles (see Figure 1).

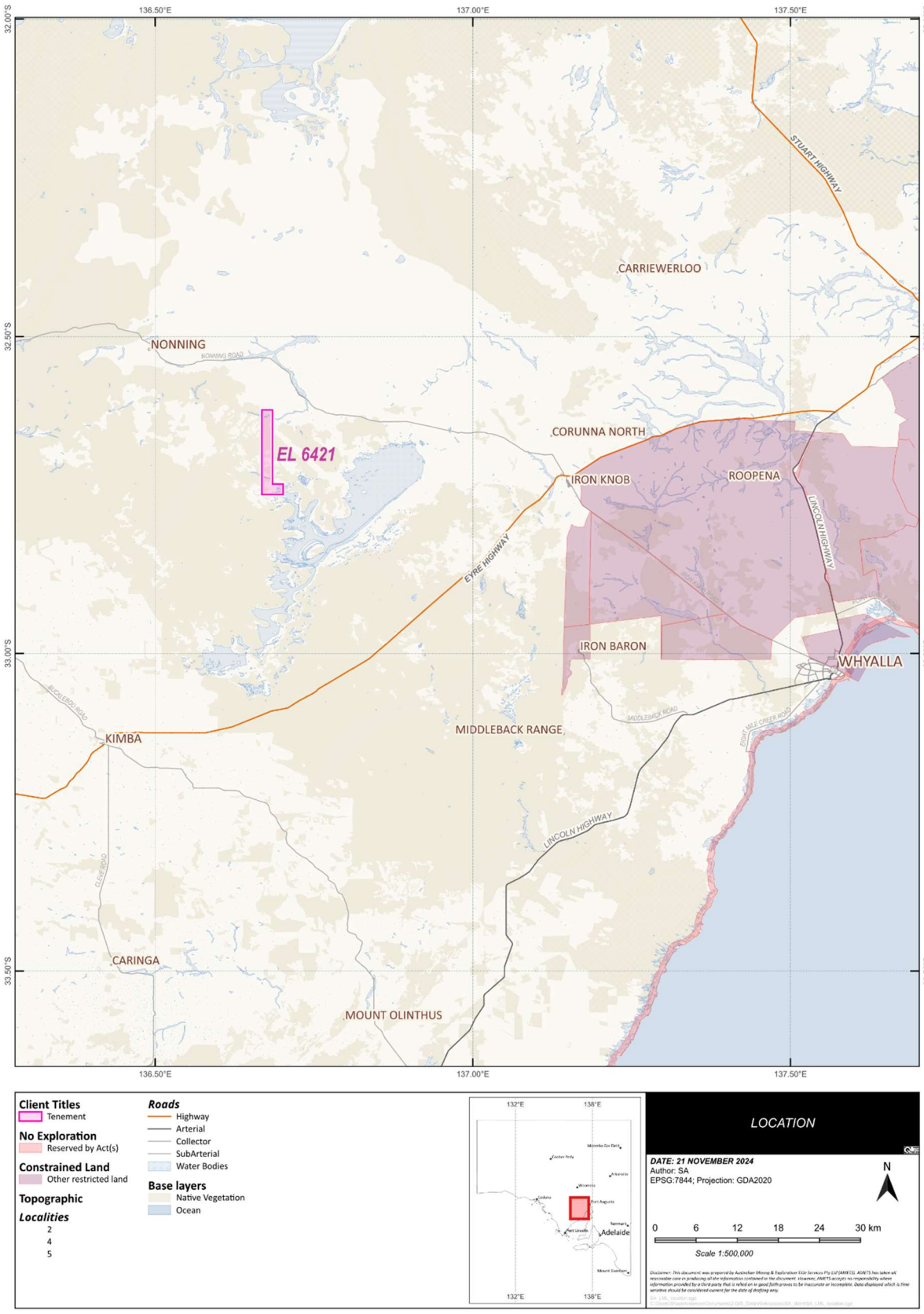

Figure 1: EL 6421 location

2 GEOLOGY

The largely unexposed basement of the northern Eyre Peninsula consists of Palaeoproterozoic (~2,000 Ma – 1,850 Ma) Hutchison Group, Lincoln Complex (~1,850 Ma) rocks, and members of the Gairdner Dyke Swarm (~830 Ma). The Kalinjala Mylonite Zone (~ 1,720 Ma) is a large-scale crustal feature in the Northern Eyre Peninsula that separates the Cleve and Coolanie Sub-Domains to the west and east, respectively (see Figure 2). Splays of the Kalinjala Mylonite Zone transect the northern part of the Project.

The Hutchison Group comprises metamorphosed (up to amphibolites facies) mixed platformal carbonate and clastic sequences, with the Warrow Quartzite at its base, and by volume is the dominant group outcropping in the Project area.

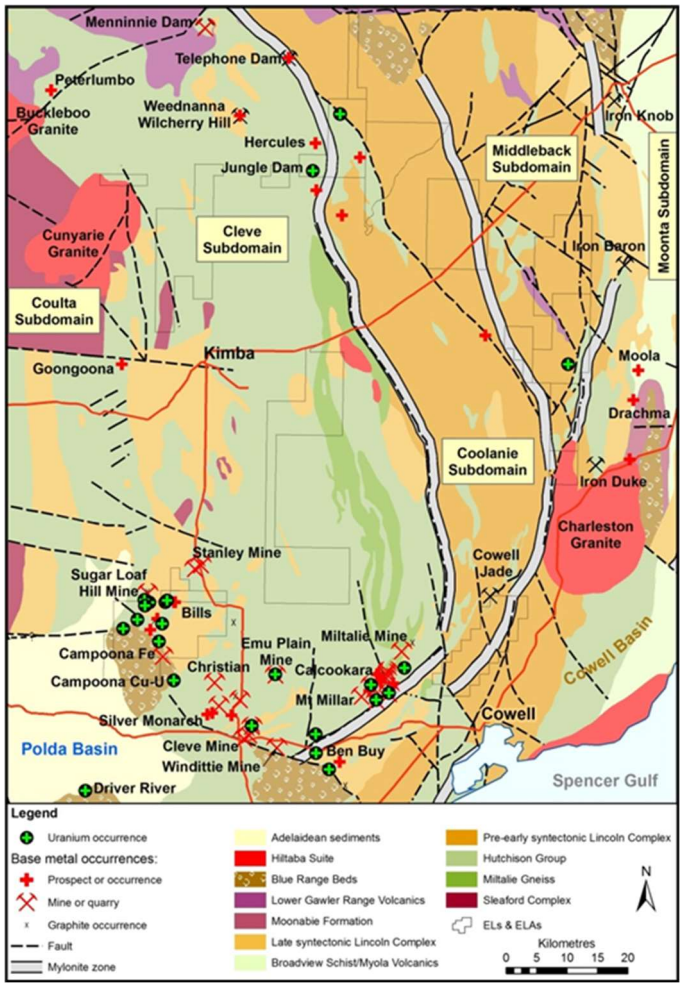

Figure 2: Northern Eyre Peninsula geology

3 EXPLORATION RATIONALE

LML's primary exploration targets on its Northern Eyre Project were:

- Iron ore;
- Polymetallic sulfide veins and deposits, with or without uranium;
- Saprolitic or unconformity uranium deposits;
- Palaeochannel uranium; and
- Epithermal mineralisation.

Although basement rocks (excepting resistant BIF, quartzite and vein/epithermal quartz) in the area are poorly exposed, the persistent occurrence of geochemical anomalism, the proximity to Weednana/Wilcherry Hill, Telephone Dam, and Menninnie Dam mineral deposits/prospects, and similarities in style of alteration and mineralisation, strongly suggest that the Project is within the same widespread mineral system as the above prospects. This epithermal mineral system has been dated at 1,580±10 Ma (Fraser et al., 2007). This is within error of the age of iron ore copper-gold-uranium (IOCGU) mineralisation, e.g., Olympic Dam, in the eastern Gawler Craton, and of widespread Au mineralisation in the central Gawler Craton. How the ~1,580 Ma event may have modified or enhanced older minerals systems is unknown.

4 EXPLORATION HISTORY

Previous exploration over the title is described in the respective Annual Reports for EL 4310 and EL 5523. No on-ground exploration has been conducted over the title since it was renamed to EL 6421 in 2019.

5 EXPLORATION CONDUCTED DURING THE REPORTING PERIOD

During the final reporting period from 29 September 2023 to 28 September 2024, exploration activity over the title comprised desktop review of historical surface and near-surface sampling, as well as assessment of prospectivity using various GIS layers.

It was found that:

- There are no standout electrical anomalies;
- The Hutchison Group is not found within the title;
- There is only low-grade manganese along a ridge which lies only partly within the title.

6 CONCLUSIONS

Results of surface sampling on this title and neighbouring tenure were disappointing; previously-identified geochemical anomalism was not replicated. Further exploration was not justified, and the title was relinquished on 28 September 2024.

REFERENCES

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