EL 30007 Annual report for the period 06/02/2017 to 05/02/2018

March 2018

Target Commodities: Li, Co, REE, Cu, Au
Mapsheets 100K: Macdonald Downs (5953)
Mapsheet 250K: HUCKITTA (SF 5311)

Author Contact Details:
Christine Lawley
Metalzoic Geological Consulting
(on behalf of Northern Cobalt Limited)
A: PO BOX 224 UNLEY BC S.A. 5061
M: 0439488549
E: clawley@metalzoic.com.au
Abstract

EL 30007 was transferred from Gempart NT Pty. Ltd. to Xavier Resources Pty. Ltd., a subsidiary company of Northern Cobalt Limited during the reporting period. The transfer was lodged in December 2017 and finalised in February 2018. Consequently, very little work was completed during the reporting period, limited to geophysical modelling and interpretation of pre-existing data and geological desktop studies. For this reason, a waiver of reduction was sort and granted to account for the underspend. The planned work to be undertaken during the next reporting period will include mapping and soil sampling for the purpose of targeting pegmatite hosted Li and REE.
1 Introduction

EL 30007 is currently held by Xavier Resources Pty. Ltd., a subsidiary company of Northern Cobalt Ltd. The transfer of EL 30007 from Gempart NT Pty Ltd (Gempart) was lodged in December 2017 and finalised in February 2018. For this reason, there has been very little work undertaken on EL 30007, limited to preliminary geological desktop studies. The previous tenement holder (Gempart NT Pty Ltd) completed geophysical interpretation/modelling of pre-existing data during the reporting period. Consequently, a waiver of reduction was sort and granted to account for the underspend. However, the change of ownership has sparked a full project review.

1.1 Location & Access

EL 30007 is located in the Harts Range, central Australia approximately 180km north-east of Alice Springs. Access from Alice Springs is north via the Stuart Highway (70km), then east along the Plenty Highway (110km) then north along the Arapunya Road (70km) to McDonald Downs Station, then west along Mount Swan Road to Delmore Downs homestead (32km).

![Figure 1: Location map for EL 30007.](image)

1.2 Regional Geology

The project area is located along the boundary of the Palaeoproterozoic Aileron Province of the Arunta Region and the Neoproterozoic to Paleozoic Georgina Basin. The Arunta Region is a poly-deformed and metamorphosed basement terrain located along the southern margin of the North Australian Craton, which is unconformably overlain by the Ngalia, Amadeus, Murraba, Georgina and Eromanga Basins (Scrimgeour, 2003).

The Aileron Province is comprised of variably metamorphosed clastic sediments, meta-volcanic rocks, calc-silicate rocks, dolerite, mafic rock and granite and is prospective for metamorphosed VMS and

The Georgina Basin is an intracratonic basin that was initiated as part of the Centralian Superbasin and contains sediments including dolostone, limestone, shale, sandstone and siltstone. The Georgina Basin has known occurrences of sedimentary phosphate (e.g. Wonarah phosphate deposit), lead-zinc (along the southern margin) and there are also frequent oil shows throughout the basin (Dunster et. al., 2007).

1.3 Local Geology

EL 30007 is predominantly comprised of Palaeoproterozoic Aileron Province granites and gneisses of the Arunta Region, with a lesser component of and Strangways Metamorphic Complex in the south. In addition, minor Neoproterozoic to Palaeozoic Georgina Basin sediments are present in the eastern most extent of the tenement. EL 30007 surface geology is characterized by in-situ regolith, including variably weathered bedrock on erosional plains, rises, hills and plateau surfaces (STRIKE, 2018).

The cropping to sub cropping granites within the project area are highly radiogenic Mt Swan Granite 1713Ma. Attenuated west to north-west strike ridges of Neoproterozoic Grant Bluff Formation straddle the northern boundary of the project area. The Grant Bluff Formation is comprised of laminated to thinly bedded fine grain quartz arenite, which unconformably overlies the Mt Swan granite. The schistose Mt Swan Granite is pink and porphyritic comprising quartz, orthoclase, plagioclase, hornblende partially altered to biotite accessory iron oxides, apatite, zircon and allanite. Large feldspar phenocrysts (up to 100mm) are common. The west north west strike ridges of Neoproterozoic Elkera Formation are capped by Grant Bluff Formation. The Elkera Formation comprises siltstone and sandstone capped by a distinctive stromatolitic dolostone marker horizon effectively drawing Neoproterozoic Georgina Basin sedimentation to a close. As with the Grant Bluff Formation, the Elkera Formation unconformably overlies the highly radiogenic Mt Swan Granite within tenure (Mackie, 2017).

1.4 Previous Exploration

Historic exploration has focused on shear hosted copper, vein and sediment-type uranium, kimberlitic intrusions (diamonds), IOCGU (iron oxide copper gold uranium) and ISCG (iron sulphide copper gold) mineralisation.

Table 1: Previous Exploration Summary (adapted from Mackie, 2017)

<table>
<thead>
<tr>
<th>Year</th>
<th>Company</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>CPM</td>
<td>Targeting the Perenti Cu prospect – IP survey, 3 diamond holes</td>
</tr>
<tr>
<td>1971</td>
<td>VAM Ltd</td>
<td>IP survey</td>
</tr>
<tr>
<td></td>
<td>Kratos Uranium NL</td>
<td>Airborne radiometrics</td>
</tr>
<tr>
<td>1972</td>
<td>Asarco</td>
<td>Rock chip sampling</td>
</tr>
<tr>
<td>1973</td>
<td>Neptide Minerals</td>
<td>Rock chip sampling</td>
</tr>
<tr>
<td>1983</td>
<td>WMC</td>
<td>Stream sediments</td>
</tr>
<tr>
<td></td>
<td>CRAE</td>
<td>Ground magnetics, rock chips, soils and auger drilling</td>
</tr>
<tr>
<td></td>
<td>Uranerz Pty Ltd</td>
<td>Scintillometry, rock chips, radon survey.</td>
</tr>
<tr>
<td>1989</td>
<td>Track Minerals Pty Ltd</td>
<td>Stream sediments and rock chips.</td>
</tr>
<tr>
<td>2002</td>
<td>Tanami Gold NL</td>
<td>Rock chips</td>
</tr>
<tr>
<td>2003</td>
<td>Astro Mining NL</td>
<td>Diamond exploration?</td>
</tr>
<tr>
<td>2005</td>
<td>Tanami Gold NL</td>
<td>Rock chips</td>
</tr>
<tr>
<td>2009</td>
<td>Nupower Resources</td>
<td>Rock chips</td>
</tr>
</tbody>
</table>

The focus of future exploration will be on Lithium and REE potential within pegmatite dykes, which crop out extensively across tenure.
2 Work Completed

Given the tenure was transferred late in the reporting period, only minimal exploration activities were undertaken. Further work is planned during the following reporting period.

2.1 Geological Activities & Office Studies

A desktop review on tenure was commenced during the reporting period. This enabled an assessment and planning for future exploration activities.

2.2 Geophysical Activities

Geophysical modelling of 500m line airborne magnetic and radiometric data (open source data) was undertaken by Gempart during the reporting period.

3 Conclusion & Recommendations

Only limited work was carried out during the reporting period and consequently a waiver of reduction was applied for and granted to cover off the underspend. However, the change of ownership has sparked a full project review. Planned exploration includes mapping, soil sampling and drill target delineation. Mapping will focus on ground truthing interpreted pegmatite dykes, which are being targeted for Li and REE. Soil sampling will be completed on grids perpendicular to the average strike of the dykes. First past soil targets will be infilled and the results will be used to define drill targets.

4 References

