Operator: Crossland Strategic Metals Ltd

Charley Creek

EL 28964 & 28965

Mount Harris South and Mount Harris North

Annual and Final Report for the period 26 July 2012 to 25 July 2016

Tenement Holders: Crossland Nickel Pty Ltd and Essential Mining Resources Pty Ltd

P Melville
August 2016
Summary

Prior to surrender ELs 28964 and 28965 were part of the Charley Creek Rare Earth Project, which comprised a total of twenty one (21) exploration licences. Both licences were part of the Joint Venture between Crossland Nickel Pty Ltd (Crossland) and Essential Mining Resources Pty Ltd (EMR). The ground covered by the licences was considered prospective as it included the northern limits of several major alluvial channels. Following grant, financial constraints on exploration spending saw a major scaling back of work on the entire project. Other than some initial reconnaissance work, there has been no on-ground exploration carried out within the tenements. A proportion of project-wide costs such as the Preliminary Environmental Impact Assessment work and Scoping Studies carried out in 2012-2013 were levied against these licences.
## Bibliographic Data

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<td>Melville P</td>
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<td><strong>Tenement Number</strong></td>
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<td>Crossland Nickel Pty Ltd (56.28%) and Essential Mining Resources Pty Ltd (43.72%)</td>
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1 Introduction

ELs 28964 and 28965 were a part of the group of twenty one Explorations Licences that comprise the Charley Creek Project. Charley Creek was originally selected as a target for nickel-copper and PGE (Platinum Group Elements) accumulations associated with ultramafic phases of the Mt Hay granulite (+1780 Ma), a highly metamorphosed Palaeoproterozoic mafic intrusive complex. The region was subsequently recognised as having an additional potential, for both sedimentary and ‘hard rock’ uranium deposits. This strategy evolved into several years of uranium exploration accompanied by the acquisition of additional landholdings. Buried sedimentary channels were initially targeted by Aircore drilling, followed by detailed prospecting and diamond core drilling over the radiometrically anomalous Teapot Granite. Rare Earth Elements then became the focus in 2010 following a reassessment of aircore geochemical data, which confirmed the presence of anomalous Cerium and other REE in both alluvium and saprolite.

2 Location and General Description

The licences are centred about 150 kilometres northwest of Alice Springs. Most of the area covered by EL 28964 falls within Narwietooma Station (NT Por. 727), with the eastern and western parts within Anburla (NT Por. 4443) and Derwent (NT Por. 241) Stations respectively. EL 28965 is wholly within Napperby Station (NT Por. 747). Location of the licences is illustrated in Figures 1, 2 and 3. Access to both licences can be gained via the Tanami Road then by various station tracks and fence lines.

The ELs are predominantly covered by quartzose sands forming longitudinal dunes, while further north dunes fade into plains and fan deposits. Lake Lewis is located directly to the north of EL 28964.

3 Tenure Details

Exploration Licences 28964 and 28965 were granted on 26 July 2012 for a period of six (6) years; 28964 covered 249 blocks (788.62 km²) and 28965 31 blocks (98.04 km²). There have been no reductions in area of either licence since grant. Crossland held a 56.28% share and EMR 43.72%. Crossland Nickel is a subsidiary of Crossland Strategic Metals Ltd. Crossland Strategic is Operator of the Charley Creek Project.
Figure 1  Location of EL28964
Figure 1  Location of EL 28965
4 Geology

EL 28964 is located on the Hermannsburg 1:250000 map sheet. The licence is completely covered with Quaternary and to a lesser degree Tertiary sediments. The Tertiary sediments comprise sands, clays, siltstone, and conglomerate with some lignitic horizons. The Quaternary sediments are characterised by shallow alluvial fans of coarse gravels and sandy ephemeral creek deposits. In places there is a surficial covering of aeolian silt and sand with minor calcrete and carbonate deposits. In the extreme eastern part of 28964 localised outcrops of high grade metamorphic sbelonging to the Narwietooma Metamorphic Complex occur.

EL 28965 is located on the Napperby 1:250000 map sheet. The geology is much the same as the 28964, being composed of Tertiary and Quaternary sediment covering. Isolated outcrops of unnamed Granite / Granodiorite (Pnx) have been mapped.

5 Previous Exploration

Regionally there were exploration activities undertaken mainly by Conzinc Rio Tinto Australia Exploration (CRAE) and Alcoa for sedimentary uranium targets between 1973 and 1981. Several junior companies also explored the area for it’s sedimentary uranium potential. Esso Australia explored the radiometrically anomalous Tea Pot Granite for uranium in the mid 1970s. The granite,
which forms part of the Macdonnell Range foothills, was the considered the potential source rock for uranium. It is also thought that it has contributed to the REE resource.

Both CRA and Alcoa had exploration licences, which partially covered the subject area. CRA’s Dashwood licence appears to have covered parts of both tenements but it is not known what specific activities were undertaken. Works that were carried out included auger drilling and sampling, downhole gamma logging and water bore analyses. Rotary mud drilling, sampling, and surface and down hole geophysics were carried out by Alcoa. Conclusions drawn from both investigations were that the region lacked the features and mechanisms conducive to the formation of sedimentary uranium deposits.

6 Work Completed

Following grant, Crossland carried out only preliminary ground reconnaissance on the tenements. Further work was planned, specifically sediment and soil sampling and some Aircore drilling across the major drainage channels, but due to lack of funds at the time and priorities elsewhere on the project, this work was not commenced.

7 Conclusions

The licences were acquired because of their potential for hosting REE mineralisation. Regionally, this mineralisation is associated with large alluvial “fans” and channel complexes emanating from the west Macdonnell foothills. The area covered by the subject licences includes the northern extensions of some of these channels, for example Dashwood and Charley Creeks.

The area was also considered as a potential source of groundwater reserves that would be required for any future mining operation.

Due to financial constraints and the need to rationalise the company’s landholdings, the decision was made not to renew the licences.
8 References


