

Operator: Crossland Strategic Metals Ltd

Charley Creek GR086/09

COMBINED ANNUAL REPORT for the period 7 February 2016 to 6 February 2017

ELs 24281, 25230, 27283, 27358, 27359, 28154, 28155, 28224 & 28226.

Tenement Holder: Crossland Nickel Pty Ltd

Melville P March 2017

Summary

This Combined Annual Report covers the subject licences held by Crossland Nickel Pty Ltd and currently operated by Crossland Strategic Metals Limited (Crossland). Crossland is in a Joint Venture arrangement with Essential Mining Resources Pty Ltd (EMR) The project is centred approximately 95 km WNW of Alice Springs.

Crossland has been exploring the region since 2005, initially for ultra-mafic hosted nickel deposits, then uranium following recognition of the potential of the Teapot Granite, a highly fractionated granitoid, which has anomalously high uranium and thorium content. The focus turned to Rare Earth Element (REE) exploration in 2010 following further analytical work on drill hole samples.

The past year has seen a continuation of Crossland's low level of expenditure. This situation eventuated due to the extended time required to formulate a 2016-2017 work program and budget that was acceptable to the new joint venture partner.

Some technical problems surrounding the past sampling procedures and pilot plant testing became apparent to management while reviewing the database. Instead of the planned drilling, a re-sampling program was recommended and commenced, utilising existing stored sample material from previous Aircore drilling programs. The samples were submitted for additional metallurgical work, pilot plant testing and assay. The testwork results were very favourable with the potential to positively impact the economics of the project.

Bibliographic Data

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Author	Melville P	
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Tenement Numbers	ELs 24281, 25230, 27283, 27358, 27359, 28154, 28155, 28224 and 28226.	
Tenement Holder	Crossland Nickel Pty Ltd	
Operator	Crossland Strategic Metals Ltd	
Commodities	Rare Earth Elements	
1:250 000 Map Sheet	Mount Liebig (SF52-16) ; Hermannsburg (SF 53-13)	
1:100 000 Map Sheet	Haasts Bluff (5251); Glen Helen (5351), Narwietooma (5451) and Anburla (5551)	

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1 Introduction

1.1 Background

The region was initially considered prospective 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. This exploration strategy evolved into several years of uranium exploration centred on both the radiometrically anomalous Teapot Granite, which forms part of the west MacDonnell Ranges, and the adjacent plains country. The latter was considered a potential target for buried paleo-channel uranium occurrences.

Rare Earth Elements (REE) became the focus in 2010 following a review of aircore geochemical data collected during the paleo-channel drill programme. Certain drill samples showed anomalous Cerium and other REE in both alluvium and in the underlying saprolitic high grade metamorphic rocks. Additionally, the presence of Thorium anomalous phases in the Teapot Granite were realised following the geological and mineralogical characterisation of various radioactively anomalous areas in that environment. Follow-up Aircore drilling and surficial sampling of alluvium in the outwash drainage systems showed widespread REE anomalies. Sediment and soil samples collected within the Teapot Granite also proved to be anomalous in REE.

1.2 The Target Area

The uranium potential of the region was highlighted by historical exploration in both the Teapot Granite Complex and in the plains to the north of Mount Chapple. Exploration work by Esso in 1977 had shown the Teapot Granite (1140 Ma) to be regionally significantly elevated in uranium and thorium. This was confirmed by subsequent airborne radiometric surveys carried out by the Northern Territory Geological Survey. Based on this work, Crossland applied for and was granted EL 25230, which coverered large areas of the exposed Teapot Granite Complex as well as the surrounding high grade metamorphics. The Teapot Granite was considered to be the primary uranium target based on the initial reconnaissance by Crossland; the company identified phases of the granite which contained up to 6 times the regional uranium background level. As part of its uranium exploration strategy, Crossland considered this mass of 'hot' granite could also supply sufficient uranium to form sedimentary deposits underlying the plains to the north. The alluvial fans and buried paleochannels were considered prospective for 'secondary' uranium deposits in both calcrete hosts and in "redox" zones, which can concentrate uranium dissolved in ground water.

Exploration for REE followed the uranium exploration phase, once it was established that the high grade metamorphic suite of rocks were the primary source of the REE-bearing minerals, Monazite (light REE) and Xenotime (heavy REE). These two minerals are the principal constituents of the company's alluvium-hosted resource. The resource is contained in the large outwash fans and buried channels located immediately north of the west MacDonnell escarpment. The higher elevation granite terrain has also produced alluvial hosted REE concentrations but the resource here is considerably smaller and more scattered in distribution.

From a geological viewpoint, a regional mapping and sampling program is required to resolve the nature of the xenotime-bearing rock type(s) and their geographic distribution. This would aid in more effective exploration, targeting the areas where there is more likely to be heavy REE concentrations in the alluvial plains.

2 Location and General Description

The Charley Creek Project is centred approximately 95 km WNW of Alice Springs. As of 6 February 2017, the project comprised a total tenement package of 19 exploration licences.

This report deals with Group 086/09 comprising nine (9) licences, all of which were granted to Crossland Nickel Pty Ltd. The Charley Creek Project is located in an area bounded by the foothills of the west MacDonnell Ranges to the south and the Stuart Highway to the east. The western boundary lies approximately 30 km east of Haasts Bluff. The west MacDonnell National Park adjoins the project's southern boundary. The Tanami Highway traverses much of the tenement package. See Figure 1 for the location of the relevant ELs.

3 Tenure Details

The licences, which are the subject of this report, were granted to Crossland Nickel Pty Ltd and are operated by Crossland Strategic Metals Ltd. Table 1 lists the current EL details.

During the year the company was advised by Titles that several licences were subject to 'Partial Cancellation' due to underspend. Crossland applied to the department to have the penalties waived on ELs 27283, 27358, 27359 and 28224. This application was subsequently successful. Another licence, 28155 was reduced by the company following a penalty notice.

For reporting purposes, the licences were granted amalgamated reporting and expenditure status as GR086/09. The common anniversary date is 6 February; all Expenditure Statements are submitted prior to 6 March with the Technical Report due by 6 April. The individual licences have retained their original 'operational year' date for rental payments and reductions.

The shareholding of Pancon was acquired in late 2015 by Essential Mining Resources Pty Ltd (EMR). That company has financial backing from a Malaysian-based consortium. As a result, Crossland Strategic Metals Ltd are now in a joint venture with EMR on these tenements.

4 Geology

The regional setting and prospect scale geology of the Charley Creek tenements has been covered in all previous Annual Reports. The reader is referred to these reports for that information.



Figure 1 Charley Creek Project Location Map of GR086/09 licences as at 6 February 2017

EL No.	Grant Date	Expiry Date	Year of Tenure	Sub- Blocks	Area
24281	07/02/2005	06/02/2018	12	37	116.6
25230	09/11/2006	08/11/2018 11		102	289.0
27283	17/11/2009	16/11/2017	8	153	482.8
27358	17/11/2009	16/11/2017	8	82	258.3
27359	17/11/2009	16/11/2017	8	31	97.8
28154	20/04/2011	19/04/2017	6	68	171.3
28155	2/02/2011	1/02/2019	7	11	31.38
28224	8/03/2011	7/03/2019	6	15	47.25
28226	8/03/2011	7/03/2019	6	22	69.34

Table 1: GR086/09 EL Situation as at 6 February 2017

5 **Previous Exploration**

5.1 Other Companies

There were regional exploration activities undertaken by Conzinc Rio Tinto Australia Exploration (CRAE)/Rio Tinto Exploration Pty Ltd for sedimentary uranium and for Platinum Group Elements (PGE)-nickel- copper in the 1970's and the mid to late 1990's respectively. Alcoa also explored for sedimentary uranium in the early 1980s in the Derwent Creek area.

Esso Australia Limited explored the Teapot Granite in 1977 for uranium following an airborne radiometric survey. Ground follow-up of anomalies led to the discovery of secondary uranium mineralisation occurring in a phase of the granite that formed dome shaped topographic highs. They concluded that the source of the uranium was refractory minerals such as monazite and zircon occurring in the granite. Contrary to Crossland's data, they erroneously stated that the high regional background radioactivity was due to potassium.

5.2 Crossland 2005-2015

Crossland is the only company in recent times to conduct mineral exploration in the region. The various activities carried out during the years of tenure of the subject licences, spanning from 2005 to end of 2015 are listed below. More detailed information on these activities, recorded on a year to year and tenement basis can be accessed in previous annual reports.

- Literature search and compilation of all private company and government data
- Acquisition and interpretation of NTGS geological and airborne geophysical data sets

- TEMPEST airborne EM surveys in late 2007 and in 2009
- Airborne Mag-Rad surveys over specific ELs in 2007-2008, 2010 and again in 2012.
- Widespread very detailed ground-based radiometric surveys over several years using continuous read out back-pack spectrometers
- Several geochemical sampling programs including rock chip, stream sediment and soil
- Geological mapping (regional and prospect scale) within the Teapot Granite and specific areas within the various radiometrically anomalous high grade metamorphic units
- Characterisation of various radiometric anomalies by geological mapping and geochemical sampling
- Aircore drilling programs in 2008, 2011, 2012, 2013 and early 2014
- Diamond drilling in 2010 within the Teapot Granite
- Environmental baseline studies by GHD Consultants commenced in late 2012. Scoping and Feasibility studies by various consultants were also commissioned to give preliminary estimates on the viability of the project.

6 2016 Activities

There were no specific on-ground exploration activities carried out during the reporting period. The company's exploration base for the Charley Creek project at Milton Park was maintained throughout the year.

The original intention for 2016 was to carry out some drilling consisting of Aircore, twinning of significant intersections by shallow coring and some large sample collection by shallow excavations. The planned work was designed to provide additional samples data for both grade and reserve calculations as well as further metallurgical works. There was also the intention to investigate the sub-surface water potential of certain areas within the project licences. For a future operation of this type to be successful, a reliable supply of water is essential. The most productive aquifers are expected to be in suitable lithologies within the thick Tertiary sediments underlying the Burt Plain. The thickness of the sediments here are recorded as being up to 300 metres.

These programs were postponed following an in-depth review of the available analytical data, resource calculations and the pilot plant / metallurgical results from the previous several years of active exploration. Some technical issues surrounding the past sampling procedures and pilot plant testing became apparent to management while reviewing the database. These issues needed to be addressed, so a re-sampling program was commenced utilising existing stored sample material from previous Aircore drilling programs. The testwork results were very favourable with the potential to positively impact the economics of the project.

In respect of the Group 1 tenements, the re-sampling project involved choosing strategic holes from five of the exploration licences. A total of 457 samples were collected from 121 holes (see Table 2). The samples were subject to various Pilot Plant and metallurgical testing by specialist Engineering Consultant IHC Robbins Pty Ltd.

Geochemical analysis was performed on 191 samples by Perth-based Laboratories Intertek Genalysis. The samples analysed consist of 170 in the core group with an additional 10 duplicates and 11 check samples. Analysis for all of these samples have been included in this Report. (See Appendix 1 for analytical data).

EL No.	Number of Re- sampled Holes	Number of Samples Collected	Number of Samples Assayed*
24281	6	28	4
25230	95	266	59
27283	10	116	128
27358	9	46	n/a
28155	1	1	n/a

Table 2: GR086/09 Sample collection details

* includes duplicate and check samples

The results of the metallurgical / engineering works are covered in some detail in the latest Crossland Quarterly Activities Report to the ASX (for the period ending 31st December 2016). Recommendations for follow-up exploration activities are also contained in the report. These recommendations are covered for the most part by what has been proposed in Crossland's 2017 Mining Management Plan, which has already been lodged with Mining Compliance.

7 Conclusions

Further work involving metallurgical and Pilot Plant test work is envisaged following the postponed drilling and 'large' sampling programs planned for the 2016 year. It has been stated that additional larger samples from strategic areas within the higher grade zones of the resource will be required to continue the studies and procedures that have been developed by the Engineering consultants.

The work completed in 2016 has had a positive impact on the project by enhancing the economics.

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