

Operator: Crossland Strategic Metals Ltd

Charley Creek

EL 27358 Partial Relinquishment Report for the
period 17 November 2009 to 2 December 2013

Tenement Holders: Crossland Nickel Pty Ltd

Summary

This Partial Relinquishment report covers the relevant periods of tenure on the subject licence held by Crossland Nickel Pty Ltd and operated by Crossland Strategic Metals Limited (Crossland). EL 27358 lies approximately 80 km WNW of Alice Springs in Central Australia.

Crossland has been exploring the region since 2004, initially for ultra-mafic hosted nickel deposits then uranium following recognition of the potential of the Teapot Granite. Most recently rare earth elements have been the focus of exploration.

Work completed on the relinquished portion of EL 27358 includes:

- Five stream samples
- Portions of two Tempest Airborne EM lines
- 2 Rock Chip Samples
- Various sample processing methods

Bibliographic Data

Report Title	EL 27358 Partial Relinquishment Report for the period 17 November 2009 to 2 December 2013.
Author	Buskas M
Project Name	Charley Creek Project
Tenement Number	EL 27358
Tenement Holder	Crossland Nickel Pty Ltd
Operator	Crossland Strategic Metals Ltd
Commodities	Rare Earths
1:250 000 Map Sheet	Hermannsburg (SF 53-13)
1:100 000 Map Sheet	Narwietooma (5451), Anburla (5551)

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Appendices

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- 2 Appendix 2 (Lab Analysis).txt
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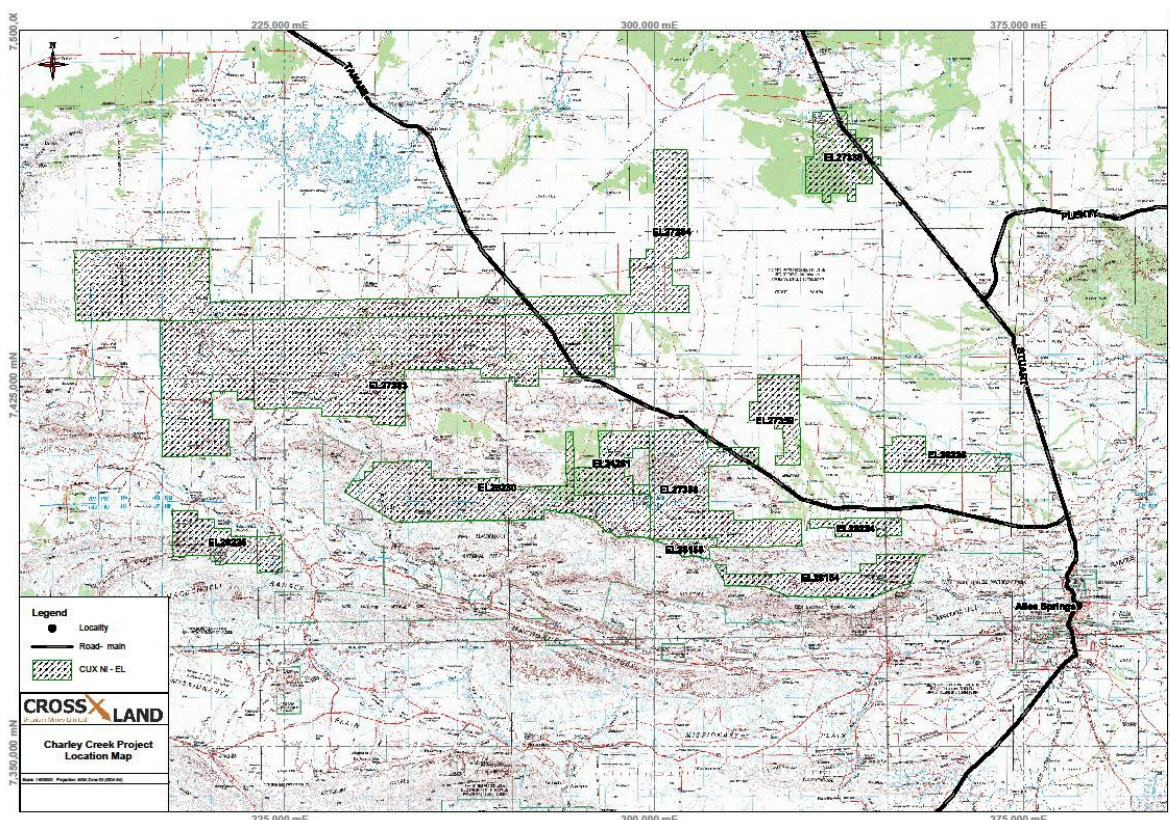
1 Introduction

The project area was selected as a target based on confidential research carried out by Paradigm Geoscience Pty Ltd, renamed Global Geoscience Limited in 2007. Paradigm Geoscience considered the region 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 initial exploration strategy evolved into several years of uranium exploration, centred on the radiometrically anomalous Teapot Granite. Rare Earths then became the focus in 2010 following a reassessment of aircore geochemical data, which showed anomalous Cerium and other REE in both alluvium and saprolite.

2 Location and General Description

The Charley Creek Project, including EL 27358 are centred approximately 80 km WNW of Alice Springs. These licences are concentrated in an area bounded by the MacDonnell Range in the south and the Stuart Highway to the east. The Tanami Highway traverses much of the tenement package. The western boundary lies approximately 16 km east of Haasts Bluff. The West MacDonnell National Park adjoins the project's southern boundary.

See Figure 1 for the location of the licences.



3 Tenure Details

EL 27358 was granted to Crossland Nickel Pty Ltd on 17 November 2009 for a period of 6 years. The licence initially covered 131 blocks (412.7 km²). On 2 December 2013 the title was reduced to 95 blocks (299.2 km²). The relinquished and retained areas are illustrated within Figure 4. Pancontinental Uranium Corporation and Crossland are currently engaged in a joint venture for the EL whereby Pancontinental has a 45% interest.

4 Geology

The majority of the Charley Creek Project ELs are located on the Hermannsburg 1:250000 scale geological map sheet (SF 53-13). The geology is shown in Figure 2 and the lithology legend as Figure 3.

The project area lies within the Central Province of the Arunta Block on the southern margin of the North Australian Craton. The southern margin is marked by a high strain zone, the Redbank Thrust Zone, which contains several mapped units. Most of the Central Province is granulite facies metamorphic grade with some retrograde zones of amphibolite facies.

The oldest rocks exposed in the project area are the Adla Granulite which belongs to the Strangways Metamorphic Complex (1820 - 1780 Ma).

Also present are units of the Narwietooma Metamorphic Complex, which includes the Mt Hay Granulite and the laterally equivalent Bunghara Metamorphics and Illyabba Metamorphics (+1780 Ma). The Mt Hay Granulite is located within EL 27358 where it forms the topographic high of the Mount Hay massif. The Amburla Anorthosite, which forms part of the layered complex outcrops on the northeast side of Mount Hay. The Bunghara Metamorphics are present further to the west and the Illyabba Metamorphics outcrop to the east of Mount Hay. An arcuate hill near Blackhill Dam is composed of Amburla Anorthosite.

Mylonites of the Redbank High Strain Zone (1500 – 1400 Ma) traverse the area from roughly west to east.

The Teapot Granite Complex (1140 Ma) outcrops in the western section of the project area, forming part of the foothills of the MacDonnell Ranges. The complex intrudes the older mesoproterozoic gneissic basement of the Madderns Yard Metamorphic Complex (1650-1680 Ma), which is represented in this location by the Glen Helen Metamorphics. The granite has numerous late pegmatite and aplite phases as well as a younger biotite-feldspar-quartz phase. Dolerite dykes are common, intruding the granite discordantly in an east-west orientation. To the east, an unnamed granite equivalent to the Teapot, intrudes migmatites, gneisses, metasediments and amphibolites belonging to the Madderns Yard Metamorphic Complex.

Present throughout the project are 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, sandy ephemeral creek deposits, sand and clay with a surficial covering of aeolian silts and sand with minor calcrete and carbonate deposits. The degree of cover formed by these sediments is highly variable.

Figure 2 Geology of the Charley Creek Project Area (taken from the 2012.Annual.Report)

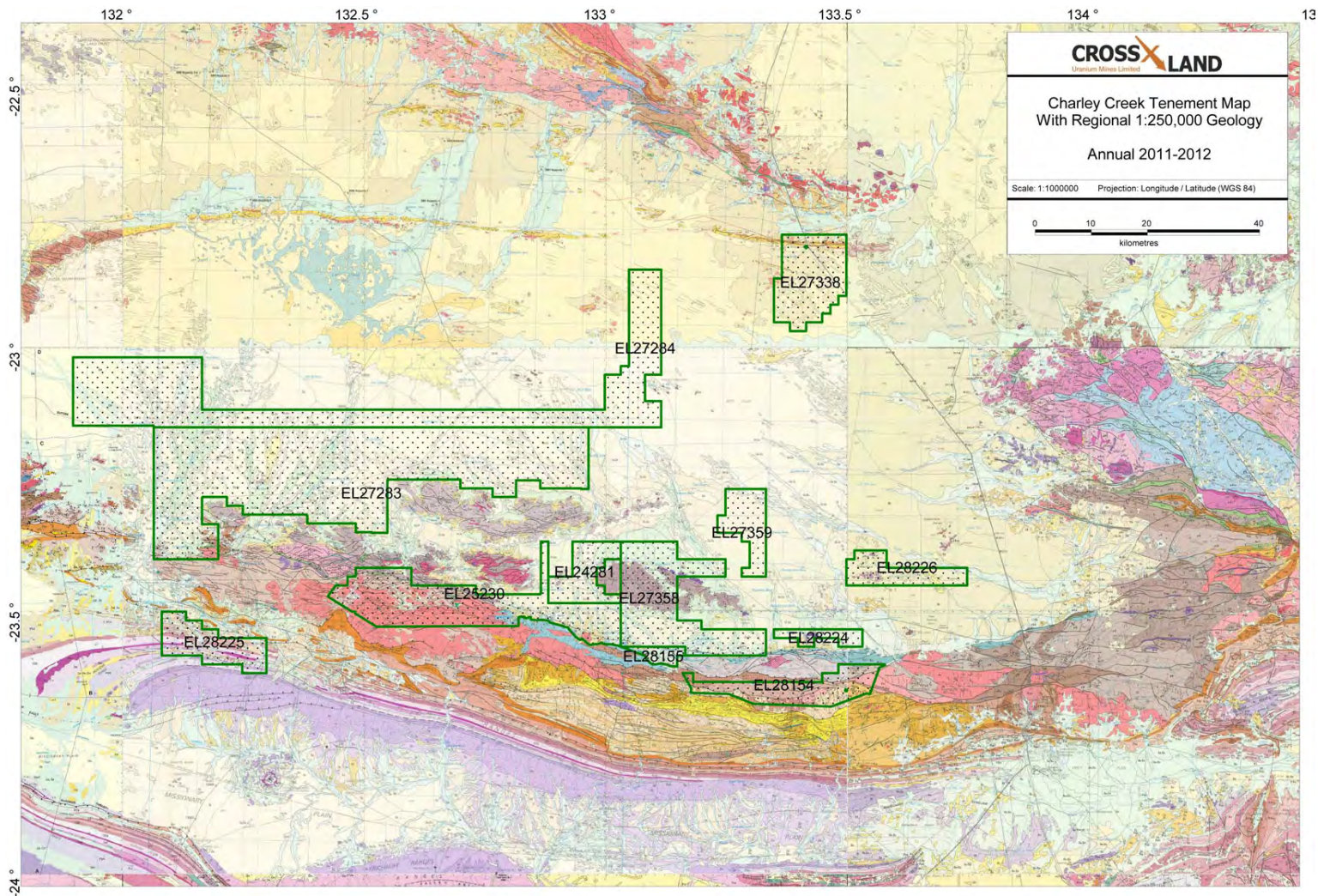
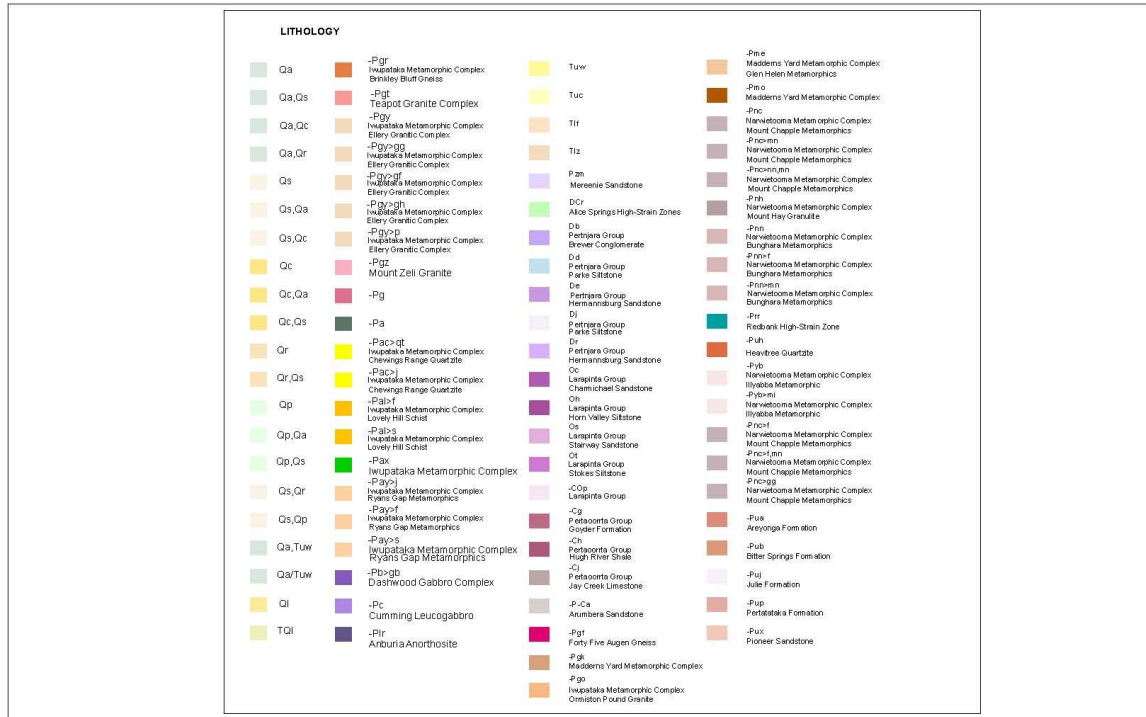


Figure 3.
Charley Creek Regional 1:250,000 Geology Lithology Legend.



5 Previous Exploration

5.1 Other Companies

There have been regional exploration activities undertaken by Conzinc Rio Tinto Australia Exploration (CRAE)/Rio Tinto Exploration P/L for sedimentary uranium targets and for Platinum Group Elements (PGE)-nickel- copper in the 1970's and the mid-late 1990's respectively.

Exploration by CRAE in the 1970's involved testing water bores on the Burt Plain for uranium. The programme included water sampling of eight existing water bores and gamma logging of six of these. It was reported that water samples contained between 4ppb and 41ppb U. Gamma logs located anomalies of 2.5 to 3 times background in four of the six holes logged. These results indicate that uranium is mobile in this terrain and that there is a potential to form calcrete or redox deposits.

Rio Tinto Exploration P/L explored the Mt Hay Complex in 1997 for layered mafic intrusive-hosted nickel-copper and platinum group elements. They completed detailed airborne magnetics, radiometrics and GeoTem surveys over their holdings, which extended 100km to the east of the Stuart Highway. Follow-up ground geophysics and drilling of the most prominent anomalies/targets was also completed but did not produce results to warrant further work. Geochemical sampling did not produce results of any note.

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 were 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 2004-Present

Work completed in the region by Crossland has included:

- Literature search for previous exploration activities covering the current tenements and surrounding areas. Compilation of data.
- Acquisition and interpretation of NTGS geological and airborne geophysical data sets.
- Field reconnaissance
- Airborne EM survey
- Airborne Mag-Rad survey
- Ground based radiometric survey
- Rock chip sampling
- Aircore drilling
- Diamond drilling
- Stream sediment sampling

Auger drilling

6 Work Completed on Relinquished Ground

Work completed on the relinquished portion includes:

Portions of two Tempest Airborne EM lines

Five stream samples

2 Rock Chip Samples

Various sample processing methods as listed below

Location of the sampling and airborne survey is illustrated in Figure 4.

6.1 Tempest EM Survey

Prior to granting of the tenement Crossland contracted Fugro Airborne Surveys completed a TEMPEST EM Airborne survey over a portion of EL 27358. Only a small portion of two airborne EM lines falls within the relinquished area. Crossland has applied for a waiver to cookie-cut geophysics for this partial relinquishment report.

6.2 Stream Sampling

A total of five samples were collected of within the relinquished area. Initially potential stream sediment sample sites were selected using airborne radiometric data from both Crossland and the government to identify the most prospective locations. Sites were identified on the 1:250,000 scale map and saved as a KML file for use in Google Earth™. In Google Earth™ sample sites were adjusted and additional sites added in order to achieve a sample density of about 1 sample per 1.5 to 3 km². Later in the program, following receipt of results, follow up sampling was conducted in the vicinity of samples with higher TREE (Total Rare Earth Element) results.

Access to sample sites was gained where possible via existing station tracks. When sites were located some distance from an existing track a quad bike was used to reach them. In some instances sites could only be reached on foot. At the sample site field personnel examined the immediate vicinity to identify where water flow was strongest and collect the sample from that part of the creek. If no ephemeral alluvial channel was located in about 200m of the proposed sample site then a soil sample was collected. At each site an estimated 20 kg of material was collected. If gravel and or cobbles were present at the site a somewhat larger sample was collected. At some sites water was present, in those instances samples were sieved in the field using a sieve with an aperture size

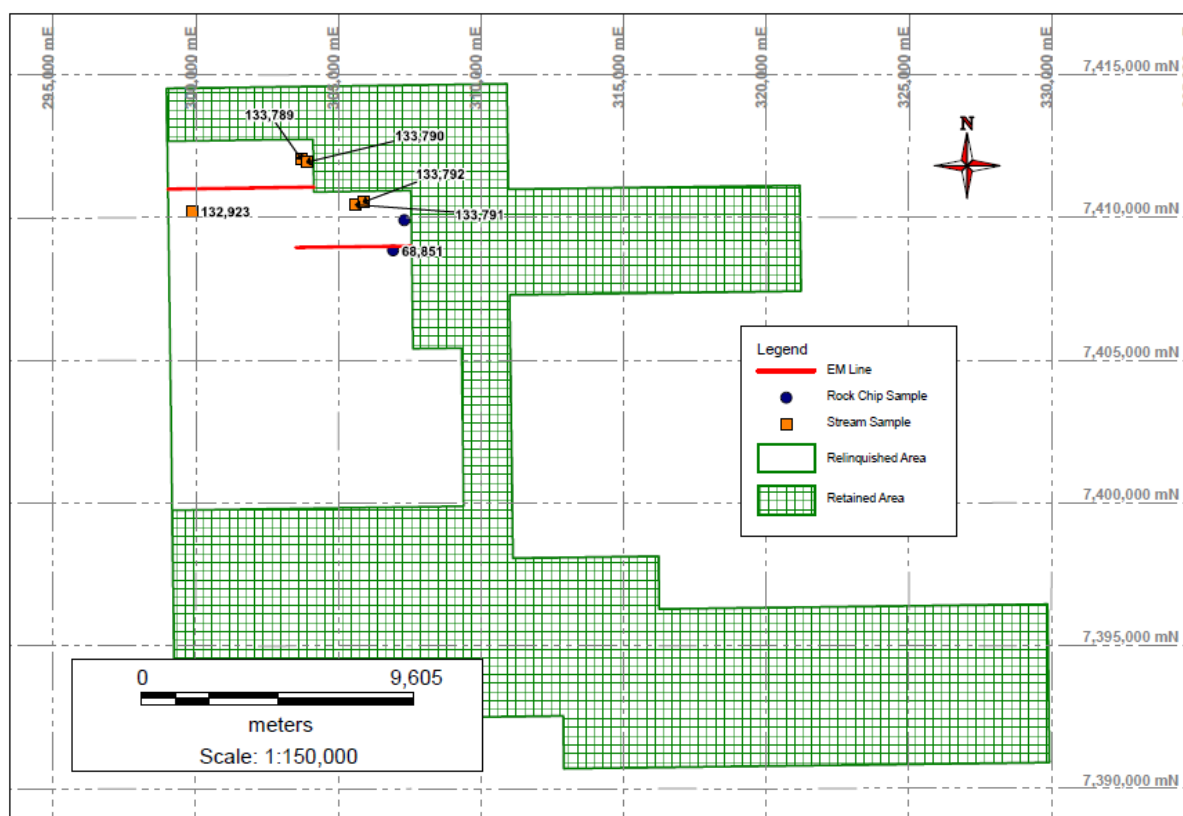


Figure 4 Work Completed in Relinquished Area

of 5mm. At sites accessed on foot sample size was reduced by panning, if water was available or by sieving to remove cobbles, pebbles and other coarse material.

At each site the UTM coordinates were recorded along with a brief description of the sample location. In some instances an electronic assay was recorded at the site using an RS-125 Super-Spec hand held spectrometer. Field data collected can be found in Appendix 1 and a map showing the distribution of sample sites is presented in Figure 4.

On site processing involved several steps with the various data recorded presented in Appendix 1. Due to the abundant rainfall, at the start of the program, many samples collected were wet or damp. The first step of sample processing was to place samples in a drying shed where they were left as long as required to dry. After drying samples were weighed, initially with a spring scale and later using an electronic platform scale and the weight recorded.

Following weighing samples were sieved; the undersize material retained for further processing and the oversize material stockpiled. Over time the sieving process evolved to improve sample processing efficiency. Initially samples were wet sieved with a 5mm sized sieve but later samples were dry sieved which proved less cumbersome. Part way through the program it was learned that further reducing the particle size would improve the efficiency of the Wilfely table. Samples were then first passed through a 5mm sieve the undersize material then passed through a 3mm sieve. The undersize from the 3mm sieve was retained for further processing and the oversized material from the 5mm and 3mm sieves was stockpiled. Sieving protocol was again modified to processing samples

containing hard mud lumps which formed during the initially drying. This was done by placing the dried sample in a cement mixer with water and quartz cobbles the mixer allowed to rotate to assist in breaking up the hard mud lumps. After that samples were wet sieved using first a 5mm and then a 3mm sieve as described previously.

Following sieving samples were passed over a Wilfely table; the sample being separated into seven fractions based on specific gravity. At the start of the program a lab sized Wilfely table supplied by Motive Traction of Newcastle, NSW was used. Samples were passed over the lab sized table with the second and third heaviest fractions passed over the table a second time and rarely a third time to maximise the separation of heavy minerals. The heaviest fraction or HMC (Heavy Mineral Concentrate) was then placed in the drying shed to dry. Initially the second and third heaviest fractions were retained and stored on site. As experience was gained using the Wilfely table the second heaviest fraction and every tenth third heaviest fraction was retained later only every tenth second heaviest fraction was retained and stored on site.

Due to the large number of samples to be processed, including auger/soil samples and aircore samples, a second $\frac{3}{4}$ sized Wilfely table was acquired, also from Motive Traction, to speed up processing. After installation of the $\frac{3}{4}$ table samples were processed first over the $\frac{3}{4}$ table. The second heaviest fraction was then processed over the lab table with the heaviest fraction from the lab table combined with the heaviest fraction from the $\frac{3}{4}$ table. This “combined” or HMC sample was then dried in the drying shed. The second heaviest fraction from the lab table was kept and stored on site. To run both tables simultaneously a minimum 4 field hands were required. If there was insufficient workers to run both tables the second heaviest fraction from the $\frac{3}{4}$ table was run over the $\frac{3}{4}$ table rather than the lab table.

After drying a RS-125 Super-Spec hand held spectrometer was used to record the median Total Count of each HMC sample and its weight was recorded. Data recorded during processing can be found in Appendix 1.

At the start of the program samples were shipped to Diamond Recovery Services (DRS), Perth for both magnetic separation followed by heavy liquid separation. DRS’ procedure was to weigh the samples then process them through the magnetic separator and weigh the magnetic fraction this data is given in Appendix 1.

Crossland later acquired a magnetic separator and thereafter undertook its own magnetic separation. The magnetic separation protocol established by Crossland was to set the separator at a low amp setting with high rpm for the first pass to pull out the most strongly magnetic material referred to as the C fraction. The separator was then set at higher amps and lower rpms the remaining HMC passed through as many times as required until no material was removed this more weakly magnetic material was referred to as the B fraction. The nonmagnetic material is referred to as the A fraction. In most instances the B and C fractions were combined to create a simple magnetic fraction referred to as the M fraction. However for every tenth sample the B and C fractions were kept separate for comparison of analysis. Following magnetic separation all non-magnetic A fractions, magnetic M fractions and every tenth retained strong magnetic C Fraction and weak magnetic B fraction had their weight and median Total Count recorded using an RS-125 Super-Spec hand held spectrometer recorded (Appendix 1).

It was later learned that the magnetic separator was most effective if the maximum grain size was less than 0.5mm. As the maximum grain size for samples was 3mm it was decided to omit conducting magnetic separation of the remaining samples.

As noted above the first samples were shipped to DRS and following magnetic separation the non-magnetic fraction was subject to heavy liquid separation with the weight of the TBE sinks recorded (Appendix 1). DRS then shipped both the magnetic and the non-magnetic fractions to ALS in Perth for further preparation (pulverisation) followed by assay.

On the following samples which Crossland completed magnetic separation on the non-magnetic A fraction was shipped to DRS for heavy liquid separation. DRS recorded the received sample weight and the weight of the TBE sinks this data can be found in Appendix 1. The magnetic fraction M, the strong magnetic C fraction and the weak magnetic B fraction samples were all shipped by Crossland to ALS' preparation facility in Alice Springs where they were initially processed prior to being forwarded on to ALS' Perth laboratory for analysis.

As the program progressed, and analysis were received, it was discovered by Crossland that the high REE content present in many of the TBE sinks, produced by DRS, resulted in difficulties in producing reliable repeatable REE analysis. Because of this problem it was decided to no longer undertake heavy liquid separation on the remaining samples.

Samples were initially submitted to ALS in Perth via their Alice Springs preparation facility for analysis. Two analysis methods were used on both non-magnetic samples and magnetic samples ME-MS81h and ME-XRF12. For ME-MS81h a prepared sample (0.100 g) is added to lithium metaborate flux (0.90 g), mixed well and fused in a furnace at 1000°C. The resulting melt is then cooled and dissolved in 250 mL of 4% nitric acid. This solution is then analyzed by inductively coupled plasma - mass spectrometry. In instances where individual REE results exceeded the upper detection limit the sample was re-analysed by OGREE an ore grade REE method that uses lithium metaborate fusion with analysis by inductively coupled plasma – atomic emission spectroscopy. In the case of ME-XRF12 a prepared sample (0.66 g) is fused with a 12:22 lithium metaborate – lithium tetraborate flux which also includes an oxidizing agent (Lithium Nitrate), and then poured into a platinum mould. The resultant disk is in turn analysed by XRF spectrometry.

The results of the analysis of the non-magnetic and various magnetic fractions are presented in Appendix 2.

6.2 Regional Rock Samples

Two regional rock chip samples were taken within the relinquished portion of EL 27358. Prospecting was undertaken with the goal of identifying potential massive nickel sulphides which could be associated with a TMI anomaly present in the area. Prospecting for REE sources was aided using an RS-125 Super-Spec hand held spectrometer to identify sites with elevated gamma ray counts for sampling. Samples were taken with a rock chip hammer from a number of localities from both outcrop and float. Locations are illustrated in Figure 4.

All samples were submitted to ALS Chemex preparation facility in Alice Springs. Samples were prepared on site first being dried and then the whole sample was pulverised until a nominal 85% could pass through a 75 micron screen. Samples were analysed using methods ME-MS61 (48 element suite) and ME-MS81h (24 element suite including 16 REE).

For method ME-MS61 a prepared sample (0.25 g) is digested with perchloric, nitric and hydrofluoric acids. The residue is leached with dilute hydrochloric acid and diluted to volume. It is then analysed by inductively coupled plasma-atomic emission spectrometry and inductively coupled plasma-mass spectrometry. Results are corrected for spectral interelement interferences. Method ME-MS81h is a lithium borate fusion method and is described previously in this report.

Sample site locations, descriptions, and other field data along with analysis results for the samples are given in Appendix 3.

8 Conclusion

There were no results of interest derived from the activities carried out in the relinquished areas. Given Crossland's current financial position no further work is recommended and the ground has been relinquished

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