



EL 27338

Aileron Project Partial Relinquishment Report

24 December 2009 to 23 December 2011



Google Earth Image illustrating the regional location of EL 27338

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Summary

The Aileron tenement, EL 27338, is located approximately 108 km north of Alice Springs along the Stuart Highway and 25 km south of the Aileron Roadhouse. EL27338 was granted to Crossland Nickel Pty Ltd on 24 December 2009 for a period of 6 years. Crossland Uranium Mines Limited is the project operator. On 16 March 2012 the second annual review was completed by the Department of Resources. The tenement was reduced by twenty-one (21) blocks. Work completed on the 21 relinquished blocks is covered within this report.

Preliminary work consisted of data compilation and interpretation and assessment of available historical mineral exploration, geological and geophysical data. An airborne EM survey was completed in 2009.

During 2011 field work within the tenement consisted of geological mapping, field reconnaissance and collection of seven (7) stream sediment samples.

The tenement lies within the 1860 – 1700 Ma Aileron Province of the Arunta Region. The regional geology comprises the Lander Rock Formation (LRF), a widespread package of variously metamorphosed clastic sediments. Granitic rocks intrude the LRF. The Ngalia basin lies immediately to the west. The Nolans Bore REE deposit is located in the Reynold Range immediately northwest of the Aileron roadhouse.

Apart from the Nolans Bore discovery, previous exploration in the region has focused mainly on gold and uranium with a lesser emphasis on base metals. Crossland's principal commodity interest in the region is uranium and rare earths.

1 Introduction

Crossland first commenced on-ground exploration activities in the Alice Springs region in 2006, initially assessing the nickel potential of the Mount Hay complex, just south of the Tanami Highway on Amburla Station, west northwest of Alice Springs. This location was one of several chosen for exploration by utilising confidential concepts of target identification developed by Paradigm Geoscience. Since that time Crossland has considerably expanded its property holding in this region with an emphasis placed firstly on uranium exploration followed more recently by the discovery of widespread rare earth occurrences. The Aileron license is also considered prospective for uranium-rare earths given the discovery of Nolans Bore REE deposit just northwest of the Aileron roadhouse.

During tenure field work within the relinquished area consisted of geological mapping, field reconnaissance and collection of seven (7) stream sediment samples.

2 Location, Description and Access

The Aileron tenement, EL 27338, is located approximately 108 km north of Alice Springs along the Stuart Highway and 25 km south of the Aileron Roadhouse. It is located wholly within Aileron Station, NT Portion 703.

The Burt Plain is the principal physiographic feature. The Hann Range in the extreme north represents the easternmost extension of the Ngalia Basin. The highest point of the Hann Range is Mount Ewart (802 m) just to the east of the Stuart Highway

The Stuart Highway traverses the tenement and access is gained via various station tracks.

3 Tenure

EL 27338 was granted for a six-year term on 24 December 2010 (expiring 23 December 2016). The title originally covered an area of 81 sub-blocks (256.32 km²). On 16 March 2012 the second annual review was completed by the Department of Resources. The tenement was reduced by 21 blocks. Work completed on the 21 relinquished blocks is covered within this report. The EL is owned by Crossland Nickel Pty Ltd and the project operator is Crossland Uranium Mines Limited (Figure 1)

4 Previous Exploration

Recorded exploration activities date back to the 1970s with much of the activity taking place within the metamorphic terrane of the Reynolds Range, located approximately 50 km to the north of Crossland's tenement. Exploration had concentrated mainly on gold and uranium with a lesser emphasis on base metals and diamonds.

In 1979 Otter exploration followed up a radiometric anomaly within its EL just to the north of Pine Hills homestead. Uranium-REE bearing monazite within a garnet gneiss phase was located on-ground and subsequently assessed. PNC discovered several significant radiometric anomalies during its regional airborne survey of the area in 1994. Follow-up ground investigations discovered the important REE-bearing apatite deposits of Nolans Bore. Other work by several companies assessed the nearby Ngalia Basin for calcrete-bearing uranium deposits given that there are suitable U-source rocks within the nearby metamorphic-granitic terrane.



Figure 1 EL 27388 (Original Boundary) on Google Earth Image

5 Geology and Structure

The Aileron EL is located in the southeast corner of the NTGS 1:250,000 Geological Map Series Napperby sheet SF 53-9. Geologically and structurally, the licence is located within the Aileron Province (1860-1700 Ma), which consists of a sequence of variably metamorphosed clastic sediments of the Lander Rock Formation (LRF) dated at 1860 to 1830 Ma. These are overlain in places by younger rocks of the Ngalia Basin sequence. The Reynolds Range to the north is mapped as the Aileron Metamorphics, which consist of calc-silicates, orthogneiss and mafic granulite. These rocks have been equated with the LRF. Younger granites intrude the metamorphics.

Much of the licence is covered by sand and soil. The most prominent geological feature is the Hann Range, a thin fault-controlled sliver of basement and younger sediments, which traverses east to west across the extreme northern part of the tenement. The metamorphic basement here comprises the Mount Bleechmore Granulite (gneiss, calcareous pelitic gneiss, calc-silicate, migmatite, mafic granulite); it is overlain by the 'Vaughan Springs Quartzite' (conglomerate, glauconitic sandstone and evaporite), which is the basal part of the Ngalia Basin. Outcropping basement is also indicated in the literature to occur south of the Hann Range.

6 Exploration Activities

Following literature research, data compilation, and interpretation carried out in 2010; Crossland's 2011 field exploration programme consisted of geological mapping, field reconnaissance and collection of seven (7) stream sediment samples within the relinquished area. Stream samples were collected on a regional scale to test for rare earths elements. For sample locations see Figure 2.

Field work was completed by a Crossland contract geologist and field assistant between 15 May 2011 and 22 May 2011. At each sample site approximately 20 kilograms of stream sediment was collected. Before being sent to Australian Laboratory Services (ALS) in Alice Springs for analysis, samples were taken to Crossland's processing facility near Alice Springs.

Each sample was dried, weighed and sieved (20 mm screen size). Once sieved, each sample was run across #9A Wilfley Table (Motive Traction Pty Ltd). The coarsest material was discarded; fine material was retained and passed through a CARPO Magnetic Separator Model: M1278 SY22 manufactured by Warman Equipment.

Both the magnetic and non-magnetic fractions were retained. All magnetic samples were sent to ALS and analysed by methods ME-MS81h and ME-XRF12. Non magnetic fractions were sent to Diamond Recovery Services Pty Ltd of Welshpool WA for tetrabromoethane (TBE) heavy liquid separation. The TBE sinks (heavy fraction) were then sent to ALS for processing methods ME-MS81h and ME-XRF12. For Methods ME-MS81h a prepared sample is added to lithium metaborate flux, mixed well and fused in a furnace at 1000°C. The resulting melt is then cooled and dissolved in HCl solution. This solution is then analyzed by inductively coupled plasma - mass spectrometry. For methods XRF12 calcined or ignited sample is added to Lithium Borate Flux, mixed well and fused in an auto fluxer between 1050 - 1100°C. A flat molten glass disc is prepared from the resulting melt. This disc is then analyzed by X-ray fluorescence spectrometry. All Sample data including assay results, processing data tables and location data can be found within Appendix 1,2, and 3 (Non-magnetic samples are numbered as per normal convention, magnetic fractions are denoted with the letter M, B, or C).

Prior to granting of the tenement Crossland contracted Fugro Airborne Surveys completed a TEMPEST EM Airborne survey over EL 27338. Only a small portion of four (4) airborne EM lines falls within the relinquished area. Crossland was granted a waiver to cookie-cut geophysics for this report on 17 April 2012.

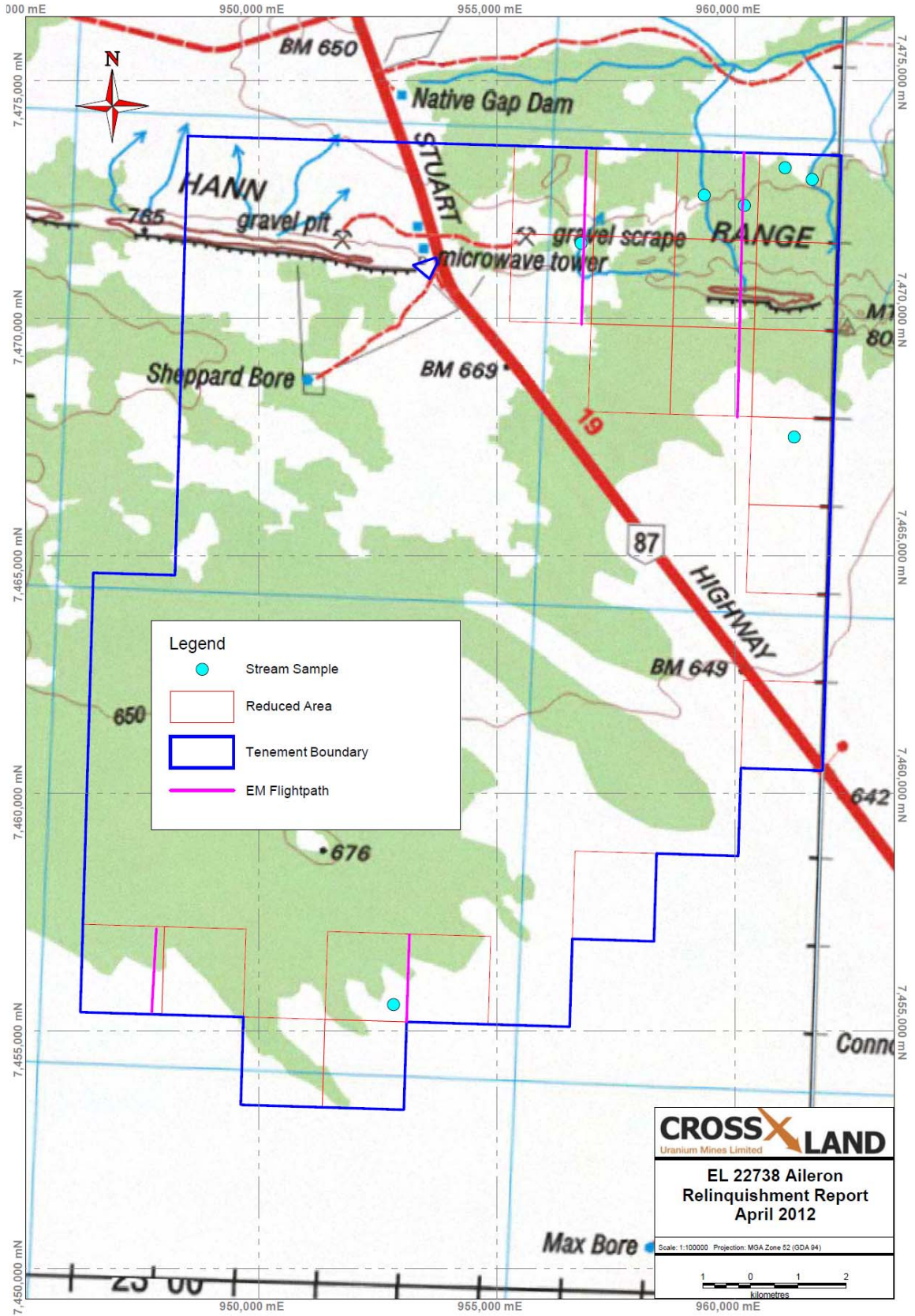


Figure 2. Stream Sample Locations and Relinquished Blocks

7 References

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