



Operator: Crossland Strategic Metals Ltd

# Charley Creek EL 27284

Arunta Region

Annual and Final Report for EL 27284 for the period 17 November 2009 to  
4 February 2016

Tenement Holders: Crossland Nickel Pty Ltd

## Summary

EL 27284 was granted to Crossland Nickel Pty Ltd on 17 November 2009 for a period of 6 years. At grant, the licence consisted of 313 blocks (983.72 km<sup>2</sup>). At the time of Surrender the tenement consisted of 215 blocks (676.7 km). A reduction was made in 2013 and a further reduction made in 2015 following a Penalty 'Loss of Block' notification.

The licence was part of Reporting Group GR086/09, which consists of nine (9) other licences granted to Crossland Nickel Pty Ltd.

Activities since grant consisted of literature search, airborne geophysical data assessment, geological reconnaissance and stream sediment sampling. A proportion of costs for both Environmental and Feasibility studies, conducted between 2012 and 2013 were allocated to the licence. Expenditure on the tenement since 2009 has amounted to around \$576,000. No on-ground exploration activities have been carried out since 2012.

## Bibliographic Data

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<b>Project Name</b>	Charley Creek
<b>Tenement Number</b>	EL 27284
<b>Tenement Holder</b>	Crossland Nickel Pty Ltd
<b>Operator</b>	Crossland Strategic Metals Limited
<b>Commodities</b>	Rare Earth Elements, Uranium
<b>Tectonic unit</b>	Arunta Region
<b>1:250 000 MapSheet</b>	Hermannsburg (SF53-13)
<b>1:100 000 MapSheet</b>	Anburla (5551)
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## 1 Introduction

The licence is centred about 150 km northwest of Alice Springs and about 56 km west of the Stuart Highway. It was contiguous with Crossland's EL 27283 on its southern side and EL 28964 to the north. The Tanami Highway passed through the eastern part of the licence with localised access provided by station tracks and fence lines.

Papunya aboriginal community is located about 6 km to the south of the licence and another community Rubunja is situated about 2 km east of the eastern edge. The EL originally fell within four pastoral leases: Derwent, Narwietooma, Amburla and Aileron.

EL 27284 was formerly part of Group Reporting GR086/09, which includes nine other licences, and is one of twenty two licences that comprise Crossland's Charley Creek Project.

This report covers all activities related to the subject licence to the date of surrender. The decision to surrender followed on from discussions with Crossland's new JV partner who were investigating ways to reduce expenditures. The location of the licence in relation to the Charley Creek resource was assessed as being too distant, although it was considered a potential source of groundwater reserves for any future operation.

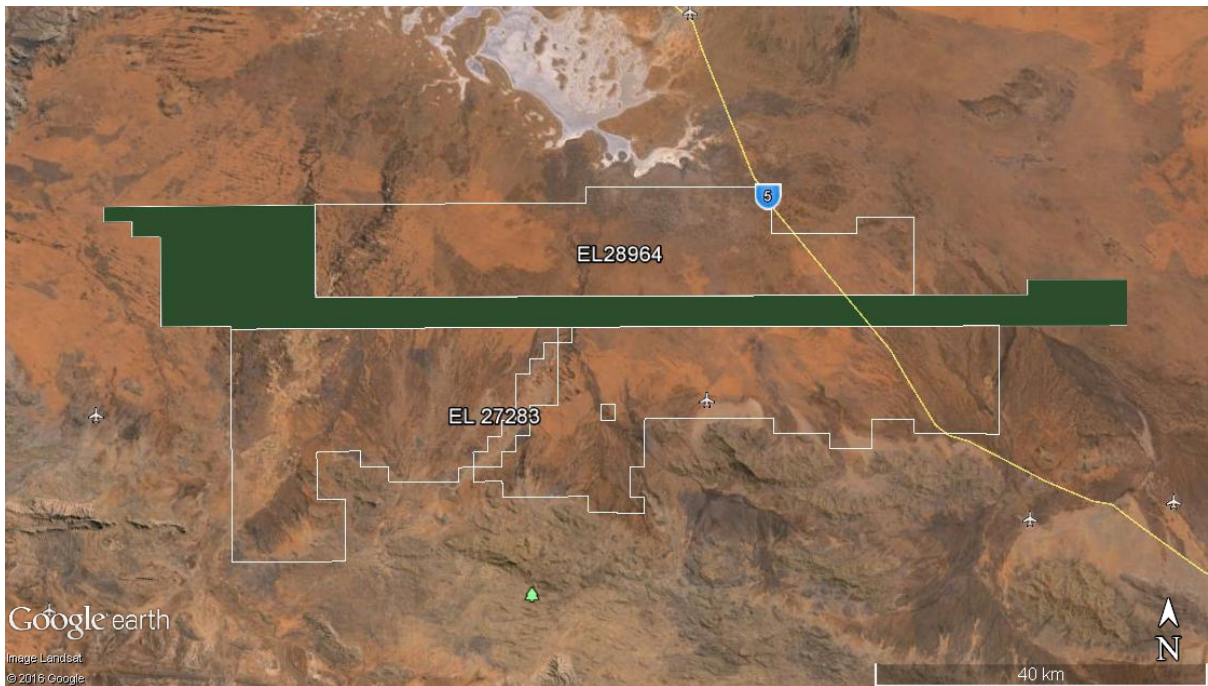
## 2 Tenure Details

EL 27284 was granted to Crossland Nickel Pty Ltd on 17 November 2009 for a period of 6 years. At grant, the licence consisted of 313 blocks covering an area of 983.72 km<sup>2</sup> (Figure 1). At the end of Year 4 (November 2013) the licence was reduced to 249 blocks, an area of 782.8 km<sup>2</sup>. On 3 September 2015, the company was notified by NTDMRE of a 'Loss of Block' penalty applied collectively to Group GR086/09 licences. Crossland reduced the subject licence by thirty four (34) blocks (Figure 2).

Following this reduction Crossland applied for the equivalent reduction of expenditure covenant.



**Figure 1** EL 27284 Outline of licence when granted



**Figure 2** EL 27284 Outline of licence prior to surrender

### **3 Geology**

The geology of the Charley Creek project area has been covered in detail in various reports to the department. The reader is directed to those reports for that information.

The licence is covered by recent deposits of sand and alluvium. These overlie Tertiary sediments, which are estimated to be at least 300 metres thick in places.

### **4 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; CRAE also explored for nickel, copper and PGE in the mid to late 1990's. Several other companies also explored the area for sedimentary uranium potential. Esso Australia Limited explored the Teapot Granite in 1977 for uranium following positive results of an airborne radiometric survey.

Both CRA and Alcoa had exploration licences, which covered part of EL27284. Exploration activities included auger drilling, sampling, downhole gamma logging and water bore analyses (CRA) and rotary mud drilling, sampling and surface and down hole geophysics (Alcoa). Conclusions drawn from both investigations were that the region lacked the features and mechanisms conducive to the formation of sedimentary uranium deposits.

### **5 Crossland Activities**

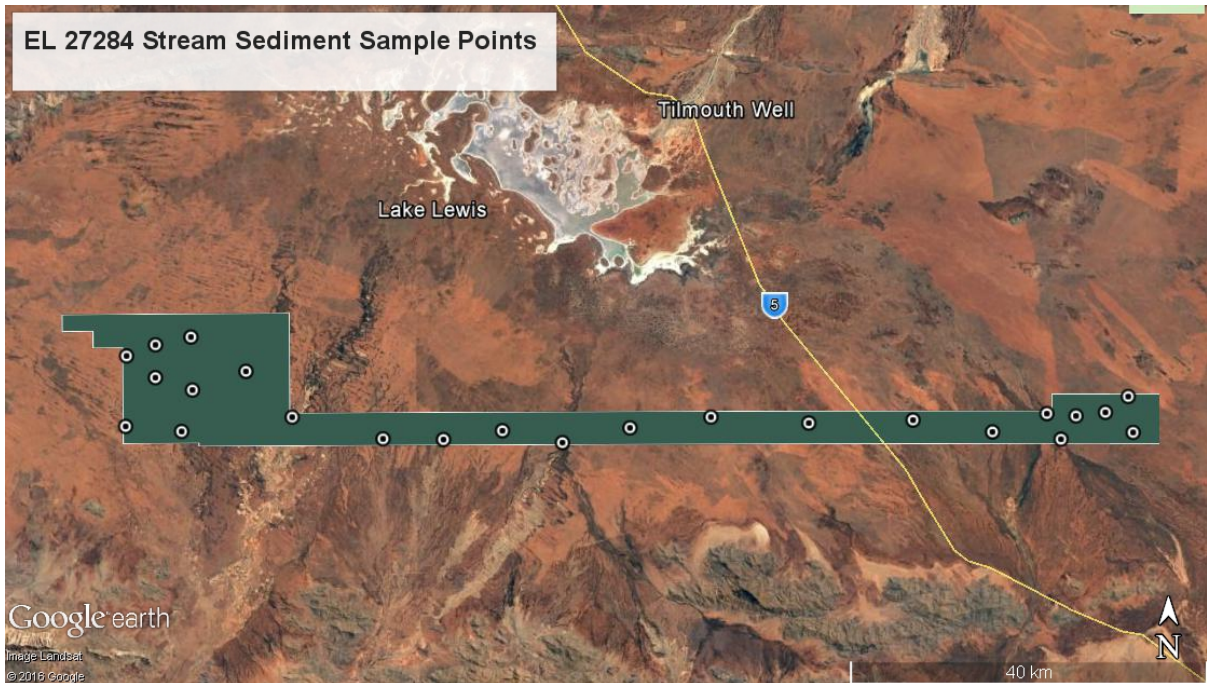
Since grant the following main activities have been carried out :

- Literature search and data compilation
- Compilation, processing and assessment of geophysical data
- General and geological reconnaissance of the licence
- Collection of 44 stream sediment samples between late 2010 and mid 2011

The remaining part of the tenement would have had all of the above activities carried out within its boundaries. Of the 44 sediment samples collected tenement-wide, 24 of those samples were within the residual licence area. See Figure 3 for sediment sample location points. Assays for these samples are recorded in the accompanying Appendix 1.

Up to the surrender date, a total of approximately \$576,400 has been allocated to the tenement. This total includes general project costs including project management and support and the pre-feasibility activities (environmental, metallurgical and engineering) that were carried out over a two year period from late 2011 to mid 2013.





**Figure 3** EL 27284 stream sediment sample points within licence at time of surrender

## 6 Conclusions

The licence was originally acquired because of its potential for hosting sedimentary uranium deposits within buried Tertiary channels. Following the discovery of alluvial REE mineralisation and tracing its distribution to the main outwash channels originating from the west McDonnell foothills, the importance of the licence increased due to the presence of the northern extensions of some of these channels.

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



## 7 References

Buskas,A.J., Ainsley, P.J. & Porter, J., 2012: COMBINED ANNUAL REPORT ELs ELs 24281, 25230, 27283, 27284, 27338, 27358, 27359, 28154, 28155, 28224, 28225 & 28226. CHARLEY CREEK PROJECT (NT) 7/02/2011 TO 6/02/2012

Fraser, N., 1977. Annual Report for period 12 November 1976 to 11 November 1977. EL1323 Razorback, Esso Australia Ltd., CR78/27

Home, D.P., Wilkinson D.L. & McCoy, A.D., 1997: Combined final report for period ending 14 Sept, 1997. Mount Hay-Sixteen Mile Project. ELs 9565/9566/8126/8988. CRAE, CR1988-008.

Hughes, F.E. and O’Sullivan, K.N. 1973: Final Report – Milton Park EL519.CRAE. CR1973-0120.

O’Sullivan, F.R. and Tham, G.H.P, 1972. Final Report AP3384 and EL440 Mt Hay. CRAE, CR1972-0066.

Shaw, R.D., Warren, R.G., et al 1995; Hermannsburg (1:250000 Scale Map). Australian Geological Survey Organisation, Canberra.

Warren, R.G., Shaw, R.D. 1995, Hermannsburg NT – 1:250000 Geological Series. NTGS. Explanatory Notes SF53-13.

Wembenyui, E.W. and Buskas, A.J., 2011. Combined Annual Report ELs 24281, 25230, 27283, 27284, 27358 & 27359 Charley Creek Project 7/02/2010 to 6/02/2011.