



Operator: Crossland Strategic Metals Ltd

# Charley Creek EL 27283

Arunta Region

Partial Relinquishment Report for EL 27283 for the period 17 November 2009  
to 28 January 2016

Tenement Holders: Crossland Nickel Pty Ltd

P Melville  
March 2016

## Summary

EL 27283 was granted to Crossland Nickel Pty Ltd on 17 November 2009 for a period of 6 years. At grant, the licence consisted of 500 blocks. The subject licence, in conjunction with nine (9) others was given Group Reporting status in 2012 as GR 086/09. This was followed by EPA status in 2013.

In September 2015, a penalty partial cancellation notice for the group was issued due to under expenditure for two successive years. Cancellation of twenty one (21) sub-blocks from the licence was undertaken by Crossland. In January 2016, the company voluntarily relinquished 326 blocks bringing the total remaining blocks to 153 (475.38 km<sup>2</sup>).

Exploration activities have consisted of an airborne geophysical survey and stream sediment sampling. A proportion of costs for both Environmental and Feasibility studies, conducted between 2012 and 2013 were allocated to the licence. No on-ground exploration activities have been carried out since 2012.

## Bibliographic Data

<b>Report Title</b>	Partial Relinquishment Report for EL 27283 for the period 17 November 2009 to 28 January 2016
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<b>Project Name</b>	Charley Creek
<b>Tenement Number</b>	EL 27283
<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>	Narwietooma (5451)
<b>Keywords</b>	Arunta Region, Charley Creek, REE, Uranium

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## 1 Introduction

The licence is centred 150 km northwest of Alice Springs, and is located on the Derwent and Narwietooma pastoral leases. Several aboriginal communities are present in the region – Papunya and Bunghara to the west and Rabunja to the east. The Tanami Highway is located approximately 30 km to the east. Access within the licence area is via station tracks and fence lines.

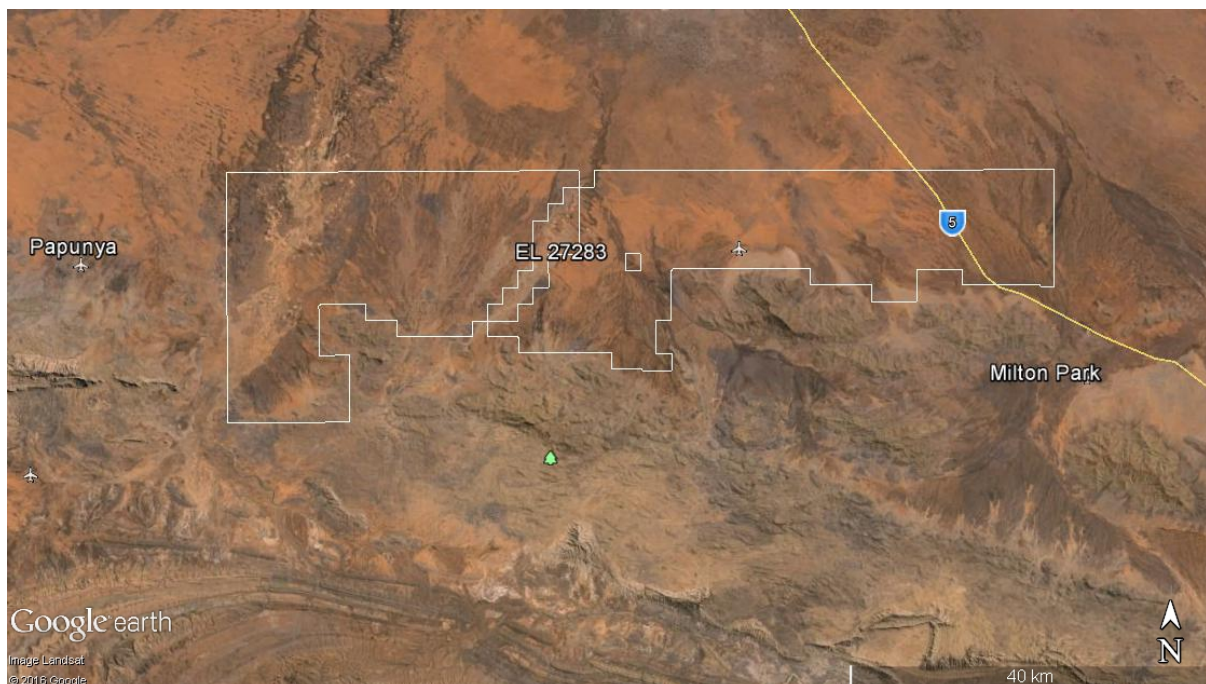
EL 27283 is part of Group Reporting GR086/09, which now includes eight (8) other licences. It is also one of twenty one (21) licences that comprise Crossland’s Charley Creek Project. Since grant, the entire licence area has seen an expenditure of approximately \$1.5 million.

This report details exploration activities carried out on the 326 sub-blocks that were relinquished by Crossland in January 2016.

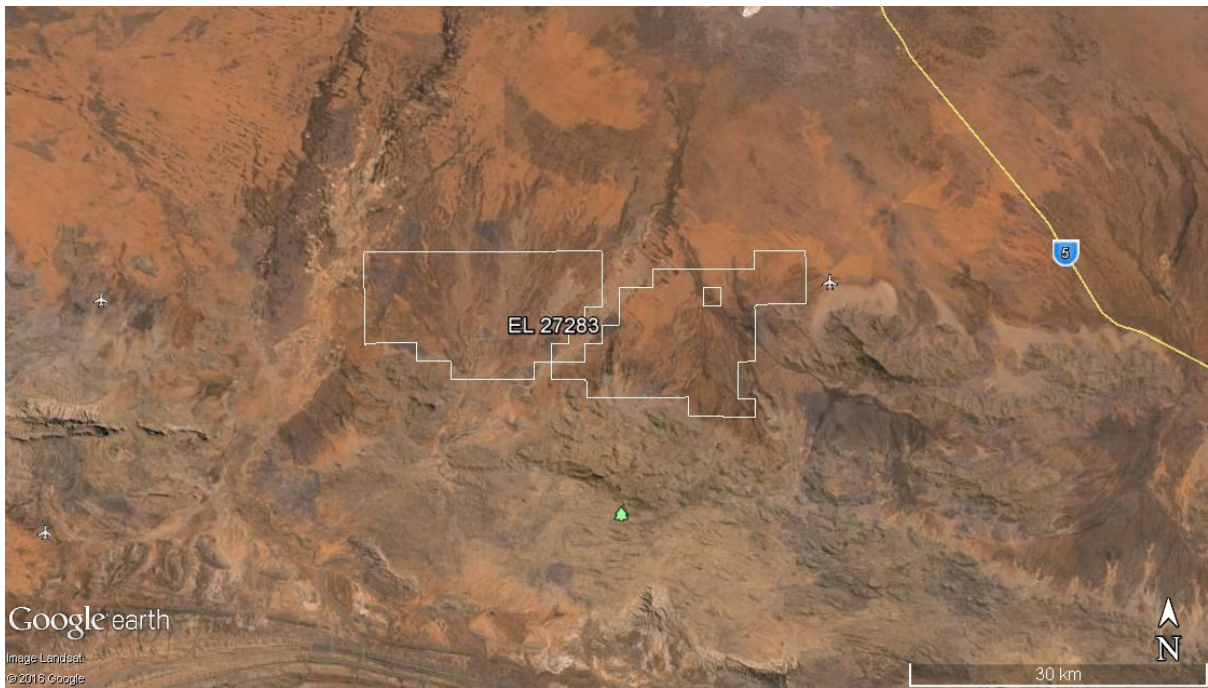
## 2 Tenure Details

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 500 blocks covering an area of 1560.67 km<sup>2</sup>. A penalty partial cancellation took place in September 2015 and a voluntary relinquishment in January 2016. The current size of the licence is 153 sub-blocks, an area of 475.38 km<sup>2</sup>.

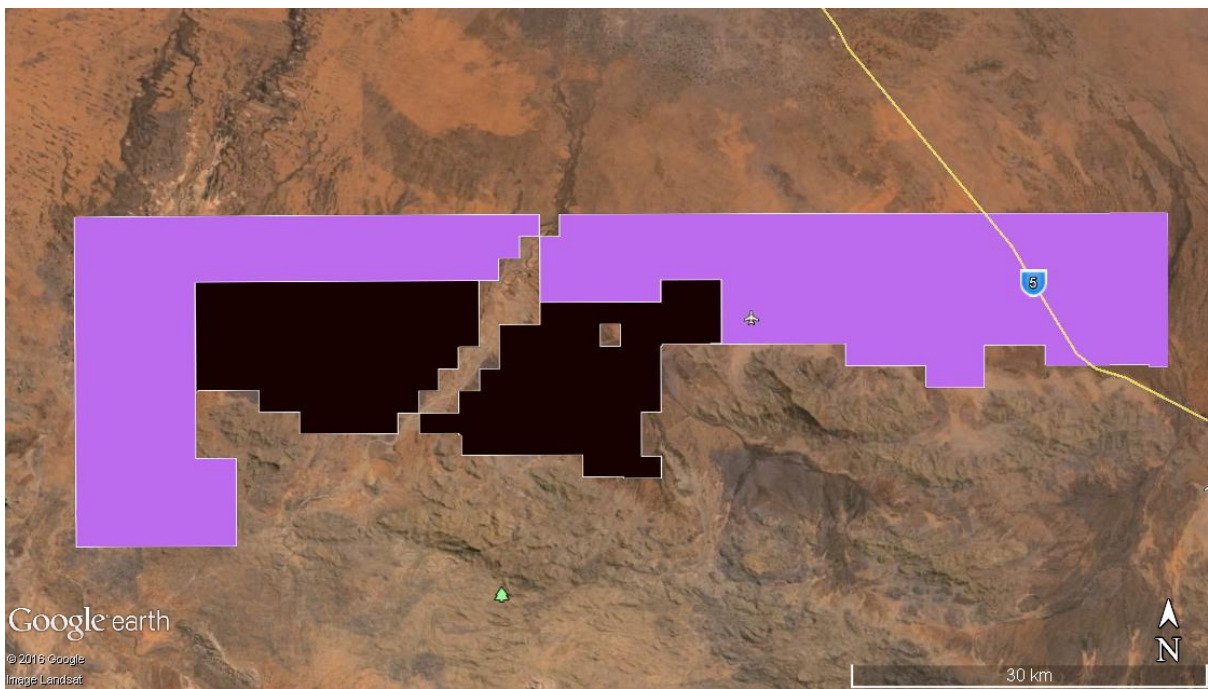
See Figures 1, 2 and 3 for location images of EL27283.



**Figure 1.** EL27283 prior to relinquishment



**Figure 2.** EL27283 current licence outline after relinquishment



**Figure 3.** EL27283 composite outline of relinquished and retained area

### **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 have a maximum thickness of 300 metres.

### **4 Previous Exploration**

Regionally there were exploration activities undertaken by Conzinc Rio Tinto Australia Exploration (CRAE) and Alcoa for sedimentary uranium targets between 1973 and 1981 and 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 from an airborne radiometric survey.

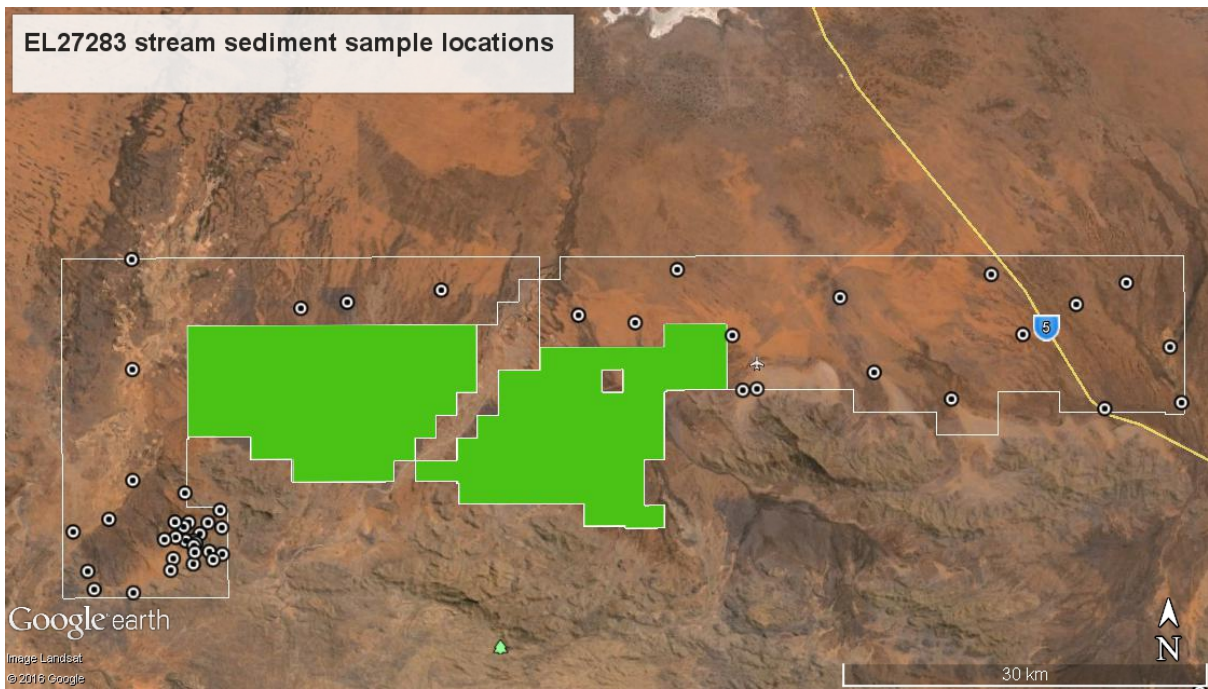
Literature search shows that both CRA and Alcoa had exploration licences, which covered part of EL27283. Exploration activities included auger drilling, sampling, downhole gamma logging and water bore analyses (CRA) and rotary mud drilling, sampling and surface and down hole geophysics. Conclusions drawn from both investigations were that the region lacked the features and mechanisms conducive to the formation of sedimentary uranium deposits.

### **5 Crossland Activities**

In 2010 UTS-Aeroquest was contracted to undertake an airborne radiometric, magnetic and digital terrain survey over part of EL 27283. The area surveyed is illustrated in Figure 4 and was confined exclusively to that part of the relinquished area. The survey was undertaken between April 20<sup>th</sup> and June 11<sup>th</sup> 2010. Heavy rain was experienced after the survey had commenced and these conditions extended over several months causing a significant delay. The work recommenced after it was determined that the ground had sufficiently dried out. A total of 1,841 line kilometres were flown at 100 metre spacing in a north-south direction. Tie lines were flown at 1 kilometre spacing in an east-west direction. The survey report and various maps are presented as Appendix 1

Thirty seven (37) stream sediment samples were collected from defined drainages and channels. The samples were collected between late 2010 and mid 2011 as part of a regional REE sampling programme that covered several of the company's licences. See Figure 5 for sample locations. Appendix 2 contains sample assay data.

No other activities were undertaken.



**Figure 4.** EL27283 Stream sediment sample locations



**Figure 5.** EL27283 Mag-Rad survey coverage in southwestern section of relinquished area



## 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 is also considered as a potential source of groundwater reserves that would be required for any future mining operation.

## 7 References

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