



# ANNUAL TECHNICAL REPORT EXPLORATION LICENCE 29389 "Mt George"

# For the reporting period: 13<sup>th</sup> September 2014 – 31<sup>st</sup> December 2014 (Bridging period)

Author: Neil Chalmers
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Tenement
Holders: DBL Blues Pty Ltd 100%
Tenement: EL29389 "Mt George"

Reporting Period: 13 September 2014 – 31 December 2014 (Bridging period)

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Target Copper, uranium, silver

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# 1.0 Summary

Exploration Licence 29389 "Mt George" is located approximately 140 km northeast of Alice Springs. Access into the area is reasonable, via the Ross Highway, through the Arltunga Historical Reserve to Ambalindum Station, past Claraville Homestead and then by station tracks.

This report is a bridging annual technical report covering 13-9-14 to 31-12-14 as future reporting for EL29389 will be combined with EL29347, EL29512 and EL29514.

During the reporting period Core Exploration completed a transfer of tenement owner from the former joint venture partners Gempart NT Pty Ltd to DBL Blues a fully owned subsidiary of Core Exploration Pty Ltd.

No active exploration was completed on EL29389 during the bridging period.

| 507,500 mE  | 510,000 mE | 512,500 mE | 515,000 mE | 517,500 mE | 520,000 mE | 522,500 mE | 525             |
|---|------------|------------|------------|------------|------------|------------|-----------------|
| Date: 3/2/2015  Author: Office: Drawing:  Drawing: CORE  EL29389  Mt George Exploration Index | к Мар      | ***        |            |            |            |            | 7,437,500 mlN   |
| Projection: GDA 94 Z53  |            |            |            |            | 1          |            | 7,435,000 mN    |
| 7,432,500 mN  |            |            |            |            |            |            | 7,432,500 mN    |
| 7,430,000 mN  |            |            |            |            |            |            | 7,430,000 mN    |
| 7,427,500 mN  | 510,000 mE | 512,500 mE | 515,000 mE | 517,500 mE | 520,000 mE | 522,500 mE | 7,427,500 mN 50 |

Figure 1.1: Exploration Index Map

#### 2.0 Introduction

This report details exploration activities completed within EL29389 "Mt George" during the second year of tenure, 13<sup>th</sup> September 2013 to 12<sup>th</sup> September 2014. The tenement is owned by Gempart NT Pty Ltd. Core Exploration (DBL Blues Pty Ltd) is currently exploring and managing the tenement under a joint venture agreement.

The tenement is located 140 kilometres northeast of Alice Springs, midway between the Harts Range and Illogawa Creek. Light vehicle travel time to the tenement is just under 2.5 hours from Alice Springs (Figure 2.1) via the Ross, through the Arltunga Historical Reserve to Ambalindum Station, past Claraville Homestead and then by station tracks.

Access within the tenement is limited; the general area is hilly with only a few vehicle tracks available. The rivers are prone to flooding during heavy rainfalls over the summer. Accommodation can be found at Ambalindum Station (approximately 45 minute drive from the tenure). The climate is typical of central Australia, hot summers and mild winters.

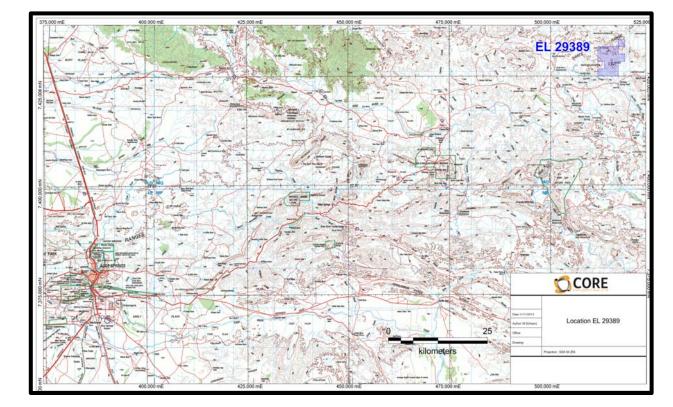


Figure 2.1: Location Map of EL 29389

# 3.0 Geology and Mineralisation

EL 29389 is located in the Proterozoic Aileron Province of the Central Arunta Region. The rocks here mostly comprise variably metamorphosed sediments, volcanics, calcsilicates, amphibolites and granite. The dominant late structures appear to trend NW.

The western area is underlain by the Palaeoproterozoic Irindina Gneiss (schistose garnet-biotite gneiss; sillimanite gneiss; amphibolite; biotite gneiss) and Riddock Amphibolite (layered to massive amphibolite; minor garnetiferous quartzofeldspathic gneiss, garnet-biotite gneiss; rare sillimanite gneiss, hornblende or

clinopyroxene-bearing plagioclase-rich gneiss) which forms part of the Aileron Province. The eastern portion of the area is underlain by Bruna Gneiss (porphyroblastic-feldspar granitic gneiss, granitic gneiss) and the Entia Gneiss (quartzofeldspathic gneiss with conspicuously interlayered amphibolite). Later ultramafic intrusives are a minor component of the local geology.

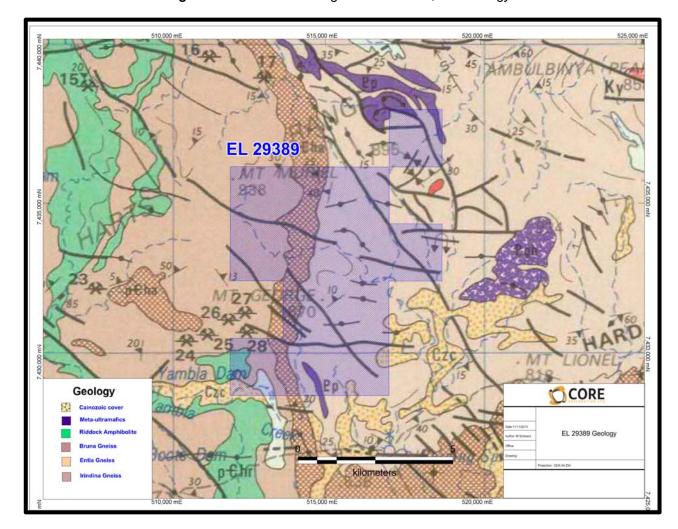


Figure 3.1: Extract from Illogwa Creek 1:250,000 Geology

# 4.0 Tenure

EL29389 was granted on the 13<sup>th</sup> September 2012 for a period of six (6) years. The tenement overlies pastoral lease PPL1124 (Ambalindum Station). In October 2012 a joint venture (JV) agreement was entered into between Gempart (NT) Pty Ltd and Core Exploration Ltd covering a number of leases within the Arltunga area, including EL 29389. During the bridging period Core finalised a purchase agreement with Gempart to become 100% owner of EL29389. Tenement details are summarised in Table 4.1.

Table 4.1: Tenement Summary

| Tenement | Owner   | Date<br>Granted | Tenure  | Size         | Rent Yr 2 | Expenditure<br>Commitment |
|----------|---|-----------------|---------|--------------|-----------|---------------------------|
| EL 29389 | DBL Blues<br>(wholly owned<br>subsidiary of<br>Core<br>Exploration)<br>100% | 13/9/2012       | 6 Years | 13<br>blocks | \$1,161   | \$15,000                  |

# 5.0 Previous Exploration

Numerous old prospects (mica) occur within the Entia Dome area but little production of any worth has been recorded. BMR geologists prospected the area for uranium in the late 1940's and discovered minor high grade zones within pegmatites.

The earliest modern exploration in the area was conducted on AP 1991 by Placer Prospecting between 1968 and 1970. The work included scintillometer prospecting, stream sediment sampling for base metals and rock chip sampling. The target minerals were tantalite and rare earth elements. No economic mineralisation was discovered.

The area was explored for rubies and industrial minerals by Hillrise Properties/Mistral Mines between 1978 and 1983 under ELs 1801 and 1956. CRA Exploration conducted a stream sediment survey over these ELs in 1980 under a joint venture agreement with the tenement holder. Some significant anomalies were reported but there is no record of any follow-up being done.

Western Mining Corporation undertook exploration for diamonds in ELs 2657 and 3115 between 1981 and 1984. The catchment of Entire Creek was sampled and the results were disappointing. Prospectors held ELs 4673, 6133 and 7914 over the area between 1984 and 1996. Most of the work undertaken was prospecting for gemstones and industrial minerals with little success.

Between 1993 and 1996 PNC Exploration (Australia) Pty Ltd undertook an extensive exploration program in the area for uranium. The Harts Range project covered nine exploration licences and field activities included airborne radiometric/magnetic surveys, ground spectrometer surveys, geological mapping, rock chip sampling and trenching. Seventeen prospects were subject to detailed work. The Yambla prospect on EL 7967 was tested with 22 trenches and 13 diamond drillholes. Results showed that although high grade uranium mineralisation occurred it was extremely poddy in nature and was not economic.

Hussey (2003) reviewed all of the rock chip assays from the PNC work and these are detailed in his appendix 1. Significant values for uranium, thorium, barium, phosphorus and rare earth elements were reported, some examples are shown below:

| Sample | Prospect  | U%   | Th%  | P%    | Ba%  | Ce%  | La%  | Nb% | Y%   |
|--------|-----------|------|------|-------|------|------|------|-----|------|
| 5566   | Brumby    | 2.20 | 0.25 | 0.72  | 0.03 | 1.8  | 0.94 | 0   | 0.60 |
| 2168   | Holsteins | 0.05 | 3.90 | 3.00  | 1.00 | 12.4 | 7.25 | 0   | 0.05 |
| 1346   | Yambla    | 66.1 | 7.05 | 0.29  | n/a  | n/a  | n/a  | .35 | .24  |
| 3462   | Yambla    | 0.03 | 0.55 | <0.01 | 0.02 | 4.52 | 3.07 | n/a | n/a  |

| 5229 | Asp             | 6.85 | 0.94 | 0.05 | n/a  | 0.12 | 0.02  | 19.0 | 7.55 |
|------|-----------------|------|------|------|------|------|-------|------|------|
| 5237 | Cusp            | 9.7  | 1.37 | 0.02 | n/a  | 0.12 | ,0.01 | 22.4 | 6.95 |
| 1425 | Sitting<br>Bull | 2.65 | 0.49 | 0.03 | 0.12 | 0.09 | 0.03  | 8.85 | 5.05 |

The ground was further explored for uranium by Paladin Resources Ltd and Deep Yellow Ltd under EL 9890 between 2002 and 2007. Little ground work was done in the first four years of tenure. Deep Yellow completed a thirteen hole RC percussion drilling programme in 2006 in the Yambla area. No uranium mineralisation was intersected.

Between 2008 and 2011 Cullen Resources in joint venture with UXA Resources explored EL 26142 over the Yambla area. Stream sediments and rock chips were collected and a drill programme was proposed but never completed. Both companies also held tenements in their own rights but only desk top studies and minor reconnaissance work were completed (ELs 25716, 27850 and 27852). No significant new discoveries were reported.

Hale Energy Ltd held four ELs (24735, 24736, 24765 and 24766) in the Entia Dome region from 2007 to 2012. Detailed rock chip sampling, soil sampling and mapping were carried out over three prospects during the second year of tenure. Very high values were found in samples of pegmatite from the Daicos Prospect – Hale reported one sample with 19.4%U, 26.5%Nb, 6.2%Ta and 2.7%Y.

However further systematic sampling of the prospect in year 5 failed to replicate these high values. An airborne EM survey was conducted over portions of the Hale tenements in 2009. Some bedrock conductors were identified but no ground follow up has been completed.

Newera Uranium Ltd held EL 25674 and 26047 in the area from 2008 to 2009. A few rock chips were taken with poor results and the ground was dropped.

The recent announcements by Mithril Resources on their Huckitta project to the south east of the Entia Dome led to some increased interest in the area for base metals. Independence Group held EL 27646 from 2010 to 2012 however no work was completed except for a brief field visit. The mafic to ultramafic target lithologies were not sampled.

During year 2 of the exploration license Core undertook active exploration in the form of reconnaissance fieldwork on the southern end of the tenement. Core collected two rock chip samples from the southern end of EL29389 in a micaceous schist with biotite and garnet porphyroblasts with malachite  $\pm$  azurite in veins and staining. The local outcrop appears to have been shallowly drilled tested by past explorers but no past drilling is recorded in publically available datasets. The highest copper grade identified in the two rock chip samples was 1.04% Cu.

Table 5.1: Results of rock chip sampling on EL29389 in the 2014 reporting year

| Sample ID | Observation  | Au<br>ppm | Ag<br>ppm | Cu<br>% |
|-----------|--|-----------|-----------|---------|
| 1256      | insitu malachite in garnet porph 2-8mm biotite micaeous metasediment with qrtz rich melts, mineral foliation 015/40W | 0.04      | 0.8       | 0.54    |
| 1257      | local float, azurite + malachite predominantly staining in micaeous black biotite + qrtz gneiss                      | 0.07      | 3         | 1.04    |

During the year 2 reporting period Core Exploration completed a review of the past exploration covering EL29389 with an assessment of the current mineralisation models applicable for the tenement's geological setting. EL29389 covers the contact between the Neoproterozoic Irindina Province and the southwestern corner of the Entia Dome in the Aileron Province. Recent exploration successes within the Irindina Province have focused on the Cu - Ni  $\pm$  Co potential within the Riddock Amphibolite as well as in post Cambrian undeformed ultramafic intrusives (Lloyd Gabbro) which intrude into the Irindina Province. Core believes the Irindina Province Cu- Ni  $\pm$  Co mineralisation models to be encouraging and decided to explore for this style within EL29389.

# 6.0 Bridging Period Work Summary & Discussion

During the reporting period Core Exploration completed a transfer of tenement owner from the former joint venture partners Gempart NT Pty Ltd to DBL Blues a fully owned subsidiary of Core Exploration Pty Ltd. This transfer was part of a larger suit of tenements transferred from Gempart to Core Exploration.

No active exploration was completed on EL29389 during the bridging period.

#### 7.0 Rehabilitation

There were no earth disturbing activities on the tenement. No rehabilitation was required.

#### 8.0 Conclusions and Recommendations

The company is planning on actively exploring EL29389 and its other package of tenements within the Entia Dome for its uranium and REE potential during the next reporting period. Core's work programs focused on base metals in the Aileron and Irindina Provinces will still continue, but the company believes that the global market for uranium is becoming more buoyant and as such uranium will become the priority.

Core Exploration plans to undertake the following exploration activities within EL 29389 during the third year of tenure:

- Geological mapping and further geochemical sampling (rock and, or soil)
- Geochemical analysis of collected surface samples
- Desktop works research, planning and logistics, data analysis, report preparation, prospectivity analysis and exploration targeting

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