# **BRIDGING REPORT EXPLORATION LICENCE 29668**

"RIDDOCH"

**BRIGING REPORT YEAR 2 (2014/2015)** 

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Tenement DBL Blues Pty Ltd 100% Holders:

Tenement: EL29668 "Riddoch"

Reporting Period: 3<sup>rd</sup> June 2014 to 31<sup>st</sup> January 2015 (Year 1)

Distribution: Core Exploration Ltd (1)

Geoscience.Info (Department of Mines and Energy,1)

Alice Springs 1:250,000 sheet (SF5314) Map Sheet:

Riddoch 1:100,000 sheet (5851)

**Target** Gold Commodity:

Literature review, mineral potential modeling, gold, quartz veins, Keywords:

epigenetic, structure

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# **Copyright Statement**

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## 1.0 Summary

EL29668 "Riddoch" is located approximately 100 km's northeast of Alice Springs north of the Arltunga Historical Reserve and Claraville Homestead. Travel time is just under two hours by road from the township (Figure 1.1). Access from Alice Springs is by way of the Ross Highway for 70 km, thence northeast towards Arltunga and then heading north to Claraville Homestead.

Core has continued to access the exploration potential of EL29668 with the company believing the tenement is not only prospective for IOCG mineralization within the Aileron Province, and uranium mineralization within pegmatites within the Aileron Province.

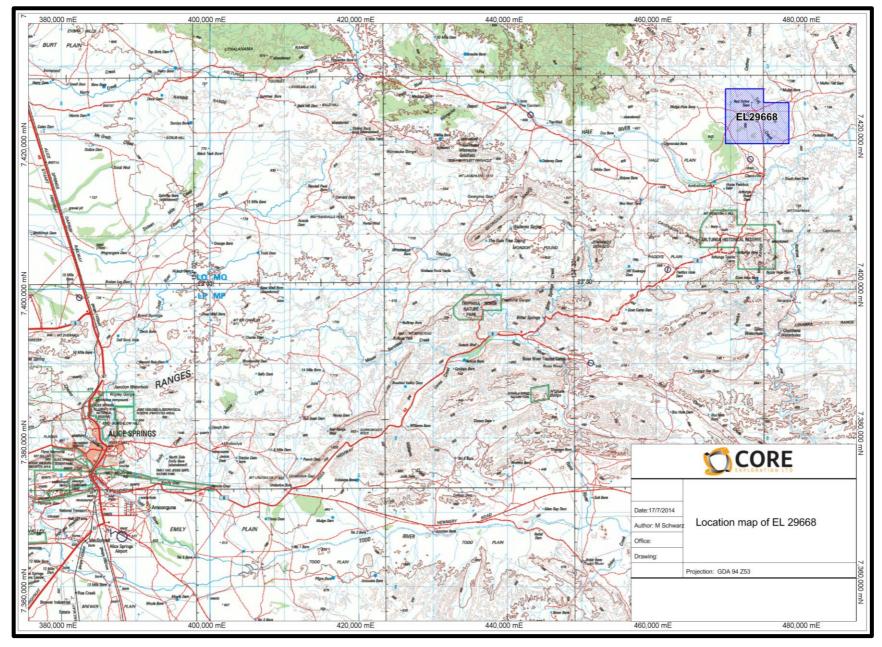


Figure 1.1: Location Map of EL29668

#### 2.0 Introduction

This report details the bridging period's exploration conducted within Exploration Licence 29668 "Riddoch". The tenement is held by DBL Blues Pty Ltd (100%), a subsidiary of Core Exploration Limited. The tenement is located approximately 100 km's northeast of Alice Springs just north of the Arltunga Historical Reserve and Claraville Homestead. Travel time is just under two hours by road from the township (Figure 1.1). Access from Alice Springs is by way of the Ross Highway for 70 km, thence northeast towards Arltunga and then heading north to Claraville Homestead.

Access within the tenement is limited; the general area is hilly with only a few vehicle tracks available. Due to seasonal rains, much of the area is overgrown inhibiting detailed ground. The rivers are prone to flooding during heavy rainfalls over the summer. Accommodation can be found at Ambalindum Station (30min drive) or Ross River (45min drive). The climate is typical of central Australia, hot summers and mild winters.

## 3.0 Tenure

Exploration Licence 29668 was granted to DBL Blues on the 3<sup>rd</sup> June 2013. The tenement occurs on pastoral lease PPL1124 (Ambalindum Station). Tenure details are summarised in Table 3.1.

Tenement	Owner	Date Granted	Tenure	Size	Rent Year 2	Expenditure Commitment
EL 29668	DBL Blues Pty Ltd 100%	03/06/2013	6 Years	18 blocks 56.77 km <sup>2</sup>	\$861	\$19,000

Table 3.1 Summary tenement detail for EL 29668

# 4.0 Geology and Mineralisation

EL29668 is located in the Proterozoic Aileron Province of the Central Arunta Region. The rocks dominantly comprise variably metamorphosed sediments, volcanics, calcsilicates, amphibolites and granite (Figure 4.1). The dominant structures appear to trend northwest.

The area is underlain by the Palaeoproterozoic Strangways Metamorphic Complex, which forms part of the Aileron Province. The main part of the area is underlain by Cadney Metamorphics, a sequence of calc silicates, marble and gneisses. The rest of the area is underlain by the Ongeva Granuilte. The south eastern portion the tenement is covered by younger sediments of the Hale River Basin, dominantly the Hale Formation, a Tertiary sandstone.

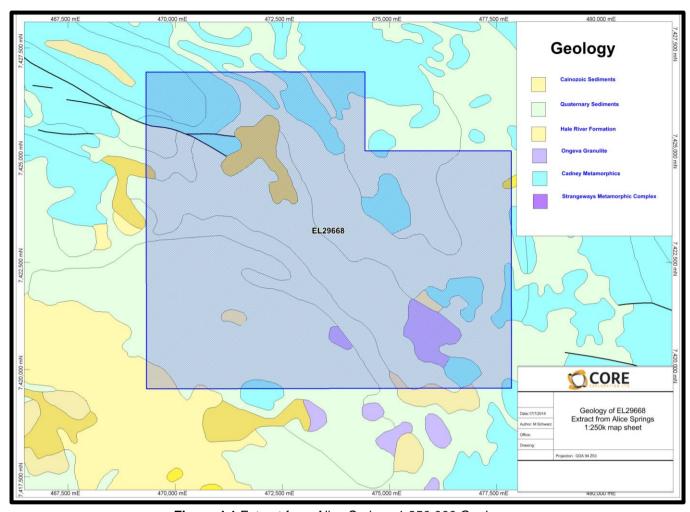


Figure 4.1 Extract from Alice Springs 1:250,000 Geology

# 5.0 Previous Exploration

#### 5.1 Historical Exploration

The earliest modern exploration in the area was conducted on EL49 by Centamin Ltd during the early 1970's

Alcoa Australia explored the Hale River Basin from 1979 to 1983 under EL1860. Exploration was undertaken for roll-front uranium deposits (Howard, 1980 and 1981). Some zones of uneconomic uranium mineralisation were discovered but they are located outside of EL27709.

EL3558 was held by Uranerz Australia during 1982. Some reconnaissance work was done for uranium within the strongly sheared retrogressed zones in the basement, no anomalies were found (Booth et al, 1983).

EL4674 was explored from 1985 to 1989. Exploration for gold was undertaken by two local prospectors (G. Bohning and E. Bowman). Initial work included prospecting and metal detecting (Carthew, 1986). Further prospecting of the Cavenagh Range area was undertaken during the second year. The John Bull prospect was also visited and sampled (Carthew, 1988). A drilling programme was undertaken in late 1987-early 1988 to test the Pattersons Gully (John Bull) prospect and the Cavanagh Range/Whites Gully area (Murrell, 1988). Thirty seven RC percussion holes were completed. The best results were from hole PG-3 at Pattersons Gully with 3m at 1.9g/t Au from 46m downhole. This hole also had elevated base metal values (Pb up to 0.11%). No work was undertaken in the final year and the EL was surrendered (Murrell, 1989).

EL5100 was held by Conapaira Metals. Some reconnaissance activities were carried out during 1988 but nothing substantial was achieved (Garside, 1988).

Ramsgate Resources explored EL5486 during 1988 (James, 1988). Some rock chip sampling was completed however Ramsgate concentrated their activities on the Mordor Complex.

EL5809 was explored by White Industries from 1988 to 1990. Stream sediment sampling (-80#, heavy mineral and BLEG) was undertaken but the results were disappointing. Some reconnaissance rock chip sampling also proved discouraging (Stidolph, 1989).

In 1990 White Industries was granted EL6596 which covered the same ground previously held under EL4674. A field inspection of the Cavenagh Range area was carried out, however the most prospective ground was held under claim and the EL was surrendered (Murrell, 1991).

Shandona Pty Ltd (Alice Springs prospectors) held EL8785 from 1996 to 1998. Some stream sediment samples were collected and panned for gold with poor results. The reports on this work were not available.

CRA Exploration explored the Mordor complex under EL9371 from 1995 to 1997. CRA followed up a GEOTEM conductive anomaly near the fault contact between basement and Heavitree Quartzite (McCoy et al, 1997). Limonitic float in the vicinity returned 0.12% Cu. CRA postulated that the anomaly might be related to mineralisation within the Amadeus Basin sequence (?Bitter Springs Formation). No further work was done.

EL22625 was held by Tanami Exploration from 2001 to 2005. Little exploration was carried out by Tanami during this period. Minor rock chip sampling was carried out during a visit to the John Bulls Surprise gold prospect. The best result was 3.5g/t Au from a sample of the mullock (Rohde, 2005).

Cullen Resources undertook some reconnaissance work in the area during 2008 under EL25620. The Pattersons Gully prospect was visited and rock chip samples collected which returned low values for gold – maximum 45ppb Au (Hamilton et al, 2008).

Core Exploration completed a thorough review of historical exploration work completed within the Riddoch tenements during the 2013-2014 reporting period, in conjunction with EL 27709. The Arltunga-Winnecke Goldfields have been extensively explored for gold by various companies, including well-funded modern gold explorers Normandy NFM and Tanami Gold. The gold at Arltunga and Winnecke is contained within massive white quartz veins which contain pyrite and rare chalcopyrite. The veins are hosted by various rock units in the Arunta basement and overlying Amadeus Basin. Their emplacement has been interpreted to be related to the ca.320 Ma Alice Springs orogeny. These auriferous veins extend beyond and between the two known goldfields, including at Pattersons (also known as John Bulls Surprise). The greatest problem with this gold system is the extreme variability of results from the same vein and between adjacent prospects. Rock chips from known prospects can frequently return >10 g/t Au, but drilling results have consistently failed to return economic grades and widths, despite intersecting the veins.

Core Exploration undertook a detailed review of GIS datasets and mineral potential modelling based on epigenetic vein hosted gold systems.

A number of geological features were identified has potentially having an important role in the development of gold bearing epigenetic quartz veins:

- North-easterly structures
- Retrogressive alteration
- Outcropping quartz dominant vein systems
- Contacts between the Heavitree Quartzite and Palaeoproterozoic basement
- Zones of dilation along regional structures including inflections and fault jogs
- Zones of demagnetization associated with retrogressive alteration

Each of these features were identified within various datasets (Landsat, Google Earth, regional magnetics, Aster data) and incorporated into a mineral potential model within the company's GIS system. Each geological feature was given a weighting according to how likely it is to influence the development of the targeted epithermal quartz

veins. A comparison was then made between know occurrences of epithermal gold mineralisation, elevated gold in rock chip samples from previous explorers and the geological environment as determined from the interpretation exercise. The results indicated a number of areas that were previously unidentified as target areas for further work including soil sampling, rock chip sampling and mapping.

Core plans to undertake the next stage of ground-truthing these targets during the 2014-2015 field season.

## 6.0 Bridging Period Work Summary

Core continued to develop its exploration models and processes within the Aileron Province of the Arunta Region including EL29668. The company has assessed the tenements IOCG potential of the tenement during the first year and bridging period of the tenements life. Core's assessment of the IOCG mineralization model in the Aileron Province is that potential is still high for IOCG mineralization, but the lack of a significant scale local example of a highly encouraging IOCG prospect or deposit reduces the companies ability to fund further exploration activities focusing on IOCG's within the province.

Table 6.1: Expenditure report for bridging period

EL29668 3/6/14-31/1/15 Bridging Eligible					
Bridging	Liigible				
Geology -costs	\$13,285.00				
Miscellaneous items	\$382.00				
Depreciation of equipment	\$101.00				
Total	\$13,768.00				

#### 7.0 Rehabilitation

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

## 8.0 Conclusions and Recommendations

Core's exploration focus in the first year of the combined reporting GR359 (next reporting period) is expected to be on regions uranium prospectivity. Core believes that the global uranium market is improving and as such is focused on reviewing and increasing its tenures uranium potential within the Arunta region including within EL29668. Other parts of the Aileron Province have a range of uranium dominant prospects, the emplacement mechanisms which will be used as analogues controlling the company's exploration processes within EL29668 in the next reporting period.

#### 9.0 References

BOOTH, K. AND TAYLOR, K.S, 1983. Uranerz Australia. First and Final Report – Exploration Licence 3558 – for the period 11/5/1982 to 10/5/1983. NTGS Open file report CR1983-0191.

CARTHEW, S.J., 1986. Annual Report – Exploration Licence 4674 – for the period 20/3/1985 to 19/3/1986. NTGS Open file report CR1986-0200.

CARTHEW, S.J., 1988. Annual Report – Exploration Licence 4674 – for the period 20/3/1986 to 19/3/1987. NTGS Open file report CR1988-0009.

GARSIDE, F., 1988. Conapaira Metals. A review of exploration activity – Exploration Licences 4739, 4959, 5078, 5079, 5081, 5100 and 5461. NTGS Open file report CR1988-0258.

HAMILTON, G. AND UREN, B., 2008. Cullen Resources. Annual Report – Exploration Licence 25620 – for the period 23/8/2007 to 22/8/2008. NTGS Open file report CR2008-0462.

HOWARD, R.W., 1980. Alcoa of Australia Ltd. Annual Report – Exploration Licence 1860 – for the period 22/5/1979 to 21/5/1980. NTGS Open file report CR1980-0125.

HOWARD, R.W., 1981. Alcoa of Australia Ltd. Annual Report – Exploration Licence 1860 – for the period 22/5/1980 to 21/5/1981. NTGS Open file report CR1981-0178. JAMES, R., 1988. Ramsgate Resources Ltd. Annual Report – Exploration Licence 5486. NTGS Open file report CR1988-0461.

MCCOY, A.D., WILKINSON, D.L. AND LOUWRENS, D.J., 1997. CRA Exploration. First Annual Report – Exploration Licence 9371 – Mordor Pound – for year ending 6/1/1997. NTGS Open file report CR1997-0054.

MURRELL, B., 1991. White Industries. Final Report – Exploration Licence 6596. NTGS Open file report CR1991-0264.

MURRELL, B., 1988. Annual Report – Exploration Licence 4674 – for the period 21/2/1987 to 20/2/1988. NTGS Open file report CR1988-0070.

ROHDE, C., 2005. Tanami Exploration N.L. *Final Report – Exploration Licences 22625 – from 6/12/2001 to 5/12/2005*. NTGS Open file report CR2005-0605.

STIDOLPH, P.A., 1989. White Industries Ltd. Annual Report – Exploration Licence 5809 – for the period 18/3/1988 to 17/3/1989. NTGS Open file report CR1989-0170.

ZHAO, J.-X & COOPER, J.A., 1992. The Atnarpa Igneous Complex, S.E. Arunta Inlier, central Australia: implications for subduction at an early-mid Proterozoic continental margin. *Precambrian Research*, 56, 227-253.