



**FINAL REPORT**  
**EXPLORATION LICENCE 29667 “RIDDOCH”**  
**ALBARTA NORTH PROJECT**



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Tenement Holders:	DBL Blues Pty Ltd 100%
Tenement:	EL29667 “Riddoch”
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Map Sheet:	Alice Springs 1:250,000 sheet (SF5314) Riddoch 1:100,000 sheet (5851)
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### Copyright Statement

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## 1.0 Abstract

EL29667 “Riddoch” is located approximately 85 km northeast of Alice Springs. Access is by the Arltunga Road from the Stuart Highway via The Garden Homestead. Access within the area is by means of station tracks (Figure 1.2). During the reporting period Core Exploration undertook a detailed review of GIS datasets and mineral potential modeling based on iron-oxide copper gold (IOCG) and epigenetic vein hosted gold systems.

Core’s exploration activities on EL29667 has included preliminary soil and rock chip sampling in the northeastern corner of the tenement as part of the companies IOCG targeted exploration within the Aileron Province (Figure 1.1). The companies Greater Paradise Well project extends into the northeastern corner of EL29667. Two rock chip samples (Appendix 1) and seven soil samples (Appendix 2) have been collected with EL29667 by Core in the first year and bridging period of the tenement life.

Core has continued to assess the exploration potential of EL29667 with the company believing the tenement is prospective for IOCG mineralization within the Aileron Province. Core believes the tenement is also prospective for vein hosted gold mineralization similar to the neighboring tenements Pattersons Prospect within the Aileron Province, veined gold mineralisation within the Heavitree Quartzite and uranium mineralization within pegmatites within the Aileron Province.

In Year 3 it was decided that EL29667 would be surrendered in whole as Core’s focus has changed and this Exploration Licence is of no future value to Core.

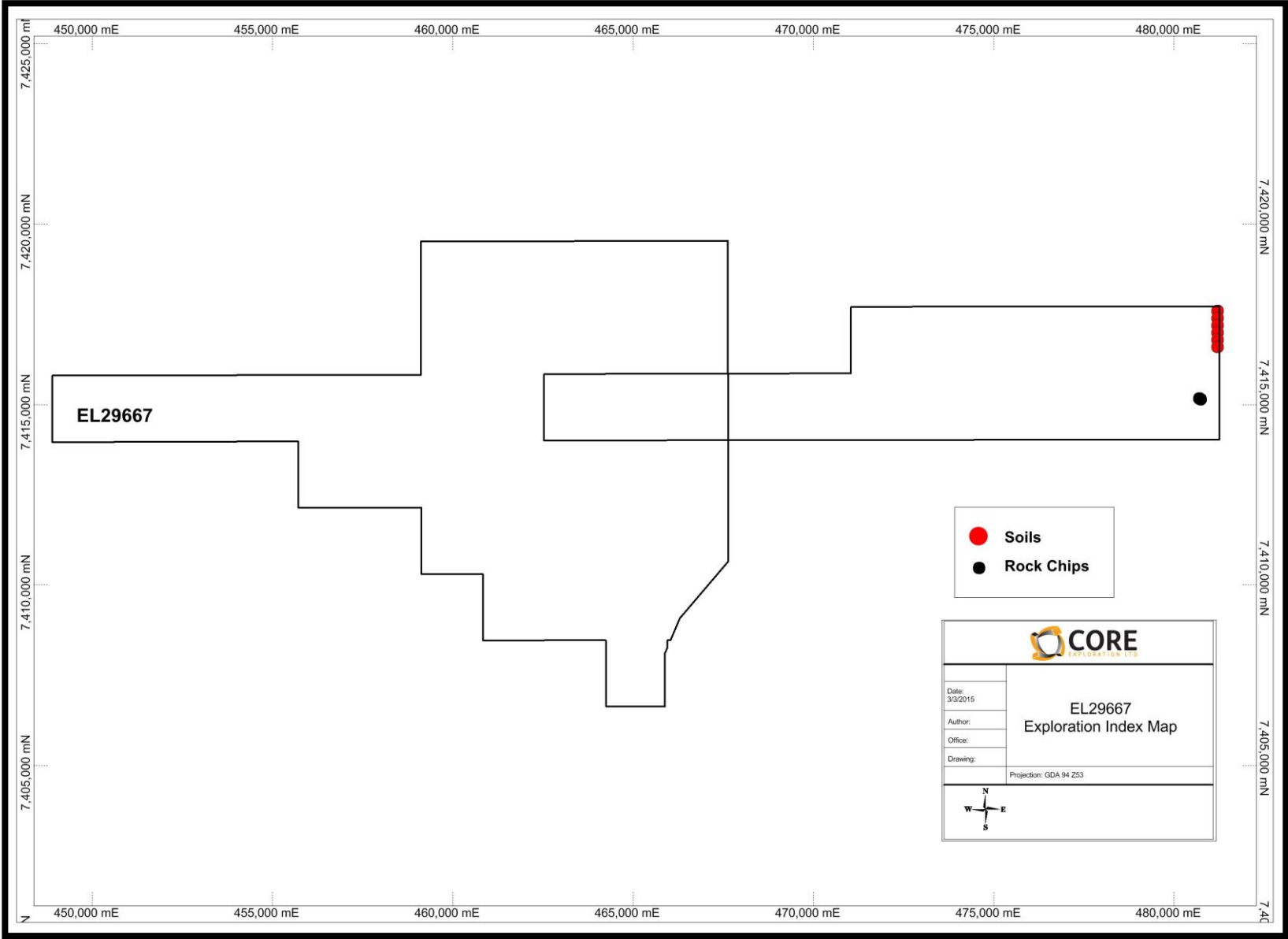


Figure 1.1: Exploration Index Map

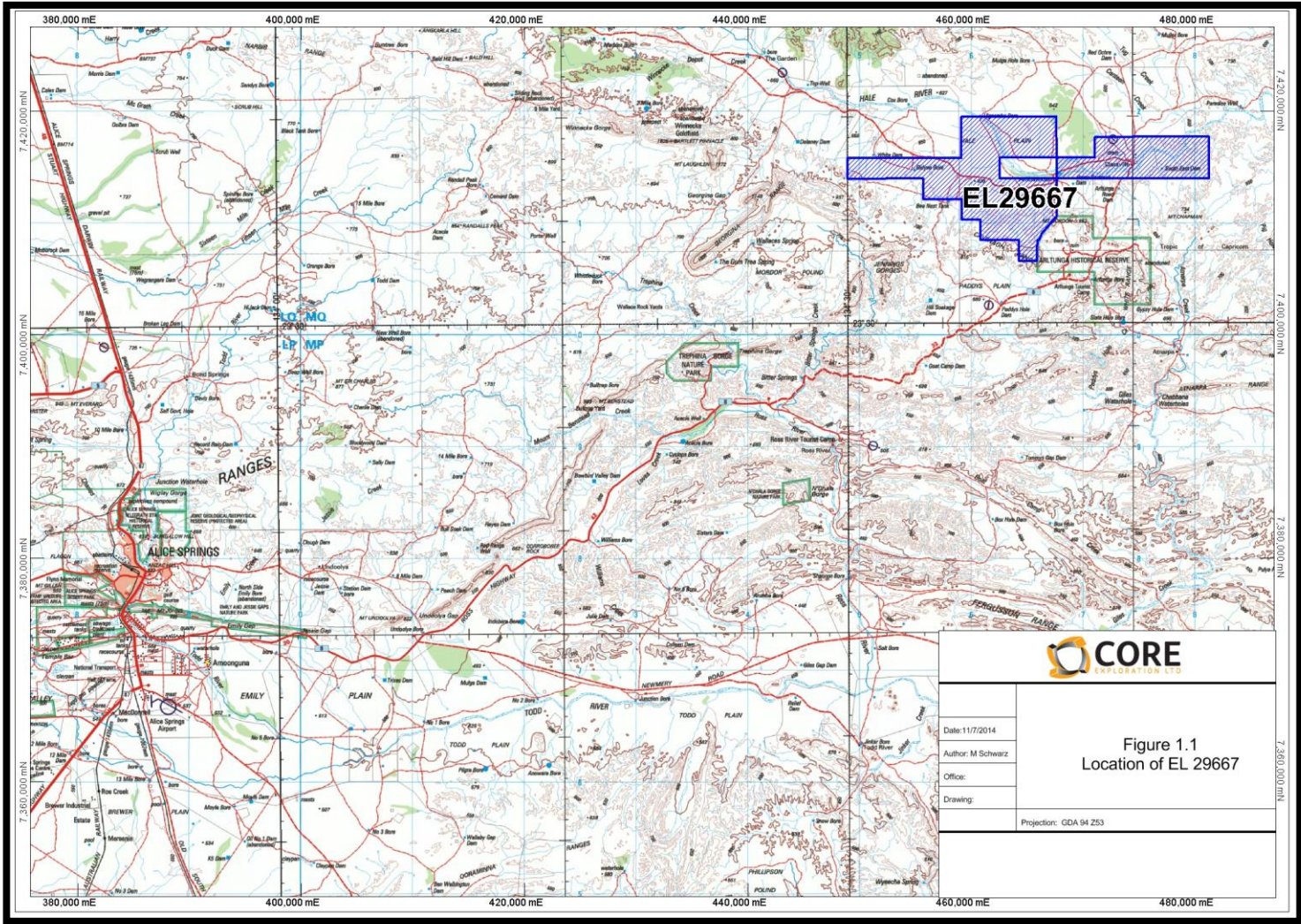


Figure 1.2: Location Map of EL29667

## 2.0 Title History

Exploration Licence 29667 was applied for by DBL Blues Pty Ltd on 13 September 2012, a wholly owned subsidiary of Core Exploration Ltd (Core), over an area of 49 blocks (152.37km<sup>2</sup>) in the Aileron Province and granted on the 3 June 2013 for a period of six years. The Licence overlaps pastoral leases PPL1124 (Ambalindum Station) and PPL 1095 (The Gardens).

During the Second Licence Year Amalgamated Reporting was applied for over 16 of DBL Blues granted Exploration Licences to be known as "Albarta". This was approved by the Department of Mines and Energy on the 19 February 2015, splitting the request into two Groups to better reflect the geological provinces and commodity targets. Exploration Licence 29667 become part of Group Report 359 - Albarta North. Bridging Reports were lodged in March 2015, bringing the reporting dates into line.

Exploration Licence 29667 was voluntarily surrendered on the 2 June 2016 (Year 3) as Core's focus has changed and this Exploration Licence is of no further interest to Core.

This is the final report for Exploration Licence 29667.

## 3.0 Location and Access

Exploration Licence 29667 is located approximately 85 km northeast of Alice Springs. Access is by the Arltunga Road from the Stuart Highway via The Garden Homestead. Access within the area is by means of station tracks.

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.

## 4.0 Geology and Mineralisation

EL29667 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 northeast. The geology of the Aileron Province is detailed by Murrell (1989) and Zhao & Cooper (1992).

The area is underlain by the Palaeoproterozoic Strangways Metamorphic Complex, which forms part of the Aileron Province. The older rocks are overlain unconformably by Amadeus Basin sediments which have been strongly folded and faulted within the west-northwest trending Winnecke Nappe. The northern 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 undifferentiated gneiss of the Arltunga Gneiss complex. The Heavitree Quartzite and Bitter Springs Formation occur as fault bounded outliers in the southern part of the Exploration Licence. Strongly sheared zones are present within the basement and similar zones host gold mineralisation at the Winnecke Goldfield to the north-west.



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).

## 6.0 Work Summary

Core Exploration completed a thorough review of historical exploration work on the Riddoch tenement 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 as 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 known occurrences of epithermal gold mineralisation, elevated gold in rock chip samples from previous explorers and the geological environment as determined from the interpretation exercise.

Two rock chip samples (Appendix 1) and seven soil samples (Appendix 2) have been collected with EL29667 by Core in the first year and bridging period of the tenement life.

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 and the company has assessed and preliminary tested the tenements for IOCG potential in the northeastern corner of the tenement during the first year and bridging period of the tenements life. There has been no further work completed on this Exploration Licence.

## **7.0 Rehabilitation**

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

## **8.0 Conclusions and Recommendations**

The results of the preliminary IOCG exploration within the northeastern corner of EL29667 was underwhelming and as such interpreted to not require further follow up.

Core believes there is no further benefit in retaining Exploration Licence 29667 in their package, therefore surrendering it in its entirety.

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