Partial Relinquishment Report
Exploration Licence 29689
“Mt Riddock”

For the period:
31 January 2017 – 23 August 2017

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Date: 17 October 2017
Tenement Holders: DBL Blues Pty Ltd 100%, a wholly owned subsidiary of Core Exploration Ltd
Tenement: EL29689 “Copper Queen-Virginia”
Reporting Period: 31 January 2017 -23 August 2017
Distribution: Core Exploration Ltd (1)

Map Sheet: Alice Springs 1:250,000 sheet (SF5314)
Riddoch 1:100,000 sheet (5851),

Target Commodity: Copper, Gold
Keywords: Iron oxide copper-gold, RC Drilling, VTEM AEM, CSIRO Study

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1. SUMMARY

Exploration Licence 29689 “Copper Queen - Virginia” is located approximately 100 km northeast of Alice Springs. Vehicle access into the area is reasonable, via the Stuart Highway and Plenty Highway to Mt Riddock Station and then by station tracks.

EL 29689 covers both the Proterozoic Aileron Province and the Neoproterozoic Irindina Province and there contact in the Central Arunta Region. The Aileron Province rocks mostly comprise variably metamorphosed sediments, volcanics, calc-silicates, amphibolites and granite.

Core’s investigation of the potential of Au and Cu mineralization within EL29689 has identified a number of prospects. The 52 gratiular blocks being relinquished are considered not prospective.
2. INTRODUCTION

This report details exploration activities completed by Core Exploration Ltd within EL29689 “Copper Queen - Virginia”. The tenement is owned and operated by Core Exploration through its 100% subsidiary DBL Blues Pty Ltd. The tenement is located approximately 110 kilometres northeast of Alice Springs, midway between the Harts Range and Hale River. Light vehicle travel time to the project area is just under three hours from the township of Alice Springs (Figure 2.1) via the Stuart Highway and Plenty Highway to Mt Riddock Station and then by station tracks.

![Figure 2.1 Location Map of EL 29689](image)

Vehicle access within the tenement is limited, the general area is hilly with only a few vehicle tracks available. The climate is typical of central Australia, hot summers and mild winters. Due to seasonal rains, much of the area is overgrown inhibiting detailed ground exploration activities and access, and the rivers are prone to flooding during heavy rainfalls over the summer. Accommodation can be found at Gemtree Caravan Park (approximate one hour drive).
3. TENURE

EL29689 was granted on the 20th August 2013 over an area of 99 graticular blocks and overlies pastoral lease PPL 989 (Mt Riddock). Core Exploration Ltd holds 100% of the tenement through its wholly owned subsidiary DBL Blues Pty Ltd.

This is the first reduction over the area of this Licence since grant.

4. GEOLOGY AND MINERALISATION

EL 29689 covers both the Proterozoic Aileron Province and the Neoproterozoic Irindina Province and there contact in the Central Arunta Region. The Aileron Province rocks mostly comprise variably metamorphosed sediments, volcanics, calc-silicates, amphibolites and granite (Figure 4.1). Detailed geology of the Aileron Province is covered by Murrell (1989) and Zhao & Cooper (1992).

The Irindina Province is a Neoproterozoic to Cambrian aged province that has been highly metamorphosed and multiply deformed by the Larapinta Event and the Alice Springs Orogeny. The bulk of the units within the Irindina Province are interpreted as forming the Harts Range Metamorphic Complex which includes Irindina Gneiss (which includes the Naringa Calcareous Member, the Stanovos Gneiss Member and the Riddock Amphibolite) and the stratigraphically overlying Brady Gneiss (Maidment 2005). The Virginia Prospect is interpreted to be within the Riddock Amphibolite. The Riddock Amphibolite is described as a variably deformed metagabbro or metadolerite, interlayered with layered, quartz rich amphibolite, metapsammopelitic rock, and minor marble calc-silicate rock and quartzo-feldspathic gneiss (Scrimgeour IR, 2013). It is also interpreted to be interlayered with the Irindina Gneiss in places.

Core has studied the recent investigations undertaken by Geoscience Australia (GA) and the Geological Survey of the Northern Territory, in conjunction with other explorers in the region, all of whom suggest Iron Oxide Copper Gold (IOCG) affinities can be attributed to the Aileron Province, making it a newly identified IOCG terrain.
This recently suggested IOCG terrain represents a newly-recognised Proterozoic copper–gold province characterised by a long belt of structurally deformed granite and sedimentary sequences that contain variable amounts of quartz veining, strong iron and fluorite alteration, and outcropping copper–silver–gold mineralisation.

The Irindina Province has become an area of greater interest for mineral exploration in the last decade due to some recent discoveries by exploration companies. Mithril Resources (MTH) have identified a number of Cu-Co and Cu-Ni prospects within the Irindina Province including at Basil where an inferred resource of 26.5 Mt @ 0.57 % Cu, 0.05% Co at a 0.3% Cu cut off was identified (MTH ASX release 21-03-2012). Studies of the Basil Cu-Co deposit (Sharrad et al., 2013) suggest a volcanic–exhalative (VHMS) on the seafloor emplacement history for the deposit which was metamorphosed by the Ordovician Larapinta Event, making it a metamorphosed VHMS style deposit hosted within the Riddock Amphibolite.

Within EL29689, a number of existing prospects were identified when Core was granted the tenement. Copper Queen, Copper King, Skippy Tail and Copper Mogul had been previously identified and reconnaissance drill tested by Tanami Gold in the early 2000’s. These prospects are all located within the Aileron Province within the Strangways Metamorphic Complex. The Virginia and Selins Prospects were also identified as historic copper prospects which have never been drill tested, these two prospects are hosted in the Riddock Amphibolite of the Irindina Province.
The earliest modern exploration in the area was conducted on EL346 by Russgar Minerals NL during the early 1970’s. The work included geological mapping and extensive rock chip sampling for base metals and gold. The majority of the work was concentrated on the Oonagalabi prospect which had been discovered in the 1930’s.

Kinex held EL1337 over the area between 1977 and 1983. Geopeko, Amoco Minerals and Pan D’Or Mining farmed into the tenement at various times. Most of the work was concentrated on the Oonagalabi prospect where geophysical surveys and drilling were carried out.

White Industries and BHP Minerals jointly explored EL 2648 between 1981 and 1984 primarily for diamond. Stream sediment samples were collected and the silt fraction was analysed for base metals. No significant anomalous values were found.

Astron Resources carried out a heavy mineral survey over EL4462. The aim of the survey was to determine if gold or gahnite (zinc spinel) were present in the stream sediments. Gahnite was found in a number of the samples and may indicate the presence of Oonagalabi style mineralisation. No further work was done.

Clarence River Finance Group held the ground under EL 6940 and EL 9420 from 1990 to 2000. They are also the current holders of the mining lease over the Oonagalabi prospect. Exploration was mainly conducted for industrial minerals (garnet). Some minor exploration work was done on the Oonagalabi prospect.

Tanami Gold explored the area under EL10078 and EL22917 between 2001 and 2006. Soil and rock chip sampling, RAB drilling and a hyperspectral airborne survey (Hymap) were completed. Unfortunately these ELs were part of a project group for a number of years and the group annual reports were not included in the compilation. Work was completed at the Virginia Prospect which was described as “a stratiform copper horizon over 1 km strike hosted by a 3-5 m thick leucocratic garnet gneiss band within mafic gneisses” of the Riddoch Amphibolite. Rock chip sampling of the malachite stained rocks returned values in the 1-5% Cu range. Soil sampling showed a strong copper anomaly extending along strike from the main prospect. The prospect does not appear to have been drilled.

The Copper King prospect was identified from regional 400x40 soil traverses. An area of abundant malachite staining measuring 10x30m returned rock chip assays <1% Cu with a peak gold value of 38.5 g/t Au. Two other prospects lie close to Copper King – Skippy Hole and MR3. Fifty one RAB holes were drilled on these prospects. Narrow zones of anomalous copper were intersected with the best result being 3m at 0.25% Cu from 6m in hole MRB029 at Copper King.

The CSIRO undertook some investigations of the Oonagalabi prospect in 2004, and showed that the mineralisation had a distinct geochemical signature – Au-Bi-Cd-Cu-Pb-Sn-W-Zn.
Most of the previous exploration work conducted in this area has been concentrated on the Oonagalabi Prospect. The mineralisation at Oonagalabi is stratabound in a distinct package of rocks which also trends southwest into Core’s adjoining tenement EL 29280. Primary mineralisation consists of chalcopyrite and sphalerite patches, disseminations and veinlets in calc-silicate rocks, minor pyrrhotite, pyrite and galena are also found. The mineralisation is thought to have either a syngenetic volcanic or epigenetic origin. Soil sampling should identify any outcropping zones of mineralisation. Blind zones of mineralisation may be detectable by IP or EM surveys.

6. WORK BY CORE EXPLORATION LTD

Core Exploration have completed the following exploration activities within EL 29689:

- Historical literature and data review including reconnaissance field visits.
- Reconnaissance field trips to meet stakeholders, assess access tracks, rock chip sample existing prospects and target lithologies/stratigraphy with mapping observations. A total of forty three (43) rock chip samples were collected and assayed from within EL29689, however none of these were taken within the relinquished area.

At year 5 Core relinquished an area of 52 graticular blocks which were considered not prospective.

![Figure 6.1 Relinquished Area of EL29689 – August 2017](image-url)
7. REHABILITATION

There were no earth disturbing activities on the area of 52 blocks that have been relinquished. No rehabilitation is required.

8. CONCLUSIONS & RECOMMENDATIONS

Exploration studies confirmed the area relinquished is of no future value to Core.

9. REFERENCES


