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**ANNUAL REPORT**  
**EL 29827**  
**SXB PROJECT (NT)**  
**29/08/2014 to 28/08/2015**  
**Year 2**

**Target Commodities : Copper , Gold**

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Submitter of Report: Arunta Resources Limited

Date of Report: 29/10/2015

Distribution: Davenport Resources Ltd, Fremantle Office, WA  
NTDOR/NTGS, Darwin, NT

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## Keywords

Titleholder	Davenport Resources Pty Ltd
Operator	Arunta Resources Ltd
Titles/Tenements	EL 29827
Tenement Manager/Agent	Australian Mining and Exploration Title Service (AMETS)
Mine/Project Name	SXB
Report title including type of report and reporting period including a date	Annual Report EL 29827 SXB Project (NT) 29/08/2014 to 28/08/2015.
Personal author(s)	Young, J.
Corporate author(s)	Arunta Resources Ltd
Target Commodity or Commodities	Gold, Copper
Date of report	29 October 2015
Datum/Zone	GDA94/Zone 53
250 000 K mapsheet	Alice Springs (SF 53-14)
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**SUMMARY**

EL 29827, SXB Project, located about 75kms northeast of Alice Springs is bisected by a north trending zone of intense tectonism called the Wollanga Lineament, copper mineralisation is evident in the area to the north west and is hosted in quartz veins, the Johnnies Reward IOCG prospect further west. Local geology is dominated by protolithic carbonate in the east (mostly EL29827) which transitions abruptly to a pelite-psammite-acid volcanic sequence in the west assigned to the 1810 – 1800Ma Cadney metamorphics, Aileron Province, Strangways Metamorphic Complex, southeast Arunta Inlier.

During the past year exploration undertaken on the project area was only desktop studies and a review of past data, the company Davenport Resources Limited has been in a period of transition with the tenement package.

Recommendations for future exploration at the SXB Project include further mapping and rockchip or soil sampling.

**TABLE OF CONTENTS**

**1.0 INTRODUCTION ..... 5**

1.1 LOCATION AND ACCESS ..... 5

1.2 TENURE..... 5

**2.0 GEOLOGY ..... 6**

2.1 REGIONAL GEOLOGY ..... 6

2.2 PROJECT GEOLOGY ..... 6

**3.0 PREVIOUS WORK ..... 7**

3.1 Copper MINING HISTORY IN THE AREA ..... 7

3.2 Historical EXPLORATION SUMMARY..... 7

**4.0 2014 EXPLORATION PROGRAM ..... 8**

**5.0 RECOMMENDATIONS ..... 9**

**6.0 REFERENCES ..... 9**

**TABLE OF FIGURES**

FIGURE 1. LOCATION MAP EL 29827 ..... 5

FIGURE 2. REGIONAL GEOLOGY OF THE JOHNNIES REWARD AREA. .... 6

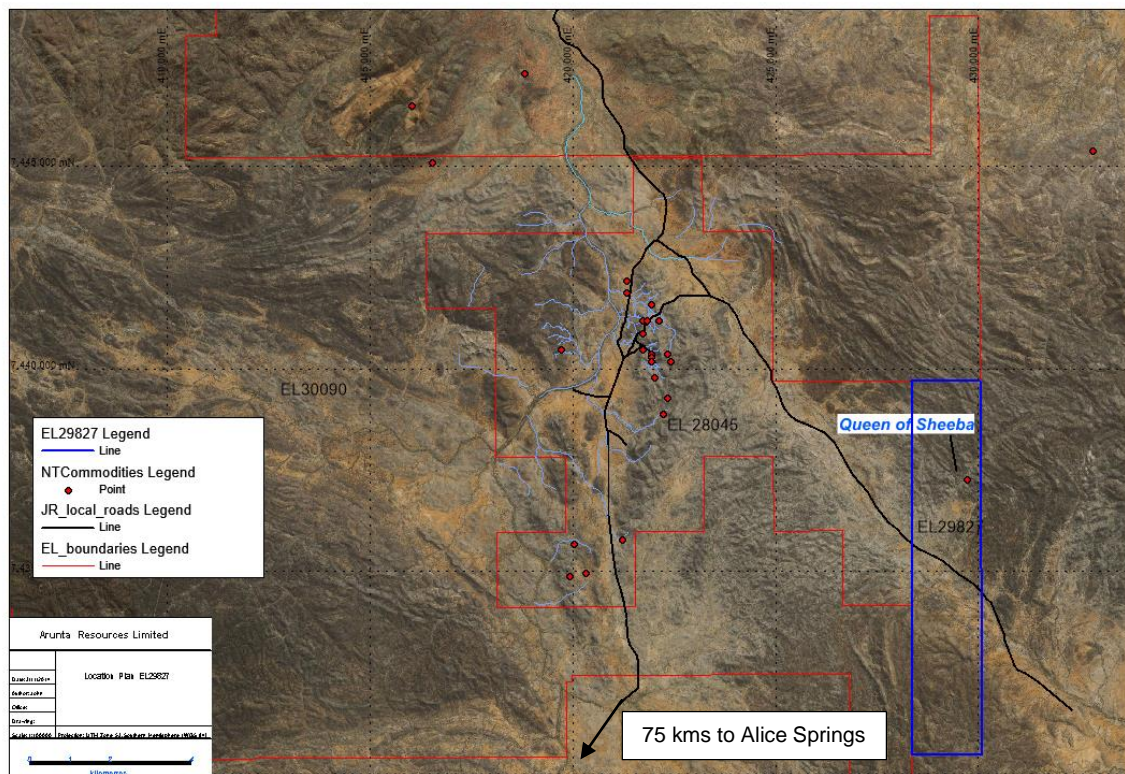
FIGURE 3. REGIONAL AEROMAGNETICS OF EL29827 ..... 6

## 1.0 INTRODUCTION

EL 29827 was applied for by Davenport resources in 2012. It is adjacent the Southern Cross Bore Project. The licence area includes the Queen of Sheeba mineral occurrence.

### 1.1 Location and Access

Arunta's Southern Cross Bore Project is located about 75kms north east of Alice Springs. Access to the project is via the Stuart Highway north of Alice Springs for 49kms, then east along the Arltunga Tourist Road for 48kms to the Pinnacle Road turnoff. The Pinnacle Road, also known as Bins Track, is followed north for 9kms where it crosses a south east trending station track. The centre of the EL29827 is a further 10.5 kms travelling south east.



**Figure 1.** Location Map EL 29827

### 1.2 Tenure

EL 29827 consists of 5 sub blocks (16kms<sup>2</sup>) and was granted to Davenport on 29 August 2013 for a period of 6 years. It was acquired by Sturt Resources Ltd on 5 July 2011 and named the Southern Cross Bore Project. Davenport was acquired by Arunta Resources Limited (ACN 73 089 224 402), a publicly listed company, from Sturt in July of 2013.

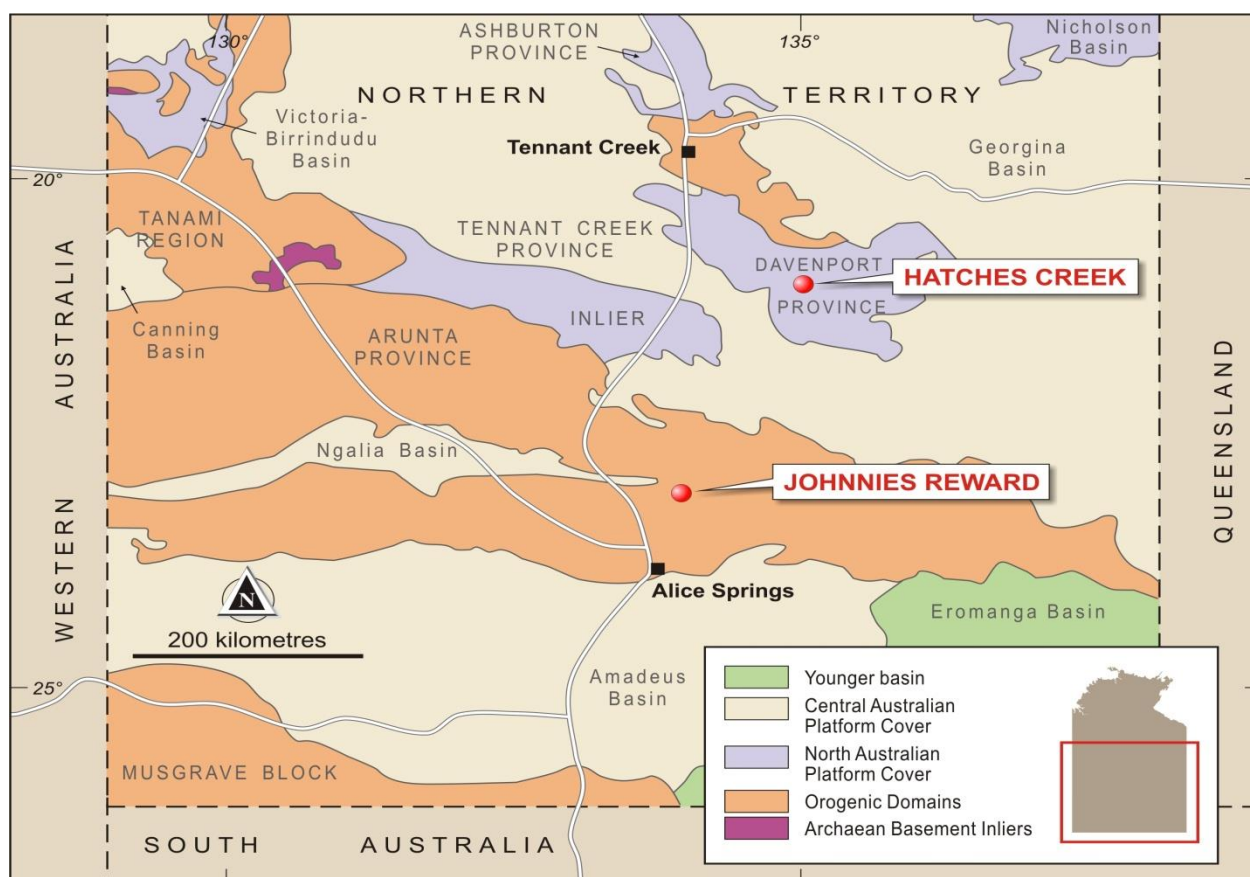
EL 29827 is located entirely within The Garden Pastoral Lease 662. It is not the subject of a land claim under the NT Land Rights Act (1976). The Sandover stock route passes through the area. The 1km wide stock route is Aboriginal Freehold land and is excluded.

## 2.0 GEOLOGY

### 2.1 Regional Geology

The Southern Cross Bore Project( inc EL29827, EL28045 and ELA30090) which encompasses the Johnnies Reward Prospect is located within the high grade metamorphic rocks of the Central Block of the Arunta Province a Palaeo to Mesoproterozoic mobile belt (Figure 2). Within the project area the Arunta Province is represented by the Strangways Range Metamorphic Complex, originally a sequence of sedimentary and volcanic rocks of early Proterozoic age, that was deformed and metamorphosed 1700 to 1800 million years ago by regional metamorphism associated with igneous intrusion.

**Figure 2.** Regional Geology of the Johnnies Reward Area.



### 2.2 Project Geology

The licence area is generally flat with some higher terrain and ridges of ferruginous altered bedrock formations in the north western part of the tenement. Broad alluvial plains associated with the lower creeks are a feature of the eastern half of the licence area.

Local geology is dominated by protolithic carbonate in the east (mostly EL29827) which transitions abruptly to a pelite-psammite-acid volcanic sequence in the west assigned to the 1810 – 1800Ma Cadney metamorphics, Aileron Province, Strangways Metamorphic Complex, southeast Arunta Inlier.

The Queen of Sheeba, Cu mineral occurrence occurs as a small series of pits on a ridge north west. The tenement is cut by the major crustal scale Wollanga lineament and coincident gravity low.

### 3.0 PREVIOUS WORK

A thorough and detailed description of previous mining and exploration in the Southern Cross Bore Project Area west of EL 29827 was given by Mackie (2012). A synopsis of this description is presented below.

#### 3.1 Copper Mining History in the Area

Copper mineralisation was first discovered at the Pinnacles in 1889. However no significant work was undertaken until over 50 years later. In 1942 two shafts were sunk on the showing and it is estimated that by 1948 that 50 tonnes of ore averaging 20% Cu had been produced from Ciccone's shaft. From 1942 to 1948 several reports were written on the copper workings including Sullivan (1942) and Jensen (1943). In 1952 the Ciccone's workings and Ophir were mapped by the Mines Branch and an inferred reserve of 100 tonnes averaging 20% Cu and 9000 tonnes of 5% Cu was quoted. Two drill holes recommended by Bell (1952) were drilled but failed to intersect the main ore zone.

From 1952 to 1957 the Ophir South and North were re-opened followed by Central No. 2 with an estimated production of 20 tonnes averaging 20% Cu. From 1964 to 1968 the Pinnacles copper showings were reworked. Production from the largest of these Central No. 2 was 1500 tonnes of material mined from which was handpicked an ore parcel of 33.5 tonnes averaging 15.75% Cu and 2.9oz Ag. Production from the other workings included:

- Ophir North: 50.95 tonnes @ 9.26% Cu
- Ophir South: 17.93 tonnes @ 5.27% Cu
- Urals: 7.25 tonnes @ 8.24% Cu
- Polly Boy: 22 tones @ 17.8% Cu

Estimated production to the end of 1968 was 248 tonnes averaging 12.4% Cu. No further mining activity has occurred since 1968.

#### 3.2 Historical Exploration Summary

The gossanous rock at Johnnies Reward which is similar to Tennant Creek type ironstone was discovered in 1964 by John Vitosky. That same year geological reconnaissance of the general area was undertaken and programs of aeromagnetic surveying and drilling were later recommended by Youles (1964a, 1964b, 1966). The drilling was not carried out but an airborne geophysical survey was carried out the following year by the BMR.

In 1965 Geopeko established a grid over Johnnies Reward and carried out ground based magnetic and self-potential geophysical surveys. The resultant anomaly was tested with a diamond drill hole of 141m which intersected 17m averaging 0.45g/t Au and 0.26% Cu from 62.8m (Williams 1967). In 1965 the BMR flew an aeromagnetic survey over Johnnies Reward and the Pinnacles which was reported by Tipper (1966). The BMR followed up the airborne geophysical survey with ground magnetic SP, IP and EM surveys. In 1967 the BMR conducted more ground geophysics with the results published in Haigh (1971).

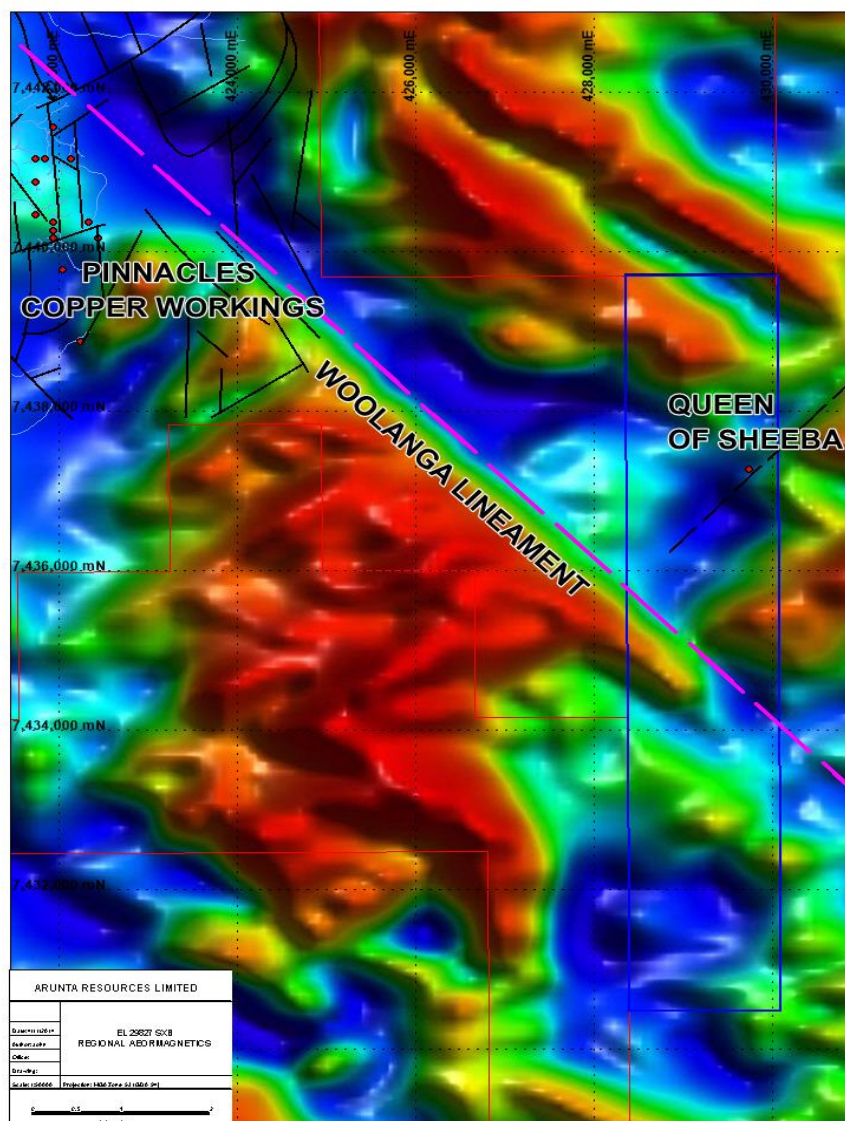
From 1967 to 1968 K McMahon and Partners Pty Ltd on behalf of Magellan Petroleum Corporation(CR1968-034) conducted exploration in the area including programs of mapping, rock chip sampling and drilling. Detailed grid mapping at 1:12,000 scale of the Pinnacles and Johnnies Reward area along with the **Queen of Sheeba** prospect on the current EL29827. No further work has been recorded in this area.

### 4.0 2015 EXPLORATION PROGRAM

During the past year exploration desk top geology and geophysics studies have been completed.

The rocks in the area consist of a sequence of calc-silicate rocks with interbedded marbles striking approximately 340° and dipping north easterly at 30 – 50 degrees. The sequence has been heavily invaded by numerous quartz-feldspar pegmatite. Several occurrences of an actinolite-rich rock were delineated within the area. These are probably derived from metasomatic alteration of an originally impure calcareous sediment.

Several conformable dykes approaching micro-granodiorite in composition were also delineated. Mineralisation in the area consists of weak malachite staining within, two pegmatites and within one outcrop of an actinolite-rich rock, which bears some resemblance to that occurring within the Johnnies Reward copper prospect.



**Figure 3.** Regional Aeromagnetic of EL29827.



## 5.0 RECOMMENDATIONS

Based upon the results of the 2015 exploration work program it is recommended that a follow up exploration is undertaken. The follow up program will include:

- Rock Chip and soil sampling and mapping
- Interpretation and modelling of the recently acquired airborne geophysical data

It is proposed that a specialist geophysical contractor be engaged to undertake interpretation and modelling of the magnetics data acquired this past year. Following the completion of interpretation and modelling of the airborne geophysics a ground sampling program would be conducted.

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