

# **ANNUAL EXPLORATION REPORT EL28945**

## **Burt Plain**

**5<sup>th</sup> March 2014 to 4<sup>th</sup> March 2015**

## **Aileron Project NT**

<b>NAPPERBY</b>	<b>SF5309</b>	<b>1:250,000</b>
<b>NAPPERBY</b>	<b>5452</b>	<b>1:100,000</b>
<b>AILERON</b>	<b>5552</b>	<b>1:100,000</b>

**Datum: GDA 94 zone 53**

**Titleholder: Australia Mining and Gemstone Co. Pty. Ltd**  
**ABN: 86 114 395 247**

**Report No. 2015-010**  
**Australia Mining and Gemstone Co. Pty. Ltd**  
**By Xianneng Zhang**  
**22<sup>th</sup> April 2015**

# CONTENTS

1. SUMMARY .....	1
2. LOCATION AND ACCESS.....	1
3. TENEMENT STATUS AND OWNERSHIP .....	2
4. GEOLOGY.....	5
5. PREVIOUS EXPLORATION .....	8
6. EXPLORATION DURING YEAR 1 .....	9
7. EXPLORATION DURING YEAR 2 .....	9
8. EXPLORATION DURING YEAR 3 .....	10
9. PLANNED EXPLORATION FOR YEAR 4.....	10
10. EXPENDITURE.....	10
11. CONCLUSION AND RECOMMENDATIONS .....	11
12. REFERENCES .....	11

## *List of Figures*

Figure 1 Location Map of EL28945 .....	2
Figure 2 Graticular blocks covering EL28945.....	3
Figure 3 Landholders and Lease Numbers displayed inside EL28945.....	4
Figure 4 Geological Map of EL28945 .....	7

## *List of Tables*

Table 1 Graticular blocks covering EL28945.....	3
Table 2 Expenditure on EL28945 .....	10

## **1. SUMMARY**

Aileron Project is situated in the south of the Central Desert Shire in the central part of Northern Territory, approximately 142 kilometres northwest of Alice Springs (Figure 1). Historical exploration focussed on uranium.

EL28945 was granted in March 2012, covering 39 graticular blocks in the Aileron region, located about 22km west-Southwest of Aileron roadhouse in the Northern Territory of Australia. Eastern areas of EL28945 are located in Aileron station and western areas of EL28945 fall within Napperby Station. The EL is covered with Aeolian sand and low outcrop basement rocks of the late Proterozoic Vaughan Springs Quartzite(Pav) at the Ngalia Basin edge. There are many station tracks and fence lines crossing the tenement.

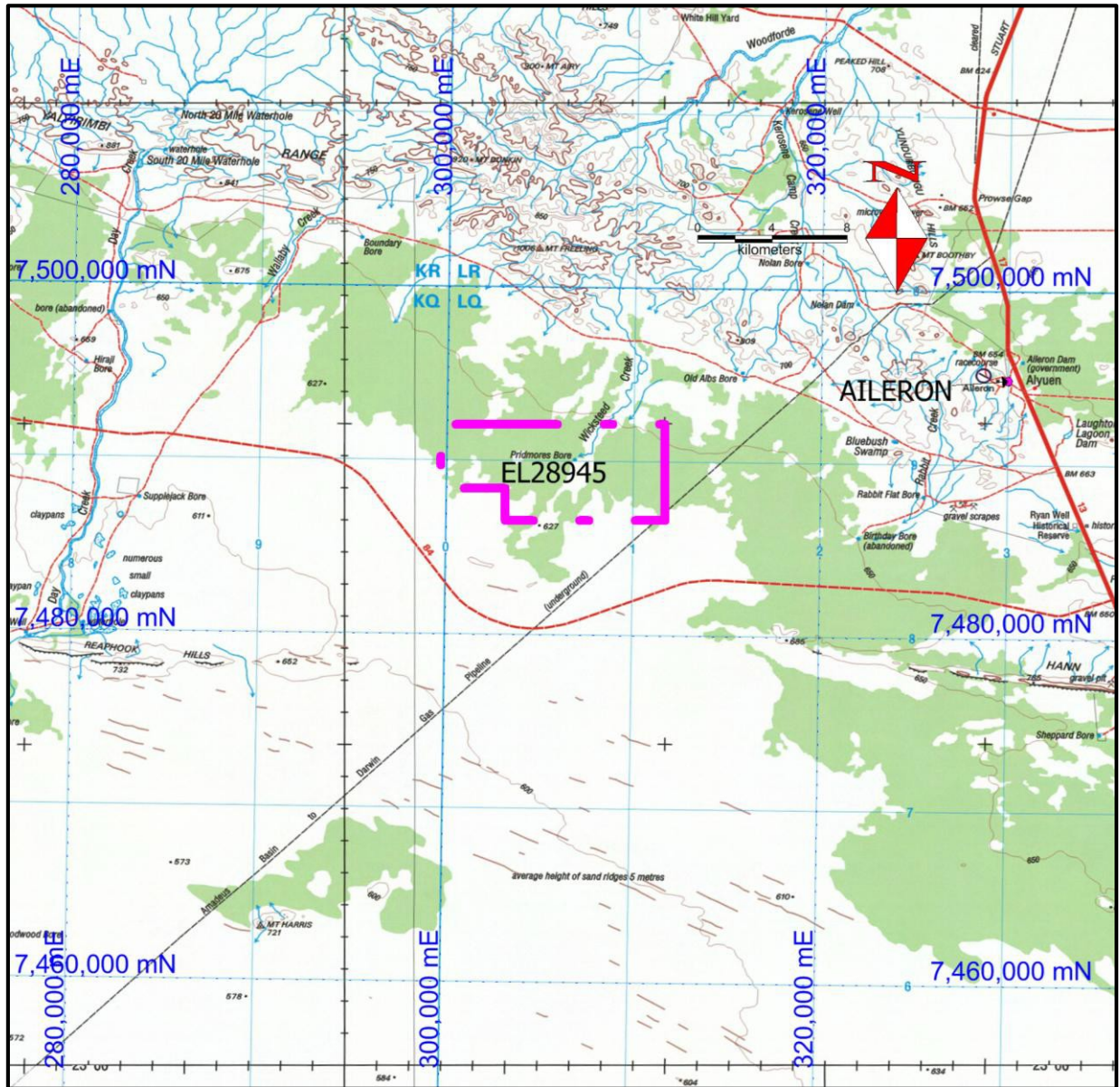
During 2012-2014 period, openfile Geophysical data in ER-Mapper format was obtained from the Northern Territory Geological Survey, this data was merged and processed inhouse. In September 2012, Australia Mining and Gemstone Co. Pty. Ltd (AMG) staff visited EL28945. Ninety-nine percent of EL28945 is covered by Aeolian sand. AMG exploration target for gold and copper.

During the third year, AMG did not implement any field work on EL28945, due to AMG geologists carrying out work on two projects with Panda Mining Pty Ltd in the Flinders Range of South Australia.

## **2. LOCATION AND ACCESS**

EL28945 is located in the northern part of Burt Plain and west-southwest of Aileron, about 142 kilometres northwest of Alice Springs in the Northern Territory (Figures 1).

The exploration license is accessed by unsealed roads and station tracks from the Napperby Station and Aileron Station Roads, these roads connect to Stuart Highway and Tanami Road, the Tanami Road crossing with Stuart Highway at 20 kilometres north of Alice Springs, Between Alice springs and Yuendunu road was seal with pitch.



**Figure 1 Location Map of EL28945**

The stations homestead built a few dirt tracks in the eastern and southern parts of the tenement. The stations keep access gates closed and it is necessary to approach the homestead directly to make contact with the proprietors.

### **3. TENEMENT STATUS AND OWNERSHIP**

EL28945 was granted to Australia Mining and Gemstone Co. Pty. Ltd on 5<sup>th</sup> March 2012 for a term of six (6) years. EL28945 comprises 39 graticular blocks (123.52 sqkm). After the first reduction period, the EL was reduced to 19 graticular blocks (60.2 sqkm).

After the second reduction period, the EL's area now consists of 10 graticular blocks (31.69 sqkm, Figure 2). There are no other mining leases or mineral claims within the License area. List of Graticular blocks covering EL28945 in Table 1.



**Figure 2: Graticular blocks covering EL28945**

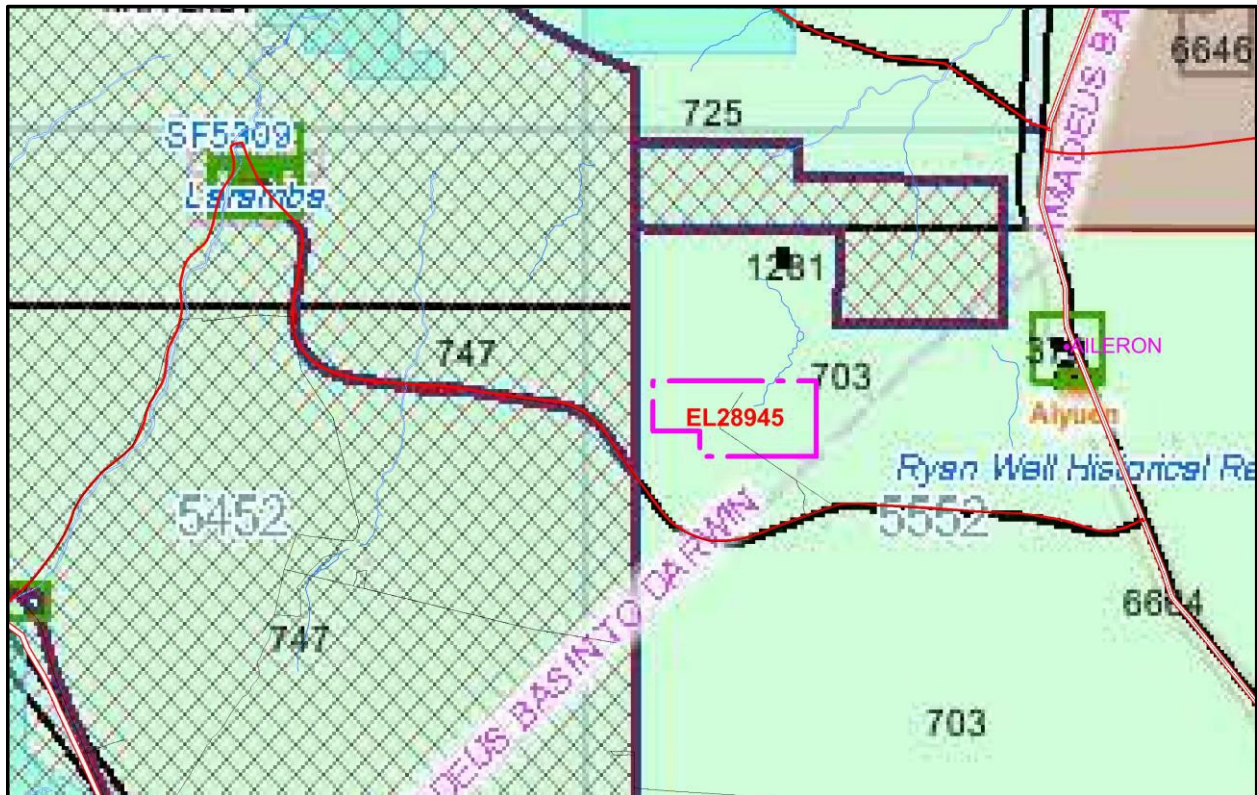
Table 1 Graticular blocks covering EL28945

SF532317D	SF532318C	SF532317K	SF532318J	SF532318N
SF532317E	SF532318D	SF532318F	SF532318K	SF532318O
SF532318A	SF532318E	SF532318G	SF532318L	SF532318P
SF532318B	SF532317J	SF532318H	SF532318M	



Background land tenure under EL28945 is part of Aileron station and Napperby Station (Figure 3).

Contact details being: **Aileron Station** (Waite River Holdings Pty Ltd); Phone:08 8956 9705; fax 08 8956 8535; **Napperby Station** (phone 08 8956 8666; fax 08 8956 8660).



**Figure 3 Landholders and Lease Numbers displayed inside EL28945**

The region has a semi-arid continental climate. This following description is drawn from Stewart (1982):“The climate is characterised by long hot summers when temperatures regularly exceed 40 °C, and short mild winters. The average rainfall is about 280mm, most of which falls between November and March, but both frequency and amount are erratic.” (Stewart, 1982)

## 4. GEOLOGY

### REGIONAL GEOLOGY

EL28945 covers the northern edge of the Ngalia Basin and parts of the surrounding Arunta Block. The Ngalia Basin is a large 300 km long by 70 km wide east west trending intra-cratonic basin, which contains up to 5000 metres of late Proterozoic to Carboniferous aged fluvial and marine sediments. These sediments were derived from the surrounding uranium enriched early to mid Proterozoic granites and metamorphic rocks of the Arunta Block.

The Arunta Block is composed of metamorphic basement lithology's, which have been intruded by later granites. Three areas are recognised within the Arunta Block, The northern, central and southern provinces. The Ngalia basin sits between the northern and central provinces. Formation of the Arunta Craton is divided into three stages. The earliest phase (2000mya) comprises mafic, felsic and aluminous granulite and calcsilicate rocks of the Strangways Metamorphic Complex, which comprises most of the Central Province. The second phase of formation is dominant in the northern and southern provinces and comprises aluminous and silicious sediments with a few mafic flows and sills. The third phase is less extensive and is found as ortho-quartzite outliers scattered around the northern and southern provinces. (Shaw 1990)

The Arunta Block underwent deformation and metamorphism during the Proterozoic, including the intrusion of granites, some of which are highly uriferous, particularly those from around 1750mya. During the late Devonian and early Carboniferous the Arunta Block was extensively disrupted by thrust faulting, particularly along the boundary between the northern and central provinces. (Shaw 1990)

The Ngalia Basin developed around 900mya and comprises a succession of basal late Proterozoic continental and possibly marine sediments overlain by continental fluvio-glacial sediments. Later sedimentation during the Cambrian and Ordovician resulted in epicontinental sediments including carbonates. Uplift during the Alice Springs Orogeny resulted in the deposition of Devonian to Carboniferous fluvial

sediments. Subsequent deformation of the basin has resulted in folding and faulting, with major thrust faults, strong folding and over turning of lithology along the northern margin of the basin. Deformation in the south is less intense with only gentle folding along the southern margin(Freeman et al 1990).

## LOCAL GEOLOGY

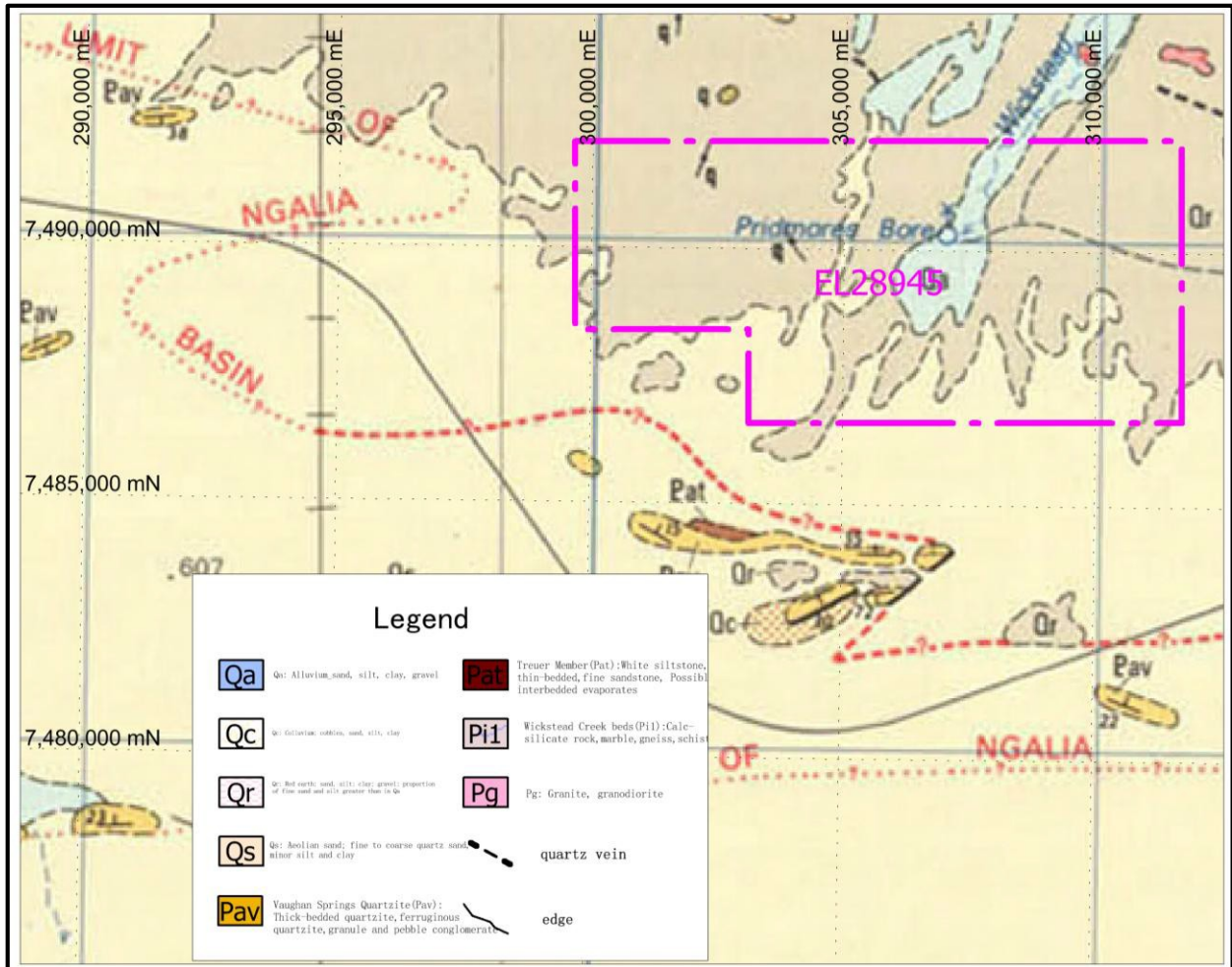
The tenement is underlain by basement rocks of the Aileron Province (According to the web-site of the NTGS (December, 2004)) basement rocks in the Aileron region comprise part of: "... the Arunta Region, a complex basement inlier in central Australia that has undergone a prolonged history of sedimentation, magmatism and tectonism extending from the Palaeoproterozoic to the Palaeozoic. The Arunta Region can be subdivided into the three, largely fault bounded terranes with distinct geological histories: the Aileron, Warumpi and Irindina Provinces. The Aileron Province comprises greenschist to granulite facies metamorphic rocks with protolith ages in the range 1865-1710 Ma. It forms part of the North Australian Craton and is geologically continuous with the gold-bearing Tanami and Tennant Regions to the north. In contrast, the Warumpi Province comprises amphibolite to granulite facies rocks with protolith ages in the range 1690-1600 Ma, and is interpreted to be an exotic terrane that accreted to the southern margin of the North Australian Craton at 1640 Ma. The Irindina Province in the Harts Range region comprises Neoproterozoic to Cambrian metasediments that formed in a major depocentre within the Centralian Superbasin. It underwent high-grade metamorphism and deformation during Ordovician" (480 - 450 Ma).

The Arunta Basement in this region is further subdivided into the Central and Southern Provinces by the Redbank Thrust Zone, a major north dipping crustal-scale northwest trending structure. The oldest rocks of the Central Province that underlies Burt Plain are mafic and felsic granulites of the Strangways and Narwietooma Metamorphic Complexes that were deformed, metamorphosed and intruded by megacrystic syntectonic granites during the Strangways Orogeny around 1760-1750Ma. Rocks of the Narwietooma Complex are more widespread comprising mafic granulites.

The EL28945 area is typified by flat sandy plains overlying gneiss and granites of the



Arunta Block (figure 4). Sandy and calcrete soils are found extensively within the Ngalia basin to the North and overlying the Arunta Block of the tenement area. A number of isolated Quartzite hills emerge from the plain within south of EL28945 area and north of Napperby road. The vegetation in the area consists of acacia scrubland associated with grasslands and minimally modified pastures in places. Taller eucalypts are present within and along the main drainage systems.



**Figure 4 Geological Map of EL28945 (1:250000 geologic map)**

Except Aeolian sands covered in EL28945, basement rock is late Proterozoic Vaughan Springs Quartzite (Pav), it outcrops in the southern edge of EL28945. Petrology consists of Thick-bedded quartzite, ferruginous quartzite, granule and pebble conglomerate.

## 5. PREVIOUS EXPLORATION

No MODAT occurrences are located on EL28945, nor NTGS open-file data on previous exploration covered EL28945. Much of the work undertaken was outside of EL28945. The historic tenements, their report numbers and comments from abstracts are listed below.

CRA Exploration Pty Ltd held EL753 in 1973, This license covered a large area of Burt Plain from Mt Harris west of Native Gap, east to the low hills southwest of Sheppards Bore. CRA's interest in Burt Plain was for sedimentary uranium. Mapping of the outcrops SW of Sheppard's Bore, recognized as potential sources for secondary uranium, found foliated granite with common quartz-haematite-pyrite veins. Scintillometer readings up to 2000cpm were recorded but assays returned up to 36ppm U and 50ppm Th. Grades were too low for primary targets, no secondary (calcrete) mineralisation was found and the area was relinquished.

Gutnick Resources NL held EL10251 on 28th March 2002 for a period of six years, the property is based on a new genetic interpretation for the Witwatersrand mineralisation in South Africa. These new hydrothermal models suggest that similar and related styles of mineralisation may be present in Ngalia basin with similar structural and stratigraphic styles to the Witwatersrand. Geophysical data including Landsat7 TM was reprocessed and modeled to address structural and stratigraphic features within the region.

Imperial Granite and Minerals Pty Ltd held EL24746 on 13th April 2006 for a period of six years, the property was purchased from them by Northern Mining Ltd during and explore for energy minerals. From the airborne EM survey that was completed in 2008 it has been possible to identify areas of little prospectivity for relinquishment. A total of 198 blocks covering 625.19 square kilometres and representing approximately 49% of the total area of the license were proposed for relinquishment on 11 March 2009.

In 2012-2014 Australia Mining and Gemstone Co. Pty. Ltd exploration consisted of historic data compilation including tenure, geophysics data, open file reports and geo-referencing of relevant maps.

## 6. EXPLORATION DURING YEAR 1

In the first year of tenure, work on EL28945 was limited to desktop reviews and reconnaissance field trips. These field trips included discussions with pastoralists. Access around the area was also assessed. The lease is almost entirely covered by Aeolian sand (photo1). There is a little late Proterozoic Quartzite around edge of Ngalia Basins. No sampling was undertaken.



Photo1 Aeolian sand (eastern of EL28945)

## 7. EXPLORATION DURING YEAR 2

During the second year, AMG continued to dispose all historic data. AMG main focus was on the kurinelli goldfield. Because ninety nine percent of the lease is covered by Aeolian sands, AMG decided to surrender the western and south-eastern areas of this tenement.

## 8. EXPLORATION DURING YEAR 3

During the third year, AMG did not implement any field work on EL28945, due to AMG geologists carrying out work on two copper projects with Panda Mining Pty Ltd in the Flinders Range of South Australia.

## 9. PLANNED EXPLORATION FOR YEAR 4

Exploration is planned to target gold and Copper. AMG will analyze Geophysical data and make a decision as to surrender or keep this title. If AMG continue to hold EL28945 a programme will include Auger drilling and basement rock geological mapping.

A cost for the total proposal \$24,250.

## 10. EXPENDITURE

Expenditure (as supplied by Australia Mining and Gemstone Co. Pty Ltd) consisted of:

Table 2 Expenditure on EL28945

<b>Expense</b>	<b>\$</b>
Office Studies	\$6,000.00
Geological data processing	\$5,000.00
Geophysical data processing and interpretation	\$7,000.00
Overheads	\$1,000.00
<b>TOTAL</b>	<b>\$19,000.00</b>

## **11. CONCLUSION AND RECOMMENDATIONS**

The area is considered prospective for gold and copper. However, because the lease landform is flat and covered by Aeolian sand, AMG has decided to surrender the western and south-eastern blocks of EL 28945. There is a few outcrop of Quartzite in the Ngalia Basins. At present, AMG geologist can't infer the potential in this lease.

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