

# **ANNUAL EXPLORATION REPORT EL28967**

## **Burt Plain**

**3rd July 2013 to 2nd July 2014  
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. 2014-017  
Australia Mining and Gemstone Co. Pty. Ltd  
By Xianneng Zhang  
10<sup>th</sup> August 2014**

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## **1. SUMMARY**

Aileron Project is situated in the southwestern of Central Desert Shire in the central part of Northern Territory, approximately 130 kilometers northwest of Alice Springs (Figure 1). Historical exploration focused on uranium.

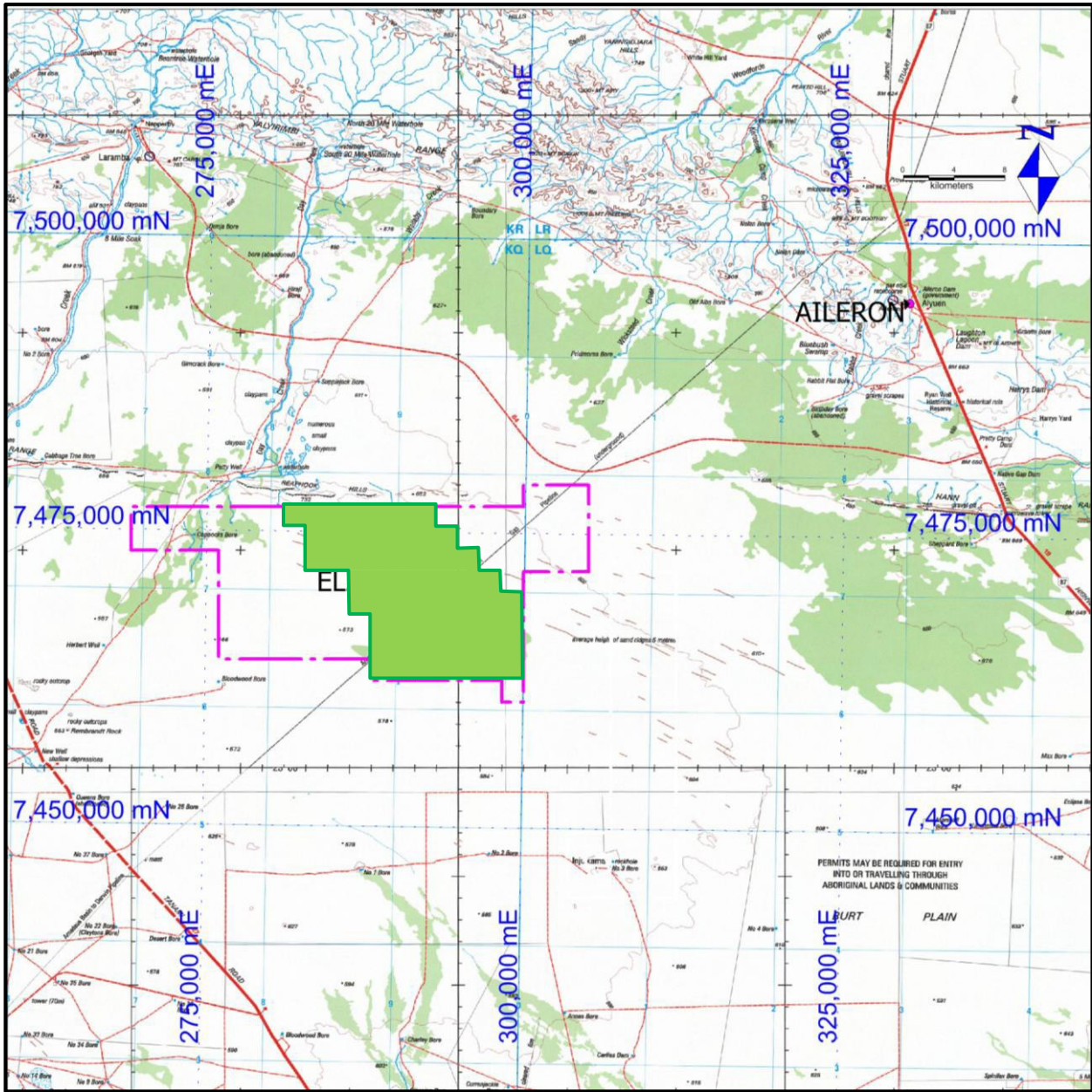
EL28967 was granted in July 2012, the tenement covered 126 graticular blocks in the Aileron region, located about 40km west-Southwest of the Aileron roadhouse in the Northern Territory of Australia. The eastern areas of EL28967 are located in the Aileron station and the western areas fall within Napperby Station. EL28967 is mostly covered with Aeolian sand, with just a few outcrop basement rocks, namely Precambrian schist/gneiss (P $\in$ ), Paleoproterozoic Mount Thomas Quartzite (Prt1) and middle Proterozoic Granite (Pg) in the southern area of EL28967. There are many station tracks and fence lines crossing the tenement.

During the 2012-2014 period, open file Geophysical data in ER-Mapper format was obtained from the Northern Territory Geological Survey, this data was merged and processed in house. In September 2012, Australia Mining and Gemstone Co. Pty. Ltd (AMG) staff visited EL28967. AMG's exploration target is gold and copper.

## **2. LOCATION AND ACCESS**

EL28967 is located in the northwestern part of Burt Plain and west-southwest of Aileron, about 130 kilometres northwest of Alice springs in the Northern Territory (Figure 1).

The exploration licence is accessed by unsealed roads and station tracks from the Napperby Station and Aileron Station Roads. These roads connect to the Stuart Highway and Tanami Road. The Tanami Road crosses the Stuart Highway about 20 kilometers north of Alice Springs. Between Alice Springs and Yuendumu the road was sealed with asphalt.



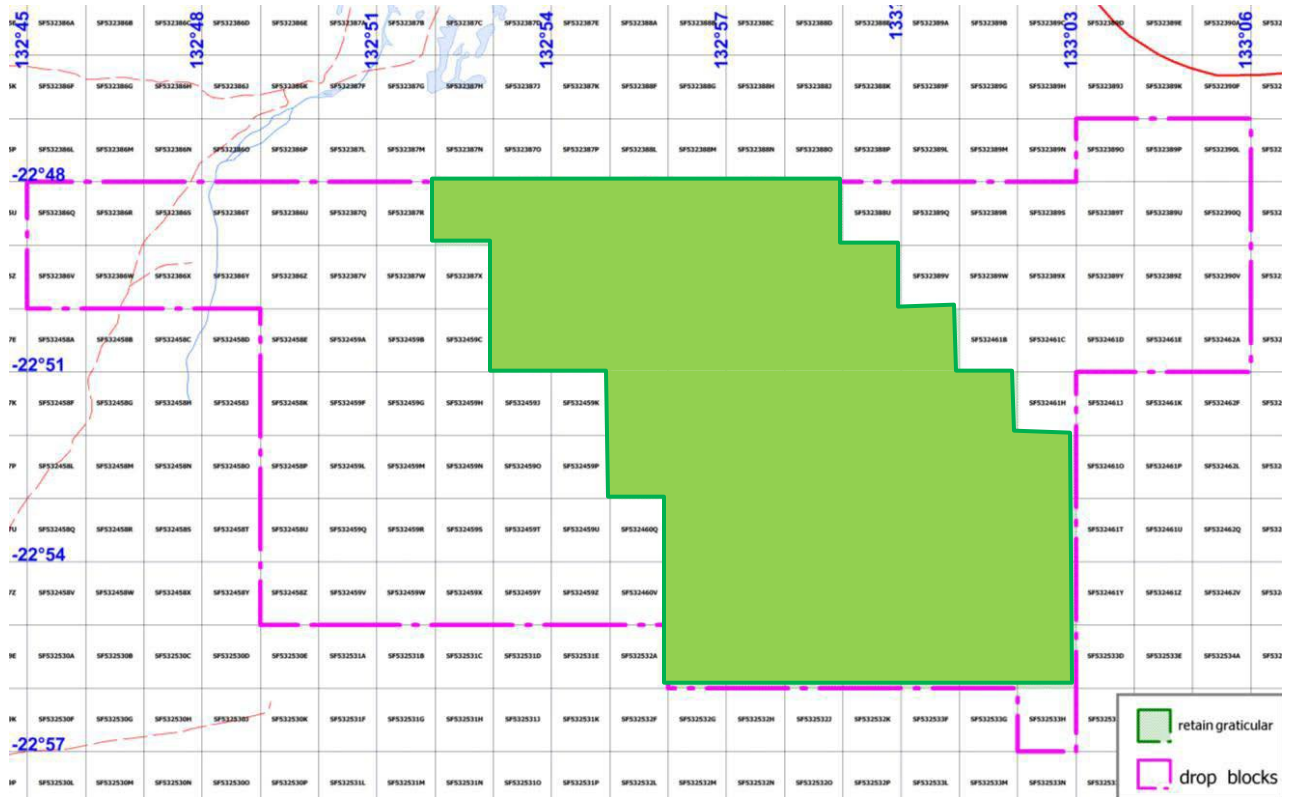
**Figure 1 Location Map of EL28967**

The stations homesteads built a few dirt track in western and southern areas 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**

EL28967 was granted to Australia Mining and Gemstone Co. Pty. Ltd on 3rd July 2012

for a term of six (6) years. EL28967 comprises 126 graticular blocks (398.63 Sqkm, Figure 2). Second year reduction was undertaken with 58 blocks retained, another 68 block were dropped. There are no other mining leases or mineral claims within the License area. List of Graticular blocks covering EL28967 in Table 1. There are no other mining leases or mineral claims within the License area.



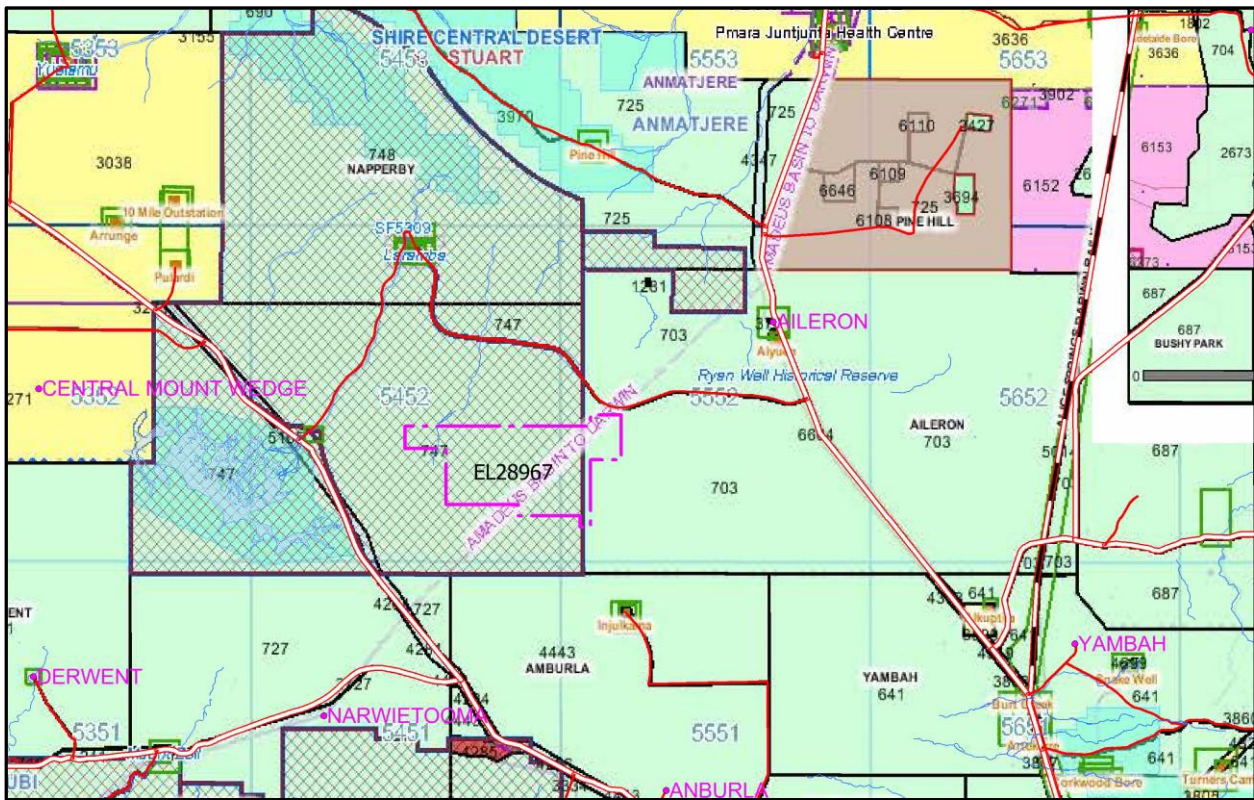
**Figure 2: Graticular blocks covering EL28967**

Table 1 Graticular blocks covering EL28967

SF532387S	SF532387Y	SF532459D	SF532460F	SF532460N	SF532460W
SF532387T	SF532387Z	SF532459E	SF532460G	SF532460O	SF532460X
SF532387U	SF532388V	SF532460A	SF532460H	SF532460P	SF532460Y
SF532388Q	SF532388W	SF532460B	SF532460J	SF532461L	SF532460Z
SF532388R	SF532388X	SF532460C	SF532460K	SF532461M	SF532461V
SF532388S	SF532388Y	SF532460D	SF532461F	SF532461N	SF532461W
SF532388T	SF532388Z	SF532460E	SF532461G	SF532460R	SF532461X
SF532460L	SF532460M	SF532460S	SF532460T	SF532460U	SF532461A
SF532461Q	SF532461R	SF532461S	SF532532B	SF532532C	SF532532D
SF532532E	SF532533A	SF532533B	SF532533C		



Background land tenure under EL28967 is part of Aileron station and Napperby Station (Figure 3). contact details being: **Aileron Station** (Waite River Holdings Pty Ltd); Phone:(+61) 08 8956 9705; fax : (+61) 08 8956 8535; **Napperby Station** (phone: (+61) 08 8956 8666; fax: (+61) 08 8956 8660).



**Figure 3 Landholders and Lease Numbers displayed inside EL28967**

The climate in this region is 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 October and March, but both frequency and amount are erratic.” (Stewart, 1982)

## **4. GEOLOGY**

### REGIONAL GEOLOGY

EL28967 covers in Arunta Block, just northeast of EL drop in the southern edge of the Ngalia Basin. The Ngalia Basin is a large east-west trending intra-cratonic basin, which is 300km long and 70km wide, and 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 has 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 uraniferous, 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

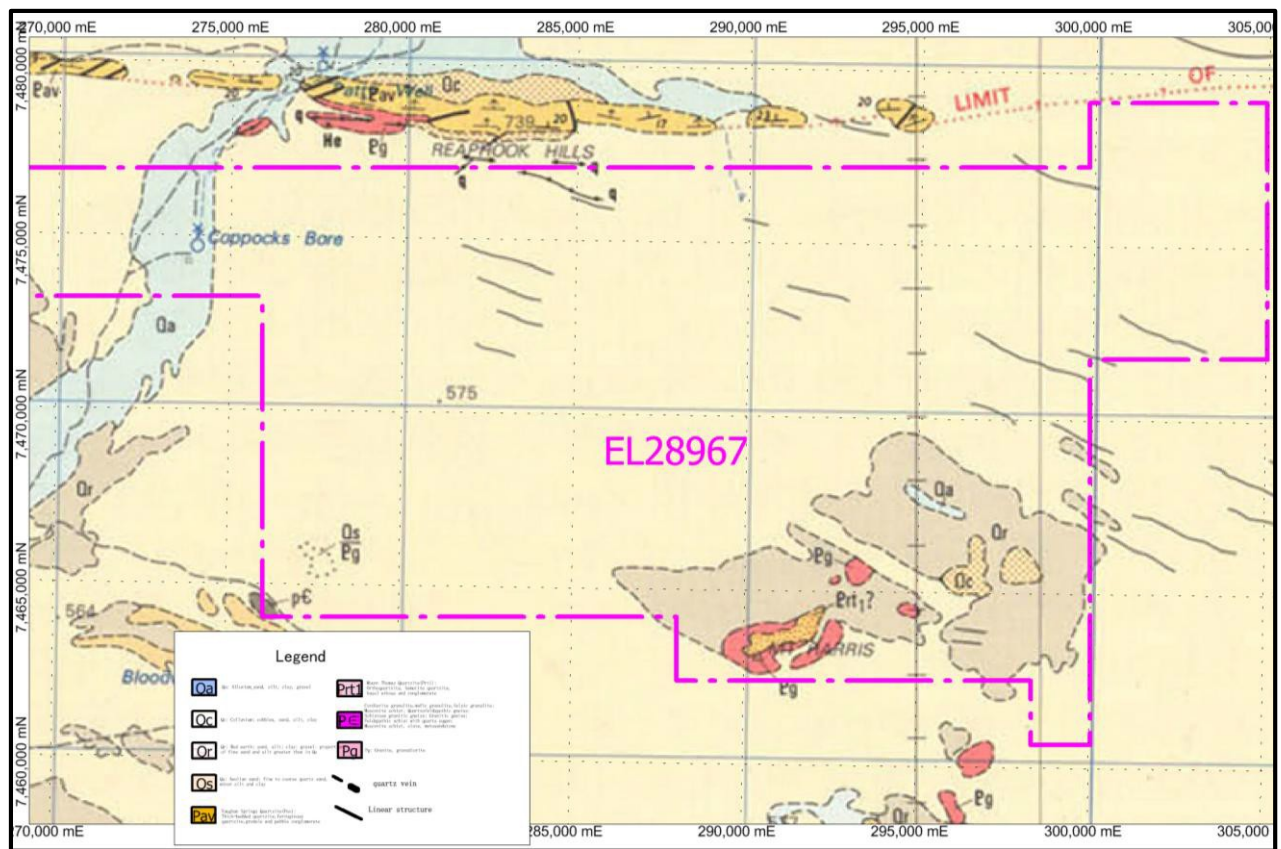
The tenement is underlain by basement rocks of the Aileron Province (According to the web-site of the NTGS (December, 2004)) basement rocks in the Aileron region comprise part of: "... the Arunta Region, a complex basement inlier in central Australia that has undergone a prolonged history of sedimentation, 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 EL28967 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, Gneiss and granite hills emerge from the plain within the southern area of EL28967. 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 EL28967 (1:250000 geologic map)**

Except aeolian sands covered in EL28967, sporadic basement rock is Paleoproterozoic Mount Thomas Quartzite(Prt1), middle Proterozoic Granite (Pg) and Precambrian granulite /schist/gneiss (P ∈), its outcrop in southern edge of EL28967.

## 5. PREVIOUS EXPLORATION

No MODAT occurrences are located on EL28967, nor in open-file data on previous exploration covering EL28967. Much of the work undertaken, was outside of EL28967. The historic tenements, their report numbers and comments from abstracts are listed below.

CRA Exploration Pty Ltd held EL753 in 1973, This licence 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, recognised 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 twenty-four leases (EL10239-EL22703) from 28th March 2001 to 23th July 2003. These properties were held 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; Geochemical data involve 70 rock chip samples, 5108 stream sediment samples.

Imperial Granite and Minerals Pty Ltd held EL24746 from 13th April 2006 for a period of six years. The property was purchased from them by Northern Mining Ltd and explored for energy minerals. From the airborne EM survey that was completed in 2008 it has been possible to identify areas of little prospectivity.

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 EL28967 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. There is a little Paleoproterozoic Mount Thomas Quartzite, middle Proterozoic Granite (photo1) in southeastern area of EL28967. No sampling was undertaken.



Photo1 middle Proterozoic Granite (southeastern of EL28967)

## 7. EXPLORATION DURING YEAR 2

During the second year, AMG continued to dispose all historic data for EL28967. No on-ground work was completed in 2014 as AMG main focus was on the Kurinelli goldfield. Because the lease is mostly covered with Aeolian sand, AMG has decided to surrender the western and north-eastern areas of the tenement.

## 8. PLANNED EXPLORATION FOR YEAR 3

Exploration is planned to target gold and Copper. AMG will analysis Geophysical data with a decision on to whether to surrender or keep the licence made shortly. If AMG continues to hold EL28967, a programme may include Auger drilling and basement rock geological mapping.

A cost for the total proposal \$39,000.

## 9. EXPENDITURE

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

Table 2 Expenditure on EL28967

<b>Expense</b>	<b>\$</b>
Office Studies	\$17,000.00
Geological data processing	\$15,000.00
Geophysical data processing and interpretation	\$18,000.00
Overheads	\$3,000.00
<b>TOTAL</b>	<b>\$53,000.00</b>

## **10. CONCLUSION AND RECOMMENDATIONS**

The area is considered prospective for gold and copper. However, because the lease landform is flat and overlying by aeolian sand, with a few sporadic outcrop of Paleoproterozoic Mount Thomas Quartzite, middle Proterozoic Granite and Precambrian granulite /schist/gneiss, AMG geologist can't infer the potential in this lease.

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