

# **FOURTH ANNUAL EXPLORATION REPORT EL28967**

## **Burt Plain**

**3<sup>th</sup> July 2015 to 2<sup>th</sup> July 2016**

## **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. 2016-021**

**Australia Mining and Gemstone Co. Pty. Ltd**

**By Mingjin Hou**

**22<sup>nd</sup> August 2016**

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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 315 degree of Alice Springs (Figure 1). EL28967 belongs to The Burt Plain, Historical exploration focused on uranium.

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

During 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 entranced EL28967 areas, about ninety-nine percent areas of EL28967 are covered by Aeolian sand. AMG exploration target for gold and copper.

## **2. LOCATION AND ACCESS**

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

The exploration licence 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 crossed with Stuart Highway at 20 kilometers north of Alice Springs, Between Alice springs and Yuendumu road was sealed with asphalt.

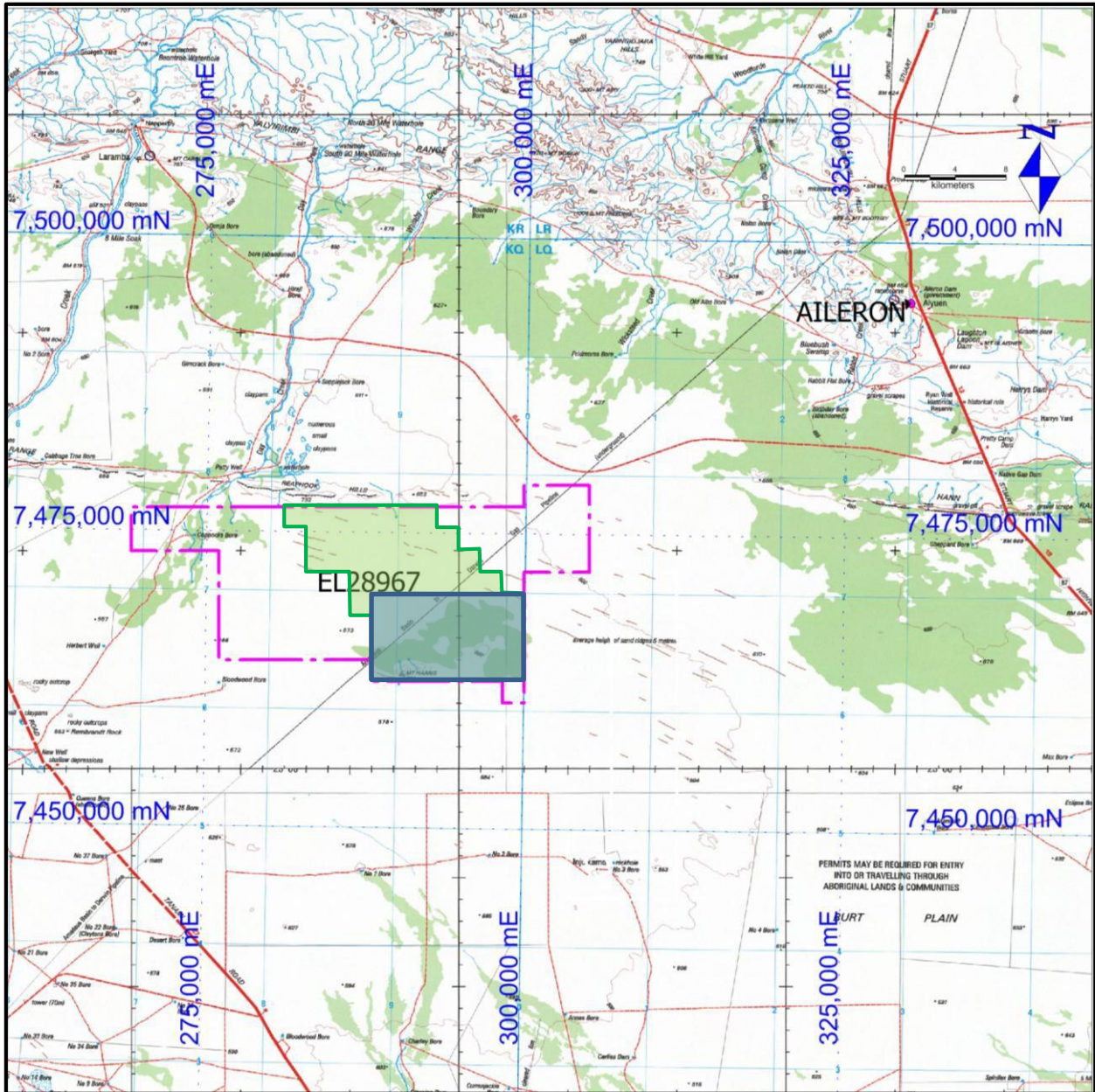


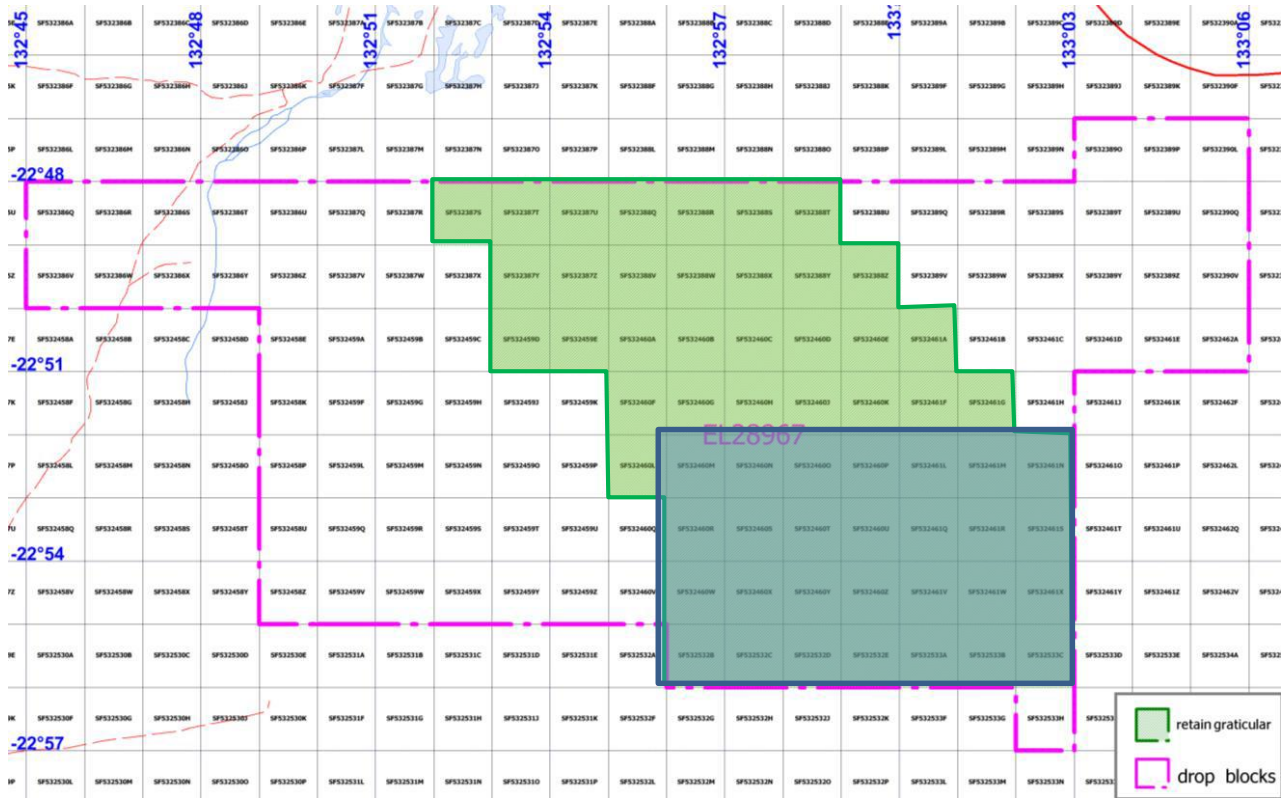
Figure 1 Location Map of EL28967(blue blocks are retained)

These stations homestead built a few dirt track in western and southern of the tenement. These stations keep access gates closed and it was 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. Fourth year reduction was undertaken with 28 blocks retained, another 30 blocks were dropped. There are no other mining leases or mineral claims within the Licence area. List of Graticular blocks covering EL28967 in Table 1.

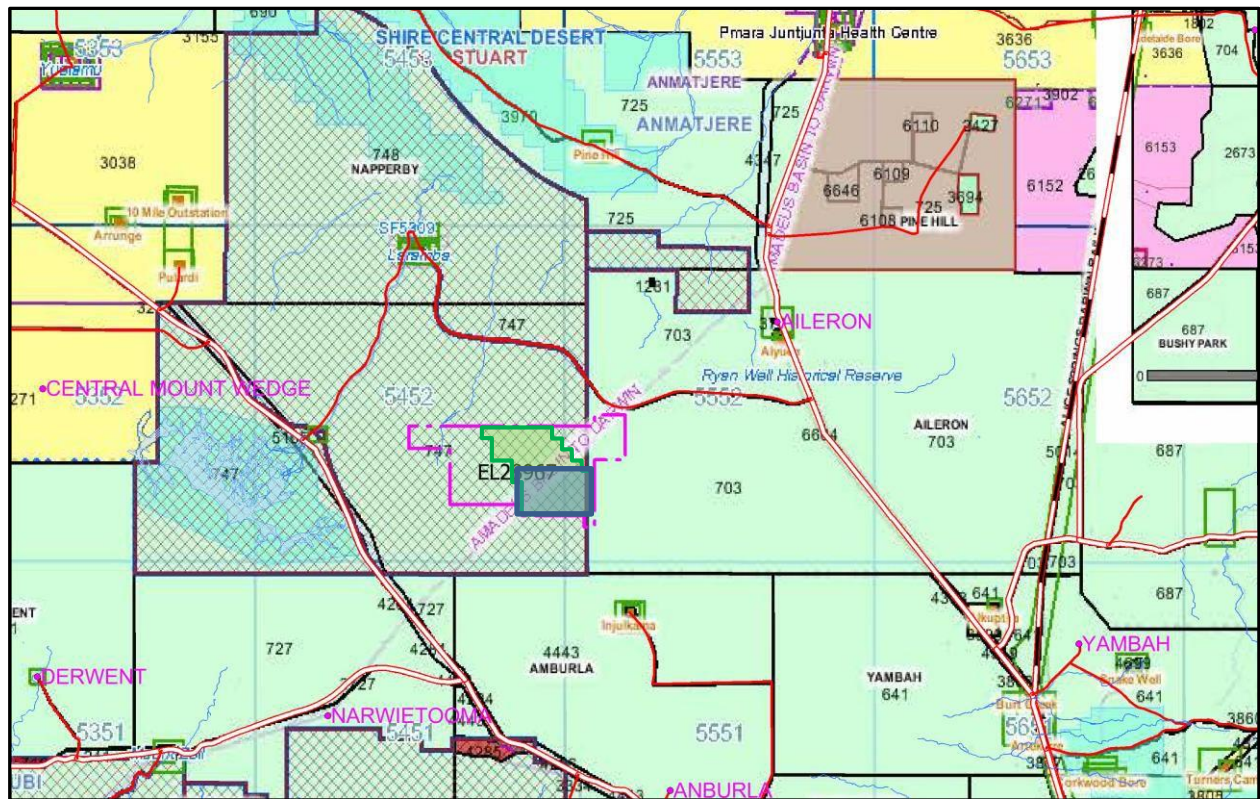


**Figure 2: Graticular blocks covering EL28967**

Table 1 Graticular blocks covering EL28967 (red blocks are reduced)

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 meters 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 recognized 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 fluvioglacial 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

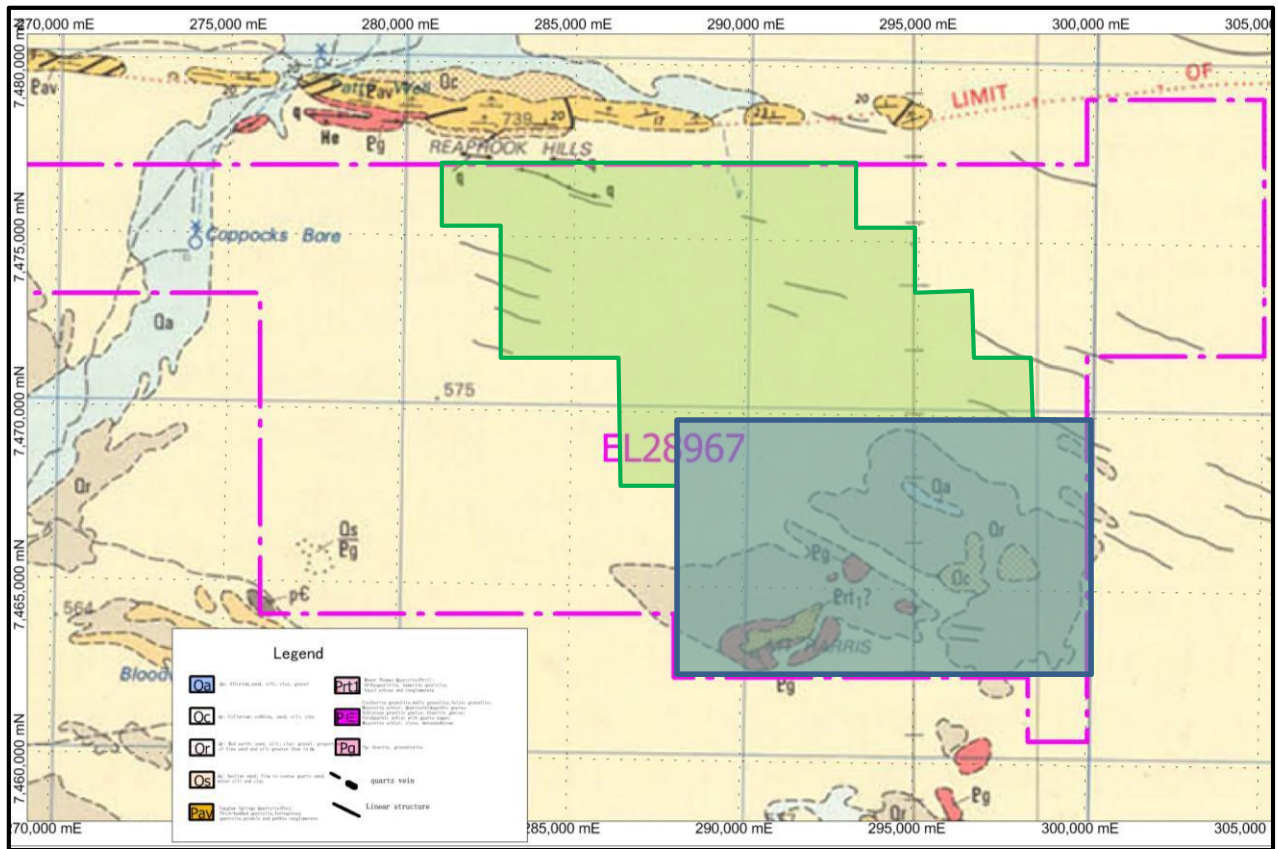
The tenement is underlain by basement rocks of the Aileron Province (According to the web-site of the NTGS (December, 2004)) basement rocks in the Aileron region comprise part of: "... the Arunta Region, a complex basement inlier in central Australia that has undergone a prolonged history of sedimentation, magmatism and tectonism extending from the Paleoproterozoic to the Paleozoic. 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 green schist 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 Centralia 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 southern of EL28967 area. 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 (Pt1), middle Proterozoic Granite (Pg) and Precambrian granulite /schist/gneiss (P $\in$ ), its outcrop in southern edge of EL28967.

## 5. PREVIOUS EXPLORATION

None of MODAT occurrences is located on EL28967, nor was NTGS open-file data on previous exploration covered EL28967, Much of the lease work was undertaken 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, recognized as potential sources for secondary uranium, found foliated granite with common quartz-hematite-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) mineralization was found and the area was relinquished.

Gutnick Resources NL held twenty-four leases (EL10239-EL22703) on 28th March 2001 to 23th July 2003, these properties are based on a new genetic interpretation for the Witwatersrand mineralization in South Africa. These new hydrothermal models suggest that similar and related styles of mineralization 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 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 prospectively for relinquishment. A total of 198 blocks covering 625.19 square kilometers and representing approximately 49% of the total area of the licence we 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. This enabled an informed review of the tenements prospectively in regards to Au and Cu.

## **6. EXPLORATION DURING YEAR 1**

In the first year of tenure, work on EL28967 was limited to desk-top reviews and reconnaissance field trips. These field trips traverse included discussions with pastoralists. Access around the area was also assessed. The lease almost was covered

with Aeolian sand, there is a little bit Paleoproterozoic Mount Thomas Quartzite (Prt1), middle Proterozoic Granite (Pg, photo1) in southeastern of the EL. No sampling was undertaken.



Photo1 middle Proterozoic Granite (southeastern of EL28967)

## 7. EXPLORATION DURING YEAR 2

During second year, AMG continues to examine all historic data of the EL. AMG paid attention on the Kurinelli goldfield in Davenport range of Barkly region. Because the lease is covered with Aeolian sand about ninety-nine percent, so AMG decided to surrender the western area and north-eastern area on the tenement.

## 8. EXPLORATION DURING YEAR 3

During third year, AMG continues to examine all historic data of the EL. AMG paid attention to the Kurinelli goldfield in Davenport range of Barkly region, and also paid attention to the rocks propose relative to the Copper Zinc or Lead.

## 9. EXPLORATION DURING YEAR 4

During fourth year, AMG paid attention to the rocks propose relative to the Copper Zinc or Lead. There are few outcrops on the northern part of the lease, only some outcrops in the southern part of the lease, we check and review the regional data of Magnetic and Gravity images from Strike, and want to find more information about the mineral occurrences in the lease.

## 10. PLANNED EXPLORATION FOR YEAR 5

Exploration is planned to target gold and Copper, AMG will review some geological data concerning this tenement in order to make a decision what necessary work should to do on this lease, if AMG continues to hold EL28967, AMG program include geological survey and geological section trips.

A cost for the total proposal \$38,000.

## 11. 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	\$10,000.00
Geological data processing	\$10,000.00
Geophysical data processing and interpretation	\$30,000.00
Overheads	\$4,000.00
<b>TOTAL</b>	<b>\$54,000.00</b>

## 12. CONCLUSION AND RECOMMENDATIONS

The area was considered prospective for gold and copper, because the lease landform is

flat and overlying by Aeolian sand, there is a few sporadic outcrop of Paleoproterozoic Mount Thomas Quartzite (Prt1), middle Proterozoic Granite (Pg) and Precambrian granulite /schist/gneiss (P $\in$ ). It is almost view information for mineralization. At present, AMG geologist can't determine the potential in the lease.

### **13. REFERENCES**

STEWART, A. J., 1982. NAPPERBY – Sheet SF/53-9. BMR 1:250,000 Geological Map Series Commentary. Bur. Min. Res. Geol. & Geophysics.

STEWART, A. J., 1982. NAPPERBY – Sheet SF/53-9. BMR 1:250,000 Geological Map Series. Bur. Min. Res. Geol. & Geophysics.

WARREN R.G, SHAW R.D. 1995 HERMANNsburg-Sheet SF/53-13. BMR 1:250,000 Geological Map Series. Dept. Mines and Energy, NTGS. AGSO.

WARREN R.G, SHAW R.D. 1995 HERMANNsburg-Sheet SF/53-13. BMR 1:250,000 Geological Map Series- Explanatory Notes. Dept Mines and Energy, NTGS. AGSO.

Stewart, A. J., Offa, L. A., Glikson, A. J., Warren, R. G., and Black, L. P., 1980. Geology of the northern Arunta Block, Northern Territory. Australian Bureau of Mineral Resources, Geology and Geophysics Record, 1980/83.

Hughes, F.E., 1972. Final Report on EL 753, Mount Harris, NT. Annual Report to the Dept. Minerals and Energy, CRA Exploration Ltd. (CR 1973\_0121).

C. Washburn, 2004. Joint surrender report on Rand project (EL10239-EL22703), NT. Annual Report to the Dept. Minerals and Energy, Gutnick Resources NL. (CR 20040166).

Andrew Taylor, 2010, Partial Relinquishment report on EL 24746, Milton Park, NT. Annual Report to the Dept. Minerals and Energy, Northern Mining Limited. (CR 20110431).

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