YEAR 2 REDUCTION REPORT OF EL28967

Burt Plain

3rd July 2012 to 2nd July 2014
Aileron Project NT

2TH YEAR, 1ST AREA REDUCTION

NAPPERBY SF5309 1:250,000
NAPPERBY 5452 1:100,000
AILERON 5552 1:100,000

Datum: GDA 94 zone 53

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

Report No. 2014-018
Australia Mining and Gemstone Co. Pty. Ltd
By Xianneng Zhang
15th August 2014
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1. SUMMARY

The Aileron Project is situated in the southwestern of Central Desert Shire in the central part of Northern Territory, approximately 130 kilometres northwest of Alice Springs (Figure 1). Historical exploration focussed 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 with the Napperby Station. EL28967 is mostly covered with aeolian sand, with just a few outcrop basement rocks Precambrian schist/gneiss, Paleoproterozoic Mount Thomas Quartzite and middle Proterozoic Granite in the southern areas 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 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 (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 about 20 kilometres north of Alice Springs. Between Alice Springs and Yuendunu road was sealed with asphalt.
These stations homesteads built a few dirt tracks in the western and southern areas of EL28967. These 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, and 68 blocks dropped. There are no other mining leases or mineral claims within the License area. List of Graticular blocks covering EL28967 in Table 1.

![Diagram of EL28967 with graticular blocks]

**Figure 2: Graticular blocks covering EL28967**

**Table 1 Graticular blocks covering EL28967**

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<td>SF532460T</td>
<td>SF532461W</td>
<td></td>
</tr>
</tbody>
</table>
Background land tenure under EL28967 is part of Aileron station and Napperby Station (Figure 3). Contact details are:

**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).

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**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 calc-silicate 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 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 deposcentre 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)

Sporadic basement rock Paleoproterozoic Mount Thomas Quartzite, middle Proterozoic Granite and Precambrian granulite/schist/gneiss 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)](photo1.png)

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 2013 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. CONCLUSION AND RECOMMENDATIONS

The area was considered prospective for gold and copper. AMG has decided to surrender the western and north-eastern areas of the tenement as they are the least prospective.

9. REFERENCES


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Any information included in the report that originates from historical reports or other sources is listed in the “References” section at the end of the document.

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