LEGEND INTERNATIONAL INVESTMENTS PTY LTD

Partial Relinquishment report on EL 25789 Central Australia, Northern Territory

Tenement Holder: Legend International Investments Pty Ltd

Distribution:

- **DRDPIFR Darwin, NT**
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October 2010

SUMMARY

Exploration Licence (EL) 25789 is situated within Tennant Creek Inlier of Palaeoproterozoic age and is located about 1027 km south of Darwin and 27 km south of Tennant Creek. It covers 33 sub blocks (84 km^2) on the Tennant Creek (1:250 000) sheet. EL was granted to Legend International Investment Pty Ltd on 9 July 2008 for a period of six years, and will expire on 8 July 2014.

The Palaeoproterozoic Tennant Creek Inlier comprises the Ashburton province to the north and Davenport province to the south, separated by Tennant Creek Province. Much of the project area is covered by thick sand sheets, relict fluvial system often covered by sand and uncommon colluvium and scree deposits. Interpreted geology of the project areas shows that it mainly contains rocks of Junalki Formation, Orradidgee Group and undifferentiated granite which are all buried below surficial cover.

During 2010, Legend international decided to surrender 4 eastern blocks of the EL in order to comply with Mining Act. During the reporting periods, only reconnaissance field trips were undertaken. Interpretation based on previous data was undertaken. Legend International regards the eastern part of the tenement not very promising. Therefore, it was decided to surrender 4 blocks.

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1.0 INTRODUCTION

EL 25789 covers strategic landholding which is located about 1027 km south of Darwin and 27 km south of Tennant Creek township, which has been main gold mining centre in the previous centaury. This report covers the exploration activities undertaken on the four eastern blocks which have been relinquished.

2.2 TENEMENT STATUS

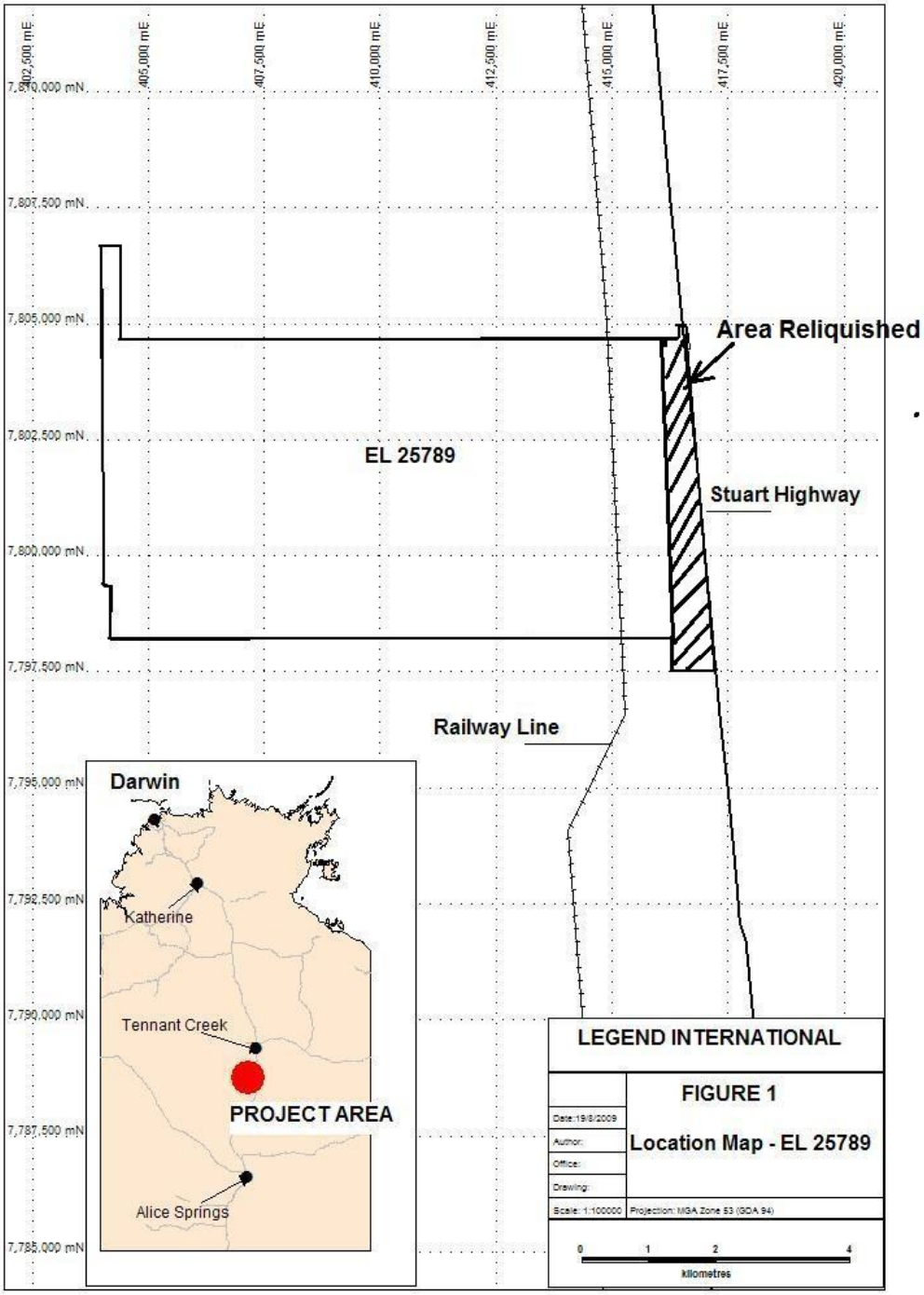
EL 25789 was applied for on 7 December 2006 and was granted on 9 July 2008 for a period of 6 years. It has 33 blocks (84.71 km2) and will expire on 8 July 2014. Legend International has recently set up Australian office in Darwin, and intends to explore the tenement for a number of mineral commodities. Legend International decided to relinquished four eastern blocks as shown in Figure 1 (SE53 3339H, SE53 3339N, SE53 3339S, SE53 3339X), and after this surrender EL 25789 will have only 29 blocks.

1.0 LOCATION AND ACCESS

EL 25789 is situated in central Australia and is located about 1027 km south of Darwin and 27 km south of Tennant Creek (Figure 1). The tenement is transacted by Stuart Highway and Adelaide to Darwin Railway line in the east. Tenement is situated in the southern part of Tennant Creek (1:250 000) and Tennant Creek (1:100 000) sheets. Access to the project area is gained by Stuart Highway then by four wheels drive station tracks. The project area is mainly covered by red sandy plans with occasional sand dunes in the north. Underlying cadastre is covered by PPL 1142.

The area experiences a continental desert climate with annual rain of about 100 millimetres. Summers are dry and hot with maximum temperature over 50°C whilst winters are relatively cooling (maximum 30°C). Winter season is the most suitable for exploration.

Figure 1: Tenement Location Map



4.0 Geological Setting

The project is located within the Palaeoproterozoic Tennant Creek Inlier which crops out over an area of 45 000 km^2 in central Australia. It comprises the Ashburton province to the north and Davenport province to the south, separated by Tennant Creek Province (Donnellan et al., 1999).

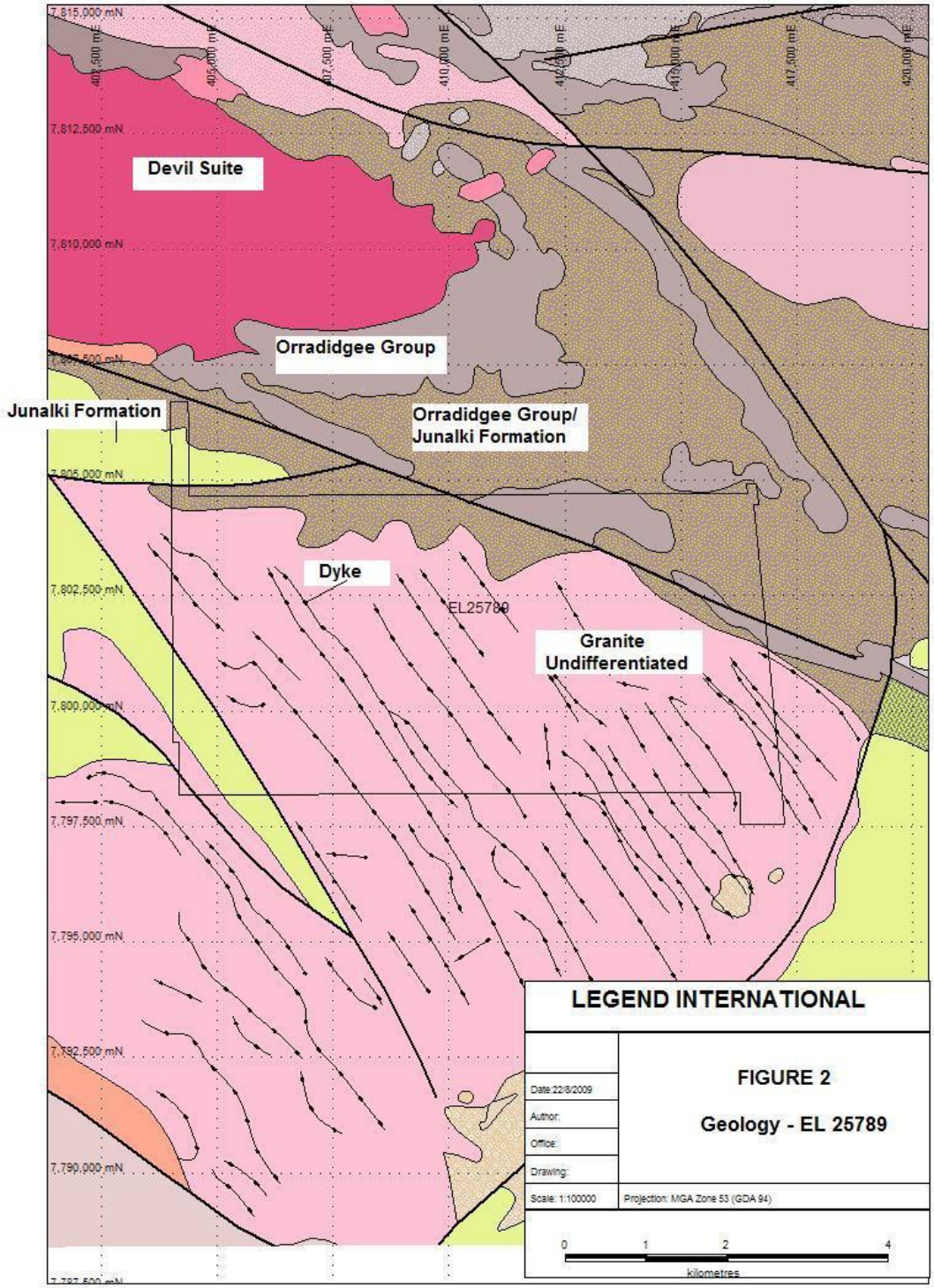
The main lithologies in the Tennant Creek Province are turbiditic flysch succession represented by Warramunga Formation and granites. Extrusive subaerial volcanic rocks comprising rhyolite and rhyodacite, ignimbrite, lava and tuff and associated volcaniclastic and clastic sedimentary rocks are also present, and are broadly coincident in both space and time (Donnellan et al., 1999). The Tennant Creek Inlier was deformed and metamorphosed (D2) probably contemporaneously with the Strangways Orogeny.

Much of the project area is covered by thick sand sheets, relict fluvial system often covered by sand and uncommon colluvium and scree deposits. Our current knowledge of sub-surface geology is based on the geological and geophysical interpretation by the Northern Territory Geological Survey ((Donnellan et al., 1999), which is complimented by exploration and mining companies work in the area.

Interpreted geological setting of the project area is shown in Figure 2. The Junalki Formation the oldest rock unit in the project which forms a small part in the northern corner (Figure 2). It mainly comprises lithic arenite, volcanilithic arenite, siltstone and mudstone, Rhyodacitic lava, crystal-lithic tuff, lapilli tuff and ignimbrite.

Much of the southern part of the tenement is covered by undifferentiated granite which does not crop out in the project. It is buried by a thick cover of sand sheet or small dunes. It is believed to be equivalent to Tennant Creek Supersuite dated at 1848 $\pm$7 Ma – 1853 $\pm$10 Ma. There is also a possibility that it might be part of Treasure Suite. The Tennant Creek Supersuite is medium to coarse grained porphyritic with rapakivi textures and in places may

Figure 2: Geological Setting of the Project Area



also be gneissic in nature. Common minerals are plagioclase, orthoclase, biotite, magnetite with accessories such as ilmenite, magnetite, muscovite and sphene. Some of these mineralogical assemblages resemble to those of S-type granites (Chappell and White, 1974). A distinct feature of the buried granite in the project area that it has extensive system of NW-trending dykes as shown in Figure 2. Nature of this dyke system is not clear, and so far, no investigation has been carried to understand such an extensive system which is unusually confined only to this granite body in the Tennant Creek area.

Northern part of the project area is covered by undifferentiated rocks of the Orradidgee Group/Junalki Formation. The problem has been in accessing the buried rocks which has hampered their proper identification and classification into proper formation and group. Further north, there are some rocks which belong to Orradidgee Group and mainly contain magnetic volcano-sedimentary succession.

5.0 Previous Exploration Activity

As mentioned previously that project area is mostly covered with Cainozoic sand sheets and occasionally colluvial and silcrete deposits, which masked bed rock geology. This discouraged companies to explore the area due to lack of geological knowledge.

Never the less, northern part of the tenement was explored by Nobelex NL (1973). It carried a campaign of geophysical survey and drilling. However, none of the geophysical anomalies or drilling covered the area.

Nobelex NL acquired another EL 143 which covered part of western part of the project area. During exploration program geophysical survey was carried out and some of the anomalies identified were drill-tested, however, none of these fell within the project area. Another geophysical survey was undertaken in 1975 which identified a few magnetic anomalies in the project area. These anomalies were tested with drilling but revealed no prospective Warramnga Formation (Nobelex, 1976), and tenement was surrendered.

During 1970’s western part of the project was explored by Geopeko Limited (Howard, 1978). It mainly involved geological mapping and vehicle-based

magnetic survey. A number of magnetic anomalies were recognised, but during ground truthing none was considered worthy of further exploration, and EL was eventually surrendered.

6.0 Exploration Activity during the Period under Review

A desk top study of the project area was undertaken. For this purpose, data obtained during previous exploration programs were examined together with data collected by NT Geological Survey/Australian Geological Survey Organisation. Mapping conducted by the Government organisations has provided geological setting of the project area in regional context which is important in evaluating mineral potential of the project area.

Presence of thick recent sedimentary cover does not allow access to bed rock geology (Figure 3). Composition of cover suggests that probably it is the result of weathering of duricrust which formed during Cainozoic, and it covered much of northern Australia. Best available geological information is based on the interpretation which has been derived from the geophysical and inferred geological interpretation with no information on the lithological and mineralogical characters of rocks in the project area. This way this project represents a real “Greenfield Target”. Previous investigations in the 1970’s have been unsuccessful. However, new high resolution geophysical survey which has recently been flown by UTS Geophysics contracted by Legend International, offers new hope to reveal sub-surface geological information, which may help in developing an exploration strategy. Figure 4 shows TMI image of the project area based on NTGS recent work. Dyke system identified by Donnellan et al (1999) is shown well on TMI image in the form of NW-trending magnetic ridges.

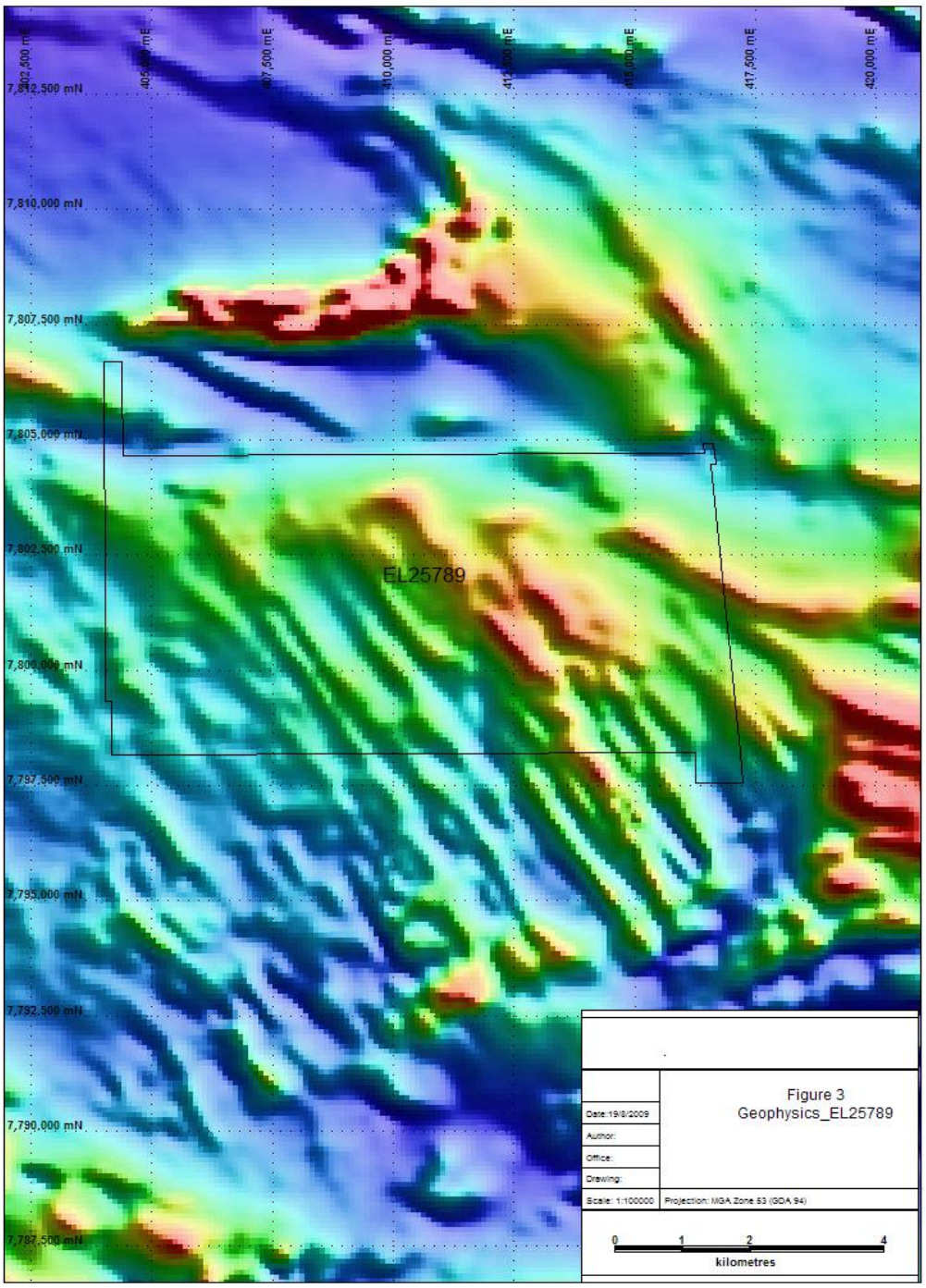
Therefore, buried body of granite should be explored for Olympic-style gold, uranium and copper mineralisation. Devil Suite Granite body induces a strong contact aureole towards north-west of Figures 2 and 3. This contact aureole

Figure 3: Recent sedimentary cover which masks bed rock geology

could have extended into project area by the fault system in the area. Faults intersecting Junalki Formation and Orradidgee Group rocks are also areas of interest because they could have acted as conduit zones from fluids emanating from deep seated granites supported by gravity data.

In July-August 2010, EL 25789 was flown by high resolution geophysical survey (magnetic and radiometric) survey which also covered the relinquished part of the tenement (Figure 1). However, company consultant geophysicist found some serious issues with the data, therefore, data Cd has been returned to UT Geophysics to fix problems with the data. Once the

Figure 4: TMI Image of the Project Area



revised data Cd is received by the Legend International, then geophysical data will be provided to the Department of Resources.

8.0 References

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