

LEGEND INTERNATIONAL INVESTMENTS PTY LTD

**Annual report on EL 25789 from 9 July 2008 to 8 July
2009**

Central Australia, Northern Territory

Tenement Holder: Legend International Investments Pty Ltd

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SUMMARY

Exploration Licence (EL) 25780 is located about 1227 km south of Darwin and 27 km south of Tennant Creek. It covers 33 sub blocks (84 km²) 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 project is located within the Palaeoproterozoic Tennant Creek Inlier and 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 the reporting period a desk top study of the project area was undertaken. For this purpose, data obtained during previous exploration programs was examined together with data collected by NT Geological Survey/Australian Geological Survey Organisation. Mapping conducted by the Government organisation has provided geological setting of the project area in regional context which is important in evaluating mineral potential of the project area.

It is proposed that the area should be examined with high resolution aerial cover or remote sensing data in order to see if any bed rock geology is exposed in the project area. It should be followed by Air core/RC drilling which should penetrate deep into bed rock geology. Samples retrieved during drilling should be petrographically examined and assayed for suite of elements which should help to identify rocks and their mineral potential. If possible then area should be flown by high resolution geophysical survey

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1.0 INTRODUCTION

EL 25789 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 century. This report covers the exploration activities undertaken during the reporting period year ending on 8 July 2009.

2.2 TENEMENT STATUS

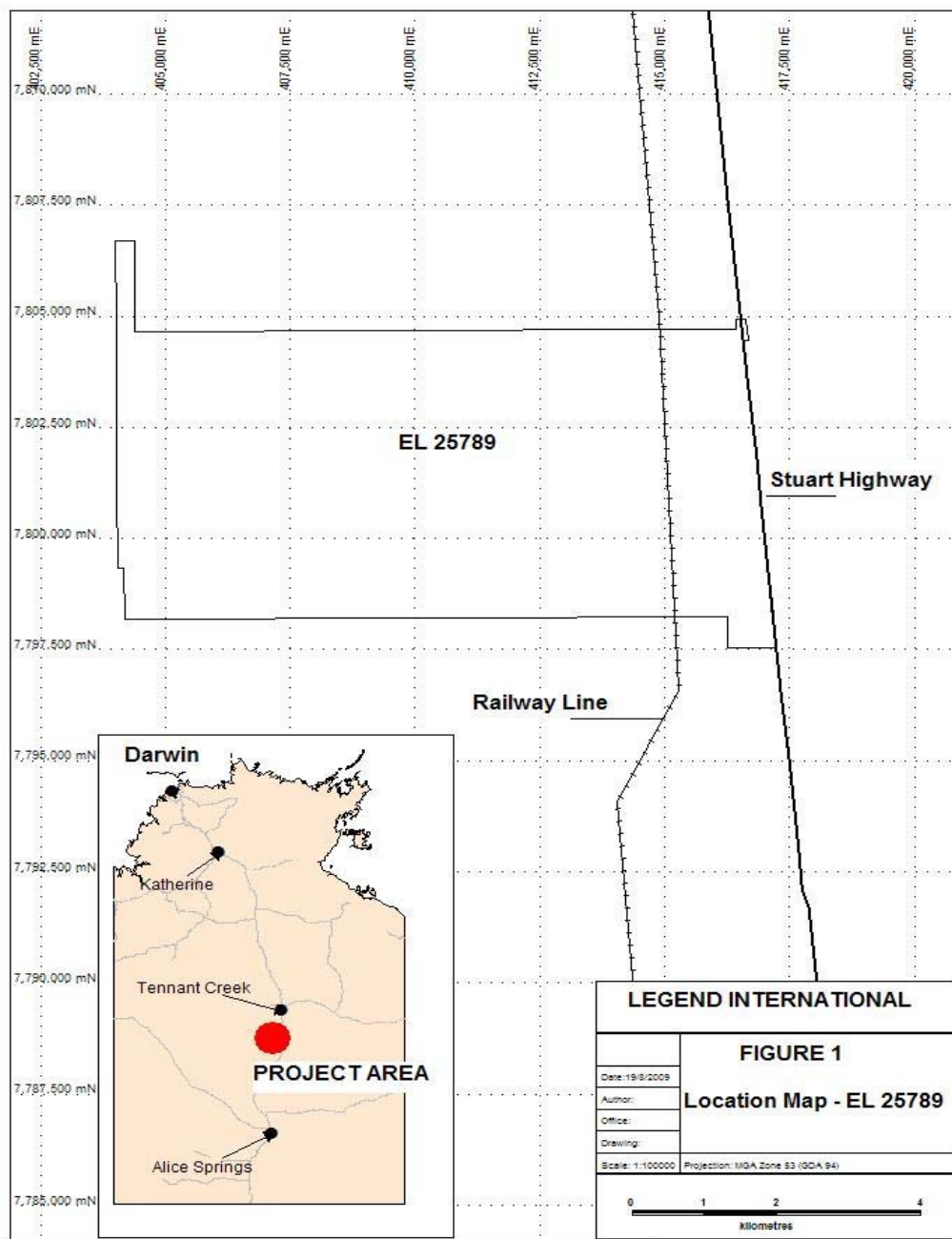
EL 25789 was applied for on 7 December 2006 and was granted on 9 July 2008 for a period of 6 years. It has 33 blocks (84.71 km²) and will expire on 8 July 2014. Legend International has recently set up Australian office in Darwin, and intends to explore the tenement for a number of mineral commodities.

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 plains 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 km² 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).

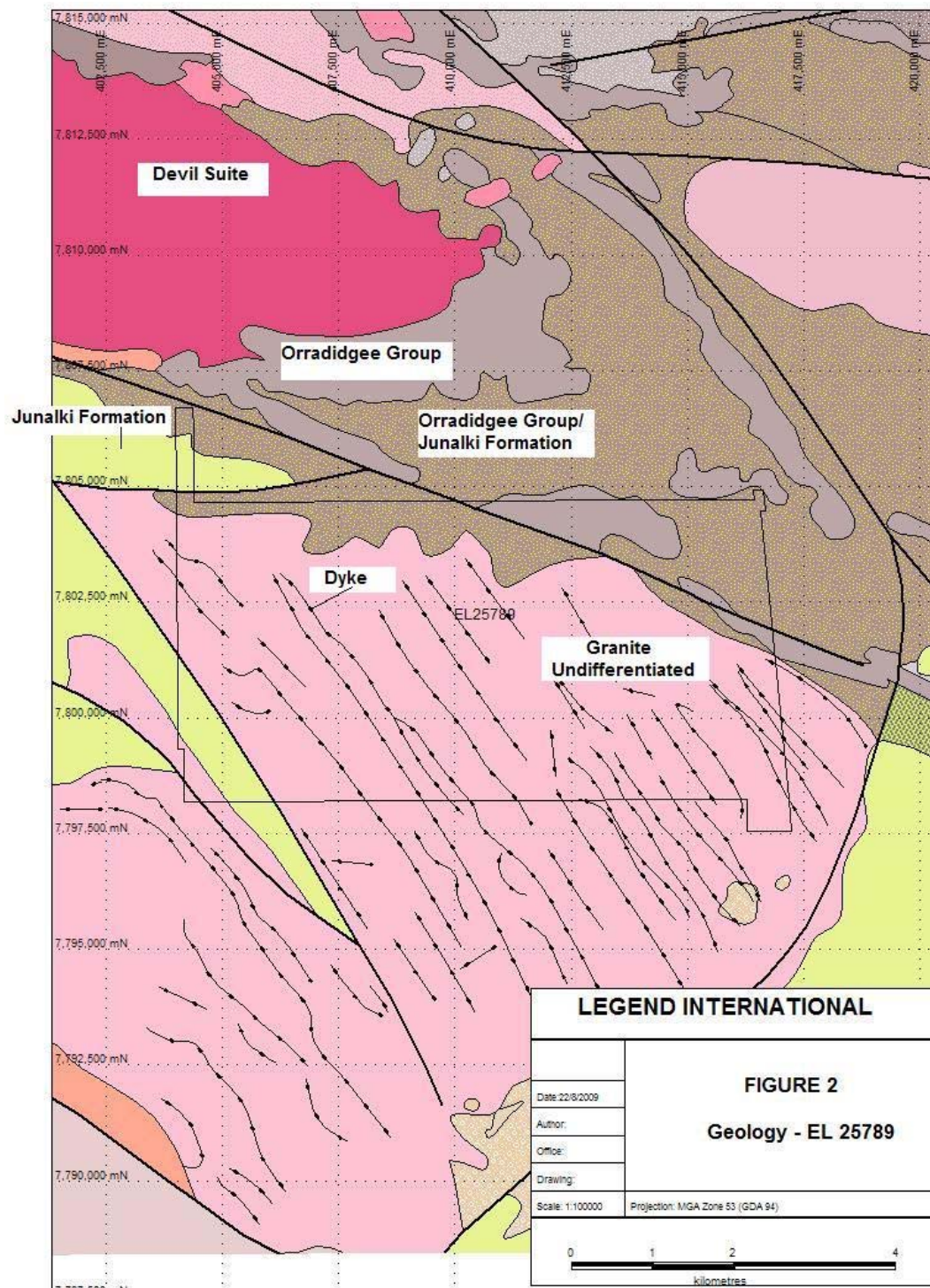
The main lithologies in the Tennant Creek Province are turbiditic flysch succession represented by Warramunga Formation and granites. Extrusive subaerial volcanic rocks comprising rhyolite and rhyodacite, ignimbrite, lava and tuff and associated volcanoclastic and clastic sedimentary rocks are also present, 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.

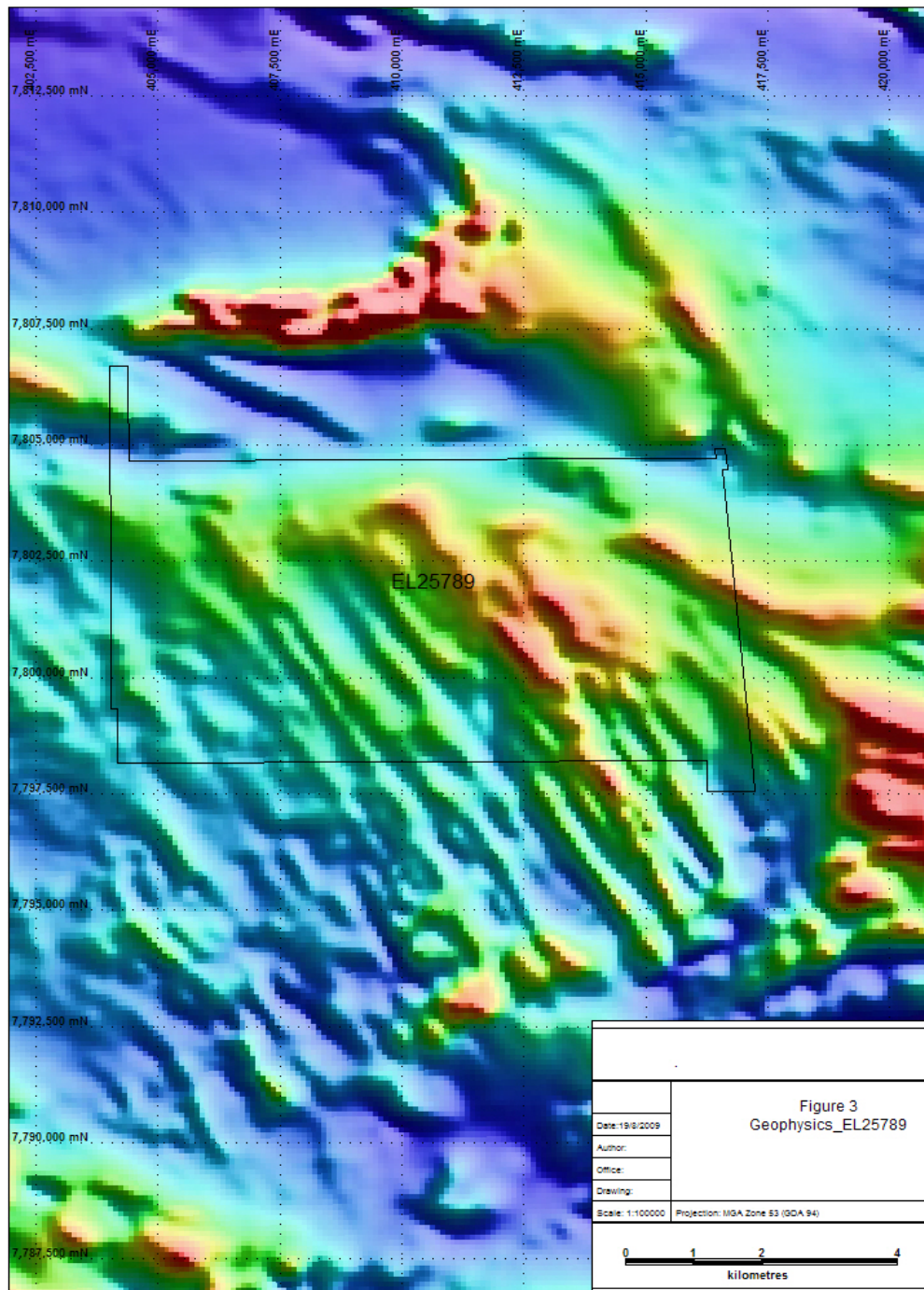
During 1970's western part of the project was explored by Geopeko Limited (Howard, 1978). It mainly involved geological mapping and vehicle-based magnetic survey. A number of magnetic anomalies were recognised, but during ground truthing none was considered worthy of further exploration, and EL was eventually surrendered.

6.0 Exploration Activity year Ending 8 July 2009

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

However, problem remains due to unavailability of outcrops in the project area. 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 offers new hope to reveal sub-surface geological information, which may help in developing an exploration strategy. Figure 3 show TMI image of the project area based on NTGS recent work. Dyke system identified by Donnellan et al 1999 is well shown on TMI image in the form of NW-trending magnetic ridges. North-eastern side of the project area shows more pronounced magnetic ridges which may be artefact of thin sedimentary cover. It appears that this distinct feature of the project area has not been tested with appropriate drilling. 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 Figure 3. This contact aureole

Figure 3: TMI Image of the Project Area



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

Other activities included reconnaissance visits, report writing and tenement administration. This program costed \$14277.00 and details are given in separate expenditure report.

7.0 Proposed Exploration Activity

EL 25789 is located in the prospective regions of the Northern Territory and could have potential for Olympic style gold, uranium and copper mineralisation. However, surficial sedimentary cover represents a real challenge due to lack of reliable geological information. For this purpose a dedicated exploration is required.

It is proposed that the area should be examined with high resolution aerial cover or remote sensing data in order to see if any bed rock geology is exposed in the project area. It should be followed by Air core/RC drilling program which should penetrate deep into bed rock geology. Samples retrieved during drilling should be petrographically examined and assayed for suite of elements which should help to identify rocks and their mineral potential. If possible then area should be flown by high resolution geophysical survey. A minimum budget of \$35000.00 has been set-aside for this program.

8.0 References

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