ANNUAL REPORT

EXPLORATION LICENCE 24471

EXPLORER PROJECT – TENNANT CREEK

FOR THE PERIOD 16/8/08 to 15/8/09

YEAR 4

by

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B ASc (Hons)

1:250000 Tennant Creek, Bonney Well

1:100000 Kelly, Tennant Creek, Chaluba, Bonney

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**LIST OF CONTENTS**

<table>
<thead>
<tr>
<th>Title/Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Page</td>
<td>2</td>
</tr>
<tr>
<td>List of Contents</td>
<td>2</td>
</tr>
<tr>
<td>List of Figures</td>
<td>3</td>
</tr>
<tr>
<td><strong>SUMMARY</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>INTRODUCTION</strong></td>
<td></td>
</tr>
<tr>
<td>Background</td>
<td>5</td>
</tr>
<tr>
<td>Location and Access</td>
<td>5</td>
</tr>
<tr>
<td>Climate</td>
<td>5</td>
</tr>
<tr>
<td>Topography and vegetation</td>
<td>5</td>
</tr>
<tr>
<td><strong>TENURE</strong></td>
<td></td>
</tr>
<tr>
<td>Mining/Mineral Rights</td>
<td>5</td>
</tr>
<tr>
<td>Land Tenure</td>
<td>5</td>
</tr>
<tr>
<td>Native Title</td>
<td>6</td>
</tr>
<tr>
<td>Aboriginal Sacred Sites</td>
<td>6</td>
</tr>
<tr>
<td><strong>GEOLOGY</strong></td>
<td></td>
</tr>
<tr>
<td>Regional Geology</td>
<td>8</td>
</tr>
<tr>
<td>Local Geology</td>
<td>9</td>
</tr>
<tr>
<td><strong>PREVIOUS EXPLORATION</strong></td>
<td></td>
</tr>
<tr>
<td>Mining history</td>
<td>9</td>
</tr>
<tr>
<td>Exploration by previous companies</td>
<td>9</td>
</tr>
<tr>
<td><strong>EXPLORATION BY WESTERN DESERT RESOURCES – 2007/08</strong></td>
<td></td>
</tr>
<tr>
<td>Exploration Activities</td>
<td>10</td>
</tr>
<tr>
<td>Drilling Programme</td>
<td>10</td>
</tr>
<tr>
<td>Downhole Geophysics</td>
<td>10</td>
</tr>
<tr>
<td><strong>EXPLORATION COMPLETED DURING CURRENT YEAR</strong></td>
<td></td>
</tr>
<tr>
<td>Exploration Activities</td>
<td>10</td>
</tr>
<tr>
<td>Geophysics</td>
<td>11</td>
</tr>
<tr>
<td><strong>RESULTS AND EXPENDITURE</strong></td>
<td></td>
</tr>
<tr>
<td>Discussion of results</td>
<td>13</td>
</tr>
<tr>
<td>Exploration Activities – Assay of Core Samples</td>
<td>13</td>
</tr>
<tr>
<td>Geophysics</td>
<td>13</td>
</tr>
<tr>
<td>Expenditure</td>
<td>13</td>
</tr>
<tr>
<td><strong>PROPOSALS FOR FUTURE WORK</strong></td>
<td></td>
</tr>
<tr>
<td>Proposed work programme for 2010</td>
<td>13</td>
</tr>
<tr>
<td><strong>REFERENCES</strong></td>
<td></td>
</tr>
<tr>
<td><strong>APPENDICES</strong></td>
<td></td>
</tr>
<tr>
<td>1 Assay Results from core sampling of Drill hole E3DD05</td>
<td></td>
</tr>
<tr>
<td>2 Gravity Survey &amp; Gravity Stations location maps</td>
<td></td>
</tr>
</tbody>
</table>
LIST OF FIGURES

1. Location of EL 24471 – Explorer Project
2. Gravity Survey area in north-west of EL 24471
3. Gravity Survey Stations – EL 24471
SUMMARY

The tenement known as the Explorer Project, is located approximately 40 kilometres south of the township of Tennant Creek in the Northern Territory.

Exploration Licence 24471 has been held by Tennant Creek Gold P/L since the licence was granted in August 2005. On 27 February 2008, Tennant Creek Gold P/L entered into a joint venture agreement with Western Desert Resources Ltd.

EL 24471 was reduced in August 2008 from 1354 square kilometres to 878.3 square kilometres with the relinquished areas including those located over registered sacred sites in the EL.

The Explorer project covers an area on the poorly exposed southern margin of the Tennant Creek Block within the central Tennant Creek Inlier.

The Tennant Creek Block remains one of the most prospective gold provinces of the Northern Territory. Gold was discovered in the area around 1925 however little mining or prospecting took place until 1932 due to the lack of gold in prominent quartz veins and the virtual absence of alluvial concentrations. The gold mineralisation in the region is linked by a common association with iron oxides.

Previous exploration in the area has included Aeromagnetic surveys, follow up ground magnetic surveys, diamond and percussion drilling.

One diamond drill hole was drilled by Western Desert Resources in the previous year of tenure. Assay results from the core sampled are included in this report.

Nearing the end of this reporting period a gravity survey commenced over an area of 20 square kilometres in the north-west of the tenement.

The proposed exploration programme for year 5 (2009/10) will include interpretation of the results of the gravity survey and possible drilling of any targets found.
INTRODUCTION

BACKGROUND
Exploration Licence 24471 is held by Tennant Creek Gold P/L. Tennant Creek Gold P/L entered into a joint venture agreement with Western Desert Resources Ltd on 27 February 2008. The tenement covers ground prospective for gold by way of Tennant Creek-style ironstone hosted Gold-Copper deposits and as a secondary target within quartz lode hosted Gold deposits.

LOCATION AND ACCESS
The tenement known as the Explorer Project, is located approximately 40 kilometres south of the township of Tennant Creek in the Northern Territory (Figure 1). The Explorer Project covers an area of 878.3 square kilometres (288 blocks) and is located within the Bonney Well and Tennant Creek 1:250,000 map sheets on Perpetual Pastoral Lease 1142. The tenement is subject to an exploration agreement with the Central Land Council (CLC). The tenement area was reduced from 1354 square kilometres to the current size in August 2008.

Exploration access was granted after successful negotiations with the CLC and Traditional Owners however there are three registered sacred sites present within EL 24471 which are classified as exclusion zones and therefore not available for on-ground exploration or access.

Access to, and within, the area is by the sealed Stuart Highway south from Tennant Creek, and then by unsealed station tracks leading west from the Stuart Highway. The Alice Springs to Darwin Railway also traverses through the area.

CLIMATE
The area is subject to sporadic heavy rains during the hot season from November to March. Fine, mostly dry weather prevails throughout the remainder of the year.

TOPOGRAPHY AND VEGETATION
South east trending creeks that flow during the hot season offer significant barriers to vehicular access within the area during this time. The majority of the area is covered by flat sandy Spinifex and sparse scrub plains.

TENURE

MINING/MINERAL RIGHTS
Exploration Licence 24471 has been held by Tennant Creek Gold P/L since the licence was granted in August 2005. On 27 February 2008, Tennant Creek Gold P/L entered into a joint venture agreement with Western Desert Resources Ltd.

LAND TENURE
The tenement is located within the boundaries of Perpetual Pastoral Lease 1142 – Tennant Creek Station.
NATIVE TITLE
There are no known native title claims over the exploration licence. An exploration agreement is in place with the Central Land Council (CLC).

ABORIGINAL SACRED SITES
The reduction of the tenement in August 2008 included the areas that contained three registered sacred sites. There are now no known sacred sites within the current boundary of EL 24471.
Figure 1. Location of EL 24471 – Explorer Project
GEOLOGY

REGIONAL GEOLOGY

The Explorer project covers an area on the poorly exposed southern margin of the Tennant Creek Block within the central Tennant Creek Inlier. The Tennant Creek Inlier is an area of Proterozoic rocks covering about 43500 square kilometres in the Northern Territory.

The Tennant Creek Inlier contains 3 provinces, the Proterozoic Tomkinson Creek Province in the north, the Tennant Creek Block in the central area, which also contains the Tennant Creek gold field, and the Devonport Province to the south.

The Tennant Creek Block remains one of the most prospective gold provinces of the Northern Territory. For about 3 decades to 1980 it was the only major Northern Territory producer and to June 1987 the Tennant Creek gold field had recorded the largest production of any Northern Territory field. The Tennant Creek Block is the most extensively explored and developed of Australia’s few Proterozoic gold provinces.

The gold mineralisation in the region is linked by a common association with iron oxides. Gold occurs within the Warramunga Formation in association with copper and bismuth in hematite and magnetite rich lodes (ironstone).

The oldest exposed rocks in the Tennant Creek Inlier are the early Proterozoic Warramunga Formation, which consists of interbedded sedimentary and volcanic rocks, and forms the major part of the Tennant Creek Block. It is unconformably overlain by sediments belonging to the Hatches Creek Group which include felsic and mafic volcanic in the Devonport Province to the south, and by sediments of the Tomkinson Creek Beds in the Tomkinson Creek Province to the north. The eastern and western margins are the sedimentary sequences of the Palaeozoic Georgina and Wiso Basins.

There are isolated occurrences of gneissic rocks in the area, which have been interpreted as basement possibly of Archaean age. The Warramunga & Hatches Creek Groups are intruded by Proterozoic igneous rocks of granite, porphyries and dolerite.

The Warramunga Group since re-named the Warramunga Formation and Flynn Subgroup after re-definition in 1995, consists of a sequence of turbiditic greywacke, siltstone and shale with interbedded felsic volcanics. Some minor components of the sequence are thin, discontinuous, argillaceous banded iron formation (BIF), locally known as hematitic shale. As well as hosting hematitic shale and quartz-feldspar porphyry lenses, the Warramunga Formation also contains broad stratabound zones of disseminated magnetite.

The Warramunga Formation is folded and metamorphosed to lower greenschist facies. In the Tennant Creek gold field, the Warramunga Formation is tightly folded about East-West axes, folds are upright and bedding is mostly steeply dipping.

The Cambrian Wiso Basin succession and Cainozoic sediments extensively cover the Tennant Creek area with a westward thickening trend from less than 20 metres in the east to in excess of 200 metres in the west. The Cambrian component of the cover sequence is composed of thin basal fluvialite sediments overlain by a shallow marine carbonate-rich siltstone and sandstone sequence.
The Cainozoic cover of around 20-30 metres in thickness is composed of colluvial, alluvial and aeolian deposits.

**LOCAL GEOLOGY**
The tenement area is located on the southern margin of the Proterozoic Tennant Creek Block.

Due to a thick cover of younger sediments over most of the tenement area, the regional geology of the tenement is interpreted from rare outcrop, limited drill testing, geophysical surveys and information from the relatively well exposed portion of the block to the north.

There is evidence from drilling that the ironstone of the Warramunga Formation tends to form palaeo-topographic highs underlying the Wiso sequence with similar resistance to erosion during the Cambrian as seen in the exposed Warramunga Formation to the north of the tenement.

**PREVIOUS EXPLORATION**

**MINING HISTORY**
The tenement lies within the Tennant Creek Inlier which includes the Tennant Creek gold fields. Gold was discovered in the area around 1925 however little mining or prospecting took place until 1932 due to the lack of gold in prominent quartz veins and the virtual absence of alluvial concentrations. Two small batteries were established near the site of the present town in 1932. One of the last of Australia’s gold rushes followed, and within three years gold was being won from over 100 small mines. The most notable of these mines were Eldorado, Enterprise, Rising Sun, Hammerjack, Blue Moon and Northern Star.

In the late 1940’s to late 1960’s several mines that produced significant tonnages in either gold &/or copper were developed. These were owned by two companies that dominated the Tennant Creek mining scene for 30 years, Australian Development and Peko-Wallsend, and include Nobles Nob, Peko, Orlando, Ivanhoe, Juno and Warrego mines.

**EXPLORATION BY PREVIOUS COMPANIES - Summary**

**Geopeko (1966-67)**
- Aeromagnetics
- 10 line kilometres of ground magnetic over the magnetic anomaly at Explorer 42
- One 328 metre diamond drill hole at Explorer 42 intersecting low grade auriferous BIF

**Nobelex (1972-76)**
- Aeromagnetics
- Ground magnetic follow up
- Two diamond holes and one percussion hole at the outcropping BIF prospect known as “BIF Hill”
Geopeko (1975-79)
- Aeromagnetics
- Ground magnetic follow up of Explorers 190,191, 192
- K/Ar dating of the granite body close to the Stuart Highway and Explorer 42 at 1510 million years

Geopeko/Shell (1981-83)
- Aeromagnetics flown over areas not previously covered
- Two experimental lines of input over Explorer 42
- Basic outcrop delineation from air photographs
- Consultant directed follow up of several Tennant Creek style magnetic anomalies
- Review of Explorer 42 data with magnetic susceptibility and specific gravity being read on drill core.

EXPLORATION BY WESTERN DESERT RESOURCES – 2007/08

EXPLORATION ACTIVITIES

Exploration activities during the previous reporting period included a drilling programme and wireline logging.

Drilling Programme

One diamond drill hole was completed by Titeline Drilling P/L between June 28th and July 9th, 2008, with a total depth of 446.5 metres drilled.

Downhole Geophysics

A wireline probe for gamma radiation, magnetic susceptibility and magnetic induction was conducted down drill hole E3DD05 by Borehole Wireline on July 19th, 2008.

EXPLORATION COMPLETED DURING CURRENT YEAR

EXPLORATION ACTIVITIES

Exploration activities during the current reporting period included assay of previous years drilling and commencement of a gravity survey.
Geophysics

Daishsat Geodetic Surveyors were contracted to conduct a gravity survey over an area of 20 square kilometres in the north-west corner of the tenement (figure 2). The gravity survey was designed to acquire approximately 2100 gravity readings at 100 x 100 metre grid spacing (figure 3). The Daishsat crew commenced mobilisation on August 6, 2009.

Figure 2. Gravity Survey area in north-west of EL 24471
Figure 3. Proposed Gravity Survey stations – EL 24471
RESULTS AND EXPENDITURE

Discussion of results

Exploration Activities – Assay of Core Samples

The drill hole intersected several sequences of banded iron formations which were highly magnetic. Sections of this material were analysed for gold however the results showed no gold mineralisation. See Appendix 1 for assay results of the core sampled.

Geophysics

The gravity survey was not complete at the end of reporting period therefore no results were available.

Expenditure

The expenditure commitment for EL 24471 for year 4 was $90,000. Actual expenditure was $tba as shown on the accompanying exploration expenditure report.

PROPOSALS FOR FUTURE WORK

Proposed work programme for 2010 – Year 5

The proposed exploration programme for year 5 will include interpretation of the results of the gravity survey and possible drilling of any targets found.

The proposed expenditure on EL 24471 for year 5 will be $50,000.

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