POSEIDON GOLD LIMITED

ANNUAL REPORT ON EXPLORATION LICENCE

NO. 7100 (VENUS)

FOR THE PERIOD 23/10/90 TO 22/10/91

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PREPARED FOR:  NORTHERN TERRITORY DEPARTMENT
               OF MINES AND ENERGY

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1.0 SUMMARY

Exploration Licence 7100 (Venus) consists of 5 blocks located approximately 30 kilometres north of Tennant Creek, Northern Territory. The licence was granted to Poseidon Gold Limited on 23rd October 1990, for a period of three years.

Exploration undertaken on the licence during this report period includes a data review of past exploration, interpretation of air magnetic data, and a regional gravity survey.

2.0 INTRODUCTION

This first annual report contains details of all work undertaken on EL 7100 during year one of tenure. The report also contains details of location, access and regional geology of the EL.

The exploration objectives for the EL are twofold:

a) To evaluate ground and airborne magnetic and gravity data with the aim of identifying typical Tennant Creek style ironstone targets.

b) To integrate the above geophysics with geochemical and geological investigations with the aim of identifying mineralisation associated with shear systems and/or quartz veining.

3.0 LOCATION AND ACCESS

EL 7100 is located approximately 30 kilometres NNW of Tennant Creek, and 7 kilometres east of the Threeways Roadhouse, Stuart Highway. Access is via a fence line track intersecting the Stuart Highway immediately north of Threeways, or bush tracks off the Gecko Mine - Phillip Creek Homestead road.

4.0 REGIONAL GEOLOGY

EL 7100 lies within the early Proterozoic Tennant Creek Block, which contains the Tennant Creek goldfield.

The major portion of the Tennant Creek Block is made up of the Warramunga Group, consisting of interbedded sediments and volcanics, namely, turbiditic siltstone, greywacke, shale and mudstone, with acid volcanics and pyroclastics. Le Messurier et al (1990) proposes a maximum thickness of 6000m. The Warramunga Group has been folded in three phases of deformation, and metamorphosed to lower greenschist facies. Folding occurs about east-west axes, and is moderately open,
plunging east and west. Axial plane slatey cleavage is well developed.

Two major sets of faulting has been recognised in the Block. The first is a WNW set of shear zones developed sub parallel to fold axes and forming a locus to intrusions. The second is a NW-SE set which are commonly quartz filled and show sinistral lateral movements. To date the quartz veins do not appear to be mineralised.

Two major masses of granite intrude the Block, as well as numerous smaller intrusions of acid porphyry, dolerite and lamprophyre dykes.

The central and eastern parts of the block contain the older Tennant Creek Granite, which predates folding events in the field. The younger Warrego Granite occurs in the western part of the field and post-dates folding.

5.0 LOCAL GEOLOGY

The area covered by EL 7100 consists dominantly of extensive aeolian sand and soil cover, colluvium and alluvium, with less that 5% outcrop occurring within the NW and SE blocks of the tenement. Outcrop consists of unaltered argillaceous shales, siltstones and greywackes with minor haematitic shale.

These sediments are considered to belong to the Lower Proterozoic Carraman Formation, and are typical of the general sediments in this region.

6.0 EXPLORATION UNDERTAKEN

6.1 PREVIOUS DATA REVIEW

During the early 1970's, Australian Development Limited (ADL) mapped the current EL area as part of a regional mapping programme at scale of 1:12000.

In 1988 a Joint Venture agreement between ADL and Newmont Australia Limited (Newmont) commenced, with Newmont undertaking all exploration on the tenements under the agreement. This included EL 5066, one block of which now constitutes current EL 7100.

Newmont reinterpreted and adapted ADL's 1:12000 geology mapping, and conducted regional and detailed geophysical and geochemical exploration over the tenement, concentrating mainly on the southern areas outside current EL 7100. No account of detailed work in the area concerned was found.

No historical prospecting or mining activity appears to have occurred on the tenement area.
6.2 AIRBORNE GEOPHYSICS

EL 7100 is covered by multi-client high resolution airborne geophysics, flown in 1984 by Austirex. Specifications for this data include:

| Flight line spacing | 200m |
| Sample interval    | 30m magnetics |
| Sensor height      | 60m radiometrics |
| Sensor magnetics   | Proton Precession |
| Radiometrics       | 5 Channel spectrometer |

From this survey contour maps were produced at 1:100000 scale. This data was reprocessed, scaled and contoured to produce 1:50000 and 1:10000 scale aeromagnetic maps covering the EL.

A second survey over the so-called 'Greyhound Block' area was flown over a section of the EL for Poseidon Gold Limited in 1990, by Austirex Ltd. Specifications for this data include:

| Flight line spacing | 50m |
| Sample interval    | 14m |
| Sensor height      | 60m |
| Sensor magnetics   | Cesium Scintrex V201 |

This data was processed to produce 1:25000 scale contours and enhanced images. The data covers a 5 km wide oblique strip through the centre of the EL, and is magnetically flat, reflecting the underlying unaltered turbiditic sediments. Detailed interpretation is yet to be done.

Preliminary interpretation of the regional magnetic data indicates a shallow gradient over the majority of the tenement, although a pronounced, low amplitude magnetic high occurs in the NW corner of the EL. This is possibly related to a broad zone of magnetic sediments which occurs to the west, which will be investigated in detail.

6.3 GRAVITY

A regional gravity survey incorporating EL 7100 is currently being undertaken in the Tennant Creek region. A 1:50000 scale Bouger Gravity Contour Map has been produced based on preliminary data only. Final data has not been collected as yet, and interpretation at this time is not practical. The survey is being conducted with the aim of detecting haematite ironstone bodies not easily recognisable on the magnetic data, especially in areas of strongly magnetic sediments (magnetite-rich) where "masking" of individual ironstones may occur.
6.4 SATELLITE IMAGERY

Landsat Thematic Mapper imagery at 1:50000 scale is available covering the EL area. These images include colour clay and colour gossan imagery. Preliminary interpretation indicates little evidence for zones of clay alteration and/or silicification occurring on the tenement.

7.0 EXPENDITURE INCURRED DURING REPORT PERIOD

Expenditure incurred on EL 7100 during the period 23/10/90 to 22/10/91 is detailed below:

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<thead>
<tr>
<th>Description</th>
<th>Cost</th>
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<td>Consultants - Group</td>
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<td>Consultants - Geophysical</td>
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<td>Consultants - Geotechnical</td>
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<td>Data Acquisition</td>
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<td>Salaries and Wages</td>
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<td><strong>Total</strong></td>
<td><strong>10112.50</strong></td>
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</table>

8.0 PROPOSED EXPLORATION PROGRAMME

The proposed work programme for year 2 of tenure for EL 7100 is detailed as follows:

8.1 GEOPHYSICS

The geophysical exploration programme will include completion and interpretation of the gravity survey, evaluation of all aeromagnetic data and a ground magnetic survey.

8.2 GEOLOGY

Photogeological interpretation will be undertaken, and combined with the magnetic data to locate favourable structures.

8.3 VACUUM DRILLING/SOIL GEOCHEMISTRY

Favourable zones outlined by the above integrated geophysics and geology will be tested by shallow vacuum drilling (250 metres) and soil surveys (200 samples). Samples will be subjected to multi-element analysis.
9.0 PROPOSED EXPENDITURE STATEMENT

The proposed expenditure for year two of the licence tenure is detailed below:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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<td>Assays</td>
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<tr>
<td>Tenure</td>
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</table>

$ 17500

10.0 REFERENCES


11.0 KEYWORDS

EL 7100, Venus, Carraman Formation, sediments, aeromagnetics, gravity, gold.