PEGASUS GOLD
AUSTRALIA PTY LTD

EL7942 - DRIFFIELD NORTH
MOUNT TODD DISTRICT, NT

FINAL REPORT ON EXPLORATION

Distribution:
NTDME x 1  
Pegasus Mt Todd x 1

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Date : January 1997
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1. **INTRODUCTION**

Exploration Licence 7942 (Driffield North) was granted to Zapopan N.L. (now Pegasus Gold Australia Pty Ltd) on 22 March 1993 for a period of two (2) years, with a successful application for renewal of the licence for a further two years lodged in late 1994. The licence comprises an area of only 1.5km² (see Figure 1).

On 25 October 1996 EL7942 was surrendered and incorporated into the new licence, EL9734, under the Mt. Todd Project Further Agreement. This report summarises all exploration activities conducted by Pegasus within EL7942 during the term of the licence.

2. **LOCATION AND ACCESS**

EL7942 (Driffield North) is situated approximately 60km north of Katherine and 15km to the northeast of the Mt. Todd Gold Mine (Figure 1). Access is gained via gravel tracks north from the sealed Edith Falls Road.

The licence is located only 3km north of the abandoned Driffield Mining Centre which historically was intensely prospected for gold mineralisation. Small scale underground mining at Driffield produced 5,300oz of gold, and significant unrecorded gold production has been won from alluvial sources.

Topography within EL7942 consists of moderately steep stony ridges to the east, but relatively flat, gently undulating country to the west. Creeks and drainages are well developed within the eastern half of the licence.

3. **REGIONAL GEOLOGY**

Driffield North is located within the southeastern portion of the Early Proterozoic Pine Creek Geosyncline. Metasediments, granitoids, basic intrusives, acid and intermediate volcanic rocks occur within this geological province (Figure 2).

Within the immediate area of EL7942, outcropping rocks are assigned to the Burrell Creek Formation. These rocks consist primarily of interbedded greywackes, siltstones and shales of turbidite affinity, which are interdispersed with minor volcanics. The formation contains slump structures, flute casts, graded beds and occasional crossbeds.

Rocks of the Burrell Creek Formation have been folded about northerly trending F1 fold axes. The folds are open to closed style and have moderate to steep westerly dipping axial planes, with some rocks being overturned. A later north-south compression event resulted in east-west trending open style upright D2 folds.
No evidence of historical gold production or prospecting has been located within EL7942. However, the licence is close to the abandoned Driffield Mining Centre which contains numerous old gold workings of shallow depth. Detailed geologic mapping has not been undertaken at EL7942, although quartz veining is known to be prevalent in the area.

4. WORK COMPLETED

Exploration completed by Pegasus at EL7942 during the term of the licence is as follows:

- Access establishment
- Geological reconnaissance
- Stream sediment sampling
- Gridding
- Soil sampling
- Acquisition of airborne geophysical data
- RC drill targeting

Year 1

A total of 17 stream sediment samples were collected from within EL7942 during the first year of tenure, from generally small creeks and drainages. Approximately 5kg of material was sieved to -2mm in the field and assayed for gold by Assay Corp in Pine Creek using the BLEG technique (0.1ppb detection limit). In addition to this, a -80# fraction was assayed for Cu, Pb, Zn, As and Bi using the AAS technique.

Several of the samples collected returned anomalous gold results, with a peak value of 17.6ppb Au achieved. A total of 6 samples returned gold assays greater than 3ppb against a district background threshold of 1ppb Au. Given the local nature of the small creeks sampled, these results suggested good potential exists for hard rock gold mineralisation within EL7942.

Assay results for Cu, Pb, Zn, As and Bi were more subdued, and no significant anomalous trends were identified by these elements.

Stream sediment sample locations and Au assay results are shown on Figure 3, and complete details of Year 1 exploration are located in the EL7942 Annual Report For Exploration, Year Ending 21 March 1994.
DND12 - Stream sediment sample location and number with Au result in ppb.
Year 2

As a follow-up to the encouraging stream sediment geochemistry obtained during Year 1 exploration, two soil sampling traverses were conducted at the northern end of EL7942. The traverses were run east-west over 550m lengths, with 200m spacing between the traverses.

Soil samples were collected at 10m intervals along the lines and composited to form one sample every 50m. Samples were sieved in the field to -2mm and 2-3kg of material was assayed for Au by Assay Corp in Pine Creek using the BLEG technique (0.1ppb detection limit). In addition a -80# fraction was produced at the laboratory and assayed for As to a 1ppm detection limit. A total of 24 samples were processed.

Of the 24 samples collected, 4 returned weak-moderately anomalous gold values greater than 12ppb, with a peak value from a 50m composite of 35.2ppb Au. Background gold values range from 1.0 - 3.5ppb. Best results were returned from the northern-most traverse, where a zone of gold anomalous some 150m wide was delineated. Arsenic values ranged from 4 - 28ppm; essentially not anomalous.

The location and Au results of the soil sampling are shown on Figure 4.

Details of Year 2 exploration are contained in the EL7942 Annual Report For Exploration, Year Ending 21 March 1995.

Year 3

During Year 3 of the licence systematic soil sampling was undertaken on a 100m x 50m grid over the total area of the licence. A total of 497 samples were taken along eighteen east-west grid traverses.

Soil samples were collected at 25m spacing along grid lines and sieved to -80# size fraction in the field. Samples were despatched to Assay Corp in Pine Creek and analysed for Au by low level fire assay (1ppb detection limit), and for Cu, Pb, Zn, As and Ni by AAS techniques.

Two significant anomalies were defined with peak values of 160ppb and 72ppb Au respectively. A number of isolated “spot” anomalies were also detected.

The location and Au results of the Year 3 soil sampling are shown on Figure 4.
A regional airborne geophysical survey, including coverage of EL7942, was completed for Zapopan NL (now Pegasus Gold Australia Pty Ltd) by World Geoscience during June 1995 at 50m flight line spacing. Specifications of the survey are detailed below:

Aircraft
VH-ADH C206

Magnetometer
Split beam cesium scintrex VIW2321-CS2
Resolution: 0.001 nano Tesla
Cycle Rate: 0.1 seconds
Sample interval: 6.0 metres

Spectrometer
Packets Perm. 1000 256 Channel
Volume: 16.56 litres
Cycle Rate: 1.0 seconds
Sample interval: 60 metres

Data Acquisition
Packets Pads 1000 digital acquisition system
11 Channel RMS GR33A Chart Recorder

Flight Line Spacing
Traverse Lines: 50 metres
Tie Lines: 984 metres

Flight Line Direction
Transverse Lines: 270 - 090 degrees
Tie Lines: 000 - 180 degrees

Survey Height
60 metres - mean terrain clearance

Navigation
GPS satellite positioning system

See Figure 5 for total field magnetic contours.

Details of Year 3 exploration are contained in the EL7942 Annual Report For Exploration, Year Ending 21 March 1996.

**Year 4**

Exploration undertaken during Year 4 before EL7942 was surrendered, consisted of modelling and analysis of aeromagnetic data, and ground reconnaissance for targeting of RC drill holes planned to test the gold-in-soil anomalies defined in Year 2 and Year 3 exploration.

The proposed rock chip sampling of anomalies and first-pass RC drilling (outlined in the EL7942 Annual Report For Exploration, Year Ending 21 March 1996) was not carried out before EL7942 was incorporated into the new Exploration Licence (EL9734), but will be completed under the new tenure.
5. **EXPENDITURE STATEMENT**

**EL7942 - DRIFFIELD NORTH**
Total Expenditure for period 22nd March 1996 - 25th October 1996

<table>
<thead>
<tr>
<th>COST DESCRIPTION</th>
<th>EXPENDITURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Wages</td>
<td>$ 365</td>
</tr>
<tr>
<td>Administration (15%)</td>
<td>$ 55</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURE</strong></td>
<td><strong>$ 420</strong></td>
</tr>
</tbody>
</table>

6. **REHABILITATION**

Ground disturbance was kept to a minimum during the term of the licence. No clearing or dozing of tracks was undertaken. Geochemical sampling was undertaken using a light 4 wheel drive vehicle, and hence rehabilitation is not required at this stage.

7. **CONCLUSIONS AND RECOMMENDATIONS**

Soil sampling during Year 2 and Year 3 exploration has defined two significant areas of gold anomalism with a peak gold value of 160ppb Au. Geological reconnaissance of the area suggests that the anomalies are related to gossanous quartz veins outcropping in the area.

EL7942 is underlain by rocks of the Burrell Creek Formation which host the nearby Mt. Todd Gold Mine mineralisation, and is in close proximity to the historic Driffield Mining Centre (gold). Quartz veins are prevalent within the licence. Clearly the licence is prospective for significant gold mineralisation, and further systematic exploration under the new tenure is warranted.