EL 4847

ANNUAL REPORT

For the period
21-1-90 to 20-1-91

Pine Creek Sheet SD 52.08, Fenton 14/5-1

Compiled by
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Greg Partington
Northern Gold NL
December 1990
SUMMARY

EL 4847 covers part of the Howley anticline to the north of Cosmo Howley mine. There are two Mineral Claims held by Northern Gold (MCN 1014 & MCN 1015) and several mining leases held by others within the area of the licence. Exploration during 1990 included a three hole, 172 metre RC drilling programme to investigate the soil anomalies detected in the 1989 sampling programme.

Expenditure on the licence area during the year was $18,390.
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\textbf{Note:} The paragraph marked by \textbf{Table 3 Proposed work programme} is missing.
1.0 INTRODUCTION

1.1 Title

EL 4847 was granted to Northern Gold NL on the 21st January 1986 for a six year period. The licence now covers only one graticular block, less the area covered by Northern Golds Mineral Claims MCN 1014 & MCN 1015 and Dominion Mining Operations Ltd Mining Leases over the Chinese Howley and Big Howley prospects.

1.2 Location and Access

EL 4847 is located approximately 40 km southeast of Adelaide River. Access to the licence is via the Stuart Highway and Big Howley track, or via the Old Stuart Highway and Chinese Howley track (Figure 1).

1.3 Previous Work

EL 4847 was previously held by Northern Gold as EL 4226 and during that time exploration undertaken on the licence included cossanaging and channel sampling for gold, geological mapping and stream sediment sampling. This work was reported in Nicholson (1983;1984;1985), Richardson (1985) and Wills (1986).

Since the grant of EL 4847, exploration initially concentrated on the location and evaluation of alluvial gold deposits in the creek systems draining the Howley Ridge. This work is fully reported in Russell (1987;1988). As a result of this work the reduction required at the end of the second year was achieved by converting the northeastern block of the original licence area to a Mining Lease. The lease (MLN 1053) was granted in June 1989.
Exploration for hardrock gold mineralization has included the following (McKenzie 1988, Stokes 1989 and Stokes and Partington 1990):
- Surveying of licence and internal claim boundaries
- Airborne geophysical surveys and data enhancements
- Initial geochemical soil sampling which defined anomalous zones with Au values, up to 120 ppb.
- Follow up infill soil sampling which defined significant zones of Au values above 200 ppb.
- RC drilling, which indicated widespread anomalous gold values in the sediments of the Mount Bonnie Formation, with intersections averaging 0.5 g/t or better over several metres.
2.0 REGIONAL GEOLOGY

EL 4847 is situated within the Pine Creek Geosyncline, a tightly to isoclinally folded sequence of mainly pelitic and psammatic (continental to shallow water) Lower Proterozoic sediments with interlayered tuff units. All the lithologies in the area have been metamorphosed mostly to low and in places medium grade metamorphic assemblages. The sequence has been intruded by pre-orogenic dolerite sills and a number of late syn-orogenic to post-orogenic Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Palaeozoic and Mesozoic strata, as well as Cainozoic sediments and laterite overlie the Pine Creek Geosyncline lithologies.

A more complete presentation of the regional geology and mineralization is given in Nicholson and Eupene (1984).
3.0 EXPLORATION COMPLETED

3.1 Access and site preparation

A bulldozer was hired to clear the drill sites and the access to the sites. As a track mounted rig was used, the site preparation was minimal, with no major earthworks conducted. The drill sites were cleared of refuse upon completion of the holes, and the holes capped.

3.2 Drilling equipment

Civil Resources were contracted to carry out the drilling programme using a CD 350 track mounted rig fitted with 600 CFM at 350 PSIG air compressor. A support truck fitted with bulk diesel tanks, spares and equipment was supplied by Civil Resources. The drill rig used a 4 1/2" (112 mm) hammer and crossover sub. Drilling personnel consisted of an experienced driller, an off sider and a sampler. Northern Gold provided a geologist and a field assistant.

3.3 Drilling and sampling methods

The holes were drilled using three metre rods loaded from a carousel on the rig. The first 2 metres of each hole was open hole, which was cased with PVC pipe. Sifoam or Barafom was used to pack the neck of the hole. The sample to be collected passed back from the hammer, through the crossover sub and back through the rod to a "dry" cyclone at the back of the rig, and into a catchment bag. This sample was then split using a triple cascade splitter to give a one eighth sample. One part of the split was placed in pre-numbered bags and left on site as reference material. The samples were later poured onto the ground and the plastic bags removed. The one eighth split was collected in a calico bag to be sent for assay.
Drilling on EL 4847 commenced on 1st May 1990 and was completed on the 2nd May 1990. Three holes were drilled for a total of 172 metres. The azimuth of the holes was 052° magnetic, or grid east. Drilling rates were dependant upon ground conditions, with the rate slowing appreciably once the water table was reached. Sample numbers for these holes were CH3301 to CH3552, the CH** relating to the hole number and the final two numbers being the bottom depth down hole. The drill hole collars were surveyed by Qasco Northern Surveys and the details of the collars are given in Table 1 and drill logs in Appendix 1.

<table>
<thead>
<tr>
<th>Hole No</th>
<th>Local Grid North East</th>
<th>AMG North East</th>
<th>Azimuth</th>
<th>Depth</th>
<th>RL</th>
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</thead>
<tbody>
<tr>
<td>CH33</td>
<td>50548 45061.3</td>
<td>8505893 753803</td>
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<td>60m</td>
<td>119</td>
</tr>
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<td>CH34</td>
<td>50548 45020.7</td>
<td>8505904 753819</td>
<td>45° to 052°</td>
<td>60m</td>
<td>120</td>
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<td>CH35</td>
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<td>8505917 753832</td>
<td>45° to 052°</td>
<td>52m</td>
<td>121</td>
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</table>

Table 1
4.0 EXPLORATION RESULTS

4.1 1989 Assay results

The assay results for the Sb and Bi from the 1989 infill soil sampling programme were not available at the time of last years annual report. The results are given in Appendix 3.

4.2 Drilling results

Samples from the drilling programme were submitted to Australian Assay Laboratories in Pine Creek for 50 gram Au fire assay. The drilling results are presented in Appendix 2 and shown as a location plan in Figure 2 and a 1:500 drill section in Figure 3.

The best intersection was one metre at 3.3 g/t Au in CH34 at 32 metres depth.
5.0 EXPENDITURE 1990

Expenditure on EL 4847 during 1990 totalled $18,390. Details of this expenditure are listed below as Table 1.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
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<tbody>
<tr>
<td>Survey Costs</td>
<td>$200</td>
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<tr>
<td>Access and site preparation</td>
<td>$140</td>
</tr>
<tr>
<td>Field Expenses</td>
<td>$50</td>
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<tr>
<td>Drilling</td>
<td>$4,653</td>
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<td>Assays</td>
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<td>Contract Geologist</td>
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<td>Casual Wages</td>
<td>$485</td>
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<tr>
<td>Sample Consumables</td>
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<td>Drafting and Computing</td>
<td>$159</td>
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<td>Wages and Salaries</td>
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<tr>
<td>15% Head Office Administration</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$18,390</strong></td>
</tr>
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Table 2

6.0 PROPOSED WORK PROGRAM

The proposed work program for EL 4847 in 1991 with estimated minimum amount of exploration expenditure is shown as Table 3.

Table 3

Follow up exploration work arising from the above 1990 programmes after full assessment thereof. Budgeted expenditure at this time is $2,500.00 which would be the minimum amount proposed to be expended.
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7.0 REFERENCES


Nicholson P.M. 1985. Report on Gold Exploration EL 4226 Metropolitan Howley, N.T. Hunter Resources Internal company report (unpub.).


