MCN 4513, MCN 4514 and MCN 4515
1997 ANNUAL REPORT

to 11\textsuperscript{th} October 1997

Burrundie (14/6-IV) 1:50,000 scale map sheet

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November 1997
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SUMMARY

MCNs 4513 - 4515 are located approximately 13 kilometres north-west of Emerald Springs, within the Cullen Mineral Field, on the Burrundie (14/6-IV) 1:50,000 scale map sheet.

Outcrop in the area of the Pickfords Prospect, consists of an alternating sequence of Zamu Dolerite and lithologies assigned to the Koolpin Formation.

The Pickfords workings are developed on a group of quartz veins, which at surface are rich in cerrusite and pyromorphite, and commonly exhibit boxwork textures. Primary ore-mineralogy is dominated by galena, with chalcopyrite common in the Cu workings to the south - east.

MCNs 4513 - 4515 were granted to Northern Gold N.L. on the 12th of October, 1993 and expire on the 31st of December, 1997. Renewal applications were submitted on the 26th of September, 1997.

During the 1997 year of tenure Northern Gold NL completed reconnaissance and evaluation studies on MCNs 4513 - 4515. Further work will be conducted in 1998.

A total of $1,490 was spent during the 1997 year of tenure.
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1.0 INTRODUCTION

MCNs 4513 - 4515 are located approximately 13 kilometres north-west of Emerald Springs, within the Cullen Mineral Field, on the Burrundie (14/6-IV) 1:50,000 scale map sheet. The mineral claims, which cover an area of 115 hectares, lie between latitudes 13°32' south and 13°33' south and longitudes 131°36' east and 131°37' east.

Access is via the Stuart Highway and then along bush and station tracks.

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2.0 GEOLOGY

2.1 Regional Geology

The mineral claims are situated within the Pine Creek Geosyncline, a tight to isoclinallly folded sequence of mainly pelitic and psammitic Lower Proterozoic sediments with interlayered tuff units. All rocks in the area have been metamorphosed to low, and in places medium grade, metamorphic assemblages. For the purposes of this report the prefix "meta" is implied, but omitted from the rock names and descriptions.

The sequence has been intruded by pre-orogenic sills of the Zamu Dolerite 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 Cenozoic sediments and laterite overlie the Pine Creek Geosyncline rocks.

2.2 Local Geology

Outcrop in the area of the Pickfords Prospect consists of an alternating sequence of Zamu Dolerite and lithologies assigned to the Koolpin Formation. These lithologies are ferruginous shale, gray shale and recrystallised sandstone. The sequence trends 350° - 360°. The ferruginous shale is the form surface to two small synforms which have fold axis plunging 60° towards 180°.

The Pickfords workings are developed on a group of quartz veins, which at surface are rich in cersuise and pyromorphite, and commonly exhibit boxwork textures. Primary ore-mineralogy is dominated by galena, with chalcopyrite common in the Cu workings to the south - east. The mineralised quartz veins are generally less than one meter wide, although underground in the footwall of the main workings, Pb mineralisation was recorded disseminated in crushed silicification over a width on 10 metres (Campbell & Thomas, 1956). The quartz veins generally strike 315°- 320°, and dip steeply to the north - east.
3.0 PREVIOUS EXPLORATION

The Pickfords Lead Prospect was first worked at the beginning of the 20th century when several pits were excavated on the main quartz vein. No further work was done until 1915, when a 20 metre shaft was sunk with a cross-cut to the lode (Campbell & Thomas, 1956). Official production was 9 tonnes Pb, 1.3 kilograms Ag, and 100 grams Au.

Small copper showings to the southeast were worked in 1955, yielding approximately 20 tonnes of ore.

Enterprise Exploration Co. inspected the Pickfords workings in 1956, but concluded that the property was too small for development (Campbell & Thomas, 1956).

Northern Gold N.L. conducted rock chip and detailed soil sampling programs over MCN 148 as part of a joint venture with Knave Pty Ltd. (Monti and Stokes, 1989).

The rock chip sampling program consisted of the collection of 19 rock chips across the three claims. The best results obtained from the rock chip sampling included 20% Pb, 10 g/t Au, 64 g/t Ag, 0.2% Zn and 0.6% Cu (Monti and Stokes, 1989).

Soil sampling was completed over the three mineral claims. The first phase of soil sampling consisted of the collection of 100 samples every 50 metres over twelve, 100 metre spaced by 500 metre long lines. The second phase of soil sampling consisted of the collection of 160 samples every 25 metres along nine, 100 metre spaced by 400 metre long lines. Both phases of the soil sampling confirmed the Pb-Au-Zn-Cu mineralisation (Monti and Stokes, 1989).

In 1990 a drilling program was completed over the prospect by Northern Gold N.L. (Stokes, 1990). Best intersections from the program included 8 metres at 1.0% Pb and 10 metres at 1.36% Zn in Hole P01, and 3 metres at 1.6% Pb in P02. The best Cu intersection was 1 meter at 1.6%.

During the 1996/97 exploration season, Northern Gold N.L. completed reconnaissance and evaluation studies over MCN’s 4513, 4514 and 4515 (Stokes, 1997).
4.0 EXPLORATION COMPLETED IN 1997

Northern Gold N.L. completed reconnaissance and evaluation studies on MCNs 4513 - 4515 during 1997. Although the Pickfords Prospect, in its own right, does not appear to be a viable resource, as part of the tenement package now held by Northern Gold N.L., it now holds some interest as part of a larger group of tenements with base metal anomalies and resources in the Burrundie area, such as Mount Bonnie and Iron Blow. Further evaluation of the potential of the area for base metal exploration will be made.

5.0 1997 EXPENDITURE

Expenditure for the 1997 year of tenure totaled $1,490. Details of this expenditure are listed below.

<table>
<thead>
<tr>
<th>COSTS</th>
<th>AMOUNT</th>
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<tbody>
<tr>
<td>Report Preparation</td>
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<tr>
<td>Tenement Management</td>
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<tr>
<td>Reconnaissance</td>
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<tr>
<td>Evaluation</td>
<td>430</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$1,490</strong></td>
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6.0 PROPOSED 1998 WORK PROGRAM

The exploration program proposed for the 1998 year of tenure will include further evaluation of the potential of these claims, in their own right, and consideration being given to the overall concept of larger scale base metal mineralisation in the Burrundie region.

An estimation of the cost of these programs is $1,000.

7.0 REFERENCES


