OPEN FILE

ERL 83
(including MCN 1175 and MCN 745)

ANNUAL REPORT TO 11th May 1991

Pine Creek Sheet SD 52.08 Burnside 14/2-II

Licence Holder: Northern Gold NL

Compiled by
Michelle Stokes
June 1991
SUMMARY

ERL 83 was the subject of rehabilitation and a review of alluvial resource in 1990/91. The alluvial resource review established that the area of ERL 83 contains a probable alluvial resource and a much larger possible resource. The area should be retained in order to take advantage of any increase in gold price, or re-establishment of an alluvial treatment plant in the area.
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1 INTRODUCTION

1.1 Title

ERL 83 was granted on 12th May 1989 for a period of five years. The licence covers 352 hectares and was previously held by Northern Gold NL as part of EL 4736.

1.2 Location and access

ERL 83 is located about 35 km south east of Adelaide River (Figure 1) within the Cullen Mineral Field. Access is via the Stuart Highway which passes through the tenement. ERL 83 is within the Douglas pastoral lease (PL 903).

1.3 Previous Exploration

ERL 83 was previously held by Northern Gold NL as EL 4736 and several phases of exploration were completed. Soil sampling, and mapping was carried out over the licence area and are fully documented in the annual reports for EL 4736. Metana Minerals NL operating under a production agreement with Northern Gold NL conducted several phases of exploration for alluvial resources up to 1990 (Russell 1988).
Figure 1. Location Plan
2 GEOLOGY

2.1 Regional Geology

ERL 83 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.

2.2 Local Geology

Outcrop on ERL 83 is sparse and consists primarily of units of the Burrell Creek formation. It crops out as low rubbly hills on the eastern flank of the Howley anticline. These lithologies consist of interbedded sandy siltstone, siltstone, phyllite, slate and greywacke. The strata strike at approximately 310° and dip approximately 65° to the north east. The alluvial/fluvial material in ERL 83 which has been extensively mapped by Richard Russell for Metana Minerals NL and comprises silt covered paleo gravels and mud flows (Figure 2).
Provable resource still to be mined
Possible resource requires further exploration
Mined out Areas

Figure 2
(After Russell 1990)
3 WORK COMPLETED

During the anniversary year the work completed on the tenement consisted of rehabilitation and review of alluvial resource.

3.1 Rehabilitation

Test pits dug to evaluate the alluvial resource in 1989 were rehabilitated as requested by the Department of Mines and Energy. Rehabilitation consisted of battering the walls of the pits and seeding the spoil dumps and pit sides.

3.2 Alluvial Resource Review

A review of the alluvial resource mined and remaining in the Howley area was conducted by Richard Russell for Metana Minerals NL and submitted to Northern Gold on the termination of the production agreement in December 1990 (Russell 1990). The report gives a background of exploration and mining in the Howley alluvial field from 1986.

An extract from that report is given below:
"The gravels in the Howley Valley east of the Stuart Highway are considered to be economic only in certain areas, mainly in the Army Creek and Plant Creek confluence area where most of the exploration has been done (Figure 2 extracted from Russell 1990). Out of the total resource of 1,224,000 BCM, an estimated mineable resource of 374,000 BCM's occurs here grading about 0.28 to 0.32 gms/BCM. The remaining 850,000 BCM's is placed in the 'possible' resource category as further exploration is required to outline sections of the orebody which can be economically mined."
4 CONCLUSIONS

As a result of the review of the alluvial resource, Northern Gold NL wishes to retain title to the area as it contains a probable alluvial resource and a much larger possible resource. The area is unlikely to be able to be profitably mined at the present gold price, but should be retained in order to take advantage of any increase in gold price, or re-establishment of an alluvial treatment plant in the area.

5 EXPENDITURE 1989/90

Expenditure on ERL 83 during the anniversary year totalled approximately $6,092.00. Details of this expenditure are listed below as Table 1.

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<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Pit wall batters</td>
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<tr>
<td>Alluvial Review</td>
<td>$2,000</td>
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<tr>
<td>Field Expenses</td>
<td>$100</td>
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<tr>
<td>Report &amp; Plan Preparation</td>
<td>$550</td>
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<tr>
<td>Motor Vehicle Costs</td>
<td>$180</td>
</tr>
<tr>
<td>Tenement boundary maintenance</td>
<td>$200</td>
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<tr>
<td>Wages and Salaries</td>
<td>$850</td>
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<tr>
<td>SUBTOTAL</td>
<td>$4,880</td>
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</tbody>
</table>

10% N.T. Administration        | $480  |
15% Head Office Administration | $732  |
TOTAL                          | $6,092|

Table 1.
6 PROPOSED WORK PROGRAM

The proposed work program for ERL 83 in 1991/92 is minimal as the resource has been substantially defined. Tenement boundary maintenance and several more auger samples in the area of the possible resource are proposed.

<table>
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<tr>
<td>Auger sampling</td>
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<tr>
<td>Tenement boundary maintenance</td>
<td>200</td>
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<tr>
<td>Administration and reports</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>2,700</td>
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Table 2.

7 REFERENCES
