PROJECT NAME: PIGEON PROJECT


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EDITED/APPROVED: B.J. McLennaghan

DATE: August, 1998
PLACE: Darwin

1:250,000 MAP SHEET NAME & NO: Victoria River Downs SE52-04, Daly Waters SE53-01

TEXT PAGES: 4 TABLES: 2 APPENDICES: 1 MAPS: 2

KEYWORDS: NT, Pigeon Project, Victoria River Basin, Wiso Basin.

ABSTRACT: Exploration activities conducted over the relinquished portion of EL 9440 between 30th May 1996 and 29th May 1998 involved the collection of 35 reconnaissance heavy mineral samples and the interpretation of two aeromagnetic surveys. Six aeromagnetic anomalies were selected within the relinquished portion of EL 9440. None of the anomalies were considered to be of sufficient interest to warrant ground follow-up.

All results from the reconnaissance heavy mineral sampling are available with only one sample containing chromite grains. The chromite grains recovered appear to be basaltic and give little encouragement for the existence of an economic diamond deposit within the relinquished portion of EL 9440. The licence has therefore been partially reduced from 342 blocks to 20 blocks.

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SUMMARY

Exploration Licence: 9440
Date Granted: 30/05/96
Area: 342 Blocks (1101 km²) to 20 Blocks (64 km²)
Occupant: Stockdale Prospecting Limited
Operator: Stockdale Prospecting Limited
Commodities Sought: Diamonds

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STOCKDALE PROSPECTING LIMITED
EXPLORATION LICENCE 9440
PARTIAL RELINQUISHMENT REPORT
30TH MAY 1996 TO 29TH MAY 1998

1. INTRODUCTION

Exploration Licence 9440 is located 25km north-east of Top Springs on the Victoria River Downs 1:250,000 (SE52-04) and Daly Waters (SE53-01) map sheets. The licence covered an area of over 1100 km$^2$ prior to partial reduction and is part of the greater Pigeon project area, which includes licences 9117, 9390 and 9439.

Stockdale Prospecting Limited conducted a programme of helicopter assisted reconnaissance heavy mineral sampling and flew and interpreted two aeromagnetic surveys over the exploration licence. Exploration procedures and sample results over the relinquished portion of the licence are detailed in this report.

2. TENURE

Tenure details for EL 9440 are outlined in Table 1 and the location of the licence is shown in Map 1.

<table>
<thead>
<tr>
<th>LICENCE</th>
<th>APPLN DATE</th>
<th>DATE GRANT'D</th>
<th>ORIGINAL AREA</th>
<th>REDUCED AREA</th>
<th>RETAINED AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL 9440</td>
<td>28/12/95</td>
<td>30/05/96</td>
<td>342 blocks (1101 km$^2$)</td>
<td>322 blocks (1037 km$^2$)</td>
<td>20 blocks (64 km$^2$)</td>
</tr>
</tbody>
</table>

Stockdale Prospecting Limited is both the occupant and operator of Exploration Licence 9440.

3. ACCESS / PHYSIOGRAPHY

Access to EL 9440 can be gained via the Buntine Highway and the Buchanan Highway, both of which are located near the licence. One or two subordinate access tracks cross the licence. All heavy mineral sampling was conducted with the use of a helicopter.

The licence falls predominantly within the Sturt Plateau physiographic unit, although the western part of the licence consists of dissected areas of the Victoria River Plateau. The area is dominated by a low undulating land surface, formed over Cretaceous sediments and Cambrian limestone. The Armstrong River is the main drainage in the area and is located to the west of EL9440. Vegetation is generally only a few metres in height, although tall woodland can be found along more substantial water courses.
4. **GEOLOGY** (after Brown, 1969)

EL9440 is located on the margin of the Victoria River and Wiso Basins. The oldest unit within the licence is the Cambrian Antrim Plateau Volcanics. This crops out sparsely along the western margin of the licence, although probably underlies the entire licence area. The Cambrian Montejinni Limestone unit unconformably overlies the APV, and also crops out along the western margin of EL9440.

The Cretaceous Mullaman beds crop out in the west of EL9440, and unconformably overlie the Montejinni Limestone. The licence is dominated by Cainozoic black soil and Tertiary laterite. Geological logs of Water Resources water bores suggest that the Mullaman beds probably underlie most of the Cainozoic alluvium.

5. **EXPLORATION**

5.1 **Heavy Mineral Sampling**

A total 35 reconnaissance samples were collected within the relinquished portion of EL 9440. Sample locations are displayed on Map 1. Each sample consisted of 100L of excavated material, screened to either -2.0mm or -12.0mm in the field. Sample numbers are as follows:

- BN7127- BN7132 (6)
- BN7139- BN7147 (9)
- BN7149- BN7154 (6)
- BN5179 (1)
- BN5316- BN5317 (2)
- BN5342- BN5343 (2)
- BN5425- BN5426 (2)
- BN5501- BN5504 (4)
- BT5927 (1)
- BT5941- BT5942 (2)

Total = 35

One heavy mineral sample contained chromites. BN5503 contained five chromites. Optical examination of the grains highlight basaltic affinities and therefore no further sampling is warranted.

5.2 **Aeromagnetics**

A small aeromagnetic survey was conducted during the first year of tenure over the south-western corner of the licence. The survey was flown with 200m north/south lines, and a mean terrain clearance of 60m. The survey covered a little over 600 km², only a small part of which fell within EL9440. No anomalies of interest were selected.
A regional aeromagnetic survey was flown during the second year of tenure, covering the remainder of the licence. The survey was flown by Kevron at a 250m NS flight line spacing and a mean terrain clearance of 60m. TMI contour plots are provided in Appendix 1. Six magnetic anomalies were selected in the relinquished portion of EL9440. The anomalies were prefixed BIR for the Birrimba survey. Their locations are shown on Map 2. None of the anomalies selected within the relinquished portion of the licence were of sufficient interest to warrant ground follow-up.

6. EXPENDITURE

Expenditure incurred over the relinquished portion of EL 9440 totalled $108 464, as allocated in Table 2.

**TABLE 2 : EXPENDITURE EL 9440**

<table>
<thead>
<tr>
<th>EXPLOREXPLORATION EXPENDITURE FOR EL 9440</th>
<th>EXPENDITURE FOR EL 9440</th>
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<tr>
<td>Operational Staff Costs</td>
<td>6098</td>
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<tr>
<td>General Operational Expenses</td>
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<td>Transport and Travel</td>
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<td>Tenement Costs</td>
<td>4789</td>
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<td>Sample Analysis</td>
<td>46</td>
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<td>Central Treatment Plant</td>
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<td>Lab Treatment</td>
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<td>Lab Examination</td>
<td>7113</td>
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<td>Geophysical Contractors</td>
<td>33317</td>
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<tr>
<td>Remote Sensing</td>
<td>3668</td>
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<tr>
<td>Drafting/Data Processing</td>
<td>1826</td>
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<tr>
<td>Regional Administration</td>
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<tr>
<td>Head Office Administration</td>
<td>8116</td>
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<tr>
<td>Capital Expenses</td>
<td>2397</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$108 464</strong></td>
</tr>
</tbody>
</table>

7. SUMMARY

Exploration activities conducted over the relinquished portion of EL 9440 involved the collection of 35 reconnaissance samples and the interpretation of two magnetic surveys. Six aeromagnetic anomalies were selected within the reduced portion of EL9440. None of the anomalies selected within the relinquished portion of the licence were of sufficient interest to warrant ground follow-up.
Full reconnaissance heavy mineral results are available and give little encouragement for the existence of an economic diamond deposit within the relinquished portion of EL 9440. Chromite grains were recovered but optical examination of these grains highlight strong basaltic affinities. Therefore relinquishment of this area has occurred.

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8. REFERENCES

APPENDIX 1
MAP 1
MAP 2