STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE 8598

BRADSHAW AREA

FINAL REPORT

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DARWIN NT
AUGUST 1995
Project Name: YAMBARRAN

Title:
Exploration Licence 8598
Bradshaw Area
Final Report

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Date: August 1995
Place: Darwin

1:250,000 Mapsheet Name & No: Auvergne SD52-15, Port Keats SD52-11, Delamere SD52-16, Fergusson River SD52-12

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Abstract:
Exploration over EL8598 involved the collection of over four hundred (400) heavy mineral samples, and the follow-up of anomalies generated from an aeromagnetic survey.

Results from this work indicate that the licence has no potential to host an economic diamond deposit.

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AKB-349.REP
**SUMMARY**

Exploration Licence: 8598

Date Granted: 4 July 1994

Area: 500 blocks (1610 sq km approx.)

Occupant: Stockdale Prospecting Ltd

Operator: Stockdale Prospecting Ltd

Commodities sought: Diamonds

Exploration: Exploration over EL8598 involved the collection of over four hundred (400) heavy mineral samples, and the follow-up of anomalies generated from an aeromagnetic survey.

Results from this work indicate that the licence has no potential to host an economic diamond deposit.
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1. INTRODUCTION

Exploration Licence 8598 is located partly on the Auvergne, Port Keats, Delamere and Fergusson River 1:250,000 mapsheets. It lies due north of Bradshaw Station, between the Victoria and Fitzmaurice Rivers, and covers an area of 1610 sq km (Map 1).

During the reporting period, exploration involved the collection of reconnaissance heavy mineral samples, and the follow-up of magnetic targets generated by Stockdale Prospecting Limited’s Whirlwind Plains aeromagnetic survey.

2. TENURE

EL8598 was granted on the 4th July 1994 for a maximum period of 6 years. The licence covered an area 500 blocks (1610 sq km). The licence was surrendered on the 30th June 1995. Stockdale Prospecting Limited was both the occupant and operator of the licence.

3. ACCESS

Access to the licence is poor. Most of the licence is situated on an escarpment with no vehicular access. Fence lines and tracks run along the edge of the escarpment from Bradshaw Station. Most exploration was carried out with the use of a helicopter.

4. PHYSIOGRAPHY

EL8599 falls within the Tablelands subdivision of the Victoria River Plateau physiographic unit. The Tablelands are a region of dissected plateaux and mesas. They generally consist of gently dipping, relatively undeformed sediments.

The two major drainages in the region are the Victoria and Fitzmaurice Rivers, each of which flows from the east to the west. The drainage within EL8598 flows either north or south towards one of the these major rivers.

5. GEOLOGY

EL8599 lies wholly within the undeformed Proterozoic Victoria River Basin. Shallow marine sediments of the Auvergne Group dominate the licence area. The Pinkerton Sandstone is the most common of the exposed Auvergne Group rocks, and this overlies both the Saddle Creek Formation (sandstone and oolitic dolomite), and the Angalarri Siltstone. The Siltstone is rarely seen as outcrop in the project area, except occasionally against an escarpment cliff.

The Cretaceous Mullaman beds occur randomly over the exploration licence, in minor exposures, often associated with mesas and topographic highs.

6. EXPLORATION

6.1 Reconnaissance Sampling

A total of 446 samples were collected within EL8598, at a density of 1 sample per 3.6 sq km. Samples were generally screened to -2.0mm, and consisted of 100 litres of excavated stream
gravel. Sample numbers were:

BN1098-1100 (3)
BN1132 (1)
BN1208-09 (2)
BN1301-10 (10)
BN1559-72 (14)
BN1573 (1)
BN1575-1600 (26)
BN1640-1700 (61)
BN2131 (1)
BN2134 (1)
BN3301-15 (15)
BN3339-54 (16)
BN3372-3400 (29)
BN3407-3530 (124)
BN3552-69 (18)
BN3585-3650 (66)
BN3656-3700 (45)
BN4001-13 (13)

Total 446

6.2 Aeromagnetic Survey

An aeromagnetic survey was commissioned by Stockdale Prospecting Limited to cover the Whirlwinds Plains area, east of EL8598. The survey was flown by Kevron Geophysics Pty Limited with a line spacing of 200m N/S, and a mean terrain clearance of 60m. The survey covered the eastern edge of the EL8598 escarpment. Full digital data for the survey is held by the NTDE.

A number of anomalous features were identified over EL8598, all of which were numbered and shown on Map 2. Of the 14 features identified, only three were considered worthy of any further work. These were WWP 12, 19 and 51. Table 1 lists anomaly follow-up.

<table>
<thead>
<tr>
<th>Anomaly</th>
<th>Coordinates</th>
<th>Sampled</th>
<th>Ground Magnetics</th>
</tr>
</thead>
<tbody>
<tr>
<td>WWP 12</td>
<td>656986 8321567</td>
<td>BN1304-08</td>
<td>Yes</td>
</tr>
<tr>
<td>WWP 19</td>
<td>670121 8330240</td>
<td>Ground check only</td>
<td>No</td>
</tr>
<tr>
<td>WWP 51</td>
<td>666435 8323420</td>
<td>BN1336</td>
<td>No</td>
</tr>
</tbody>
</table>

None of the anomalies followed up were considered high interest targets. WWP 51 was thought to be a topographic effect, as it sat on the edge of the escarpment. All however were ground checked, and as WWP 12 had no obvious magnetic source, this anomaly was followed up with a ground magnetic grid (Appendix 1). This grid indicates that the feature is little more than surface noise.

TM satellite imagery of each magnetic anomaly (including those not appearing in Table 1) was inspected prior to ground work. None of the anomalies however showed any visible spectral response, and hence were not upgraded by this procedure.
6.3 Sample Results

Sample results are outlined in Table 2.

**TABLE 2: SAMPLE RESULTS**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN1304</td>
<td>Loam Sample (WWP 12 follow-up)</td>
<td>1 Diamond -0.5 + 0.3mm, brown fragment</td>
</tr>
<tr>
<td>BN1652</td>
<td>Stream (Reconn.)</td>
<td>1 Chromite</td>
</tr>
<tr>
<td>BN3620</td>
<td>Stream (Reconn.)</td>
<td>1 Chromite</td>
</tr>
</tbody>
</table>

The chromite grains are not thought to be kimberlitic in origin, and the diamond is considered to have spent time in a secondary host. The poor magnetic response, and the other four negative samples collected over WWP 12 suggest that the feature is not kimberlite.

The tenement area is considered to have little potential to host an economic diamond deposit.

7. EXPENDITURE

Expenditure over EL8598 totalled $418,349, as allocated in Table 3.

**TABLE 3: TOTAL EXPENDITURE, EL8598**

<table>
<thead>
<tr>
<th>Operational Staff Costs</th>
<th>81,235</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Operational Expenses</td>
<td>9,749</td>
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<tr>
<td>Transport and Travel</td>
<td>139,539</td>
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<tr>
<td>Tenement Costs</td>
<td>7,900</td>
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<tr>
<td>Central Treatment Plant</td>
<td>48,349</td>
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<tr>
<td>Lab Treatment</td>
<td>11,525</td>
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<tr>
<td>Lab Examination</td>
<td>10,005</td>
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<tr>
<td>Geophysical Contracts</td>
<td>15,000</td>
</tr>
<tr>
<td>Remote Sensing</td>
<td>810</td>
</tr>
<tr>
<td>Geophysics</td>
<td>1,000</td>
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<tr>
<td>Drafting</td>
<td>2,055</td>
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<tr>
<td>Regional Administration</td>
<td>32,941</td>
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<tr>
<td>Head Office Administration</td>
<td>40,387</td>
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<tr>
<td>Capital Expenses</td>
<td>17,854</td>
</tr>
</tbody>
</table>

Total $418,349

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APPENDIX 1

GROUND MAGNETIC CONTOUR PLOT
WWP 12