ANNUAL REPORT E.L. 4358

13th September, 1983 to 12th September, 1984

Licensee: Ashton Mining Limited
Operator: Ashton Mining Limited
Sheet Reference: Wallhallow (SE53-7) 1:250,000
Submitted to: Department of Mines & Energy

ASHTON MINING LIMITED
444 Queen Street
Brisbane. 4000

NORTHERN TERRITORY GEOLOGICAL SURVEY

CR 85 / 035 A

January, 1985
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During the period 13th September, 1983 to 13th September, 1984, Ashton Mining Limited on behalf of the A.D.E. Joint Venture carried out an exploration program in E.L. 4358 aimed at the location of kimberlite pipes.

Work undertaken included regional gravel sampling and airborne magnetics.

While no kimberlite pipes were located, four gravel samples were found to contain a microdiamond.
FIGURE 1
LOCATION MAP

A.D.E. JOINT VENTURE / ASHTON MINING LIMITED
Scale 1:1 000 000
JANUARY 1985
1.00 INTRODUCTION

Exploration Licence 4358 covers an area of 1,610 square kilometres (500 blocks) on the Wallhallow 1:250,000 sheet.

The licence, which was granted to Plenty River Mining Company (N.T.) Limited on 13th September, 1983, is subject to an option agreement with the A.D.E. Joint Venture partners, Ashton Mining Limited, A.O.G. Minerals Limited and Aberfoyle Exploration Pty. Limited. The title was later transferred to Ashton Mining Limited, the transfer being approved by the Department of Mines and Energy on 9th April, 1984.

During the first year of tenure of the licence, a program of regional gravel sampling was undertaken. In addition an airborne magnetic survey was conducted over the whole of the licence area.

This report gives a summary of the work carried out in E.L. 4358 during the period 13th September, 1983 to 12th September, 1984.

A statement of expenditure covering this period is included in the report.
2.00 REGIONAL SAMPLING PROGRAM

2.10 Field Phase

Prior to the commencement of field work, gravel sample locations were plotted in the office on the Puzzle 1:100,000 sheet so that sample sites tested the available drainage. As the drainages in the region are very sparse, this resulted in only 18 gravel samples being taken in E.L. 4358.

During the field program, individual gravel sample sites were selected on the basis of the quality of the available heavy mineral traps in the vicinity of the preselected site, care being taken to sample the most suitable trap site. Helicopter was the most practical mode of transport as it had the advantage of ease of access and navigation and enabled the geologist to scan the area for suitable trap sites.

Once a suitable gravel sample site was located, approximately 40 kg of gravel were gathered, sieved and the minus 4mm fraction collected for laboratory examination. Generally the minus 4mm samples weighed 30 to 35 kg. The sample sites were accurately plotted in the field on a prepared 1:100,000 base plan. Within E.L. 4358 a total of 18 gravel samples were collected.
All sample locations are given on Plan 1.

2.20 Laboratory Phase

The samples were processed at the Ashton Mining Limited laboratory in Perth where they were concentrated by Wilfley Table and heavy liquid separation techniques.

The heavy liquid used was tetrabromoethane with a specific gravity of 2.96. The concentrates were then screened into various size fractions, further concentrated, where required, by magnetic and electrostatic separation techniques and a comprehensive grain by grain examination carried out on the minus 1.0mm plus 0.425mm fractions.

Of the 18 samples collected within the licence, 14 contained no detectable kimberlite indicator minerals. The remaining four samples each contained a microdiamond.

A complete listing of the laboratory results of all samples is given in Appendix 1.
FIGURE 2
AIRBORNE MAGNETIC SURVEY
PLAN LOCATION

A D E JOINT VENTURE / ASHTON MINING LIMITED

JANUARY 1985
3.00 AIRBORNE MAGNETIC SURVEY

A fixed-wing airborne magnetic survey was flown by Geometrics International Incorporation over the whole of the licence. Refer to Figure 2 for plan locations.

This work was carried out as part of a larger regional airborne magnetic program by the A.D.E. Joint Venture in the Wallhallow area. Flight line spacing was 300 metres with lines oriented in a north-south direction. Additional survey specifications are listed in the legend to Plan 2.

Results within E.L. 4358 are presented as stacked profiles and flight-path recovery plans (refer to Plans 2 to 19).
4.00 FUTURE PROGRAMS

The high incidence of diamonds in E.L. 4358 is regarded as very encouraging and further follow-up sampling is planned. Once detailed interpretation of the magnetic data is completed and anomalies outlined, ground magnetic surveys together with detailed gravel and/or loam sampling will be undertaken over selected targets.

In addition an airborne multispectral scanner survey will be flown which will include the licence area.
APPENDIX 1.
RESULTS OF LABORATORY EXAMINATIONS
REGIONAL GRAVEL SAMPLES EL 4358

The following fractions of each sample were studied:

-1.0 mm  +0.8 mm;  denoted by +0.8
-0.8 mm  +0.5 mm;  denoted by +0.5
-0.5 mm  +0.425 mm; denoted by +0.4

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<thead>
<tr>
<th>Sample No</th>
<th>Results</th>
<th>Comments</th>
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<tbody>
<tr>
<td>WAL 7</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>WAL 8</td>
<td>Nil</td>
<td></td>
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<tr>
<td>WAL 9</td>
<td>Nil</td>
<td></td>
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<tr>
<td>WAL 10</td>
<td>1 -0.4 DIAMOND</td>
<td>1 +0.15 x 0.2 STONE clear white fragment, fracture and cleavage faces with one stepped octahedral area.</td>
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<td>WAL 11</td>
<td>1 -0.4 DIAMOND</td>
<td>1 +0.33 x 0.25 STONE irregular, mixture of brown and translucent grey colours. Poor quality, some cleavage areas (suggest octa-related structure).</td>
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<tr>
<td>WAL 13</td>
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<tr>
<td>WAL 14</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>WAL 15</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>WAL 16</td>
<td>Nil</td>
<td></td>
</tr>
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<td>WAL 17</td>
<td>1 -0.4 DIAMOND</td>
<td>1 +0.15 x 0.15 STONE clear white, complex shape, related to dodecahedron.</td>
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<tr>
<td>Sample No</td>
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<td>-----------</td>
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<tr>
<td>WAL 18</td>
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<td>WAL 19</td>
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<td>WAL 20</td>
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<td>WAL 21</td>
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<td>WAL 22</td>
<td>Nil</td>
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<tr>
<td>WAL 23</td>
<td>-0.4 DIAMOND</td>
<td>1 +0.2 x 0.2 STONE cube shaped, pale yellow-green. Some rounding of corners - resorption? turbid.</td>
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<td>WAL 25</td>
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A.D.E. JOINT VENTURE

EXPLORATION LICENCE NO. 4358

EXPENDITURE FOR THE YEAR ENDED 12.9.84

<table>
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<tr>
<th>Description</th>
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<tr>
<td>Salaries</td>
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<td>Field &amp; Laboratory Expenses</td>
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<td>Miscellaneous</td>
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<td><strong>Expenditure for year</strong></td>
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Date Licence Granted: 13.9.83