ANNUAL REPORT

EXPLORATION LICENCE 7973
"Tawallah Pocket"

5th April, 1996 to 4th April, 1997

Licensee: Ashton Mining Limited
Operator: Ashton Mining Limited
           BHP Minerals Pty Ltd
Sheet Reference: 1:250,000 Mount Young (SD53-15)
Submitted to: Department of Mines and Energy, Darwin
Copies to: Ashton Mining Limited - Perth Office
           Ashton Mining Library

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April, 1997
Report Number: 52084
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SUMMARY

During the period 5th April, 1996 to 4th April, 1997, Ashton Mining Limited, through the Australian Diamond Exploration Joint Venture (ADE JV), and BHP Minerals, through the McArthur River (Metals) Joint Venture, carried out exploration activities on EL 7973. This report provides details of work undertaken on the licence during the reporting period.

Ashton Mining did not undertake any field work on EL 7973 during the reporting period. An office review of the recent results concluded that no further diamond exploration is warranted on this licence.

An airborne TEM survey was flown over EL7973 as part of a regional assessment of the Tawallah Pocket area for BHP Minerals. The survey was flown in an effort to detect either SEDEX Pb/Zn or stratabound sediment-hosted Cu-Co mineralisation. Several weakly conductive anomalies were generated. Follow-up work will be dependent upon results of drilling of similar features in an adjacent tenement.

Exploration expenditure for the reporting period amounted to $15,312 against a covenant of $13,700.

KEYWORDS

Diamond exploration; Base metal exploration; Geophysical surveys; Aerial EM surveys; EM interpretation

LOCATION:

Mount Young (SD5315); Tawallah Range (6066)
1.0 INTRODUCTION

This report details exploration activities carried out by the ADE Joint Venture over Exploration Licence 7973 for the period 5th April, 1996 to 4th April, 1997. Ashton Mining Limited is manager of the licence on behalf of the Australian Diamond Exploration Joint Venture (ADEJV). Participants of the ADE Joint Venture also include Aberfoyle Resources Ltd and Australian Diamond Exploration Pty Ltd (ADEX).

Exploration Licence 7973 was granted to Ashton Mining Ltd on the 5th April, 1993 for a period of six years. The original area of the licence was 36 blocks but after a statutory relinquishment in 1995 the area was reduced to 18 blocks. On the 5th April, 1996, and in accordance with Section 26 of the Northern Territory Mining Act, the licence was further reduced by 9 blocks, leaving an area of 9 blocks (28.89 km²). The tenement is located on the Mt Young 1:250,000 map sheet (Figure 1).

The target for exploration by the ADE JV within the licence is diamond bearing kimberlitic intrusives and the principal exploration technique employed has been regional stream gravel sampling.

As this tenement is situated in what is a recognised base metal province, a joint venture was negotiated with BHP Minerals Pty Ltd on the 24th January, 1992 which allowed them to earn up to 80% of the base metal rights to designated licences. This joint venture was known as the McArthur River Joint Venture. This agreement was

A statement of expenditure for the licence is included in this report.

2.0 REGIONAL GEOLOGY

The Tawallah Pocket area comprises a section of lower McArthur Group lithologies bounded between Tawallah Group units. The inlier is bounded by the Lorella and Rosie Faults. Within the inlier, there is a number of E-W faults which may be important for focusing mineralisation fluids. The McArthur Group sediments are the host for any known or potential mineralisation.

The block of McArthur Group sediments consists of Toogalinie Formation, Tatoola Sandstone Amelia Dolomite and Mallapunyah formation of the Umbolooga Sub-Group. Dips are generally to the west.

The Tawallah Pocket area forms the northern end of the Mariner belt which, outside the Emu Fault-HYC mineralised area, is the most highly mineralised area of the Batten Trough. This belt extends for about 40 km and includes such mineral occurrences as Gordon's, Mariner, Johnstons, Great Scott, Eastern Creek, Apollo and Tawallah Pocket Cu. This amount of “smoke” highlights the base metal prospectivity of the area.
3.0 DIAMOND EXPLORATION

A review of results to date was undertaken in the office. Recent results are disappointing and no further work is recommended. No field work was undertaken by Ashton Mining.

4.0 BASE METAL EXPLORATION

4.1 Airborne TEM

As part of an assessment of the Tawallah Pocket area, a regional 25 Hz GEOTEM survey was flown, covering the entire EL. The survey was flown in an effort to detect either SEDEX Pb/Zn/Ag or stratabound sediment hosted Cu-Co mineralisation.

EL 7973 was covered with east-west lines spaced 1 km apart. Survey logistics are shown in Appendix 1 while a flight line diagram is shown on Figure 2. All data (profiles) for the Mariner survey have been supplied to the Northern Territory Geological Survey (BHP CR8792) and are bound in a separate report.

Several weakly conductive anomalies were selected for ground follow-up although this work will hinge on the results of drilling of similar features in an adjacent tenement.

5.0 EXPLORATION EXPENDITURE

Exploration expenditure for the period 5th April, 1996 to 4th April, 1997 amounted to $15,312 against a covenant of $13,700. A detailed breakdown of expenditure is given
AIRBORNE SURVEY SPECIFICATIONS

Contractor: Geoterrix
Magnetometer: Cesium Vapour
Magnetometer Sample Interval: 1 second (approx 65 metres)
Flight Path Recovery: DOPPLER and GPS
Flight Line Direction: 90 degrees
Flight Line Spacing: 1000 metres
Flying Height: 105 metres
Total line kms of survey: 729 km
Survey flown: May 1996

BHP - ASHTON J.V. N.T.
GEOTEM SURVEY FLIGHT PATHS - EL 7973

Prepared: T. Nunn
Drawn: S. Shephard
Date: 28.4.97
Revised: 

Exploration - BHP Minerals
BHP Minerals Pty. Ltd., A.C.N. 004 654 762
Centre: Perth
Drg. No.: A4-6297
FIGURE 2
in Appendix 2.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Diamond Exploration

After a review of the sampling results it was decided no further diamond exploration would be undertaken in this tenement.

6.2 Base Metal Exploration

An airborne TEM survey has been flown over EL7973 as part of the regional assessment of the Tawallah Pocket. The survey was flown in an effort to detect SEDEX Pb/Zn/Ag and stratabound sediment-hosted Cu-Co mineralisation. Several anomalies worthy of ground TEM follow-up were generated, however this work will await the results of drilling of a similar feature in an adjacent tenement.

7.0 PROPOSED PROGRAMME AND BUDGET

Coincident Cu-Co geochemistry and GEOTEM anomalies on an adjoining tenement has spurred greater interest in satellite GEOTEM anomalies in EL 7973. Should encouraging results come of drilling on adjoining tenements, satellite anomalies will also be drilled this season.
The proposed budget for the period 5th April, 1997 to 4th April, 1998 is as follows:

Staffing, 4 days @ $1000/day 4,000
Drilling, 120m RC hole @ $60/m 7,200
Geochemistry, 20 x 6m composite drill chip samples + duplicates @ $12/sample 300
Office Costs 1,000

$12,500

8.0 REFERENCES


APPENDIX 1

GEOTEM Survey Specifications
# GEOTEM SPECIFICATIONS

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>CASA C212-200 Turbo Prop</th>
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<tr>
<td>Magnetometer</td>
<td>Scintrex Cesium Vapour Optical Absorption</td>
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<tr>
<th>Data Acquisition</th>
<th>RMS GR33 Thermal Dot Matrix Recorder</th>
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<td>Flight Line Direction</td>
<td>090 - 270 degrees</td>
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<td>Flight Line Spacing</td>
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<td>Mean Terrain Clearance</td>
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<tr>
<td>Navigation</td>
<td>GPS satellite positioning / Doppler</td>
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APPENDIX 2

Statement of Expenditure
# STATEMENT OF EXPENDITURE

**EXPLORATION LICENCE 7973**

Annual Report

For the period
5th April, 1996 to 4th April, 1997

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<td>Field Support/Office Staff</td>
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<td>Drafting/Computing</td>
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<td>Office Expenses</td>
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Sub-Total                         | 13,920 |
Overheads                          | 1,392  |

Total:                             | $15,312