

ANNUAL REPORT E.L. 4348

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6th December, 1983  
to  
5th December, 1984

Licensee: Aberfoyle Exploration Pty. Limited  
Operator: Ashton Mining Limited  
Sheet Reference: Alroy (SE 53-15) 1:250,000  
Submitted to: Department of Mines & Energy

NORTHERN TERRITORY  
GEOLOGICAL SURVEY

ASHTON MINING LIMITED  
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CR 85 / 0 2 3 A

January, 1985

ABSTRACT

*The A.D.E. Joint Venture undertook a loam and gravel sampling survey within Exploration Licence 4348 with the view to locating possible kimberlite pipes. The work was carried out as part of a larger regional program. Four microdiamonds were identified from laboratory observation of the forty-five samples collected.*

*The presence of microdiamonds within E.L. 4348 is regarded as encouraging.*

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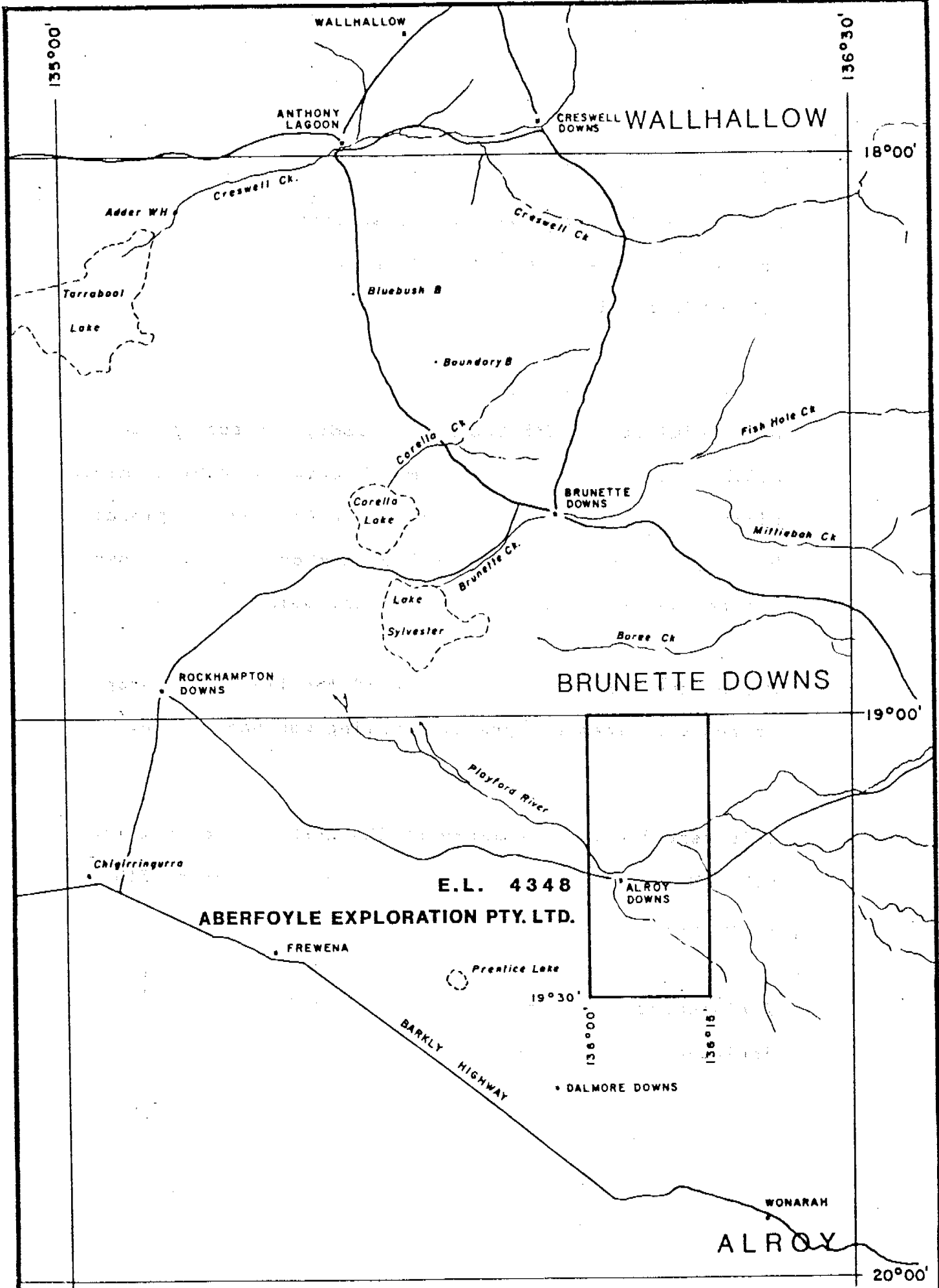
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1. Results of Laboratory Examinations
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**FIGURE 1**  
**LOCATION MAP**

1.00 INTRODUCTION

Exploration Licence 4348 covers an area of 1,449 square kilometres (450 blocks) on the Alroy 1:250,000 sheet.

The licence, which was granted to Aberfoyle Exploration Pty. Limited on 6th December, 1983, is subject to the A.D.E. Joint Venture Agreement between Ashton Mining Limited, A.O.G. Minerals Limited and Aberfoyle Exploration Pty. Ltd., concluded on 9th September, 1980. Ashton Mining Limited is the Manager of the Joint Venture.

During the first year of tenure of the licence, a program of regional loam and gravel sampling was undertaken.

This report gives a summary of the work carried out in E.L. 4348 during the period 6th December, 1983 to 5th December, 1984.

A statement of expenditure covering this period is included in the report.

## 2.00 REGIONAL SAMPLING PROGRAM

## 2.10 Field Phase

The gravel sampling program in E.L. 4348 was undertaken as part of a larger regional program in the Alroy area.

Prior to the commencement of field work, gravel sample locations were plotted in the office on 1:100,000 topographic map sheets so that sample sites tested the available drainage. As drainage in E.L. 4348 is only moderately developed, this resulted in 16 gravel samples being taken within the licence. An additional 29 loam samples were collected in E.L. 4348 to help test the area.

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. Loam samples, which are surface scrape samples

usually weighed 15 to 20 kg.

Prior to the commencement of the sampling work, 1:50,000 scale enlargements of the available photography were secured both for navigation and to allow a photogeological scan of the area. No kimberlite or lamproite type intrusive features were discernable from the air photos.

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 45 samples collected within the licence, 41 contained no detectable kimberlite indicator minerals.

Of the remaining four samples, each was found to contain a microdiamond.

4.

A listing of laboratory results for all the samples is given in Appendix 1.



## 3.00 FUTURE PROGRAMS

The results of the initial sampling program are regarded as encouraging and considerably upgrade the potential of the area to host kimberlite intrusives.

The A.D.E. Joint Venture therefore proposes to test the licence further, by additional gravel and loam sampling.

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APPENDIX 1.

RESULTS OF LABORATORY EXAMINATIONS  
REGIONAL GRAVEL AND LOAM SAMPLES EL 4348

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

Sample No	Results	Comments
ALR 141	Nil	
ALR 142	Nil	
ALR 143	Nil	
ALR 144	Nil	
ALR 145	Nil	
ALR 151	Nil	
ALR 155	Nil	
ALR 156	Nil	
ALR 157	Nil	
ALR 158	Nil	
ALR 159	1 -0.4 DIAMOND	One +0.2 mm very pale yellow STONE; mostly transparent, but some inclusions and dark areas; complex shape, roughly flattened triangular, but with many curved faces; high lustre, smooth surfaces.

Sample No

Results

Comments

ALR 160

Nil

ALR 161

Nil

ALR 162

Nil

ALR 169

Nil

ALR 170

Nil

ALR 176

Nil

ALR 177

Nil

ALR 178

Nil

ALR 179

Nil

ALR 180

1 -0.4 DIAMOND

1 +0.2 STONE turbid, white, cube with parts eroded away.

ALR 181

Nil

ALR 182

Nil

ALR 183

Nil

ALR 184

Nil

ALR 185

Nil

ALR 186

Nil

ALR 187

Nil

ALR 188

Nil

Sample No	Results	Comments
ALR 189	Nil	
ALR 190	Nil	
ALR 191	Nil	
ALR 192	1 -0.4 DIAMOND	1 +0.15 STONE pale yellow green, multifaceted (dodecahedron?) with hollow on one side and growth lines on the floor of the shallow depression, generally rounded outline.
ALR 193	Nil	
ALR 194	Nil	
ALR 195	Nil	
ALR 196	Nil	
ALR 197	1 -0.4 DIAMOND	1 +0.2 STONE turbid white grain, poorly crystalline, some lustre.
ALR 198	Nil	
ALR 199	Nil	
ALR 200	Nil	
ALR 201	Nil	
ALR 202	Nil	
ALR 203	Nil	
ALR 204	Nil	

APPENDIX 2.

A.D.E. JOINT VENTURE

EXPLORATION LICENCE NO. 4348

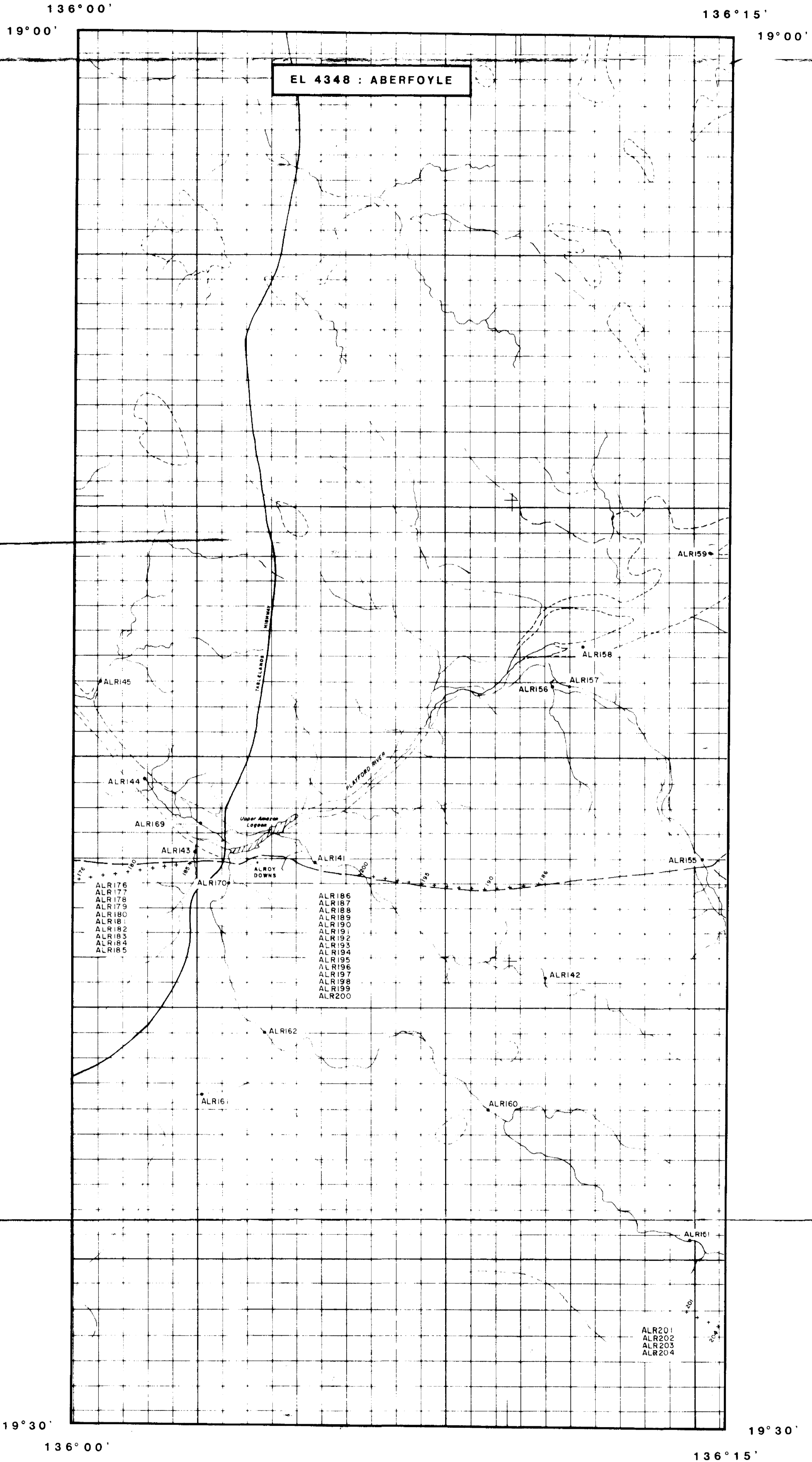
ANNUAL EXPENDITURE FOR THE PERIOD 6.12.83 TO 5.12.84

	<u>\$</u>
Salaries	5,018
Field & Laboratory Expenses	19,156
Miscellaneous	<u>6,426</u>
Expenditure for year	\$ 30,600 =====

Total Expenditure reported to the end  
of previous reporting year

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Date Licence Granted: 6.12.83



**SAMPLE SYMBOLS**

- GRAVEL SAMPLE
- + LOAM SAMPLE
- \* ROCK SAMPLE

NORTHERN TERRITORY  
GEOLOGICAL SURVEY  
**CR85/023 A**

<p>ABERFOYLE EXPLORATION PTY. LTD. A.D.E. JOINT VENTURE E.L. 4348 SAMPLE LOCATIONS PLAN 1</p> <p>0 1 2 3 4 5 KM Scale 1:100 000 ASHTON MINING LIMITED JANUARY 1985</p>
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