

ANNUAL REPORT E.L. 4253

16th December, 1983
to
15th December, 1984

Licensee:	Aberfoyle Exploration Pty. Ltd.
Operator:	Ashton Mining Limited
Sheet Reference:	Helen Springs (SE 53-10) 1:250,000
Submitted to:	Department of Mines & Energy

NORTHERN TERRITORY
GEOLOGICAL SURVEY

ASHTON MINING LIMITED
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Brisbane. 4000

January, 1985

CR 85 / 0 13 A

ABSTRACT

The A.D.E. Joint Venture undertook a gravel sampling survey within Exploration Licence 4253 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 fifty-two samples collected.

The presence of microdiamonds within E.L. 4253 is regarded as encouraging.

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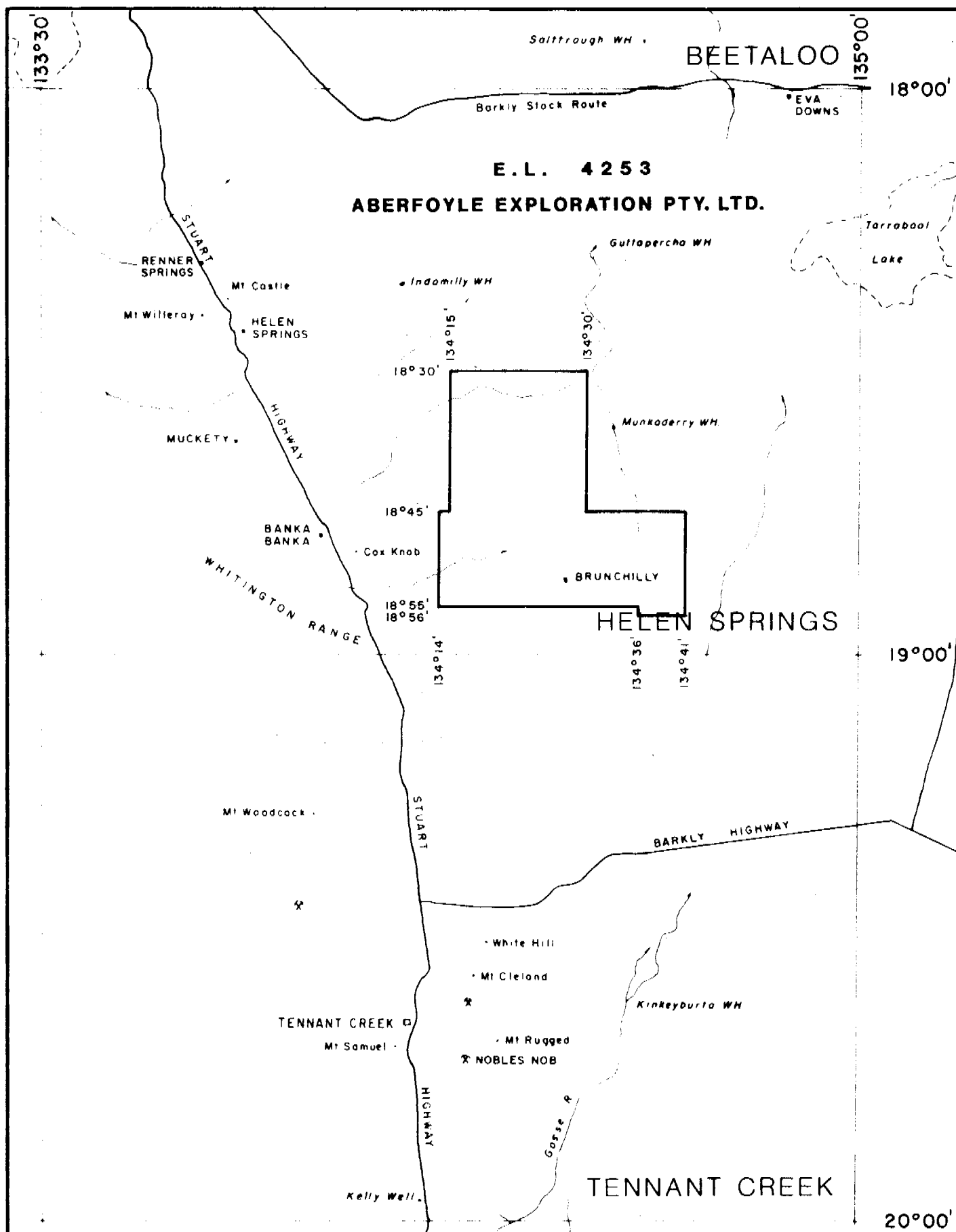


FIGURE 1
LOCATION MAP

1.00 INTRODUCTION

Exploration Licence 4253 covers an area of 1,610 square kilometres (500 blocks) on the Helen Springs 1:250,000 sheet.

The licence, which was granted to Aberfoyle Exploration Pty. Ltd. on 16th 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 gravel sampling was undertaken.

This report gives a summary of the work carried out in E.L. 4253 during the period 16th December, 1983 to 15th 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. 4253 was undertaken as part of a larger regional program in the Helen Springs 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 at appropriate intervals. As drainage in E.L. 4253 is well developed, this resulted in 52 gravel samples being taken within the licence.

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. 4253 a total of 52 gravel samples were collected corresponding to a gravel sample density of one sample per 31 square kilometres.

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 52 samples collected within the licence, 48 contained no detectable kimberlite indicator minerals.

4.

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

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

3.00 FUTURE PROGRAMS

As several positive results were recovered from the initial sampling program within the confines of E.L. 4253, the area consequently is regarded as having potential for kimberlites.

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

APPENDIX 1.

RESULTS OF LABORATORY EXAMINATIONS

REGIONAL GRAVEL SAMPLES EL 4253

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
HEL 236	Nil	
HEL 237	Nil	
HEL 238	Nil	
HEL 239	Nil	
HEL 240	Nil	
HEL 241	Nil	
HEL 244	Nil	
HEL 265	1 -0.4 DIAMOND	1 +0.2 x 0.15 STONE, pale brown translucent, partly frosted elongate cube?. Some patches of smooth, rounded surfaces, clear.
HEL 315	Nil	
HEL 316	Nil	
HEL 317	Nil	

Sample No	Results	Comments
HEL 318	Nil	
HEL 321	Nil	
HEL 323	1 -0.4 DIAMOND	1 +0.2 STONE, anhedral blocky, frosted surface, pale brown, cream - no definite shape or faces, although blocky nature makes for 'cuboid' appearance.
HEL 324	Nil	
HEL 443	Nil	
HEL 444	Nil	
HEL 453	Nil	
HEL 454	Nil	
HEL 455	Nil	
HEL 456	Nil	
HEL 457	Nil	
HEL 458	Nil	
HEL 459	Nil	
HEL 460	Nil	
HEL 461	Nil	
HEL 462	Nil	
HEL 463	Nil	
HEL 464	Nil	

Sample No	Results	Comments
HEL 465	Nil	
HEL 466	Nil	
HEL 469	Nil	
HEL 470	Nil	
HEL 471	Nil	
HEL 472	Nil	
HEL 473	Nil	
HEL 476	Nil	
HEL 477	Nil	
HEL 478	Nil	
HEL 479	Nil	
HEL 480	Nil	
HEL 481	1 -0.4 DIAMOND	1 +0.12 x 0.1 STONE, red-brown, poor quality, part of a cube, no cleavage.
HEL 482	Nil	
HEL 483	Nil	
HEL 484	Nil	
HEL 485	Nil	
HEL 486	Nil	

Sample No	Results	Comments
HEL 487	Nil	
HEL 488	1 -0.4 DIAMOND	1 +0.1 x 0.1 STONE, turbid pink-brown, fragment, no shape, ragged.
HEL 489	Nil	
HEL 490	Nil	
HEL 494	Nil	

APPENDIX 2.

A.D.E. JOINT VENTURE

EXPLORATION LICENCE NO. 4253

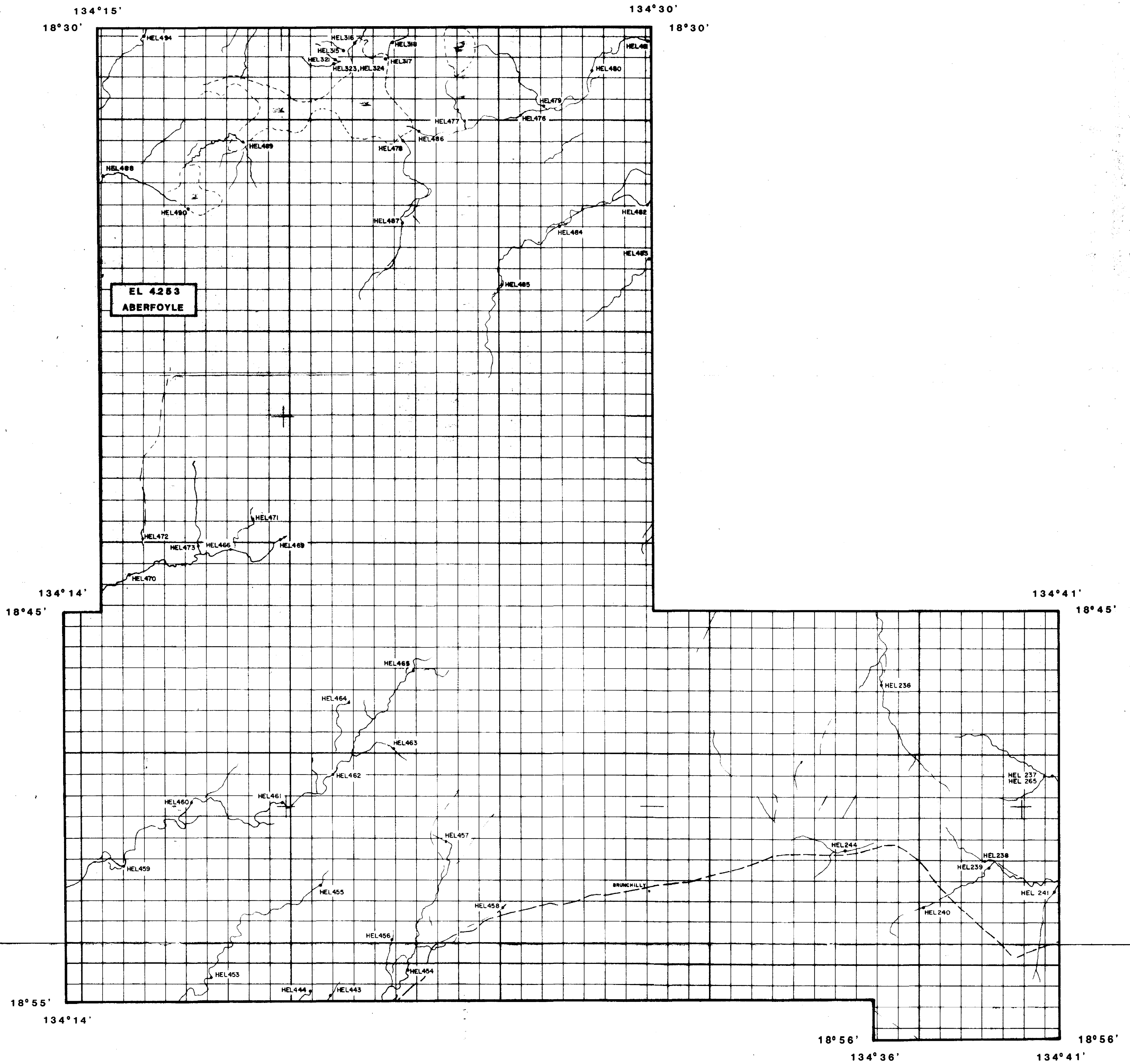
ANNUAL EXPENDITURE FOR THE PERIOD 16.12.83 TO 15.12.84

	<u>\$</u>
Salaries	5,287
Field & Laboratory Expenses	20,182
Miscellaneous	<u>6,771</u>
Expenditure for year	\$ 32,240 =====

Total Expenditure reported to the end
of previous reporting year

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Date Licence Granted: 16.12.83



SAMPLE SYMBOLS

- GRAVEL SAMPLE
- + LOAM SAMPLE
- * ROCK SAMPLE

NORTHERN TERRITORY
GEOLOGICAL SURVEY

CR35/013A

ABERFOYLE EXPLORATION PTY. LTD.	
A.D.E. JOINT VENTURE	
E.L. 4253	
SAMPLE LOCATIONS	
PLAN 1	
0 1 2 3 4 5 KM	
Scale 1:100 000	
ASHTON MINING LIMITED	JANUARY 1985