

FINAL REPORT E.L. 4341

6th December, 1983
to
2nd December, 1985

Licensee: A.O.G. Minerals Limited
Operator: Ashton Mining Limited
Sheet
Reference: Alroy (SE 53-15) 1:250,000
Submitted to: Department of Mines & Energy

**NORTHERN TERRITORY
GEOLOGICAL SURVEY**

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CR 86 / 09 1A

March, 1986

ABSTRACT

During the period 6th December, 1983 to 2nd December, 1985, Ashton Mining Limited as Manager of the A.D.E. Joint Venture carried out an exploration program in E.L. 4341 aimed at the location of kimberlite pipes.

Work undertaken included loam and gravel sampling which was carried out as part of a larger regional program.

Although three small diamonds were recovered from the sampling, the licence area was not regarded as holding as much potential for kimberlites as ground held elsewhere in the Territory by the Joint Venture.

It was therefore decided that E.L. 4341 should be surrendered.

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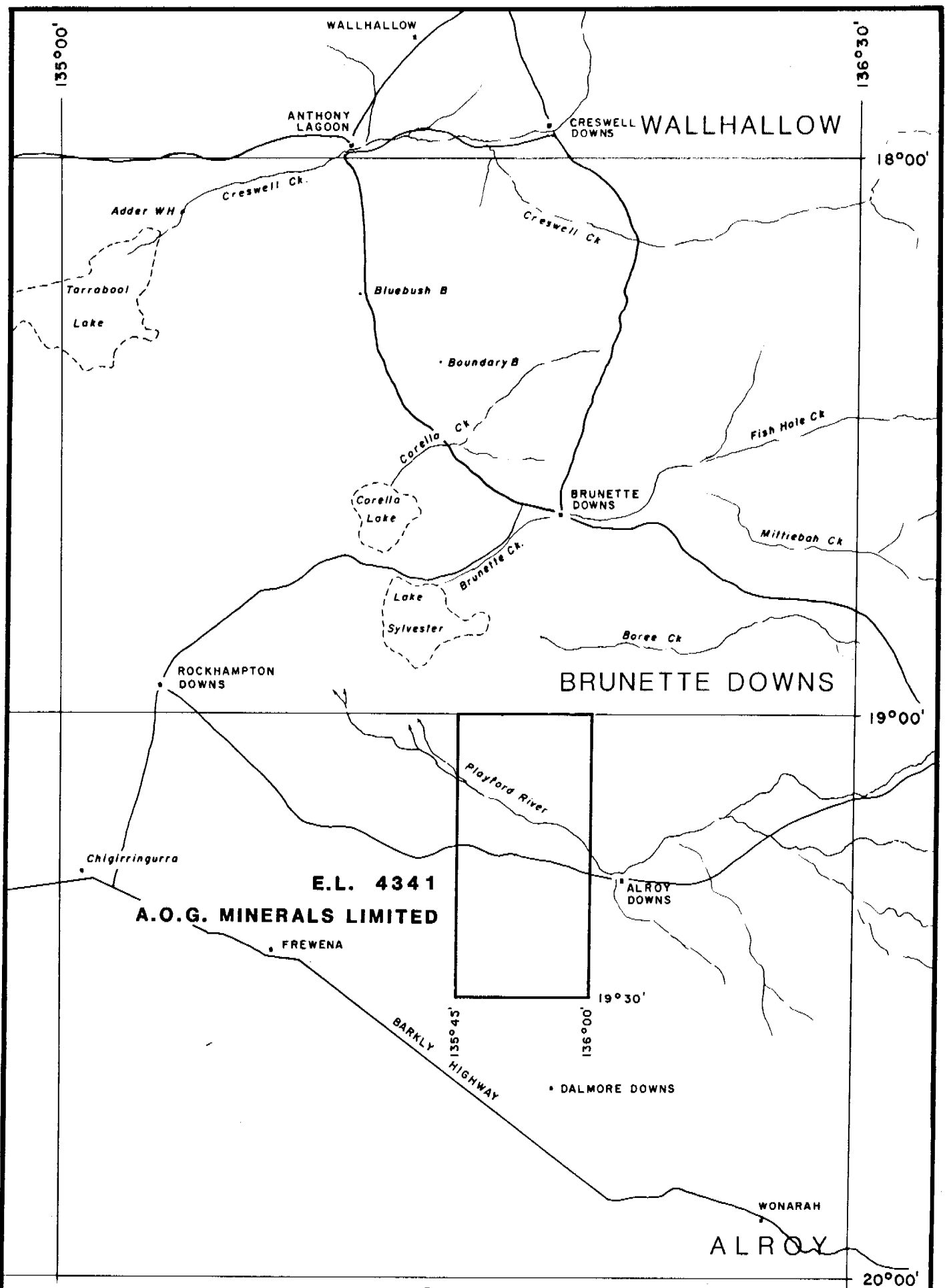


FIGURE 1
LOCATION MAP

1.00 INTRODUCTION

Exploration Licence 4341 covered an area of 1,449 square kilometres (450 blocks) on the Alroy 1:250,000 sheet (refer to Figure 1).

The licence, which was granted to A.O.G. Minerals Limited on 6th December, 1983, was held on behalf of the A.D.E. Joint Venture comprising Ashton Mining Limited, A.O.G. Minerals Limited, Aberfoyle Exploration Pty. Limited and Australian Diamond Exploration N.L. Ashton Mining Limited is the Manager of the Joint Venture.

During the two years 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. 4341 during the period 6th December, 1983 to 2nd December, 1985.

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. 4341 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 the Playford 1:100,000 topographic map sheet so that sample sites tested the available drainage. As drainage in E.L. 4341 is poorly developed, this resulted in only 11 initial gravel samples being taken within the licence. To help test the area further an additional 35 loam samples were collected in E.L. 4341 during the first year of tenure.

The results of the initial sampling program were regarded as sufficiently encouraging to warrant further testing of the licence for kimberlites. An additional 52 follow-up samples were collected from the Playford River region within E.L. 4341 aimed at locating specific potential target areas.

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

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carried out on the minus 1.0mm plus 0.425mm fractions.

Of the 46 initial samples collected within the licence, 44 contained no detectable kimberlite indicator minerals. The remaining two samples each contained a microdiamond.

A single microdiamond was identified through laboratory examination of the 52 follow-up samples collected within the licence.

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

3.00 FUTURE PROGRAMS

Laboratory testing has shown an overall low success ratio of kimberlite derived minerals to the total number of samples collected within E.L. 4341. This fact together with disappointing results in areas adjoining the licence, led the A.D.E. Joint Venture to conclude that exploration efforts should be concentrated in more promising ground held elsewhere in the Territory. Consequently E.L. 4341 was surrendered with effect from 3rd December, 1985.

APPENDIX 1.

RESULTS OF LABORATORY EXAMINATIONS

REGIONAL GRAVEL AND LOAM SAMPLES EL 4341

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 146	Nil	
ALR 147	Nil	
ALR 148	Nil	
ALR 149	Nil	
ALR 150	Nil	
ALR 163	Nil	
ALR 164	Nil	
ALR 165	Nil	
ALR 166	Nil	
ALR 167	1 -0.4 DIAMOND	1 +0.2 STONE pale pink, part of a cube with about 50% eroded away.
ALR 168	Nil	
ALR 171	Nil	

Sample No	Results	Comments
ALR 172	Nil	
ALR 173	1 -0.4 DIAMOND	1 +0.15 mm STONE rounded, irregular surface, broken in half-fresh cleavage surfaces; white, translucent.
ALR 174	Nil	
ALR 175	Nil	
ALR 291	Nil	
ALR 292	Nil	
ALR 293	Nil	
ALR 294	Nil	
ALR 295	Nil	
ALR 296	Nil	
ALR 297	Nil	
ALR 298	Nil	
ALR 299	Nil	
ALR 300	Nil	
ALR 301	Nil	
ALR 302	Nil	
ALR 303	Nil	
ALR 304	Nil	

Sample No Results Comments

ALR 305 Nil
ALR 306 Nil
ALR 307 Nil
ALR 308 Nil
ALR 309 Nil
ALR 310 Nil
ALR 311 Nil
ALR 312 Nil
ALR 313 Nil
ALR 314 Nil
ALR 315 Nil
ALR 316 Nil
ALR 317 Nil
ALR 318 Nil
ALR 319 Nil
ALR 320 Nil
ALR 485 Nil
ALR 486 Nil

Sample No	Results	Comments
ALR 487	Nil	
ALR 488	Nil	
ALR 489	Nil	
ALR 490	Nil	
ALR 491	Nil	
ALR 492	Nil	
ALR 493	Nil	
ALR 494	Nil	
ALR 495	Nil	
ALR 496	Nil	
ALR 497	Nil	
ALR 498	Nil	
ALR 499	Nil	
ALR 500	Nil	
ALR 501	1 -0.4 DIAMOND	1 +0.2 mm STONE pale pink, turbid fragment. Part of a cube, one side and a corner remaining.
ALR 502	Nil	
ALR 503	Nil	
ALR 504	Nil	

Sample No	Results	Comments
ALR 505	Nil	
ALR 506	Nil	
ALR 507	Nil	
ALR 508	Nil	
ALR 509	Nil	
ALR 510	Nil	
ALR 511	Nil	
ALR 512	Nil	
ALR 513	Nil	
ALR 514	Nil	
ALR 515	Nil	
ALR 516	Nil	
ALR 517	Nil	
ALR 518	Nil	
ALR 519	Nil	
ALR 520	Nil	
ALR 521	Nil	
ALR 522	Nil	
ALR 523	Nil	

Sample No	Results	Comments
ALR 524	Nil	
ALR 525	Nil	
ALR 526	Nil	
ALR 527	Nil	
ALR 528	Nil	
ALR 529	Nil	
ALR 530	Nil	
ALR 531	Nil	
ALR 532	Nil	
ALR 533	Nil	
ALR 534	Nil	
ALR 535	Nil	
ALR 536	Nil	

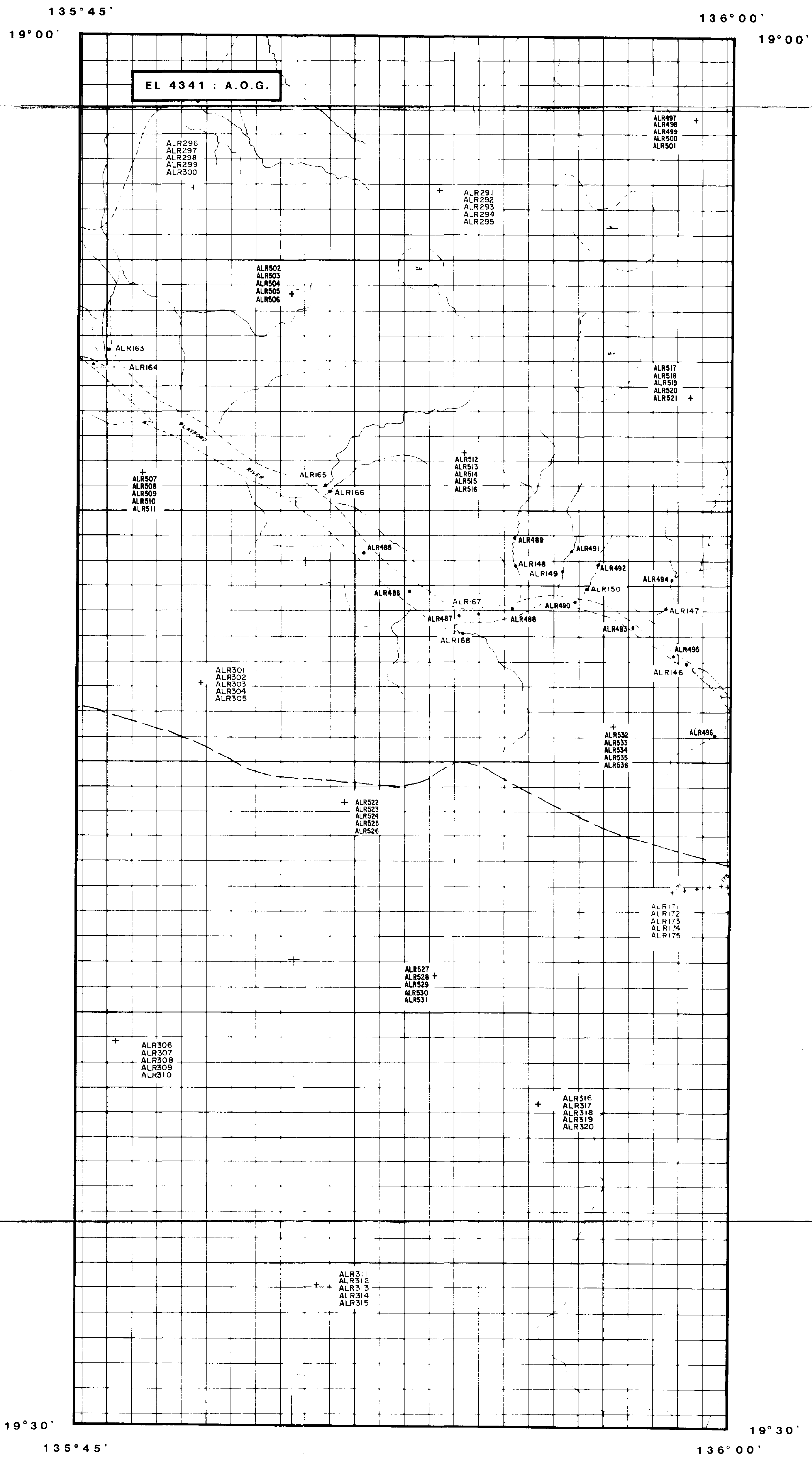
APPENDIX 2.

A.D.E. JOINT VENTURE

EXPLORATION LICENCE NO. 4341

FINAL EXPENDITURE FOR THE PERIOD 6/12/83 - 2/12/85

	\$
Salaries	15,211
Field and Laboratory Expenses	46,477
Miscellaneous	13,955
	<hr/>
Expenditure:	\$75,643
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SAMPLE SYMBOLS

- GRAVEL SAMPLE
- + LOAM SAMPLE
- * ROCK SAMPLE

ALR316 Sample taken during period 6.12.83 - 5.12.84

ALR516 Sample taken during period 6.12.84 - 2.12.85

NORTHERN TERRITORY
GEOLOGICAL SURVEY

CR 86 / 91A

A.O.G. MINERALS LIMITED

A.D.E. JOINT VENTURE

E.L. 4341

SAMPLE LOCATIONS

PLAN 1

0 1 2 3 4 5 KM

Scale 1:100 000

ASHTON MINING LIMITED MARCH, 1986