

FINAL REPORT ON AREA RELINQUISHED

Exploration Licence 2294

7th May, 1980

to

5th March, 1981

Submitted to: Department of Mines & Energy,
Minerals House,
Darwin.

PEN FILL

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April, 1981.

C O N T E N T S

	<u>page</u>
SUMMARY	1
INTRODUCTION	1
EXPLORATION PROGRAM	2
CONCLUSIONS	3

PLANS

Plan 1	- Area Relinquished Sample Locations - E.L. 2294
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APPENDICES

Appendix 1	- Results of Laboratory Examinations
Appendix 2	- Expenditure

SUMMARY

A regional gravel sampling program was undertaken within the area relinquished in E.L. 2294 at a density of one sample per 11.36 square kilometres. A total of 13 gravel samples were collected and the heavy mineral fractions examined for kimberlitic indicator minerals.

Nine of the samples contained possible kimberlite indicator minerals. However, on further detailed examination, these proved to be of non-kimberlitic origin.

INTRODUCTION

Exploration Licence 2294, covering an area of 1280.37 square kilometres in the Waterloo 1:250,000 sheet was granted to Aberfoyle Exploration Pty. Ltd. on 7th May, 1980, for a period of twelve months.

The target of exploration was diamonds and the principal exploration technique employed was regional gravel sampling.

Following the first phase of exploration, an area of 147.62 square kilometres was relinquished. Plan 1 shows the boundaries of this area with respect to the original licence boundaries. This report summarizes the results of the regional gravel sampling program in the area relinquished.

A statement of expenditure is presented in Appendix 2

EXPLORATION PROGRAM

Prior to the commencement of field work, gravel sample locations were plotted in the office on the Kildurk, Kimon and Wickham River 1:100,000 sheets so that sample sites were approximately six kilometres apart and distributed uniformly over the area.

During the field program, individual 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 advantages of ease of access and navigation and enabled the geologist to scan the area for suitable trap sites.

Once a suitable sample site was located, approximately 40 kg of gravel were gathered, sieved and the minus 4 mm fraction collected for laboratory examination. Generally the minus 4 mm samples weighed 25 - 30 kg. The sample sites were accurately plotted in the field on a prepared 1:100,000 base plan. Within the relinquished portion of E.L. 2294, a total of 13 samples were collected corresponding to a sample density of one sample per 11.36 square kilometres. Sample locations are given in Plan 1.

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 1.0 mm plus 0.425 mm fractions.

Of the 13 samples collected within the area, 4 contained no detectable kimberlite indicator minerals. Chromite grains were identified in the remainder. On further detailed examination these proved to be of non-kimberlitic origin.

CONCLUSIONS

Laboratory testing failed to give any kimberlite-derived minerals in the samples. As the sampling program was considered to have tested the area adequately, it was concluded that the likelihood of finding kimberlites was remote and, subsequently, the area was surrendered with effect from 6th March, 1981.

APPENDIX 1

RESULTS OF LABORATORY EXAMINATIONS

The following fractions of each sample were studied:

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

Sample No.	Results	Comments
WAT 525	70 +0.5 Chromite 500 + 0.425 "	Very Fresh-Fresh, anhedral, subhedral, finely pitted or smooth matte surfaces. Some coarsely pitted subvitreous. Some finely stepped high sheen with fine grained intergrowths on surface. Soft to hard brittle streak.
WAT 526	Nil	
WAT 527	12 +0.5 Chromite 100 +0.425 "	Fresh, mostly rounded or subrounded, finely pitted or 'cokey' matte to subvitreous surfaces. Rare euhedral grain with flat faces, zoned or growth features on truncated surfaces.
WAT 528	19 +0.425 Chromite	Fresh, anhedral, rounded, smooth, fine or coarsely pitted matte surfaces, vitreous cores.
WAT 610	2 +0.5 Chromite 33 +0.425 "	Fresh, subhedral, some anhedral rounded. Fine or coarsely pitted matte surfaces. Some smooth, subvitreous, some truncated, zoned. Vitreous cores, very hard streak.
WAT 611	14 +0.5 Chromite 65 +0.425 "	Fresh/Worn, euhedral to anhedral, rounded. Fine to coarse pitting, matte surfaces, vitreous cores.
WAT 612	10 +0.5 Chromite 74 +0.425 "	Fresh-Fresh/Worn, euhedral to anhedral, rounded. Fine to coarse pitting, matte surfaces, vitreous cores.
WAT 615	6 +0.425 Chromite	Fresh/Worn, anhedral, irregular holed and pitted surfaces, matte to subvitreous lustre, some convex vitreous patches.
WAT 616	Nil	
WAT 617	Nil	
WAT 618	Nil	

Sample No.	Results	Comments
WAT 619	3 +0.425 Chromite	Fresh/Worn, rounded, pitted cokey surfaces, subvitreous or matte lustre, vitreous core.
WAT 620	2 +0.5 Chromite 5 +0.425 "	Fresh/Worn, rounded, pitted cokey surfaces, subvitreous or matte lustre, vitreous core.

APPENDIX 2

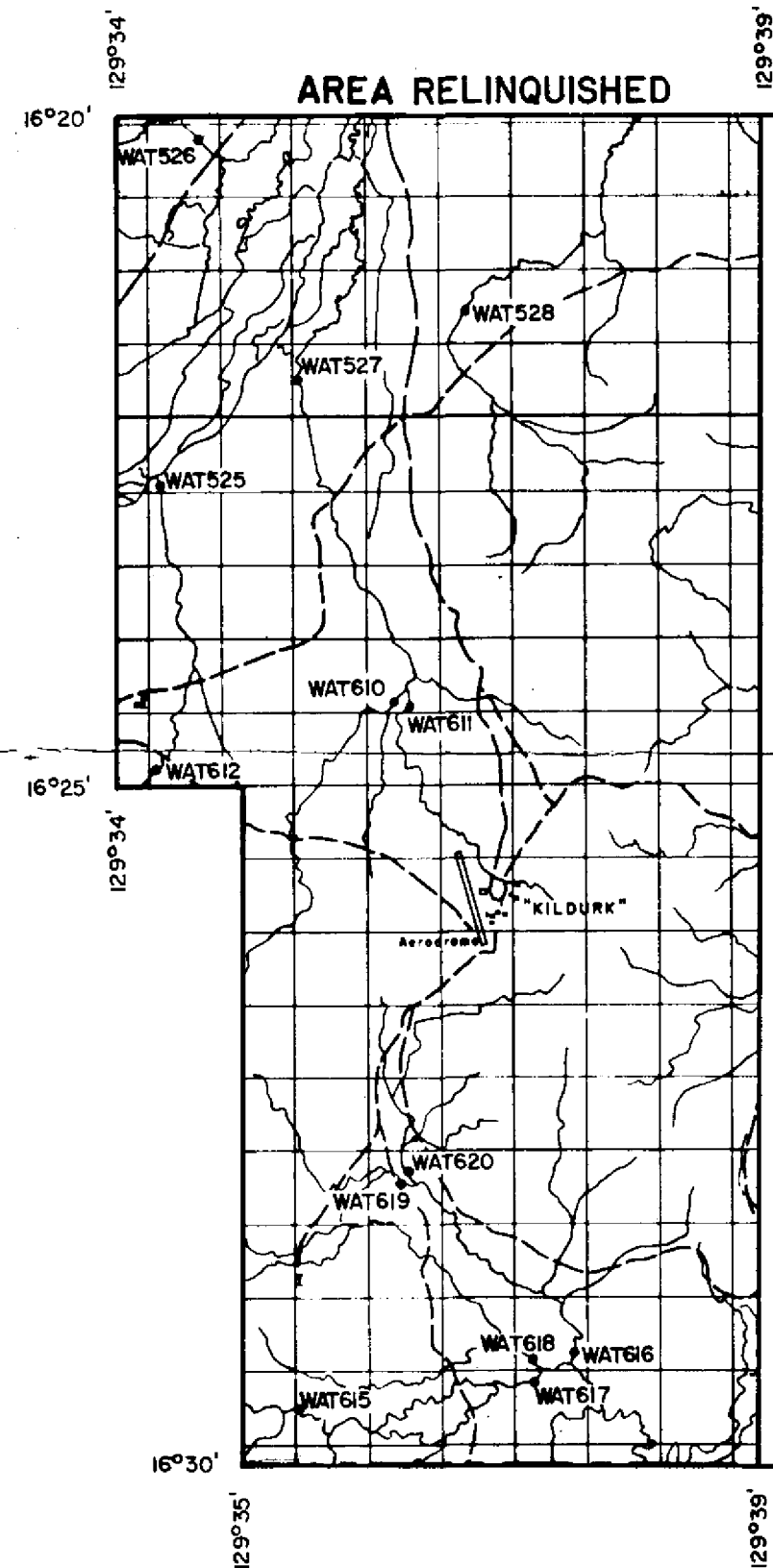
A.D.E. JOINT VENTURE

EXPLORATION LICENCE NO. 2294

EXPENDITURE for the Period of Tenure 7.5.80 to 5.3.81 (Relinquished Area)

	\$
Salaries	495
Field & Laboratory Expenses	1,859
Miscellaneous	417
Expenditure for quarter ended	<u>2,771</u>

Date Licence Granted: 7.5.80



AREA RELINQUISHED

E.L. 2294 AREA RETAINED

CR 21/101.

ABERFOYLE EXPLORATION PTY. LTD.
REGIONAL GRAVEL SAMPLING

E.L. 2294
AREA RELINQUISHED
AND SAMPLE LOCATIONS

PLAN 1

0 1 2 3 4 5 km.
SCALE 1:100 000
Date: MARCH, 1981