

FINAL REPORT E.L. 2298

7th May, 1980
to
26th February, 1981

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

OPEN FILE

Ashton Mining Limited,
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April, 1981.

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SUMMARY

A regional gravel sampling program was undertaken in E.L. 2298 at a density of one sample per 17.45 square kilometres. A total of 74 gravel samples were collected and the heavy mineral fractions examined for kimberlitic indicator minerals.

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

INTRODUCTION

Exploration Licence 2298 was granted to Ashton Mining Limited on 7th May, 1980, for a period of twelve months. It covers an area of 1291.26 square kilometres and is on the Limbunya 1:250,000 sheet.

The target of exploration was diamonds and the principal exploration technique employed was regional gravel sampling. This report summarizes the results of the regional gravel sampling program undertaken during the period 7th May, 1980 to 26th February, 1981, which is the date of surrender of the licence.

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 Negri and Limbunya 1:100,000 sheets so that sample sites were approximately five kilometres apart and distributed uniformly over the licence 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 E.L. 2298, a total of 74 samples were collected corresponding to a sample density of one sample per 17.45 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 74 samples collected within the licence, 47 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 licence adequately, it was concluded that the likelihood of finding kimberlites in E.L. 2298 was remote and that no further exploration for diamonds should be undertaken. The licence was subsequently surrendered with effect from 27th February, 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
LIM 052	Nil	
LIM 053	Nil	
LIM 054	Nil	
LIM 055	Nil	
LIM 056	Nil	
LIM 057	Nil	
LIM 059	1 +0.425 chromite	Worn, well rounded and worn, dull surface, vitreous fracture.
LIM 065	3 +0.5 chromite 3 +0.425 "	Fresh, mostly anhedral, ragged granular surface over vitreous core. One euhedral.
LIM 066	1 +0.425 chromite	Worn, anhedral rounded, matte faces with some vitreous patches, rare surface depressions, hard brown streak.
LIM 088	Nil	
LIM 089	Nil	
LIM 090	2 +0.5 chromite 2 +0.425 "	Fresh, subhedral, finely pitted matte or subvitreous surfaces, some larger pits, vitreous on fracture.
LIM 091	Nil	
LIM 092	Nil	
LIM 098	1 +0.5 chromite 1 +0.425 "	Fresh/Worn, subhedral, roughly pitted subvitreous patches and smooth vitreous to subvitreous faces, rounded vitreous patches.
LIM 216	1 +0.5 chromite	Fresh/Worn, subhedral, smooth matte pitted surfaces, rare hole, truncated, vitreous fracture.
LIM 217	Nil	

APPENDIX 1 (Contd.)

Sample No.	Results	Comments
LIM 218	Nil	
LIM 219	Nil	
LIM 220	Nil	
LIM 227	Nil	
LIM 228	Nil	
LIM 229	Nil	
LIM 230	Nil	
LIM 231	Nil	
LIM 434	Nil	
LIM 435	1 +0.5 chromite	Euhedral with intergrowth depressions typical of basalt aggregate.
LIM 436	Nil	
LIM 437	Nil	
LIM 438	Nil	
LIM 439	Nil	
LIM 440	Nil	
LIM 441	1 +0.425 chromite	Fresh/Worn, truncated octahedron, rough subvitreous surfaces, vitreous fracture.
LIM 530	1 +0.425 chromite	Fresh/Worn-Worn, euhedral, matte pitted surfaces, small embayments, truncated.
LIM 531	Nil	
LIM 532	Nil	
LIM 533	Nil	
LIM 581	Nil	
LIM 582	2 +0.425 chromite	Fresh, one octahedral, matte surfaces. Other intergrowth of three octahedra.
LIM 618	Nil	
LIM 619	Nil	
LIM 620	Nil	

APPENDIX 1 (Contd.)

Sample No.	Results	Comments
LIM 639	2 +0.5 chromite	Fresh, one euhedral, vitreous, polished rough faces, some bubbly, some concave. Other anhedral smooth matte surfaces over vitreous core with holes.
LIM 640	Nil	
LIM 641	1 +0.5 chromite 1 +0.425 "	Fresh, one is typically basaltic. Other smooth subvitreous lustre, flattened.
LIM 642	Nil	
LIM 654	Nil	
LIM 657	Nil	
LIM 659	1 +0.425 chromite	Worn, rounded smooth matte surfaced grain, some cavities.
LIM 669	Nil	
LIM 670	2 +0.5 chromite	Very Fresh-Fresh, euhedral-subhedral, one with vitreous other with cokey surfaces, one intergrown. Vitreous on fracture.
LIM 671	Nil	
LIM 672	Nil	
LIM 673	Nil	
LIM 678	1 +0.425 chromite	Fresh/Worn, anhedral, ragged subvitreous surface, vitreous fracture.
LIM 679	3 +0.5 chromite	Fresh/Worn, two subhedral, one anhedral. Uneven to bubbly matte to vitreous surfaces, some holes and depressions. One an intergrowth of an octahedra.
LIM 680	3 +0.5 chromite 4 +0.425 "	Fresh/Worn, subhedral, some with side growths, pitted irregular or bubbly surfaces.
LIM 681	Nil	
LIM 682	1 +0.425 chromite	Fresh-Worn, anhedral, finely pitted subvitreous surface with smooth, rounded vitreous patches.
LIM 683	1 +0.425 chromite	Fresh/Worn, subhedral, smooth matte surfaces some with relict subvitreous faces? Granular streak.
LIM 684	Nil	
LIM 685	2 +0.425 chromite	Fresh/Worn, one truncated octahedron, smooth vitreous surface. Other has rough octahedral shape, vitreous surface.

APPENDIX 1 (Contd.)

Sample No.	Results	Comments
LIM 686	Nil	
LIM 687	Nil	
LIM 688	1 +0.425 chromite	Fresh/Worn, subhedral, bubbly surfaced, subvitreous grain, ragged base (intergrowth?).
LIM 689	Nil	
LIM 690	1 +0.425 chromite	Fresh/Worn, subhedral, ragged vitreous surfaces, some areas of thin skin over vitreous core.
LIM 691	1 +0.5 chromite 2 +0.425 "	Fresh, subhedral, pitted subvitreous surfaces, some patches of very fine skin, vitreous on fracture.
LIM 692	Nil	
LIM 693	1 +0.425 chromite	Fresh, euhedral, pitted matte surfaces, vitreous on fracture, intergrowth.
LIM 694	Nil	
LIM 695	1 +0.425 chromite	Fresh, euhedral, finely pitted surface some larger indentation, vitreous fracture.
LIM 696	1 +0.425 chromite	Fresh, euhedral, smooth finely textured faces, matte to subvitreous lustre, "truncated" by vitreous surfaces under the skin.
LIM 697	1 +0.425 chromite	Worn, anhedral, rounded. Vitreous with matte patches, possible intergrowth.

APPENDIX 2

A.D.E. JOINT VENTURE

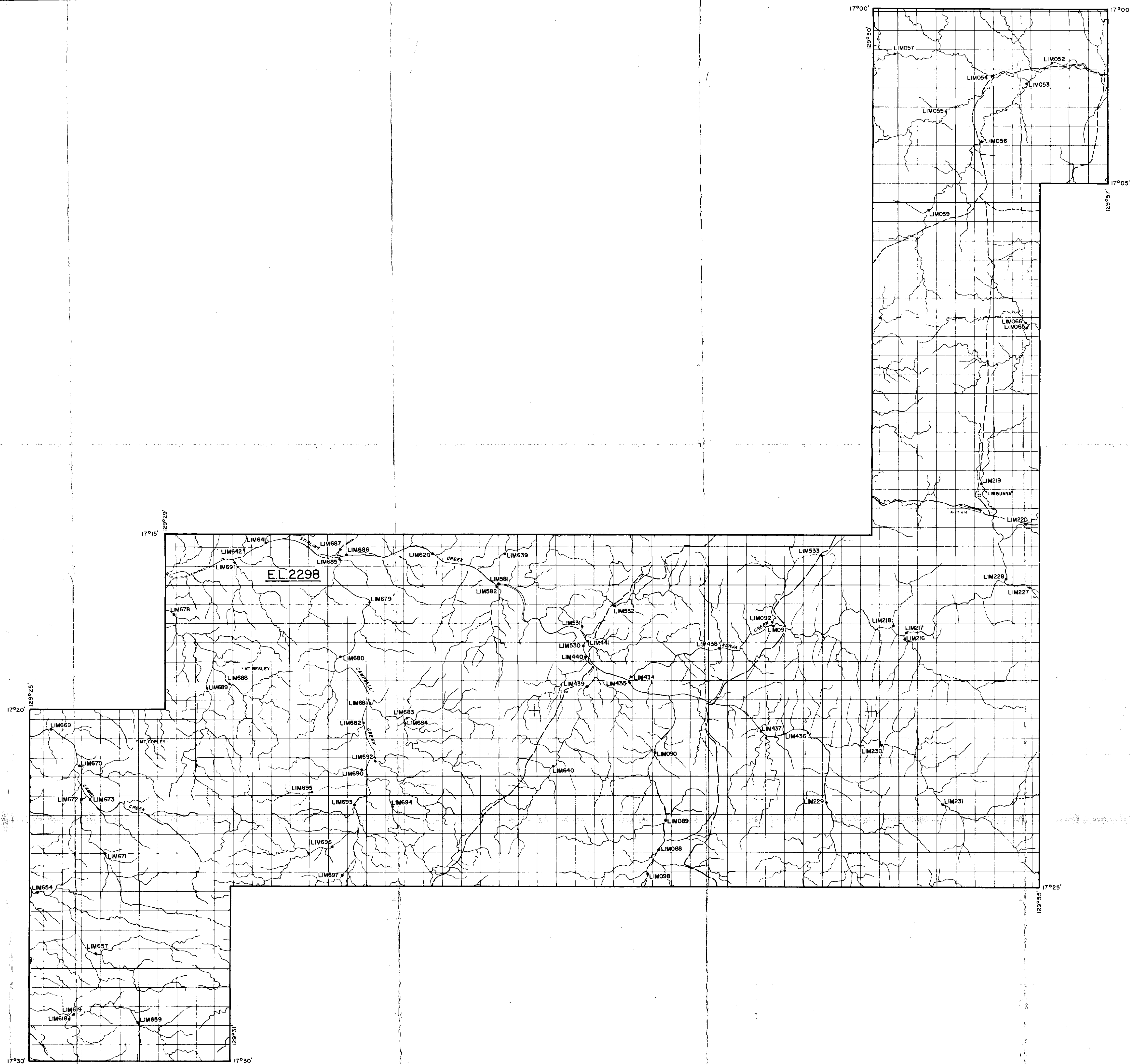
EXPLORATION LICENCE NO. 2298

EXPENDITURE for the Period of Tenure 7.5.80 to 26.2.81

	\$
Salaries	4,290
Field & Laboratory Expenses	14,740
Miscellaneous	3,304
Expenditure for quarter ended	<u>22,334</u>

Date Licence Granted: 7.5.80

D.W.B: 10.4.81



CR31/104
ASHTON MINING LIMITED
REGIONAL GRAVEL SAMPLING
E.L. 2298
SAMPLE LOCATIONS
PLAN 1
0 1 2 3 4 5 km
1:100 000
MARCH, 1981