

FINAL REPORT E.L. 1978

27th February, 1979

to

26th February, 1982

**COPEN FILE**

Submitted to:

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## ABSTRACT

During the period 27th February, 1979 to 26th February, 1980 minimal exploration was carried out by one prospector who made four trips to the area and retrieved samples of mineralization. All samples on detailed examination proved to warrant no further investigation.

During the period 27th February, 1980 to 26th February, 1981, Ashton Mining Limited undertook a program of regional gravel sampling in Exploration Licence 1978. A total of 36 gravel samples were collected and forwarded to the Company's laboratory in Perth.

The gravel samples were then processed and examined by the laboratory for kimberlite indicator minerals. Two of the samples contained possible kimberlite indicator minerals. However, on further detailed examination, these proved to be of non-kimberlitic origin.

During the period 27th February, 1981 to 26th February, 1982 Talmina Trading Pty. Ltd. carried out exploration by helicopter and vehicle taking alluvial river samples. Leachment copper was found over a wide area but on the basis of geological assessment it was concluded that further expenditure was not warranted especially at current depressed copper prices.

INTRODUCTION

Exploration Licence 1978 covers an area of 1198.94 square kilometres and is located on the Limbunya and Birrindudu 1:250,000 geological sheets.

The licence was granted to Engineered Excavations Northern Territory Pty. Ltd. on 27th February, 1979 for a period of twelve months. The licence was renewed for a further period of twelve months expiring on 26th February, 1981. During this second year of tenure, Exploration Licence 1978 was the subject of an option agreement between Engineered Excavations Northern Territory Pty. Ltd. and Ashton Mining Limited.

The licence was renewed for a third term from 27th February, 1981, over a reduced area in accordance with Section 38 B (11) of the Mining Act. The E.L. was, during this period, subject of an agreement with Talmina Trading Pty. Ltd.

Exploration during the first and third terms of the licence was aimed at general sampling and investigation whilst during the second term investigation was concentrated on locating possible kimerlitic material within the area.

Exploration during the first term was by land vehicle only while the later terms of exploration were supported by helicopter for gravel sampling in inaccessible areas.

This report gives a summary of the work carried out during the period 27th February, 1979 to 26th February, 1982. A statement of expenditure covering this period is included in the report.

2.00 TENURE

Exploration Licence 1978 covering 1198.94 square kilometres is held by Engineered Excavations Northern Territory Pty. Ltd. and was granted on 27th February, 1979. An outline of the licence is given in Figure 1, and its boundaries described below:

Commencing at the intersection of latitude 17 degrees 40 minutes with longitude 129 degrees 15 minutes thence proceeding to the intersection of latitude 17 degrees 40 minutes with longitude 129 degrees 17 minutes thence proceeding to the intersection of latitude 17 degrees 50 minutes with longitude 129 degrees 17 minutes thence proceeding to the intersection of latitude 17 degrees 50 minutes with longitude 129 degrees 20 minutes thence proceeding to the intersection of latitude 18 degrees 06 minutes with longitude 129 degrees 20 minutes thence proceeding to the intersection of latitude 18 degrees 06 minutes with longitude 129 degrees 27 minutes thence proceeding to the intersection of latitude 18 degrees 00 minutes with longitude 129 degrees 27 minutes thence proceeding to the intersection of latitude 18 degrees 00 minutes with longitude 129 degrees 25 minutes thence proceeding to the intersection of latitude 17 degrees 45 minutes with longitude 129 degrees 25 minutes thence proceeding to the intersection of latitude 17 degrees 45 minutes with longitude 129 degrees 22 minutes thence proceeding to the intersection of latitude 17 degrees 40 minutes with longitude 129 degrees 22 minutes thence proceeding to the intersection of latitude 17 degrees 40 minutes with longitude 129 degrees 30 minutes thence proceeding to the intersection of latitude 18 degrees 15 minutes with longitude 129 degrees 30 minutes thence proceeding to the intersection of latitude 18 degrees 15 minutes with longitude 129 degrees 15 minutes thence proceeding to the intersection of latitude 17 degrees 40 minutes with longitude 129 degrees 15 minutes, subject to all applications for mining tenements and excluding therefrom all mining tenements granted or registered and all reserves included within the definition of "reserve" in section 7 of the Mining Act.

The licence was subsequently renewed for a further twelve months, and then renewed for a third term over the area of 577.46 square kilometers, in accordance with the provisions of section 38 B (11) of the Mining Act. The outline of this area is shown in Figure 1.

ENGINEERED EXCAVATIONS N.T. PTY. LTD.

E.L.1978

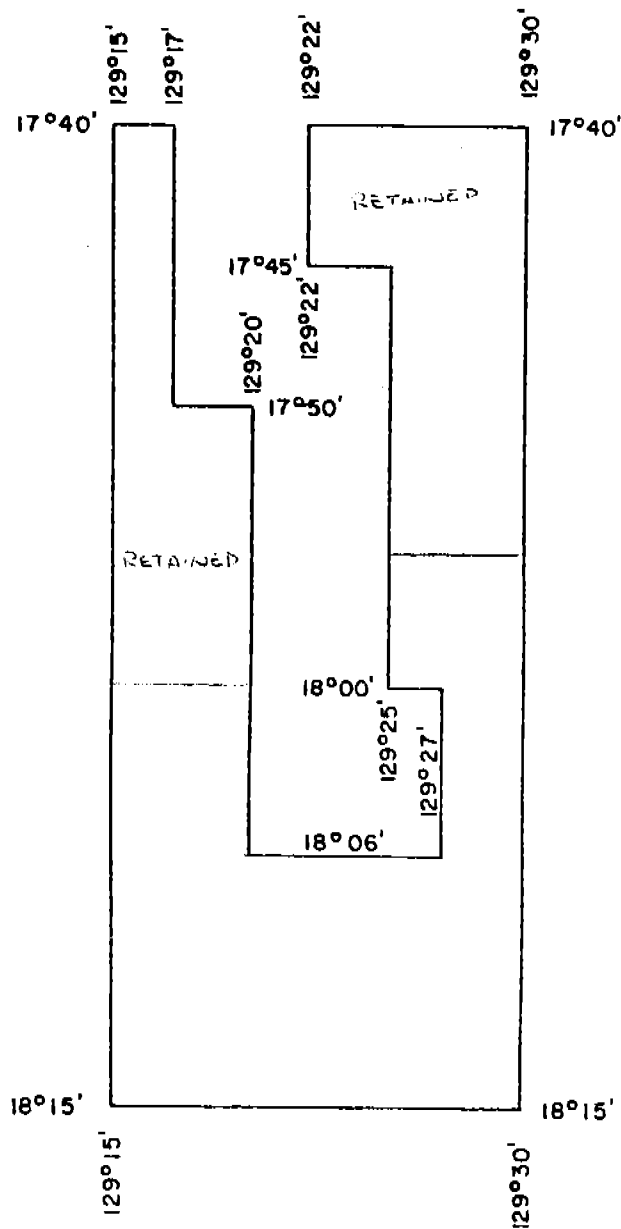


FIGURE 1

SCALE 1:500 000

### 3.00 LOCATION AND GENERAL GEOLOGY

#### 3.10 Location and Access

Exploration Licence 1978 is located approximately sixteen kilometres north of Birrindudu Homestead. The licence occurs in the east of the Napier and Birrindudu 1:100,000 topographic sheets and in the Limbunya and Birrindudu 1:250,000 geological sheets.

Access to the licence is made by way of the Buchanan Highway which passes in an east-west direction through the northern part of the licence; while vehicular tracks give access to the southern half.

#### 3.20 General Geology

Within E.L. 1978, a series of poorly-sorted grits and indurated quartz sandstones of Carpentarian (?) age represent the oldest rocks. These grits are known as the Bunda Grit.

The next sequence found is that of the Wattie Group. This group consists of sandstone with subsidiary interbedded siltstone and rare dolomite, of Carpentarian or Adelaidean age.

Unconformably overlying the Wattie Group are the rocks of the Antrim Plateau Volcanics, which erupted during the Lower Cambrian on to a land surface of moderate relief. The Volcanics, consisting mainly of basalt lavas, also contain interbeds of sandstone, chert, conglomerate; with siltstone-sandstone being the most common and forming elongate bodies or lenses within the basalt.

Cainozoic units are the most extensive within the licence. Tertiary laterite is widespread, capping areas of Antrim Plateau Volcanics in the south and Quaternary residual clay and sand are present throughout E.L. 1978.

#### 4.00 FIELD INVESTIGATION

During the first term of the licence only surface prospecting was carried out and no samples, except some of leached copper recovered over a wide area, were retrieved.

During the second term of the licence Ashton Mining Ltd. carried out an extensive regional gravel sampling survey with the primary aid of locating kimberlite based indicators.

Prior to the commencement of field work, gravel sample locations were plotted in the office on the Napier and Birrindudu 1:100,000 sheets so that sample sites tested the available drainage at intervals of approximately six kilometres. Drainage is poorly developed in 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 advantage 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. 1978, a total of 36 samples were collected corresponding to a sample density of one sample per 33.30 square kilometres. Sample locations are given in Plan 1.



During the third term of the licence Talmina Trading Pty. Ltd. carried out alluvial gravel sampling of prospective river sites and a total of 800 ft of Proline auger drilling was carried out within this E.L. and E.L. 1980 in follow up sampling of copper samples found from an early hand sampling programme carried out by helicopter. Follow up prospecting was also carried out using 4 wheel drive vehicle.

5:00 LABORATORY PROCESSING

No laboratory sampling was carried out on those samples collected during the first term of the licence.

During the second term of the licence the samples collected within E.L. 1978 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 36 samples collected within the licence, 34 contained no detectable kimberlite indicator minerals. Chromite grains were identified in the remainder. However, these were considered to be of non-kimberlitic origin.

A listing of results of the laboratory examinations is given in Appendix 1.

Samples collected during the third term of the licence were processed in laboratories in Sydney and the Phillipines under the direction of Mr. G. Cato, consulting geologist to Talmina Trading Pty. Ltd.

As the consulting geologist, on the basis of the surface sampling,  
recommended dropping the E.L. without further magnetometer survey,  
The individual samples, which are not to hand, have not been included  
in this report.

6.00 CONCLUSIONS

Routine laboratory testing did not locate any kimberlite-derived minerals in the samples. As the sampling program was regarded as having adequately tested the available drainage within E.L. 1978, it was considered that the results downgraded the potential of the licence to host kimberlite intrusives.

Leachment copper samples proved disappointing and no further work in following this mineral was considered warranted.

APPENDIX 1

RESULTS OF LABORATORY EXAMINATIONS

The following fractions of each sample were studied:

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

Sample No.	Results	Comments
LIM 505	Nil	
LIM 510	1 +0.5 chromite 3 +0.425 "	Fresh/Worn, two truncated octahedra, one twinned, one anhedral. Rough subvitreous surface, vitreous fracture.
LIM 517	Nil	
LIM 518	Nil	
LIM 519	Nil	
LIM 520	Nil	
LIM 521	Nil	
LIM 522	1 +0.5 chromite 1 +0.425 "	Fresh/Worn-Worn, anhedral to anhedral, matte to subvitreous surfaces, truncated, vitreous fracture.
LIM 525	Nil	
LIM 526	Nil	
LIM 578	Nil	
LIM 700	Nil	
LIM 701	Nil	
LIM 702	Nil	
LIM 703	Nil	
LIM 704	Nil	
LIM 705	Nil	
LIM 706	Nil	
LIM 707	Nil	

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Sample No.	Results	Comments
LIM 709	Nil	
LIM 710	Nil	
LIM 718	Nil	
LIM 720	Nil	
LIM 721	Nil	
LIM 722	Nil	
LIM 723	Nil	
LIM 724	Nil	
LIM 725	Nil	
LIM 726	Nil	
LIM 727	Nil	
LIM 731	Nil	
LIM 737	Nil	
LIM 738	Nil	
LIM 739	Nil	
LIM 740	Nil	
LIM 741	Nil	

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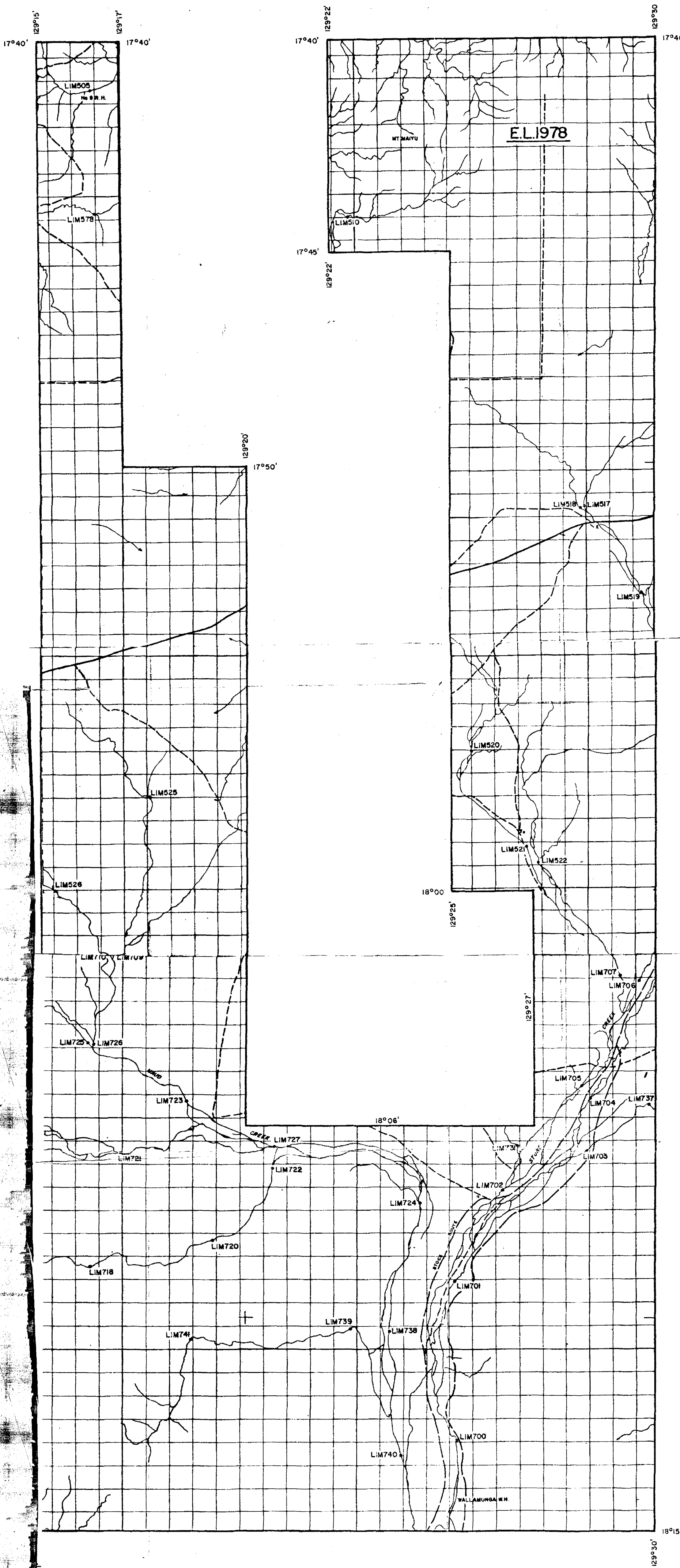
APPENDIX 2



FINAL EXPENDITURE E. L. 1978

The final expenditure for the period 27th February, 1979 to 26th February, 1982 was as follows.

February, 1979	to	February, 1980	\$6,387.00
February, 1980	to	February, 1981	\$23,793.00
February, 1980	to	February, 1982	\$9,750.00
			<hr/>
		Total:	\$39,930.00
			<hr/>



ASHTON MINING LIMITED
REGIONAL GRAVEL SAMPLING
<b>E.L. 1978</b>
<b>SAMPLE LOCATIONS</b>
<b>PLAN 1</b>
0 1 2 3 4 5 km.
SCALE 1:100000
Date - MAY, 1991

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