

EIGHT MILE CREEK, E.L. 1568 AND ADJACENT AREA
ANNUAL REPORT, 1979

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by

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November, 1979

Title : EIGHT MILE CREEK, E.L. 1568, AND ADJACENT AREA
ANNUAL REPORT, 1979

Author : D.W. HAYNES

Subject : STRATIFORM COPPER, LEAD, ZINC

Location : TANUMBIRINI SE 53-2
BAUHINIA DOWNS SE 53-3

ABSTRACT

The absence of geophysically - anomalous response over concealed Mallapunya Formation - Masterton Formation contact along the western flank of a dome of Tawallah Group rocks in E.L. 1568 indicates that potential for economic stratiform copper is low. This conclusion is reinforced by the negative results of drill-testing of weak geochemical and geophysical anomalies on equivalent contacts in the Whirlpool Creek Exploration Licences, and by the geological uniformity of exposed Masterton Formation.

Four lines of reconnaissance Input-EM revealed surficial conductors in the southern part of the Exploration Licence.

Expenditure in E.L. 1568 in the 1978-79 year totalled \$13,262.

It is recommended that the exploration licence be relinquished.

1 November 1979

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LIST OF PLANS IN 1977-1978 REPORT

604-418	Location Plan, Eight Mile Creek, N.T.
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1. INTRODUCTION

This is the second Annual Report on the Eight Mile Creek Exploration Licence 1568. The first Annual Report details all work completed in the first year of exploration, and this details all subsequently completed work.

The Exploration Licence was designed to cover a stratiform copper target defined in the original McArthur Basin Study. The target was (concealed) Mallapunyah Formation.

Testing completed to the 7-8-1978, and described in the 1978 Annual Report, consisted of an extensive programme of soil sample traversing, geological mapping and induced polarisation traversing. The work revealed a weak zinc anomalous area in Mallapunyah Formation close to the contact with Masterton Formation in the southern part of the Exploration Licence. However, no geophysically anomalous response was located, and this factor coupled with the geological uniformity of Masterton Formation along strike on the western side of the main domal structure suggested that the Mallapunyah Formation was most unlikely to host economic stratiform copper.

However, because we lacked exploration experience in the region, the absence of anomalous response on this heavily concealed area was regarded with suspicion, and was not therefore considered a necessarily downgrading feature. Testing was to be continued if the programme of drill testing of weak geochemical and geophysical anomalies over equivalent geological units on the Whirlpool Creek Exploration Licences was successful over equivalent geological units.

The Whirlpool Creek drilling programme, whose commencement was delayed three months because of unavailability of contract drill rigs, has recently been completed, and failed to indicate mineralisation of interest. Because of the considerable delay in the commencement of the Whirlpool Creek drilling, caused by unavailability of contractor-drill rigs in the Northern Territory, a decision on whether or not to continue the testing of the Eight Mile Creek Exploration Licence could not be made until the end of the second year of tenure.

2. LOCATION

The Eight Mile Creek Exploration Licence 1568 is in the north east corner of the Tanumbirini 1:250,000 scale sheet area. Location is shown on Plan 604-418.

3. WORK COMPLETED

The work completed was aimed at determining if bedrock conductors occurred in rock units adjacent to Masterton Formation in the southern part of the Exploration Licence and east of the exploration licence.

The work consisted of four reconnaissance airborne Input-EM traverses, whose location is shown in Plan 1033-14.

No other work was completed.

4. GEOLOGY

The geology is described in the 1978 Annual Report. A reassessment of the geology indicated that Mallapunyah Formation is most unlikely to host economic stratiform copper, in particular in the southern part of the Exploration Licence.

Mallapunyah Formation is considered to be adjacent to the fault-bound rocks of Masterton Formation here.

5. GEOCHEMISTRY

The geochemistry of the area is described in the 1978 Annual Report.

6. GEOPHYSICS

Four lines of airborne Input-EM were flown at an average spacing of six kilometres. Locations of lines are shown on Plan 1033-14.

The traces are characterised by strong conductive overburden response, with only the outcropping Masterton Formation being resistive and favourable for Input. As the areas of interest for the copper mineralisation is in the concealed ground, the test indicates that Input-EM will not be a useful prospecting tool here.

However, two bedrock anomalies were defined in close proximity to outcropping Masterton Formation. Location of the anomalies is shown in Plan 1033-14.

Anomaly C2 is very close to outcrop of Roper Group rocks. Anomaly A1 is within laterite overlying Masterton Formation.

The anomalies are not considered worthy of follow up.

7. STRATIFORM BASE METAL POTENTIAL

The absence of ground geophysical response coupled with the geological uniformity of Masterton Formation along the western flank of the main dome of Tawallah Group rocks in the exploration licence indicates that no potential for stratiform copper exists here. The absence of macroscopic signs of sulphide mineralisation on the drill tests of a variety of weak geochemical and geophysical anomalies under apparently similar cover conditions in the Whirlpool Creek E.L. indicates that absence of anomalous response here is likely to indicate absence of mineralisation of interest.

Areas adjacent to the fault bound block of Masterton Formation in the south of the Exploration Licence is similarly considered to have no potential for stratiform copper.

8. RECOMMENDED PROGRAMME

Because potential for economic stratiform copper on the Exploration Licence is very small, the Eight Mile Creek Exploration Licence 1568 should be relinquished.

9. EXPENDITURE IN E.L. 1568

Expenditure in E.L. 1568 for 1978-1979 is detailed in Table I.

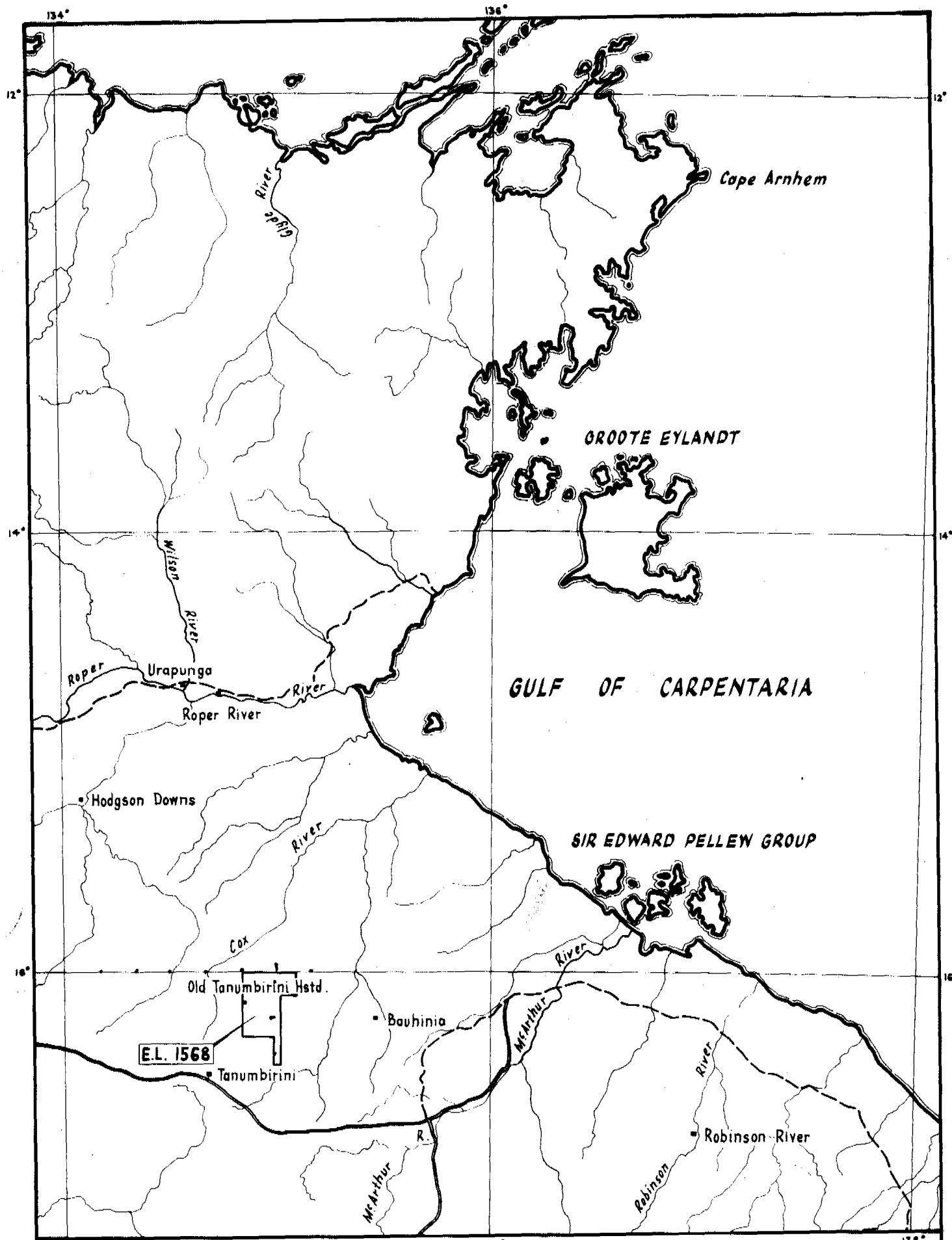
TABLE I
EXPENDITURE E.L. 1568

Geological	6,552
Geophysical	9,156
Geochemical	440
Surveying	60
Drafting	1,565
Leasing	270
Administration	- 4,781
	13,262

The reason for the high geophysical and geological expenses is that costs for the programme completed in 1978 were allotted in the 1978-79 reporting period.

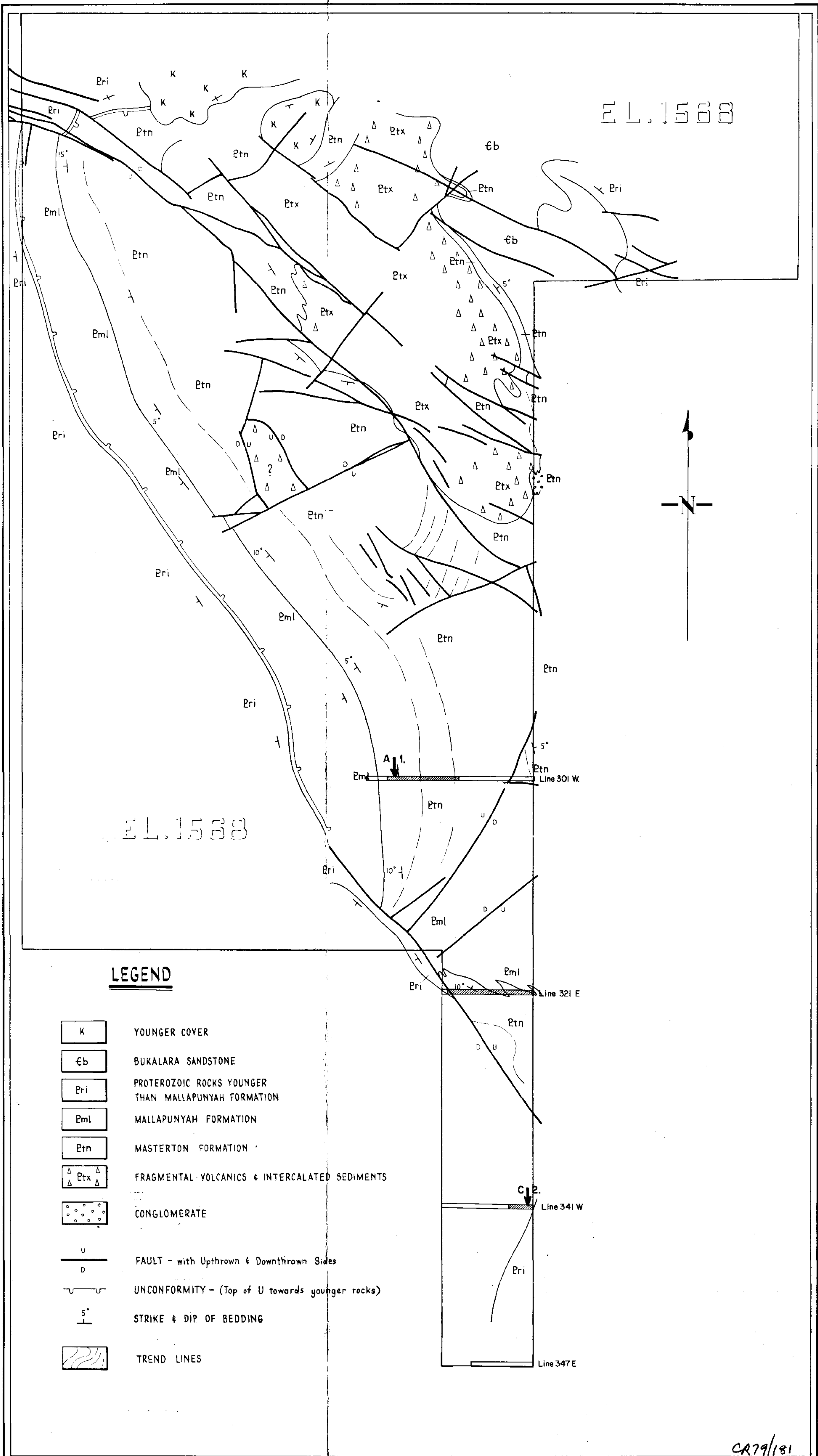
10. CONCLUSION

No further work is recommended in E.L. 1568.



LOCALITY MAP
EIGHT MILE CREEK - N.T.

Scale 1:2,500,000



GEOLOGICAL INTERPRETATION
E.L. 1568
EIGHT MILE CREEK - N.T.
 Scale 1:100,000

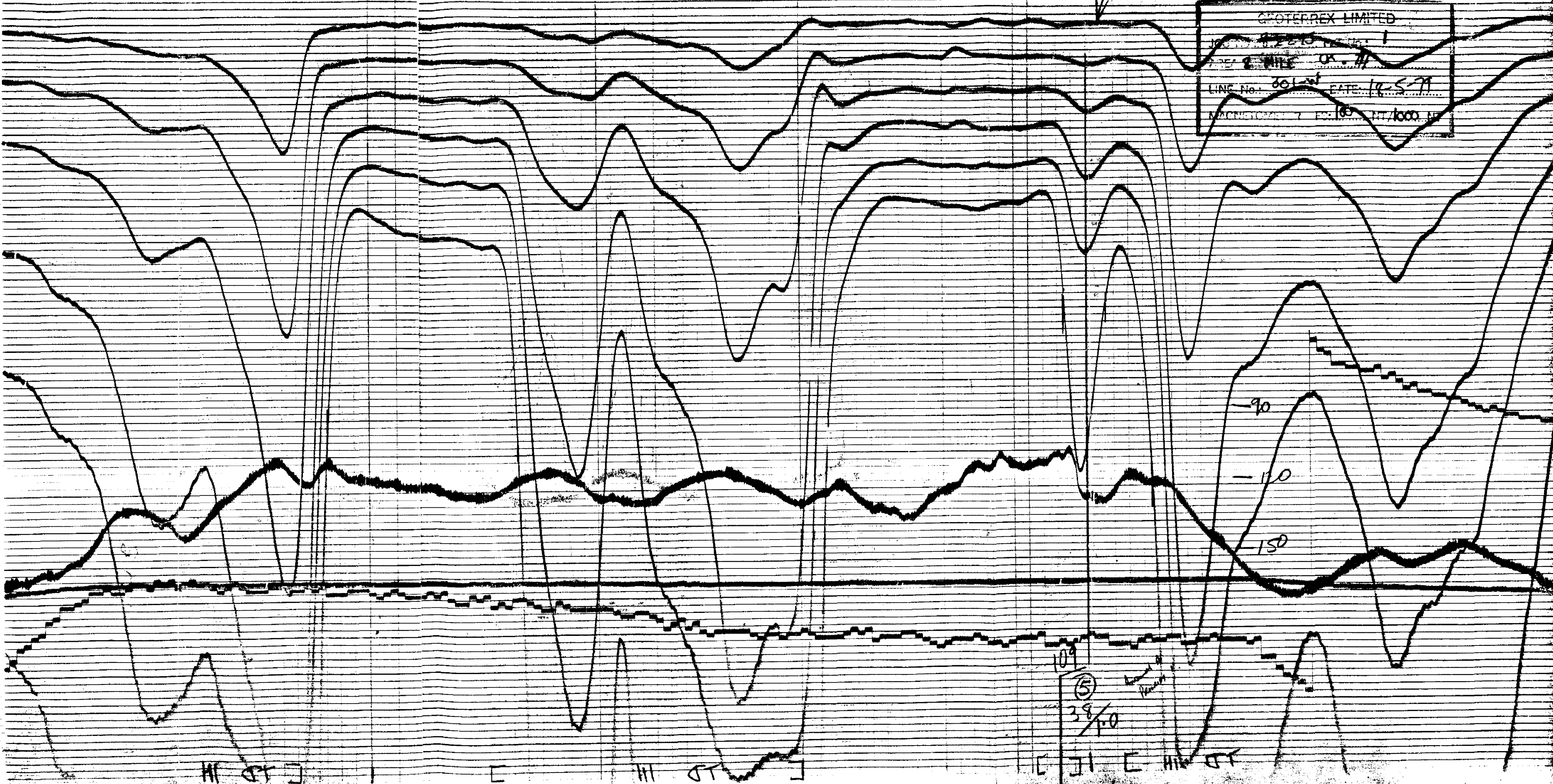
LEGEND
RECONNAISSANCE INPUT E/M RESULTS

ANOMALY No	ANOMALY RATING	
A 1	ANOMALY RATING	↓
		BEDROCK ANOMALY
		RESISTIVE
		CONDUCTIVE

GEOTERREX LIMITED
 JOB No. 83-295 FLT No. 1
 AREA: EIGHTH AVE. SK.
 LINE No. 344W DATE: 18-5-77
 MAGN. OVER 150.0 FT/1000 FT

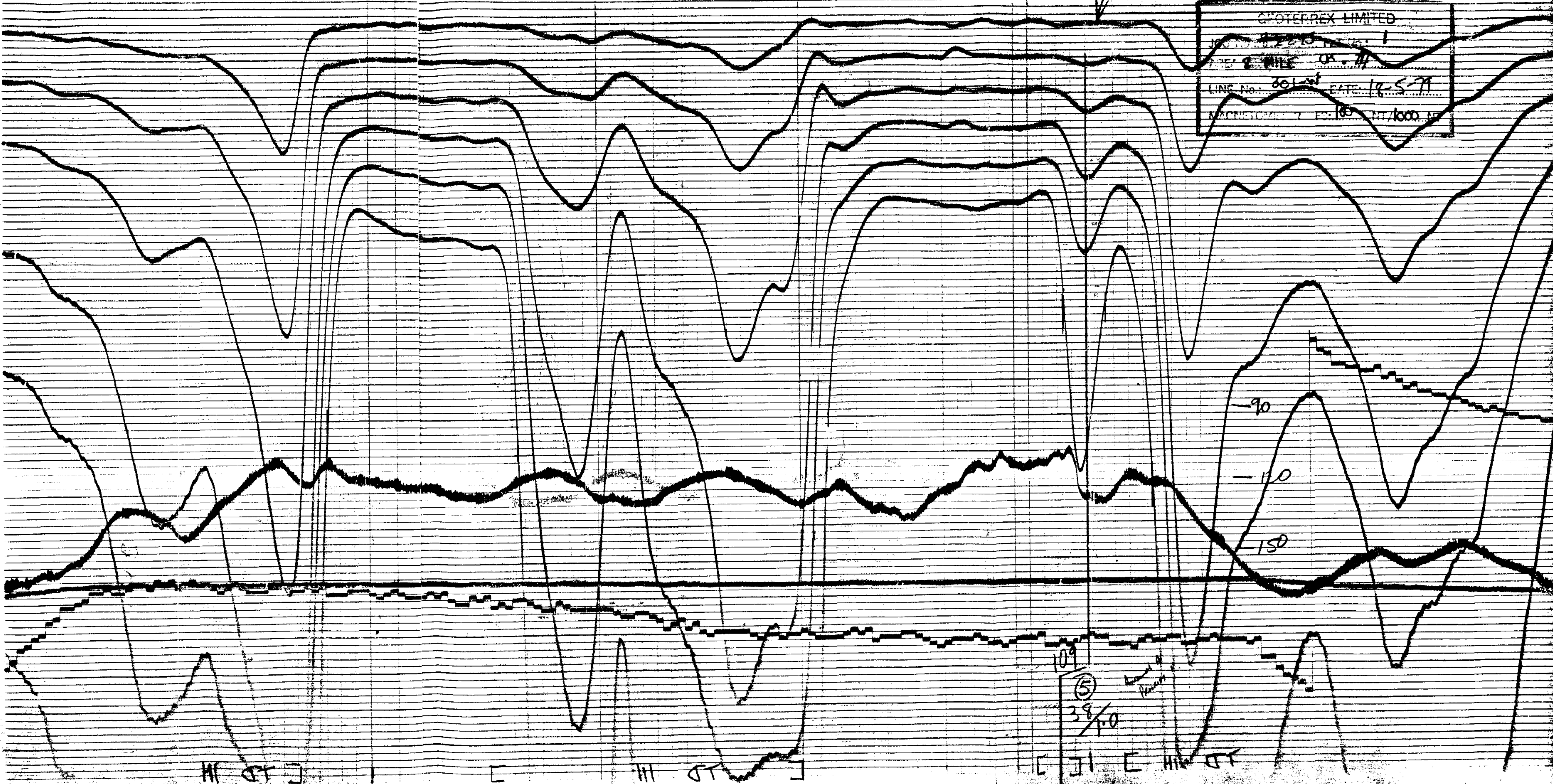


GEOTERREX LIMITED
 JOB NO. 82815
 AREA 2 MILE OR. 71
 LINE NO. 301 DATE 12-5-71
 MAGNETOMETER 7 FS. 100 MT/1000 LB



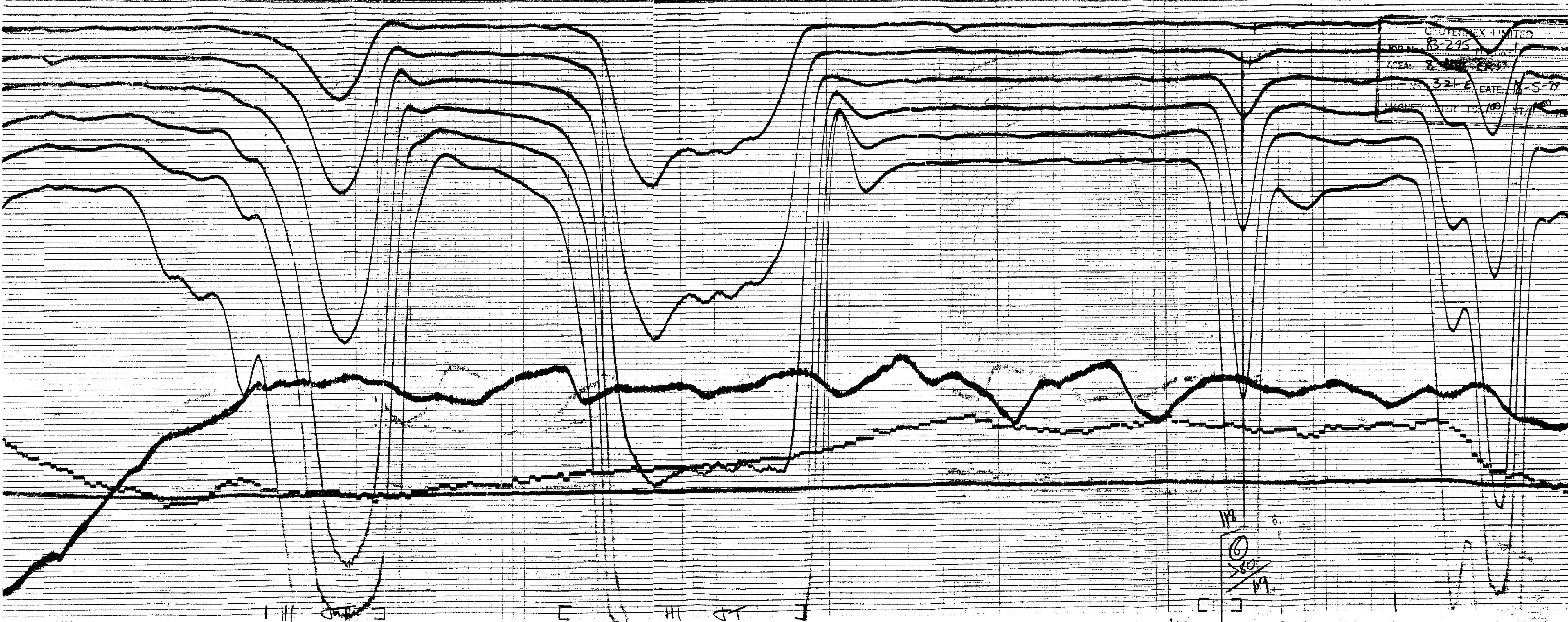
109
 ⑤
 38/1.0
 0.0

GEOTERREX LIMITED
 JOB NO. 82815
 AREA 2 MILE OR. 71
 LINE NO. 301 DATE 12-5-71
 MAGNETOMETER 7 FS. 100 MT/1000 LB



109
 ⑤
 38/1.0
 0.2

GUYANA EXPLORATION LIMITED
 JOB NO. 83-295
 AREA: 8
 LINE NO. 321-E DATE: 11-5-77
 MAGNETOMETER: ES-100 NT/100



118
 180
 119