

ST JOE BONAPARTE PTY. LTD.  
AQUITAINE - MIMETS - ST JOE JOINT VENTURE  
E.L. 2528, GRASS PLAINS, N.T.  
FINAL REPORT

**OPEN FILE**

Distribution

St Joe Bonaparte - Files (2)    Mimets (2)  
Kununurra (1)                    AAM John Lee (2)  
                                      AAM Ole Borch  
                                      SJB 82-12

DME LIBRARY

21 FEB 1996

SCANNED

Compiled by R.H. Ingebritsen

Date: September, 1982

CR82/309

CONTENTS

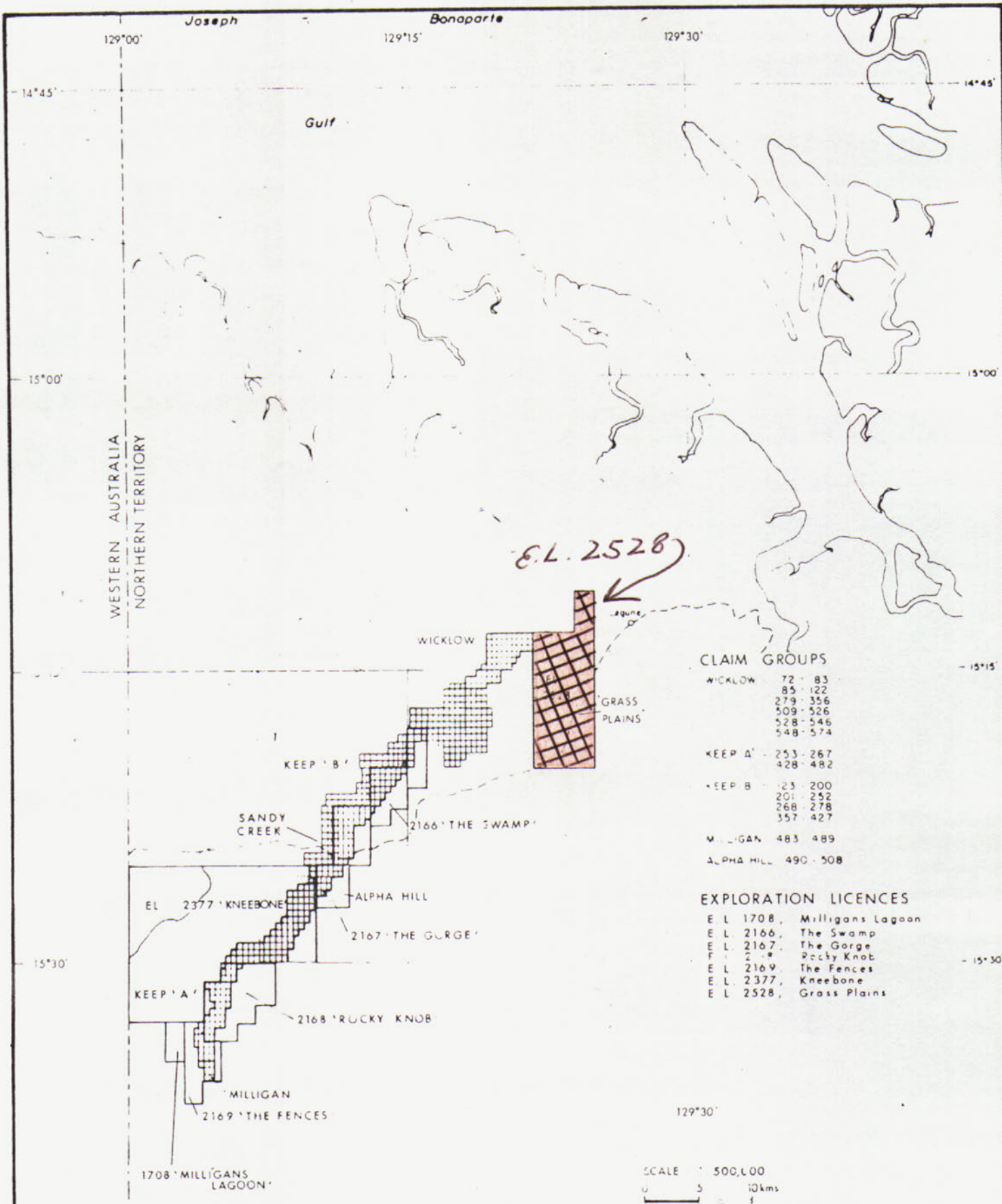
- 1.0 INTRODUCTION
- 2.0 LOCATION AND ACCESS
- 3.0 PREVIOUS EXPLORATION
- 4.0 EXPLORATION ACTIVITY 1980-81
- 5.0 SUMMARY AND CONCLUSIONS
- 6.0 EXPENDITURE

Appendix 1 Descriptive Drill Logs

NBG 4001  
NBG 4002  
NBG 4003

Composite Log NBG 4002

Appendix 2 Report on Ground Magnetic Surveys  
by Systems Exploration Corp. Pty. Ltd.



**CLAIM GROUPS**

WICKLOW	72 - 83
	85 - 122
	279 - 356
	509 - 526
	528 - 546
	548 - 574
KEEP A'	253 - 267
	428 - 482
KEEP B	123 - 200
	201 - 252
	268 - 278
	357 - 427
MILLIGAN	483 - 489
ALPHA HILL	490 - 508

**EXPLORATION LICENCES**

E L 1708	Milligans Lagoon
E L 2166	The Swamp
E L 2167	The Gorge
E L 2169	Rocky Knob
E L 2169	The Fences
E L 2377	Kneebone
E L 2528	Grass Plains

*Aquitaine Australia Minerals Pty. Ltd.*  
*Mimets Exploration Pty. Ltd -*  
*St Joe Bonaparte Pty Ltd*

**BONAPARTE GULF BASIN**  
**NORTHERN TERRITORY TENEMENTS**



## 1.0 INTRODUCTION

Exploration Licence 2528 was granted to Aquitaine Australia Minerals Pty. Limited on 10th September, 1980 for a term of one year. Renewal for a further 12 month term without reduction in area was subsequently granted.

The title is held in joint venture with Mimets Exploration Pty. Limited and St Joe Bonaparte Pty. Ltd. St Joe became a participant in the Bonaparte Gulf Basin Joint Venture during 1981, assuming the role of operator as of January 1, 1982. E.L. 2528 has been surrendered as of 10th August, 1982.

## 2.0 Location and Access

The licence is located on Legune Station within the Northern Territory, flanking the north eastern margin of the Bonaparte Gulf Basin, as shown in Figure 1. Good access into the area is via the main Kununurra-Legune road and subsidiary station tracks and seismic lines.

Topographically, the area is of low elevation (5 - 15m) dominated by grass plains which are subject to fresh water flooding. Isolated hills particularly in the southern part of the licence, attain elevations in excess of 100 metres.

## 3.0 Previous Exploration

The area of the licence was covered by airborne magnetics as part of a basin-wide survey completed in 1974. Apart from regional geological investigations, no previous detailed work has been undertaken by the Joint Venture.

## 4.0 Exploration Activity 1980-81

Exploration within E.L. 2528 has been directed to investigate the source of several apparently shallow low order airborne magnetic anomalies and their potential kimberlitic affinity. Following the location of the three anomalies ('A', 'B' and 'C') on the ground,

gridding was initially established on a 100 metre x 20 metre grid incurring a cumulative 28 line kilometre.

Geophysical interpretation of the anomalies was undertaken by Systems Exploration Corp. Pty. Limited, comprising model studies and recommendations for follow-up. A comprehensive report (see Appendix 2) including all data collation is appended to this report.

Following the geophysical interpretation, drill holes were sited to test anomalies 'A' and 'B'. Basic volcanics associated with Antrim Plateau Volcanics were penetrated at anomaly 'B' in rotary percussion hole NBH 4002. A descriptive drill log and composite litholog are presented in Appendix 1. Two attempts were made to penetrate thick overburden sands and weathered sandstone bedrock to test anomaly 'A'. Holes NBG 4001 and NBG 4003 were subsequently terminated at depths of 52 metres and 27 metres respectively. Reverse circulation drilling will be required for any future drilling in the area.

#### 5.0 Summary and Conclusions

Three magnetic anomalies were defined by ground follow-up of airborne responses, leading to the programmed drilling to test anomalies 'A' and 'B'. Attempts to drill the best target, anomaly 'A', subsequently failed without penetrating a deep overburden section. Drilling at anomaly 'B' penetrated Cambrian Antrim Plateau Volcanics which adequately account for the anomaly. It could be reasonably assumed that anomaly 'A' has a similar source, being associated with the same structure and stratigraphic situation. A more extensive distribution of anomalies of a similar but more intense character are known to exist coincident with volcanics only 2-3 km north-east of anomaly 'A'. Results do not indicate significant potential for kimberlitic targets in the area under investigation. No further work is recommended in the area.



APPENDIX 1

Descriptive Drill Logs

NBG 4001

NBG 4002

NBG 4003

Composite Log NBG 4002



## DRILLING LOG

hole no. NBG 4001	location 8320700N 0543250E	drillers TRANS DRILL - INVESTIGATOR
permit E.L. 2528 GRASS PLAINS	azimuth -	duration 14.08.81-15.08.81 (V)
state NORTHERN TERRITORY	declination VERTICAL	logged by M. ROWLEY

depth	description	Pb %	Zn %	Ag gr/T
0 - 52 m	Undifferentiated fine sands. Hole abandoned at 52 metres following both air and rotary mud procedures had failed.			





hole no. NBG 4002	location 8316900N 0542650E	drillers TRANSDRILL-INVESTIGATOR
permit E.L. 2528 'GRASS PLAINS'	azimuth -	duration 11.08.81 - 13.08.81
state NORTHERN TERRITORY	declination VERTICAL	logged by M. ROWLEY

depth	description	Pb %	Zn %	Ag gr/T
0 - 2 m	Grey, argillaceous, 'black soil'.			
2 - 4 m	Light brown, sandy clay, minor 'black soil'.			
4 - 7 m	Grey and light brown sandy clay.			
7 - 9 m	Reddish brown sandy clay.			
9 - 11 m	Brown sandy clay. Some slightly magnetic grains detected - unidentified.			
11 - 13 m	Reddish brown sandy clay. Occasional fragment of weathered purplish-brown slightly porphyritic (feldspar) basic volcanic (? basalt).			
13 - 15 m	Reddish brown sandy clay.  Base of overburden ANTRIM PLATEAU VOLCANICS - 61a			
15 - 17 m	Weathered to fresh, dark brown basaltic volcanic and brown clay. No magnetism detected.			
17 - 19 m	Partly weathered dark brown to black basaltic volcanic.			
19 - 21 m	As for 17 - 19 m. Basalt becoming fresher.			
21 - 23 m	Dark brown to black partially weathered basalt. Very fine grained, even textured and non porphyritic.			
23 - 25 m	As for 21 - 23 m. Some basaltic fragments show strong magnetism apparently due to magnetite associated with mafic phenocrysts.			
25 - 27 m	Dark brown to black basaltic volcanic - weakly to strongly magnetic.			
27 - 29 m	As for 25 - 27 metres.			
29 - 31 m	Very fine grained, even textured, non porphyritic basaltic volcanic - strongly magnetic.			
31 - 33 m	As for 29 - 31 metres.			
33 - 35 m	As for 29 - 31 metres.			
35 - 37 m	As for 29 - 31 metres.			
37 - 39 m	As for 29 - 31 metres.			



hole no. NBG 4002	location 8316900N 0542650E	drillers TRANSDRILL-INVESTIGATOR
permit E.L. 2528 'GRASS PLAINS'	azimuth -	duration 11.10.81 - 13.10.81
state NORTHERN TERRITORY	declination VERTICAL	logged by M. ROWLEY

depth	description	Pb %	Zn %	Ag gr/T
39 - 41 m	Weathered, pinkish-brown, sparsely porphyritic volcanic. Green chlorite alteration common.			
41 - 43 m	Weathered, light pinkish-brown, sparsely porphyritic volcanic and fresh black non porphyritic basaltic volcanic. The latter rock is strongly magnetic.			
43 - 45 m	Purplish brown, (?) altered, sparsely porphyritic (altered feldspar) volcanic. Abundant secondary chlorite and epidote. Non magnetic.			
45 - 47 m	As for 43 - 45 metres. Variably altered.			
47 - 49 m	Strongly to weakly altered (?) basic volcanic. Generally reddish brown to purplish in colour, sparsely porphyritic (altered feldspar and mafic mineral). Abundant secondary chlorite and epidote.			
49 - 51 m	Green to purplish altered volcanic with well preserved (?) ophitic microtexture. Strongly chloritised especially feldspars. Unidentified orange mineral appears to have replaced mafics.			
51 - 53 m	As for 49 - 51 metres.			
53 - 55 m	As for 49 - 51 metres.			
55 - 57 m	As for 49 - 51 metres.			
57 - 59 m	Green to purplish, very fine grained altered volcanic. Strongly chloritised and argillised. An unidentified microcrystalline silvery grey, metallic, non magnetic octahedral mineral occurs disseminated throughout this rock.			
59 - 61 m	Pink to purplish weathered to altered occasionally porphyritic volcanic.			
61 - 63 m	Sample mostly fine powder with few chips of reddish to purple strongly altered volcanic. Epidote common in the volcanics.			
63 - 65 m	Similar to interval 61 - 63 metres. Some fresher pink to purplish chloritised volcanic fragments.			
	PRECAMBRIAN - P6			
65 - 67 m	Mostly pinkish brown, very fine grained quartzite with minor altered volcanic fragments.			



hole no. NBG 4002	location 8316900N 0542650E	drillers TRANSDRILL-INVESTIGATOR
permit E.L. 2528 'GRASS PLAINS'	azimuth -	duration 11.10.81 - 13.10.81
state NORTHERN TERRITORY	declination VERTICAL	logged by M. ROWLEY

depth	description	Pb %	Zn %	Ag gr/T
67 - 69 m	Sample mostly clay with small fragments of very fine grained brown quartzite.			
69 - 71 m	Same as for 67 - 69 metres.			
71 - 73 m	Pinkish brown micaceous quartz siltstone with well developed platy cleavage.			
73 - 75 m	Same as 71 - 73 metres.			
75 - 77 m	Same as 71 - 73 metres.			
77 - 79 m	Same as 71 - 73 metres.			
79 - 81 m	Pinkish brown, micaceous, quartz siltstone and pink to grey, very fine grained quartzite.			
81 - 83 m	Pinkish grey, very fine grained quartzite. Well developed close spaced (2 - 5 mm) cleavage.			
83 - 85 m	Pink to grey, fine grained quartzite as for 81 - 83 metres.			
85 - 87 m	Same as 83 - 85 metres.			
87 - 89 m	Same as 83 - 85 metres. Some white mica along cleavage planes.			
89 - 91 m	Pink to grey, very fine grained quartzite.			
91 - 93 m	Well cleaved, very fine grained, pinkish brown quartzite.			
93 - 95 m	Pinkish brown, very fine grained quartzite and brown micaceous (?) mudstone.			
95 - 97 m	Pink to brown, more argillaceous, micaceous, very fine grained, quartzitic sandstone-siltstone.			
97 - 99 m	Very fine grained, pinkish grey, micaceous quartzitic siltstone. Well developed, close spaced, parting cleavage.			
	<u>END OF HOLE</u>			



## DRILLING LOG

hole no. NBG 4003	location 8320700N 0543250E	drillers TRANS DRILL - INVESTIGATOR
permit E.L. 2528 GRASS PLAINS	azimuth -	duration 16.08.81 - 25.08.81 (V)
state NORTHERN TERRITORY	declination VERTICAL	logged by

depth	description	Pb %	Zn %	Ag gr/T
0 - 27 m	Undifferentiated fine sands. Hole abandoned at 27 metres following continued problems in penetrating the overburden.			

CR82/309

AAM - MIMETS - ST JOE

BONAPARTE GULF BASIN N Y  
GRASS PLAINS  
NBG 4002

National Grid 8316900 W  
0542650 S  
CG ORIGINATED Aquascope Grid

Final depth 100 m  
Log speed 2.5 m/min  
Page 1 of 1

Azimuth -  
Declination Vertical  
Elevation -  
Date Completed 11.10.81 to 13.10.81  
Logged by M. Rowley  
Core Interval -

Depth (m)	Gamma Ray Log	Lithology	Description	Pb %		Zn %	
				0.5	1.5	0.5	1.5
0 - 15		OVERBURDEN	Reddish brown to brown, sandy clays.				
15 - 65		ANTRIM PLATEAU VOLCANICS - CIA	Dark brown to black, very fine grained, non porphyritic basaltic volcanic. Weak to strongly magnetic.  Strongly to weakly altered, pinkish brown to green or purplish volcanic. Chlorite, epidote and clay alteration common.				
65 - 100		PRECAMBRIAN	Pinkish brown, very fine grained quartzite.  Very fine grained, pinkish grey, micaceous quartzitic siltstone with minor interbedded brown, micaceous mudstone and pink to grey, fine grained quartzite.				

End of Hole 100 m

APPENDIX 2

Report on Ground Magnetism Surveys  
by Systems Exploration Corp. Pty. Ltd.

REPORT ON GROUND MAGNETIC SURVEYS  
FLAPPER HILL AND GRASS PLAINS AREAS  
ANOMALIES A, B & C  
NORTHWEST AUVERGNE 1:250,000 SHEET, N.T.  
for  
AQUITAINE AUSTRALIA MINERALS PTY. LTD.

Submitted by  
Systems Exploration Corporation Pty. Ltd.  
P.O. Box 58, Hunters Hill NSW 2110

A.T. Emerson B.Sc.  
Manager, August 1981.

The information in this report was prepared by:  
D.W. Emerson B.E., M.Sc., PL.D., M.Aus.I.M.M., Hon. M.A.S.E.G.  
from data supplied by Aquitaine Australia Minerals Pty. Ltd.

## CONTENTS

1. INTRODUCTION
2. GEOLOGY
3. AEROMAGNETIC DATA
4. GROUND MAGNETIC DATA
5. INTERPRETATION
6. CONCLUDING REMARKS



## PLATES

- PLATE 1 : Geological Map - Regional 1:50,000
- PLATE 2 : Geological Map - Detailed 1:10,000  
Showing Exploration Grids
- PLATE 3 : Aeromagnetic Contours of Total  
Magnetic intensity 1:50,000
- PLATE 4 : Anomaly A Ground Magnetic Data -  
Contours of Total Magnetic Intensity  
1:5,000
- PLATE 5 : Magnetic Profiles Anomaly A
- PLATE 6 : Anomaly B Ground Magnetic Data -  
Contours of Total Magnetic Intensity  
1:5,000
- PLATE 7 : Anomaly C Ground Magnetic Data -  
Contours of Total Magnetic Intensity  
1:5,000

## 1. INTRODUCTION

At the request of Aquitaine Australia Minerals Pty. Ltd., aeromagnetic and ground magnetic data were studied from an area in the Northern Territory thought to be prospective, possibly, for kimberlitic intrusions. The area is in the Bonaparte Gulf Basin on the northwest part of the Auvergne 1:250,000 sheet at long. 129°25'E, lat. 15°11'5", approximately, where the earth's magnetic field elements are 48 500 gammas (nT, SI), - 45°, 3.5°E (magnitude, inclination and declination). Refer to Figure 1.

Regional B.M.R. geophysical data show this area to be rather featureless magnetically but with a strong gravity gradient probably associated with basinal features.

Little information is available on the magnetic characteristics of kimberlites in Australia or elsewhere. However, a relatively high susceptibility could be expected in a sedimentary environment. Contrasts of the order of several hundred  $\times 10^{-6}$  cgs, or even more, would not be unusual. Recognition of kimberlites by magnetics would be affected by the degree of weathering, alteration and serpentinization in the immediate sub-surface, and by the occurrence of igneous rocks nearby. Remanence (NRM) appears to be of likely significance in the anomaly generated by any kimberlites because plug/stock/dyke-like bodies commonly have strong remanence which may complicate, enhance or attenuate the magnetic anomaly. Interpretation of magnetic data for these purposes in the absence of auxiliary geophysical, physical property, petrological and drilling data is a very difficult task.

## 2. GEOLOGY

The geological setting is given in Plates 1 and 2 where the mapped Palaeozoic basin sequence is shown to comprise largely dolomites and clastics at the Precambrian margin. These rocks and the Precambrian basement would not be expected to contain magnetic lithologies. However the Cambrian/Proterozoic Antrim Plateau Volcanics do have magnetic character; their complex magnetic signature can be seen in the central part of Plate 3. It is reasonable to suppose that any magnetic anomalies studied might be due to segments of the volcanics unless compelling evidence suggests otherwise. These volcanics (tholeiitic basalt and tuff) are known to carry remanence although data on the in-situ magnitude and direction are not readily available.

### 3. AEROMAGNETIC DATA

A sequence of anomalies A, B, C is shown in Plate 3. The sequence occurs along a magnetic linear feature which strikes into the complex of anomalies associated with Antrim Plateau Volcanics to the north. This magnetic linear coincides with an interpreted oblique slip basin fault shown on Plates 1 and 2.

The airborne anomalies were located in a semi detailed survey. An inspection of profiles reveals (not shown herein) anomaly magnitudes of the order of 10 gammas apparently located about 100 m west of the interpreted fault. The extent of the target anomalies and their ground follow-up locations are depicted on the plate. The ground location of anomaly C to the west of its airborne position suggests that the located anomaly might not be the one defined in the aeromagnetics.

#### 4. GROUND MAGNETIC DATA

About 600 stations were established at 20 metre intervals on grid lines at each location: A, B, C. Total magnetic intensity was measured at each station and a base station was re-occupied intermittently for diurnal control. Generally the accuracy of most of the stations is considered to be better than  $\pm 5$  gammas. However, capricious diurnal change lowered the precision of some segments to  $\pm 25$  gammas. Accordingly, detailed contouring of results was not attempted for this reason and also on account of the gaps in parts of the traverse coverage.

The results are presented in Plates 4, 5, 6 and 7 where clearly anomalous areas of differing character are apparent. Not all the data from area B have been presented in Plate 6 as sparse coverage from 7400N to 7900N along 2200E, 2400E, 2600E and 2800E showed only a suggestion of a minor elongate high along 2400E. This trend might be due to a mis-tie, but is probably valid as the magnetic linear appears to have a fluctuating anomaly all along its length.

## 5. INTERPRETATION

In the interpretation of the magnetic data, comparative use was made of three dimensional magnetic modelling computer programs based on USGS algorithms. The anomalies are not due to bodies of simple shape, and probably, especially in B and C, the magnetization is a resultant of induced and remanent components. Furthermore, the causative bodies probably contain narrow zones and discrete pods contributing to a composite anomaly. Nevertheless, it is considered that the magnetic interpretation can locate and roughly define the causative body outlines and permit an estimate of the source depth and susceptibility contrast. The interpretation cannot, in the time available, provide detailed geometry and depth extent information using magnetic data alone.

Anomaly A refer to Plates 4 and 5

The effect of two prismatic bodies is apparent in the contours. Their anomalies seem to interfere with each other. The northern anomaly is due to a narrow N - S body about 50 metres wide extending about 250 metres south from 1500N and centred along 3200E. Induction may dominate the magnetic response. Susceptibility contrast appears to be of the order of  $1000 \times 10^{-6}$  cgs. Depth to the body is about 80 metres. A test hole could be sited at 1400N, 3200E.

The southern anomaly is larger; it is oriented N - S and is thought to be due to a body about 150 metres wide and about 300 metres long centred along 3250E; the body may run from around 850N to 550N (?); the susceptibility contrast appears to be around  $1500 \times 10^{-6}$  cgs if most of the anomaly is due to induction and if the body lies at the estimated depth of about 100 metres. A test hole could be sited at 800N, 3250E.

Anomaly B refer to Plate 6

This is a complex anomaly that appears to be due to a body at shallower depth, probably about 40 metres, with a susceptibility contrast of about  $1500 \times 10^{-6}$  cgs. A remanent component may be significant in the body's magnetization. The body could be about 300 metres long and

60 metres wide striking N.E.-S.W. with the centre running along a line connecting 6950N/2700E to 6710N/2500E. A test hole could be sited at 6900N/2650E.

#### Comparison of A and B

Anomalies A and B appear to be associated with the interpreted fault. The anomalies appear to be due to discretely magnetized bodies or parts of larger longer bodies. The anomalies do not appear to be due to plug like sources but rather elongate sources containing about 0.5% magnetite (1% of titanomagnetite).

Anomaly A appears to match the extent of the anomalous area as indicated in the airborne survey (Plate 3) over three flight lines 500 metres apart. However, the ground definition of anomaly B might have missed the northernmost part on line 51, one km north of the ground investigation (around line 53?) and along the linear.

Anomaly B is of a different character to A : it has an intense negative part, covers a relatively small area, and strikes differently; whereas Anomaly A is due to what appears to be a substantial body or bodies. Remanence appears to be important in the signature of Anomaly B as indicated by the negative part of the anomaly suggesting a low effective magnetization inclination and/or small depth extent.

It is possible that downfaulted blocks of the volcanics could account for the anomalies along the fault, but the likely geometry of this is not clear. Also, B appears to be a shallow local pod.

#### Anomaly C

This is a dual complex anomaly of small areal extent caused by two small tabular bodies striking N.E.-S.W. The anomaly magnitudes,  $\pm 100$  gammas, the form, intense negative parts, and the trends are very similar in character to Anomaly B. The dual anomaly appears to be located in Precambrian basement rocks, with the causative bodies at shallow depths. The larger body, about 200 x 50 metres, is centred at 5600N/1700E; the smaller body is centred at 5760N/1650E.

### Comparison of Band C with A

Anomalies B and C are very much alike, presumably the causative lithologies are similar too. The location of C is away from the linear and fault, while B is situated near them, but B may not be the location of the aeromagnetic indication as previously remarked. Both B and C may be small outliers of volcanics on the Precambrian basement. Their size and possible rapid anomaly magnitude fall off with height militate against significant aeromagnetic response.

Anomaly A differs completely from B and C. It certainly registers on the aeromagnetics; it occurs at depth and may have considerable depth extent; it trends N - S, over a large distance, along the linear.



6. CONCLUDING REMARKS

The aeromagnetic survey indicated three zones of interest; the ground follow-up work might not have located one or possibly two of these.

The interpretation has shown similarities between two of the anomalies B and C, considered minor, and identified a substantial elongate trend comprising two possibly prismatic bodies at location A.

Whereas kimberlitic affinities may be in existence, it is not possible to ascribe a definite lithology to any of the anomaly sources on the basis of magnetic alone.

In this case magnetics has been useful in locating, defining but only partly in evaluating the anomalies. The interpretations may be further developed and refined by quantitative modelling if a limited drilling programme is carried out to provide depth, lithological and physical property information. It should be noted that auxiliary techniques such as gravity and electrical methods could provide valuable information to assist in a complete interpretation.

# BONAPARTE GULF BASIN

## North Eastern Sheet

### INTERPRETATIVE BEDROCK GEOLOGY

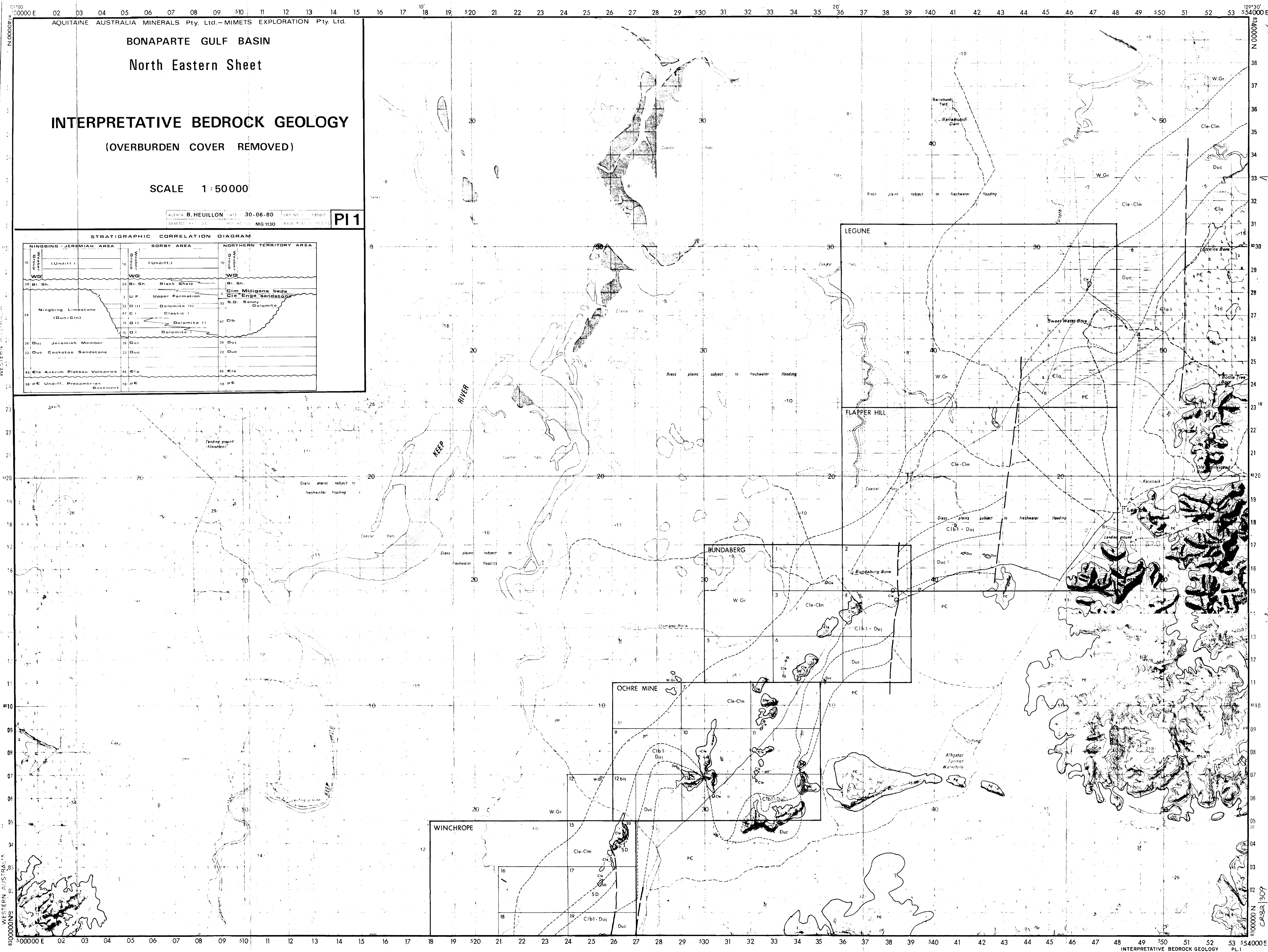
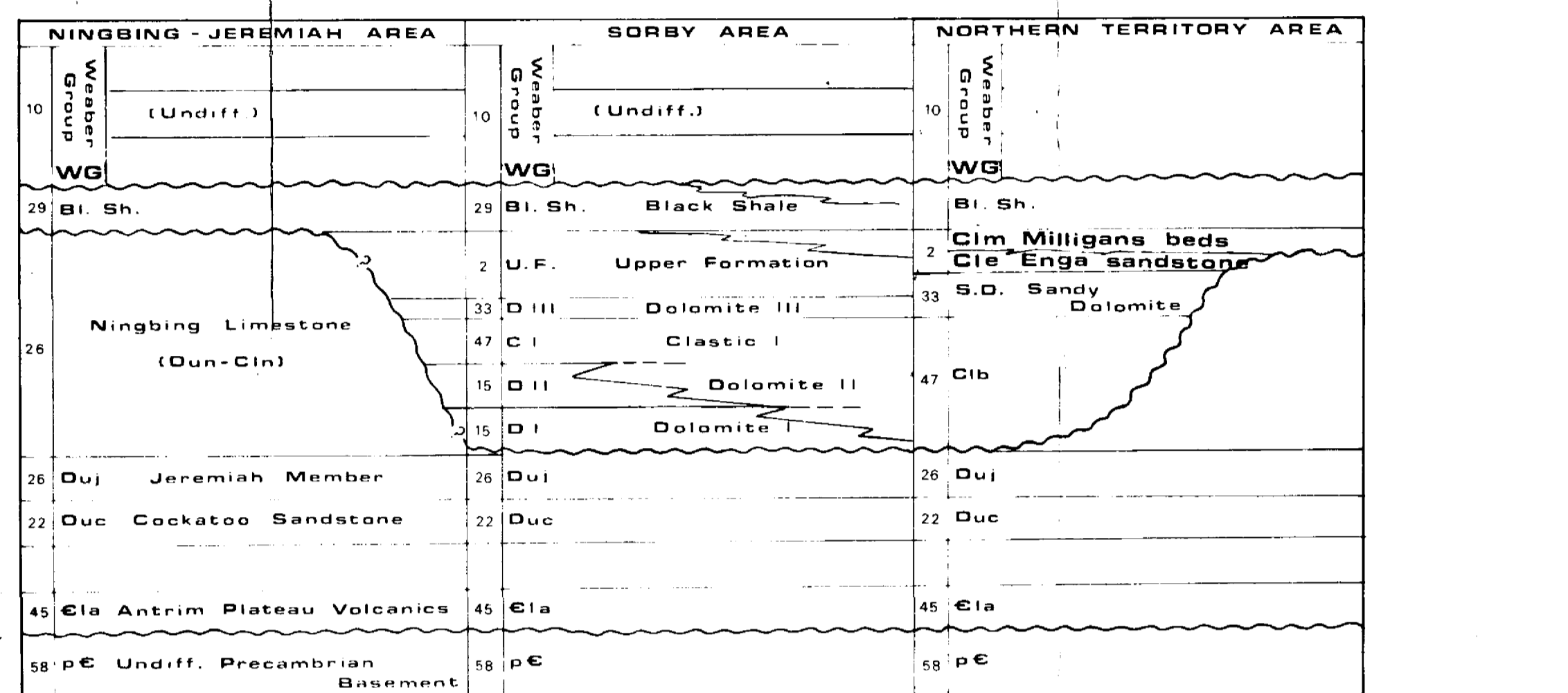
(OVERBURDEN COVER REMOVED)

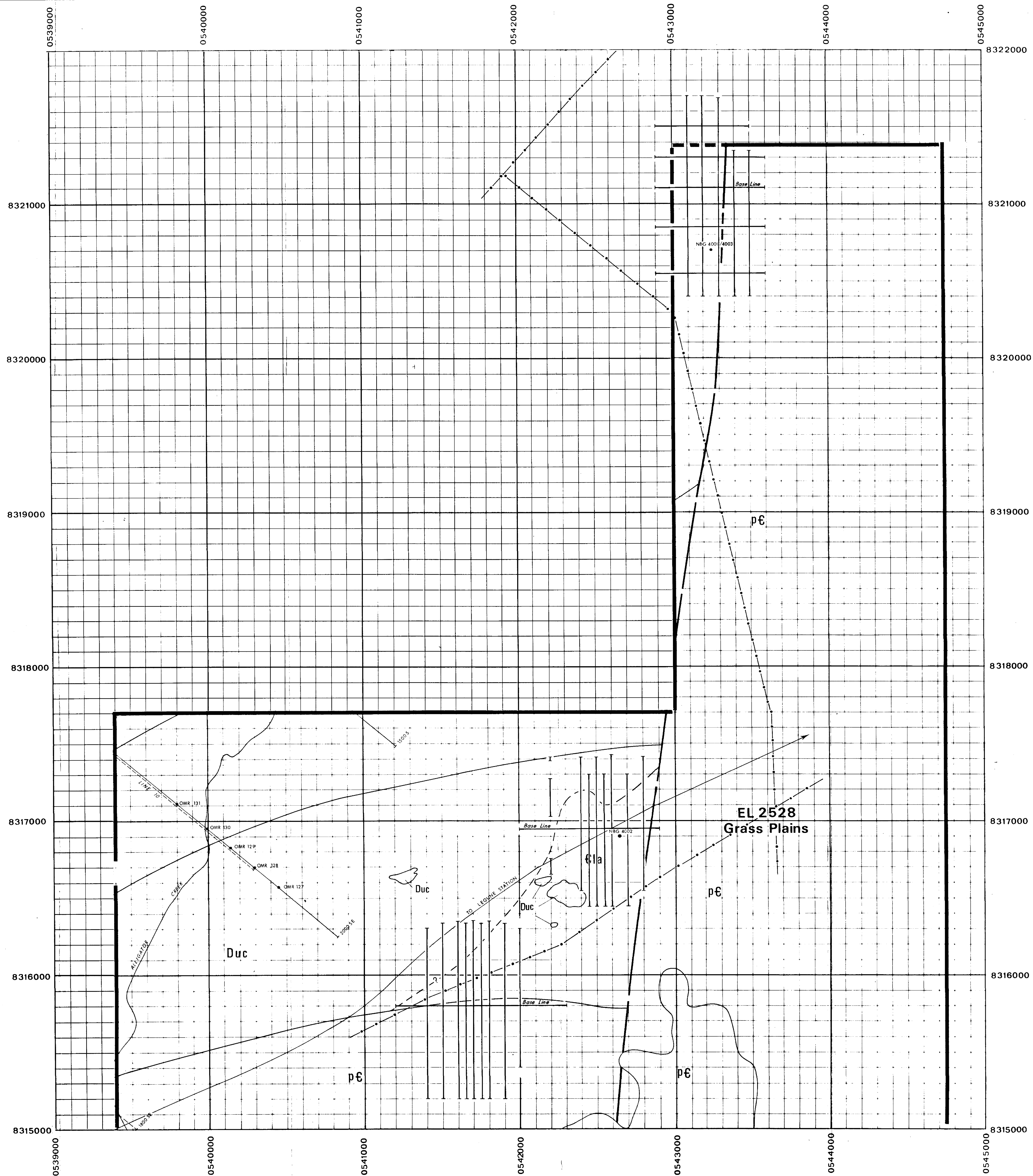
SCALE 1:50000

AUTHOR B. HEULLON DATE 30-06-80 BRG NO 18067  
DRAWN BY J.C. REVISED BY MG 1130 BASE MAP 1:50000

PI1

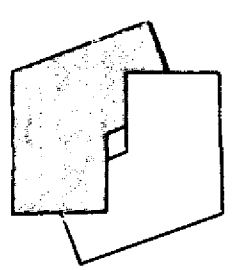
#### STRATIGRAPHIC CORRELATION DIAGRAM





**LEGEND**

- Ground magnetic profiles.....
- Fence line (approx).....

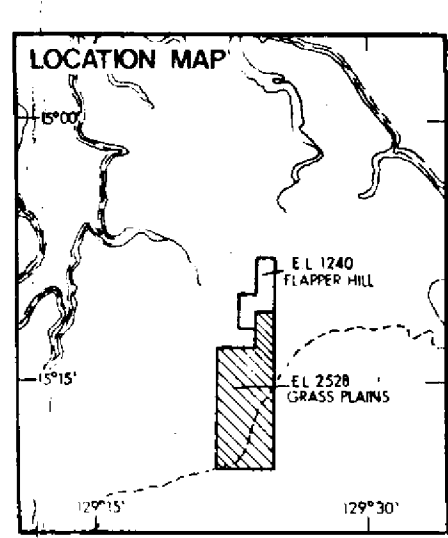


aquitaine australia  
minerals pty. ltd.  
mimets exploration pty. ltd.  
st. joe bonaparte pty. ltd.

**E.L. 2528 GRASS PLAINS  
NORTHERN TERRITORY**

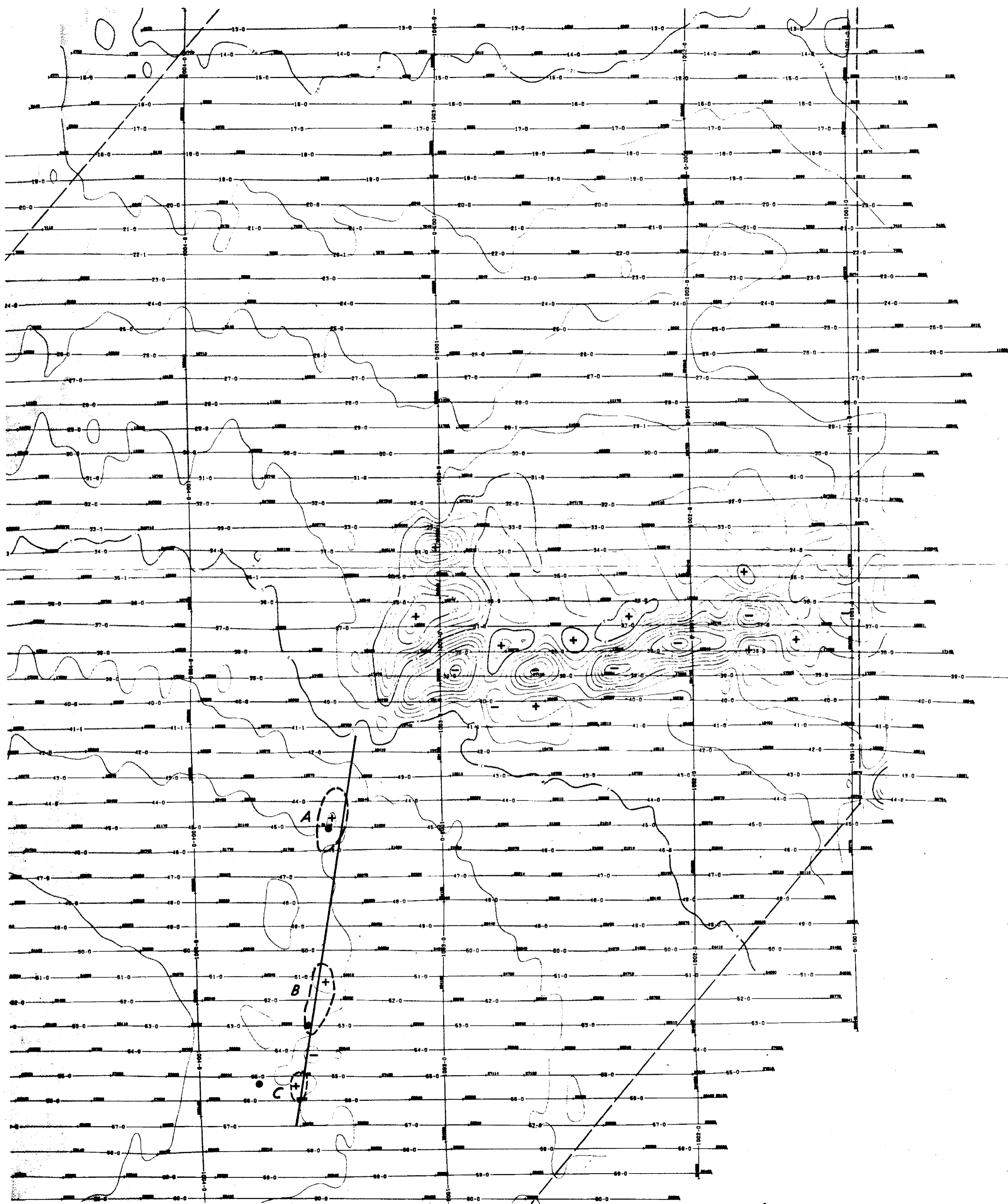
**Location Map  
Ground Magnetic  
Survey**

Scale 1:10,000



CR32/309

author:	J. LEE
drafted by:	J. H.
date:	OCTOBER 1981
report no:	MG 1130
base plan:	17338
drawing no:	19943
	PL.2



RESIDUAL MAGNETIC INTENSITY

BONAPARTE BASIN W.A. & N.T.

SHEET 7

AQUITAINE AUSTRALIAN MINERALS PTY. LTD.

APPROX SCALE 1:50000

CONTOUR INTERVAL 5.0 GAMMAS  
 SHADING ON LOW SIDE 2.5 GAMMAS  
 DATUM 1965 IGRF UPDATED TO 1974  
 FLIGHT LINE SPACING 500 METRES  
 FLIGHT ALTITUDE 100 METRES AMSL  
 FLOW AND COMPILED 1974  
 INSTRUMENT GEOMETRICS G-803 PROTON MAGNETOMETER



LEGEND

- magnetic high ..... +
- magnetic low ..... -
- linear feature ..... —
- identified anomalies from aeromagnetics ..... B
- located anomalies ..... ●

1	2	3
4	5	6
8	9	10
11	12	13
14	15	17

LOCATION INDEX

CR 22/309

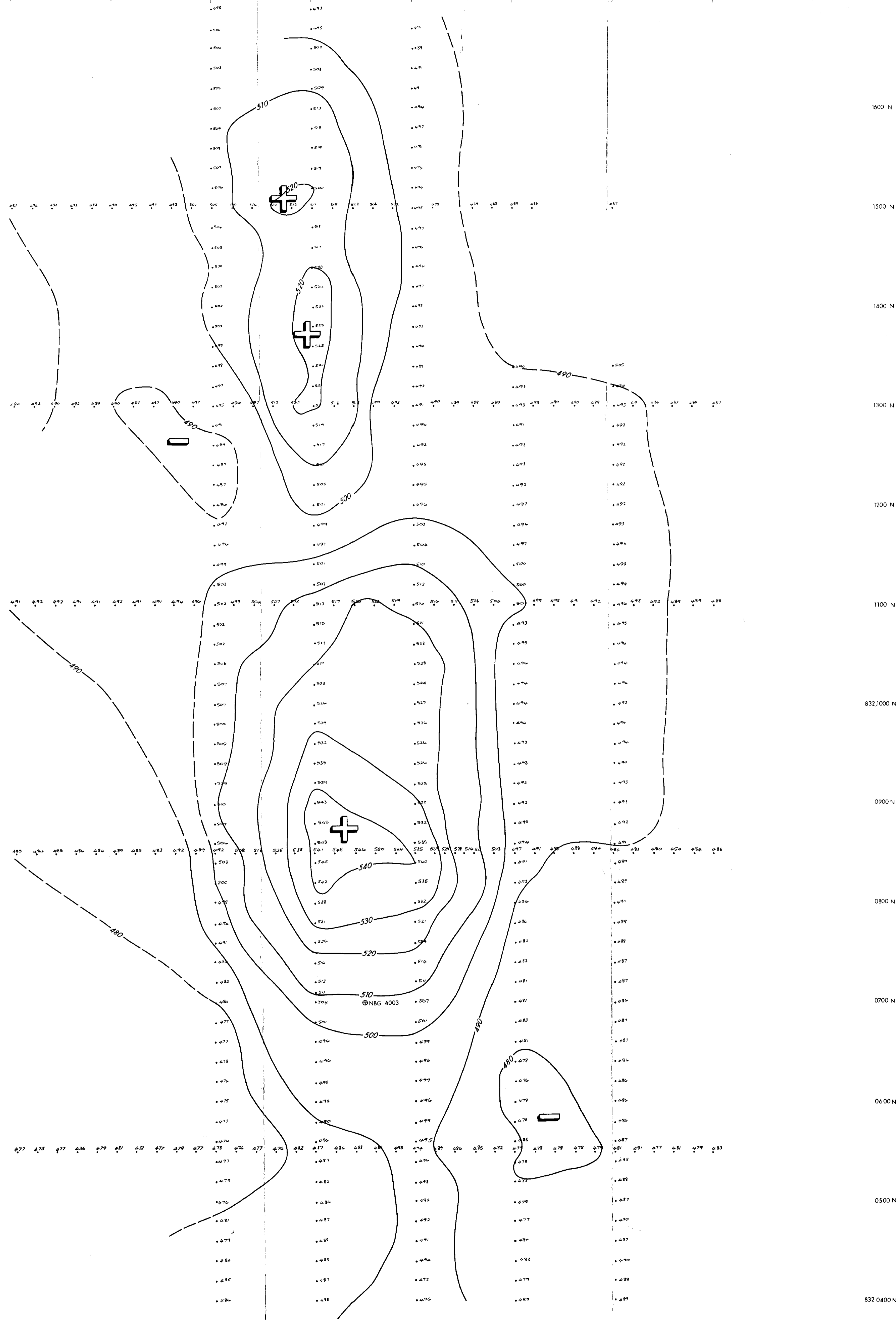


Aquitaine Australia Minerals Pty Ltd  
 Mimets Exploration Pty Ltd  
 St. Joe Bonaparte Pty Ltd

E.L. 2528 Grass Plains  
 Bonaparte Gulf Basin  
 NORTHERN TERRITORY

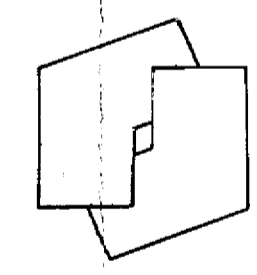
FOLLOW-UP AREAS  
**Aeromagnetic  
 Intensity Map**

To accompany report by  
 Systems Exploration Corporation Pty. Ltd.



1600 N  
1500 N  
1400 N  
1300 N  
1200 N  
1100 N  
832,000 N  
0900 N  
0800 N  
0700 N  
0600 N  
0500 N  
832,040 N

2800 E 054,2900 E 3000 E 3100 E 3200 E 3300 E 3400 E 3500 E 3600 E 054,3700 E

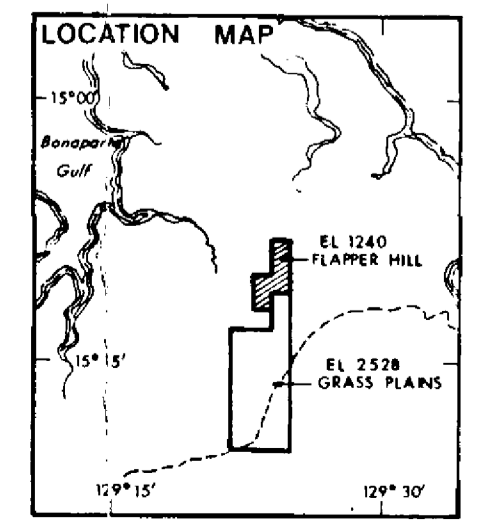
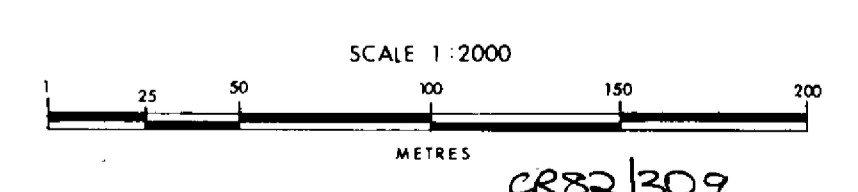


**aquitaine australia  
minerals pt. ltd.  
mimets exploration pt. ltd.  
st. joe bonaparte pt. ltd.**

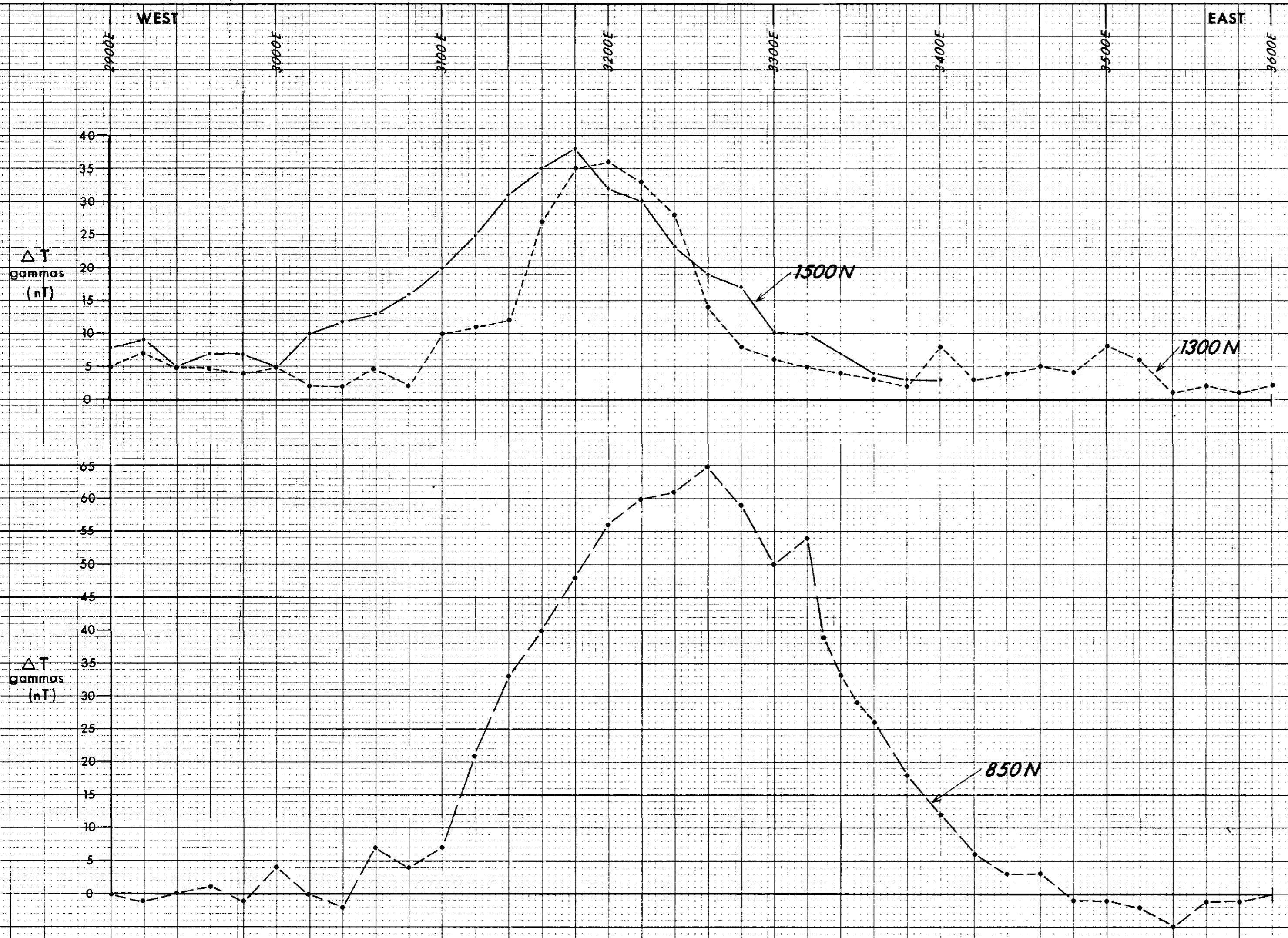
**ANOMALY 'A' : FLAPPER HILL  
NORTHERN TERRITORY  
E.L. 1240**

**Total magnetic intensity contours  
Ground survey August - 1981**

CONTOUR INTERVAL - 10 gammas (nT)



author :	SYSTEMS EXPLORATION CORP. PTY. LTD.
drafted by :	CAG
date :	OCTOBER 1981
report no. :	MG 1130
base plan :	
drawing no. :	19723



Aquitaine Australia Minerals Pty Ltd.  
 Mimets Exploration Pty Ltd.  
 St. Joe Bonaparte Pty Ltd

**E.L. 2528 Grass Plains**  
 Bonaparte Gulf Basin  
 NORTHERN TERRITORY

**FOLLOW-UP AREAS**

**Total Magnetic Intensity  
 Anomaly A Profiles**

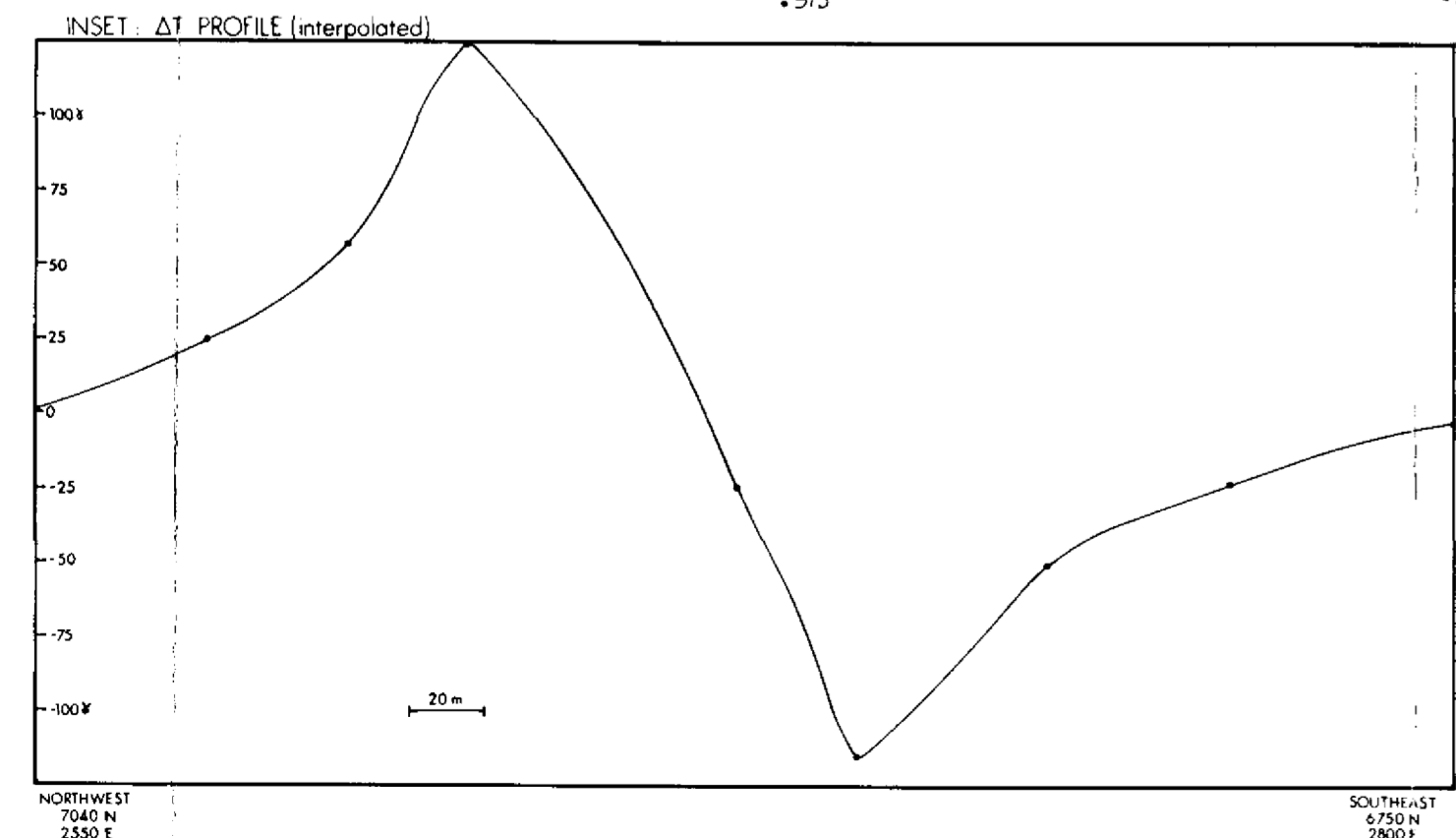
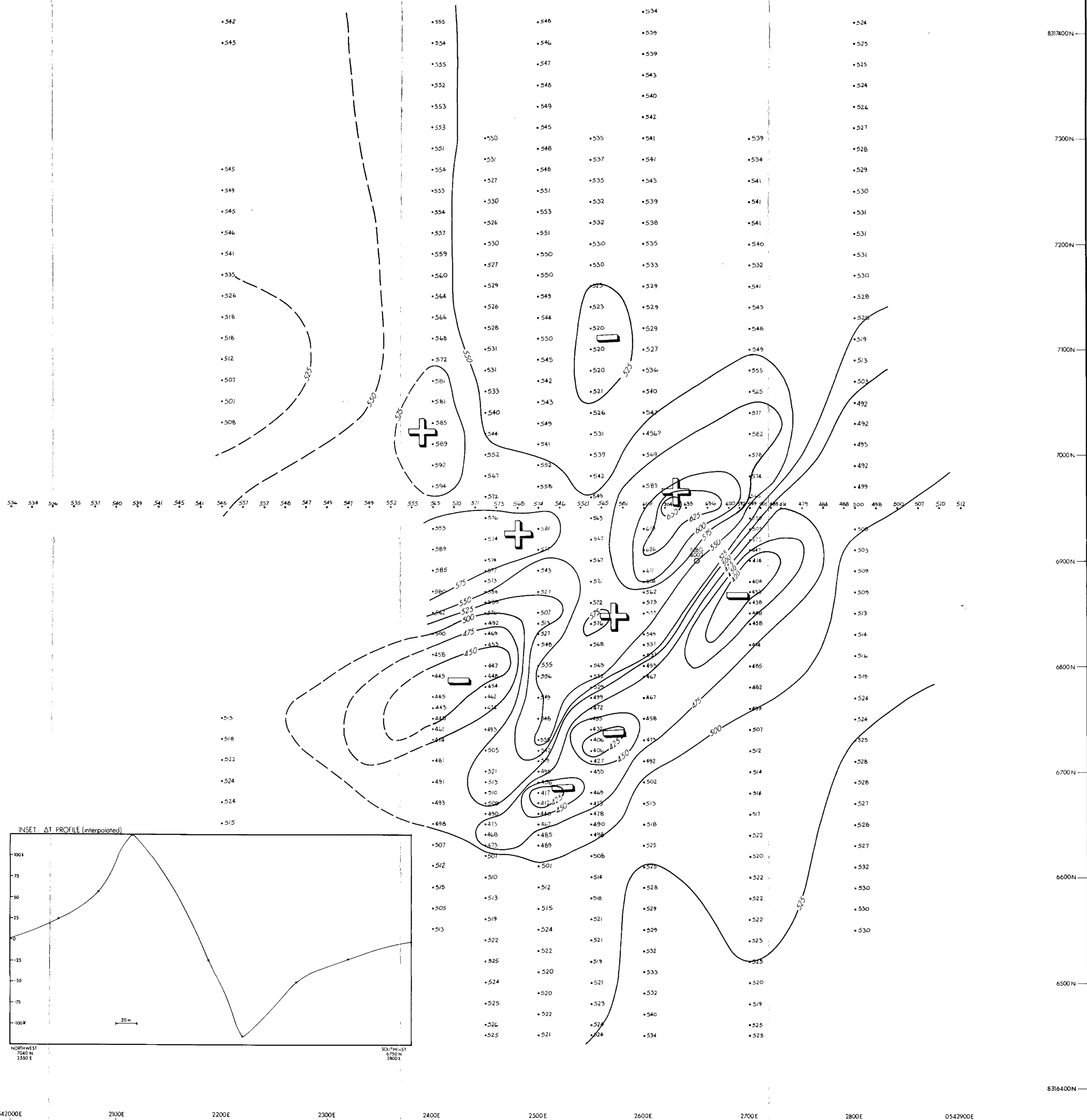
Ground Survey Data August 1981

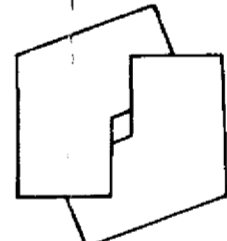
Scale 1:2000

To accompany report by  
 Systems Exploration Corporation Pty. Ltd.

CR82/309

Author:	Date: DECEMBER 1981	Dwg No: 19907	PL.5
Drafted by: J.HAJDUK	Report No.: MG 1130	Base Plan:	



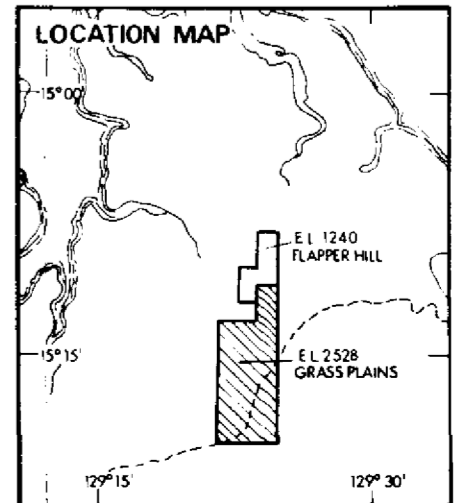
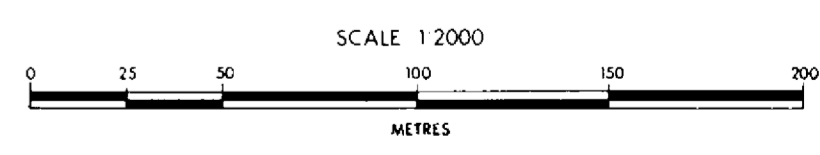

**aquitaine australia  
minerals pt. ltd.  
mimets exploration pt. ltd.  
st. joe bonaparte pt. ltd.**

**ANOMALY 'B': FLAPPER HILL  
NORTHERN TERRITORY**

**E.L. 1240**

**Total magnetic intensity contours  
Ground survey August - 1981**

**CONTOUR INTERVAL - 25 gammas (nT)**

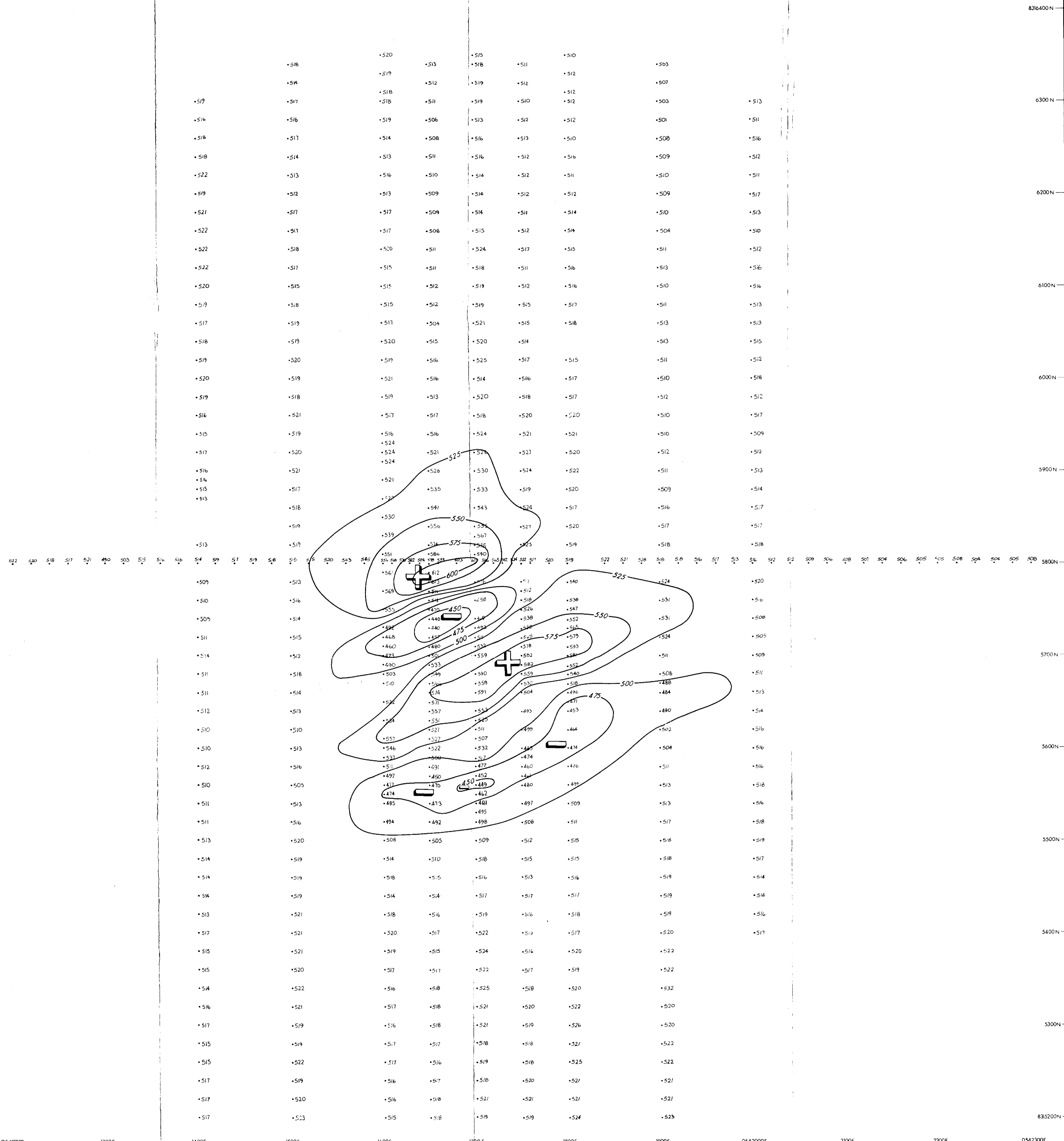


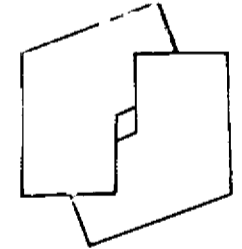
**CR82/309**

author:	SYSTEMS EXPLORATION CORP. PTY. LTD.
drafted by:	D.H.
date:	OCTOBER 1981
report no:	M.G. 1130
base plan:	
drawing no:	19724
	PL. 6

0542000E      2100E      2200E      2300E      2400E      2500E      2600E      2700E      2800E      0542900E

8317400N  
7300N  
7200N  
7100N  
7000N  
6900N  
6800N  
6700N  
6600N  
6500N  
8316400N



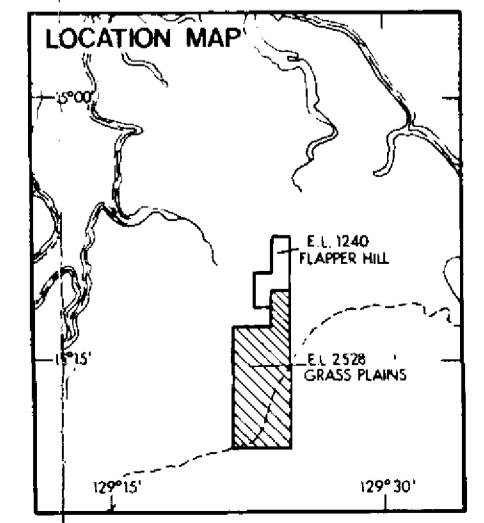
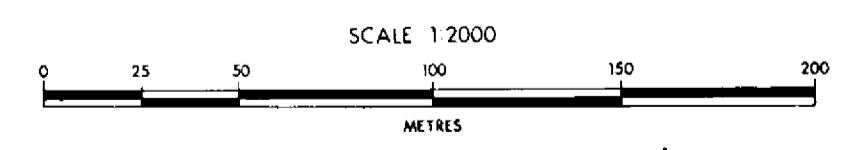

**aquitaine australia  
minerals pty. ltd.**  
**mimets exploration pty. ltd.**  
**st. joe bonaparte pty. ltd.**

**ANOMALY 'C': GRASS PLAINS  
NORTHERN TERRITORY**

**EL. 2528**

**Total magnetic intensity contours  
Ground magnetic survey August-1981**

CONTOUR INTERVAL - 25 gammas (nT)



**CR82/309**

author:	SYSTEMS EXPLORATION CORP. PTY. LTD.	
drafted by:	D. H.	
date:	OCTOBER 1981	
report no.:	M.G. 1130	
base plan:		
drawing no.:	19725	PL. 7