11. MAGELLAN 2 (EL 2367)

11.1 Introduction

The Magellan 2 prospect, ten kilometres south-east of the Dead Bullock Soak ore deposits, was confirmed by first pass follow up drilling in the 1990 field season as a low order gold anomaly. The lithologies of the district were previously regarded as part of the Madigan Beds metaturbidites and, as such, of slight economic interest. This season's field work indicated, however, that they were a strike continuity of Schist Hills lithologies (Davidson Beds) but perhaps of a lower metamorphic facies and with thinner beds of the iron-rich silicified units.

Intense lithologically directed drilling verified that one banded "chert" horizon is the source of the southern geochemical anomaly "corridor". The most prospective two and a half kilometres strike-length of this corridor was investigated, but it was determined that, in this sector, the unit does not harbour any near surface mineralisation.

11.2 Work Undertaken

Surveying

A 1600m x 2400m grid was established over the core area of the Magellan 2 prospect. The grid lines were spaced between 200 and 300 metres apart and positioned so they lay within 50 metres of previously tested traverses. Pegs were placed at 50 metre intervals.

Geophysics

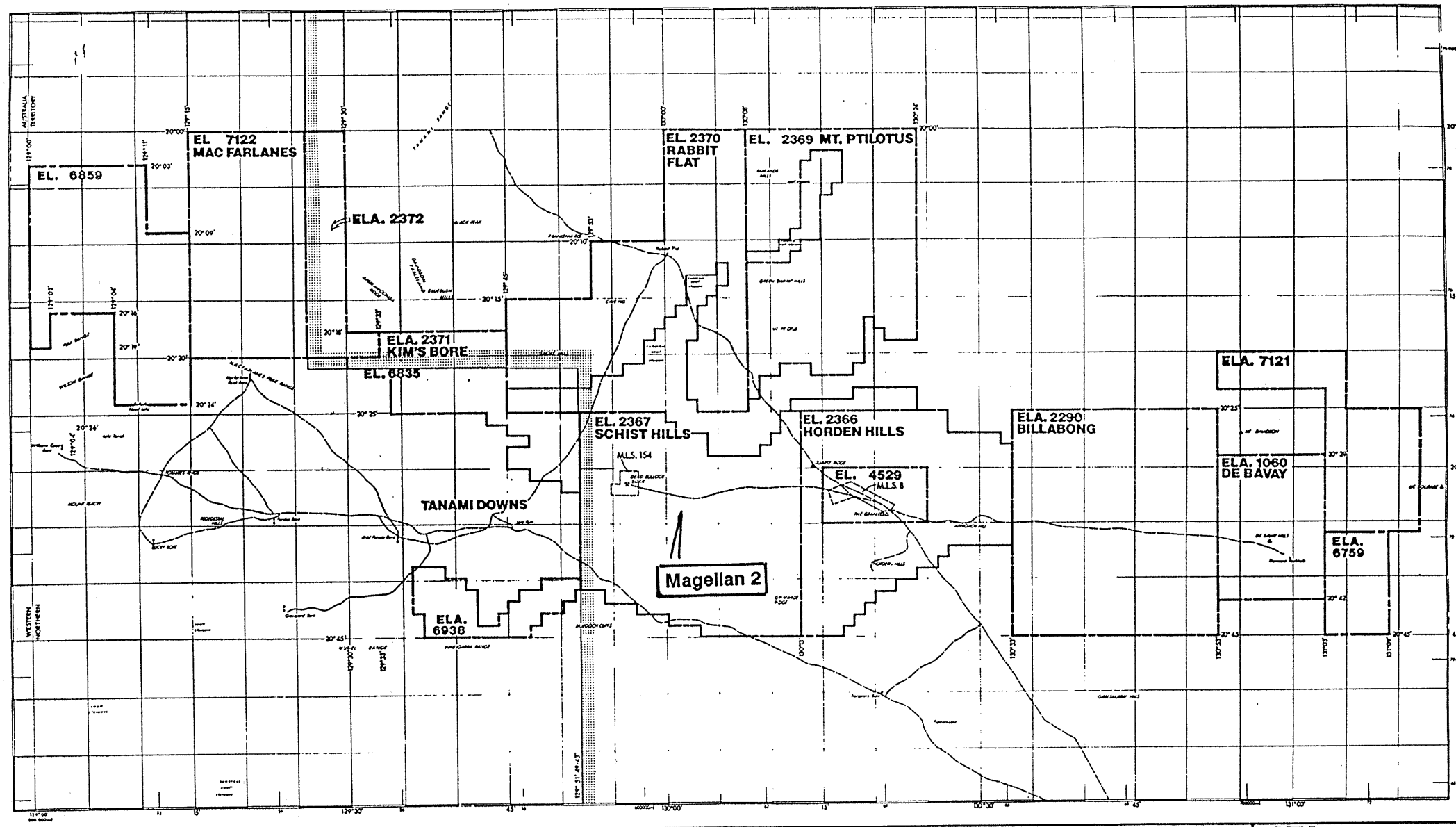
Ground Max-Min EM and magnetics were carried out over 11 traverses for a total of 19.9 line kilometres (see table over leaf). The program was designed to trace prospective lithologies under cover and provide targets for RAB drilling.

Geochemistry-Rockchip Sampling

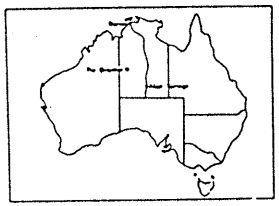
39 rock chip samples were collected. The bulk of the material was taken from outcrop of limonitic/manganiferous and quartz-rich lithologies.

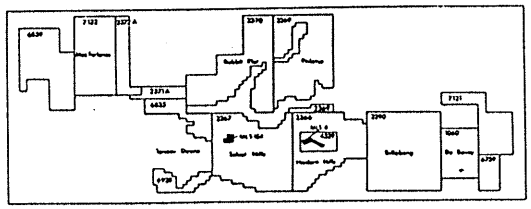
RAB Drilling

94 RAB holes were drilled on 8 traverses for a total of 1999 metres and 612 samples. The target lithology was an iron-rich quartz veined horizon at Hill MG3 and its strike extension.



LOCATION MAP





LEGEND

NORTH FLINDERS MINES LIMITED

Tanami Reconnaissance : Northern Territory

EL LAYOUT

1:250 000

KILOMETRES

DATA BY			AMENDED		
DRAWN	MARCH '91		C	4'91	CG

Drg. No. 20-1

A summary of work undertaken is shown below.

Traverse Local Grid	RAB No. of DH	Meterage	No. of Samples DH	CRC	HLEM & Magnetics line Km
28450E	ND	NA	NS	NS	1.1
28650	ND	NA	NS	NS	1.6
28950	6	81	25	8	1.5
29150	9	153	48	5	1.6
29350	12	231	73	2	1.6
29550	10	193	61	NS	1.8
29750	7	187	60	2	1.9
30000	8	202	67	4	2.0
30200	11	204	91	3	1.6
30450	27	503	106	2	1.6
30900	ND	NA	NS	NS	2.0
2KM NW	ND	NA	NS	13	NA
TOTAL 12	**94**	**1999**	**612**	**39**	**19.9**

11.3 Results

Geophysics

The strong Max-Min EM anomalies were interpreted as being caused by graphitic schists (or metapelites). Anomalies were correlated from line to line using the flow of stratigraphy defined by the magnetic data. They indicated a uniform sequence of graphitic schists, with the gold enriched horizon lying within one of these units.

Geochemistry - Rockchip Sampling

Selective sampling from limonitic/manganiferous quartz veined horizons resulted in assays with peak values of only 0.08ppm Au above a background of 0.015ppm Au.

Indicative of the poor gold potential of the chert horizon at this locality is the arsenic content, which is generally at or below the detection limit (10ppm), only registering a single anomalous peak of 430ppm.

RAB Drilling

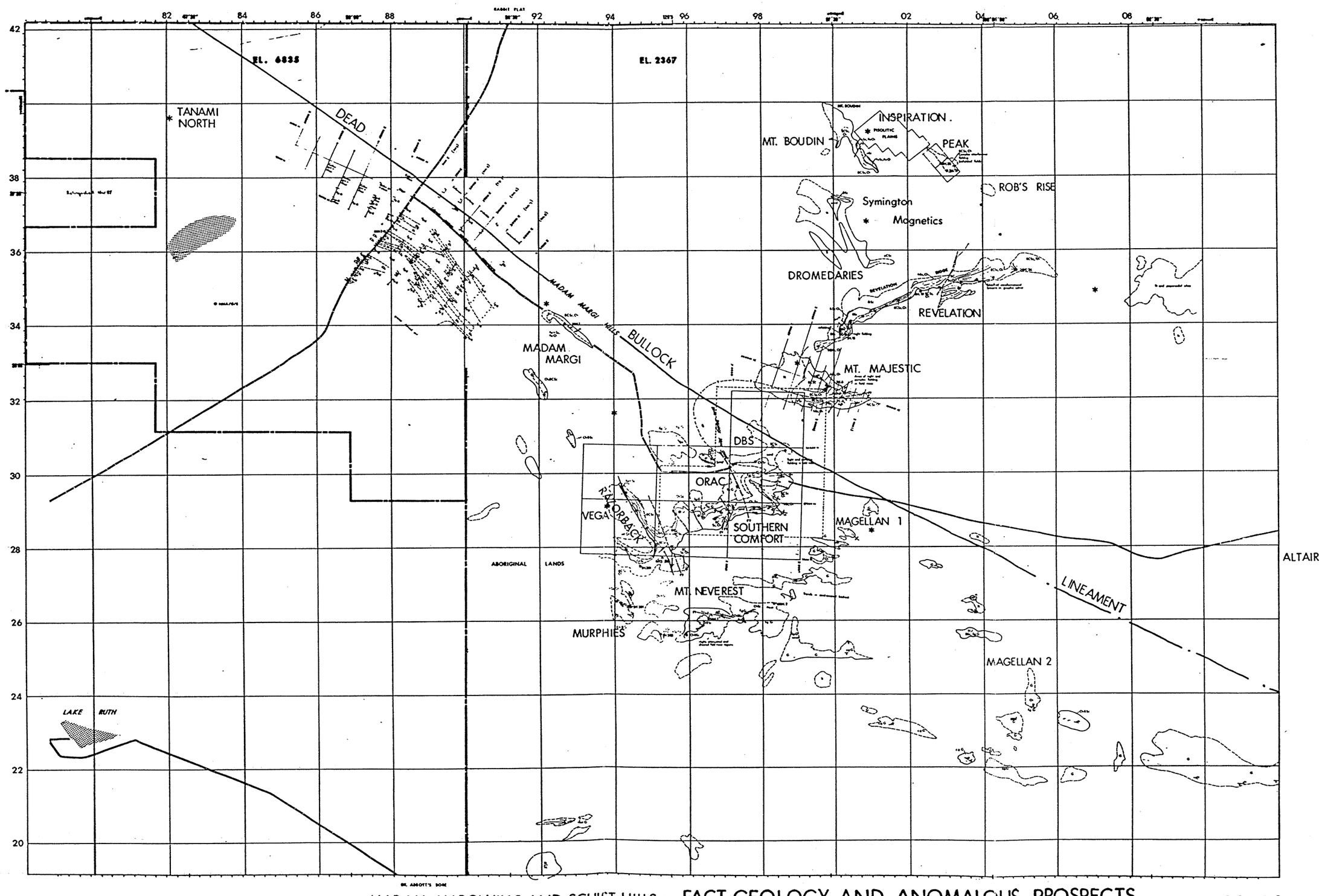
Prior to the drill testing of the Magellan 2 area, it was anticipated that the prospectivity of the mildly elevated geochemical anomalies were enhanced by their association with lithologies known to host gold mineralisation in the Tanami. However, the assay results from the RAB drilling were unimpressive. The best intersections are listed below:-

Traverse	Drillhole M2RB	Mineralised Intersection Au(ppm)	As (ppm)
29750E	049 053	3mT @ 0.28 1.5mT @ 0.07	45 ND
30000E	007 008	6mT @ 0.06 17mT@ 0.07 [incl 1.5mT @ 0.23]	60 60
30200E	045	1.5mT @ 0.37	ND
30450E	022	3mT @ 0.26	120

Because of extensive colluvium and sand cover, the siting of many drillholes was reliant on the interpretation of the EM profiles. Target selection was achieved by applying methods used at the DBS prospect, i.e. selecting comparatively resistive intervals within conductive packages.

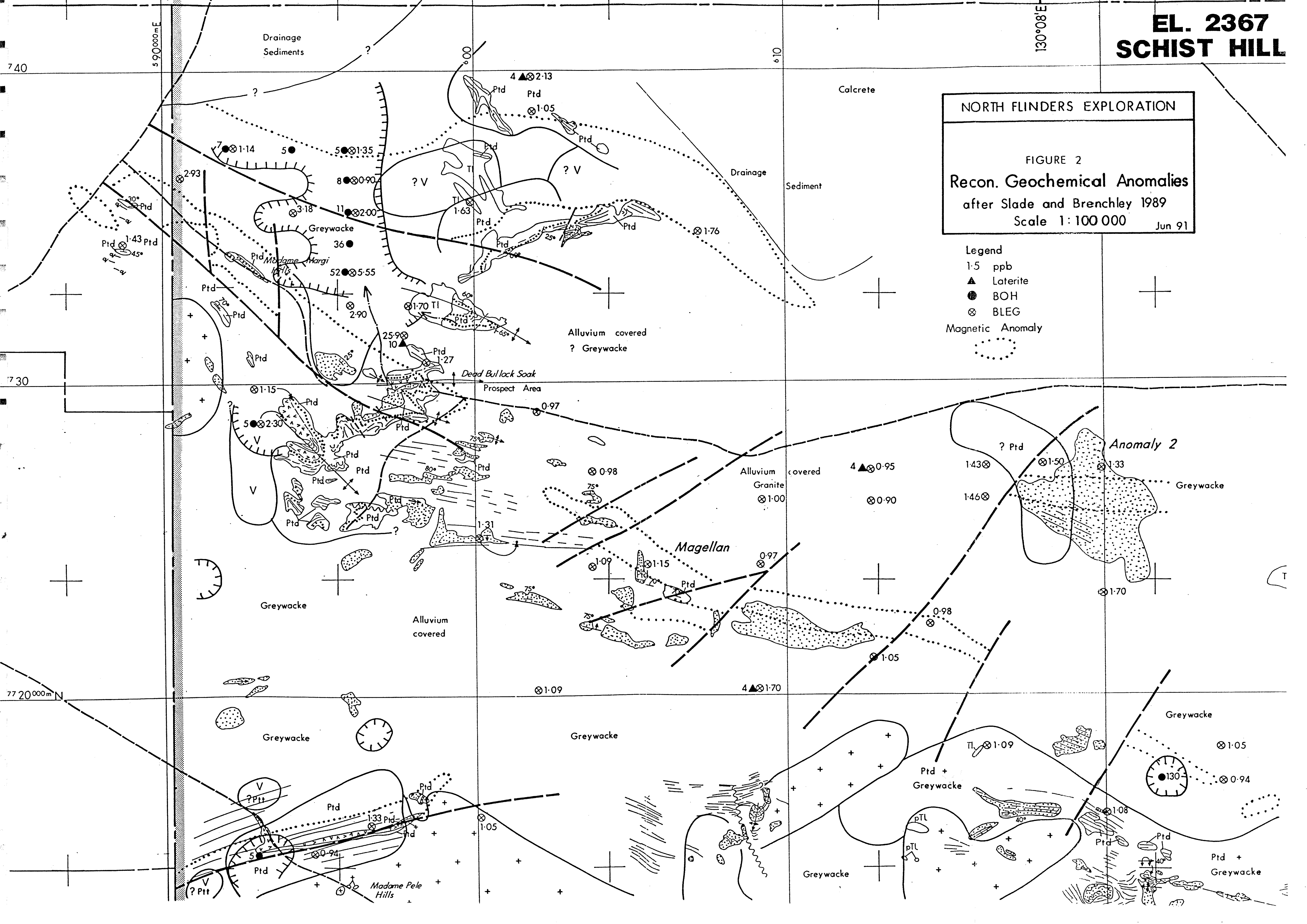
11.4 Plans

Drawing No	Title	Scale
2000-1182 to 1185	BOH Geochem & Geology	1:5000
2000-1205	BLEG & CRC Sampling	1:5000
2000-1207 to 1208	BLEG & CRC Sampling	1:5000
2000-1271	RAB Cross-Sections 28950	1:500
2000-1272	RAB Cross-Sections 28150	1:500
2000-1273	RAB Cross-Sections 28350	1:500
2000-1274	RAB Cross-Sections 28550	1:500
2000-1275	RAB Cross-Sections 28750	1:500
2000-1276	RAB Cross-Sections 28000	1:500
2000-1277	RAB Cross-Sections 28200	1:500
2000-1278	RAB Cross-Sections 28450	1:500
2000-1279	RAB Cross-Sections 28650	1:500



MADAM MARGI HILLS AND SCHIST HILLS – FACT GEOLOGY AND ANOMALOUS PROSPECTS

FIGURE 2



EL. 2367
SCHIST HILL
NORTH FLINDERS EXPLORATION
FIGURE 2
Recon. Geochemical Anomalies
after Slade and Brenchley 1989
Scale 1:100 000
Jun 91
Legend
1·5 ppb
Laterite
BOH
BLEG
Magnetic Anomaly
130°08'E
590000mE
600
610
740
730
7720000mN
Drainage Sediments
Calcrete
Drainage
Sediment
Greywacke
Madame Margi Hills
Alluvium covered
? Greywacke
Dead Bullock Soak
Prospect Area
Alluvium covered
Granite
Magellan
Anomaly 2
Alluvium covered
Ptd + Greywacke
Madame Pele Hills
7 1·14
5
5 1·35
8 0·90
11 2·00
36
52 5·55
2·93
3·18
1·43
2·90
1·70
25·9
10
1·27
1·15
5 2·30
4 2·13
1·05
1·63
1·76
0·97
0·98
1·31
1·09
1·15
0·97
4 0·95
0·90
1·00
1·43
1·46
1·50
1·33
1·70
0·98
1·05
1·09
4 1·70
1·09
1·05
0·94
130
1·08
1·33
0·94
1·05
5

NORTH FLINDERS EXPLORATION

MAGELLAN 2

FIGURE 3

Reconnaissance Geochemical Program

Scale 1:50000

Jun 91

LEGEND

	Element	Method	Value
a	Au	(BCL)	0·9ppb
b		(lat)	4ppb
c		(BOH)	2ppb
d	Cu	(lat)	60ppb
e	As	(lat)	50ppm
f		CHI*6	400

600E

7730N

7720N

611 ⊙1/0

604 ⊙52/200

591 ⊙4/100

71 ⊙2/10

602 ⊙1/10 d

MLS154

604 ⊙1/10

606 ⊙2/100

580 ⊙1/0

DBS

601 ⊙1/0

579 a⊙5/0 c 5ppb

210264 e

210265 c d

5

Ag 627ppb

603 ⊙1/0

503 ⊙0/0

⊙2/0 c

e b d

553 ⊙1/0 Ag 224ppb

4

e 96ppm f 458

605 ⊙0/0

552 0·96ppb ⊙0/0 e 60ppm

537 a⊙1/0 0·98ppb

521 ⊙0/0

⊙1/0

538 ⊙0/0

522 ⊙0/0

565 ⊙1/0

⊙1/0 e 58ppm

f 389

g 0·86ppb e 105ppm f 468

⊙0/0 f 409

564 ⊙1/0

a 1·31ppb ⊙0/200 e 60ppm

e 145ppm d 115ppb

⊙1/0

e 50ppm

⊙0/0

e 52ppm f 395

⊙1/0

e 74ppm f 598

⊙0/0

⊙3/0 c

⊙1/100

⊙1/0

Magellan 1

64ppm e a 1·09ppb f 405

80ppm e 2ppb b a 1·15ppb ⊙1/0 f (358)

a 0·8ppb

0·97ppb a⊙0/0 464f e 92ppm

⊙0/0

⊙0/100 e Ag 46ppb

62ppm e ⊙1/0 f 443

Magellan 2

⊙1/0

⊙0/0

⊙2/0 c

e

⊙1/0

⊙0/0 (0·8ppb)

68ppb e 553 f b 2ppb

e 52ppm 0·80ppb

⊙0/0

⊙1/0

⊙1/0

Anomaly 9

⊙0/0

⊙1/10

⊙0/0 1·7ppb

⊙2/100 c

⊙0/0

⊙2/0

LSV507

NORTH FLINDERS EXPLORATION

MAGELLAN 2

FIGURE 4

Interpretive Compilation with drillhole layout

Scale 1:25 000

Jun 91

TRAVERSE 29

TRAVERSE 30

SRB 1060

SRB 1089

SRB 1090

SRB1109

Hill MG1

Hill MG2

Hill MG3

M2V

(LSV 742)

(281573)

(LSV503)

(LSV522)

(LSV520)

(LSV519)

(LSV524)

(281577)

(LSV 540)

Interbedded Arenitic Alluvium with Lateritic Clay

Thick Arenitic Alluvium over ? Granite

Arenitic & Silt Alluvium over Kaolinized ? Granite

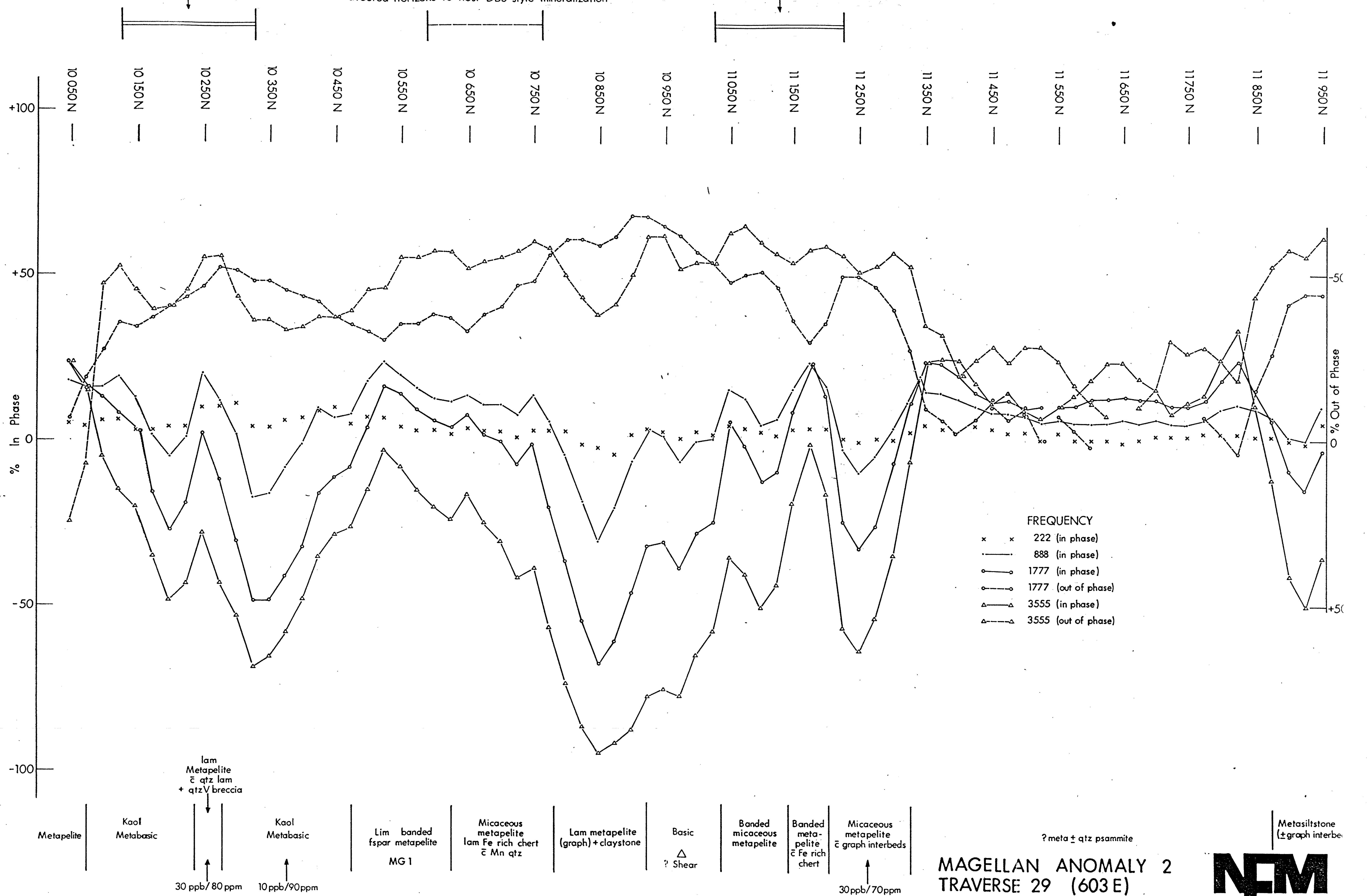
Interbedded Arenitic Alluvium with Clay over ? Granite

? Contact Aureole

Contact Aureole

Schist Hills Fm. (Mnch equiv.)

relic drainage


10 050 N
10 150 N
10 250 N
10 350 N
10 450 N
10 550 N
10 650 N
10 750 N
10 850 N
10 950 N
11 050 N
11 150 N
11 250 N
11 350 N
11 450 N
11 550 N
11 650 N
11 750 N
11 850 N
11 950 N
+100
+50
0
-50
-100
% In Phase
% Out of Phase
-50
0
+50
FREQUENCY
222 (in phase)
888 (in phase)
1777 (in phase)
1777 (out of phase)
3555 (in phase)
3555 (out of phase)
Metapelite
Kaol Metabasic
lam Metapelite c̄ qtz lam + qtz V breccia
30 ppb/ 80 ppm
Kaol Metabasic
10 ppb/90 ppm
Lim banded fspar metapelite
MG 1
Micaceous metapelite lam Fe rich chert c̄ Mn qtz
Lam metapelite (graph) + claystone
Basic
? Shear
Banded micaceous metapelite
Banded meta-pelite c̄ Fe rich chert
Micaceous metapelite c̄ graph interbeds
30 ppb/70 ppm
? meta ± qtz psammite
Metasiltstone (± graph interbe

MAGELLAN ANOMALY 2
TRAVERSE 29 (603 E)

MAX - MIN PROFILE (HLEM)
SCALE : 1:5 000
INSTRUMENT SPACING : Tx - Rx ≃ 100m

NOTE ; Anomalous drill assays Au (ppb) / As (ppm)

NORTH FLINDERS MINES LIMITED

11000N

10000N

9000N

28450E

28650E

28950E

29150E

29350E

29550E

29750E

30000E

29000E

30000E

LEGEND

Source of magnetic anomaly

Good: Max-Min Conductors

Medium

Poor

Possible relationship of conductors.

Iron-rich quartz horizon (gold anomalous)

NORTH FLINDERS EXPLORATION

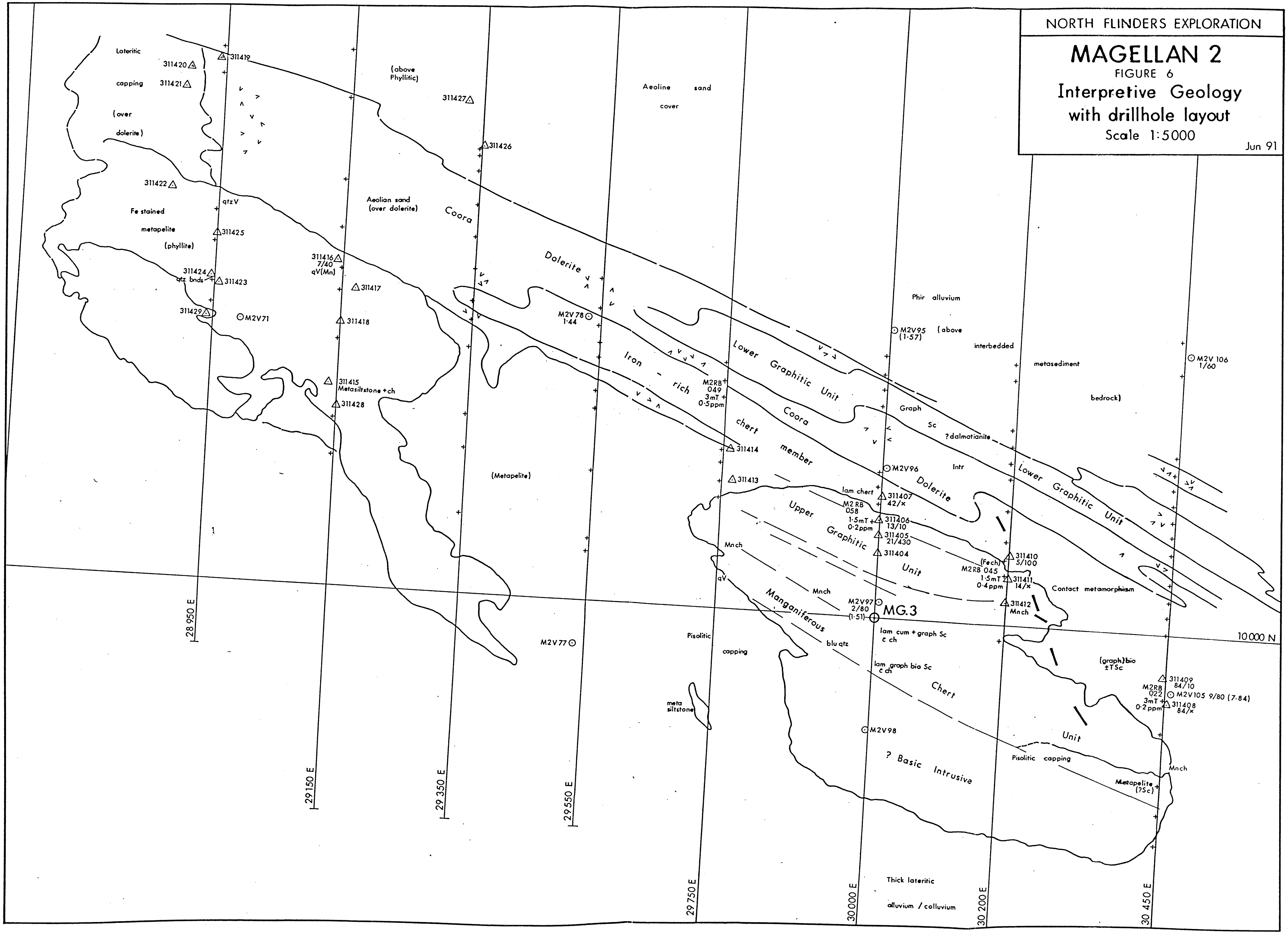
MAGELLAN 2

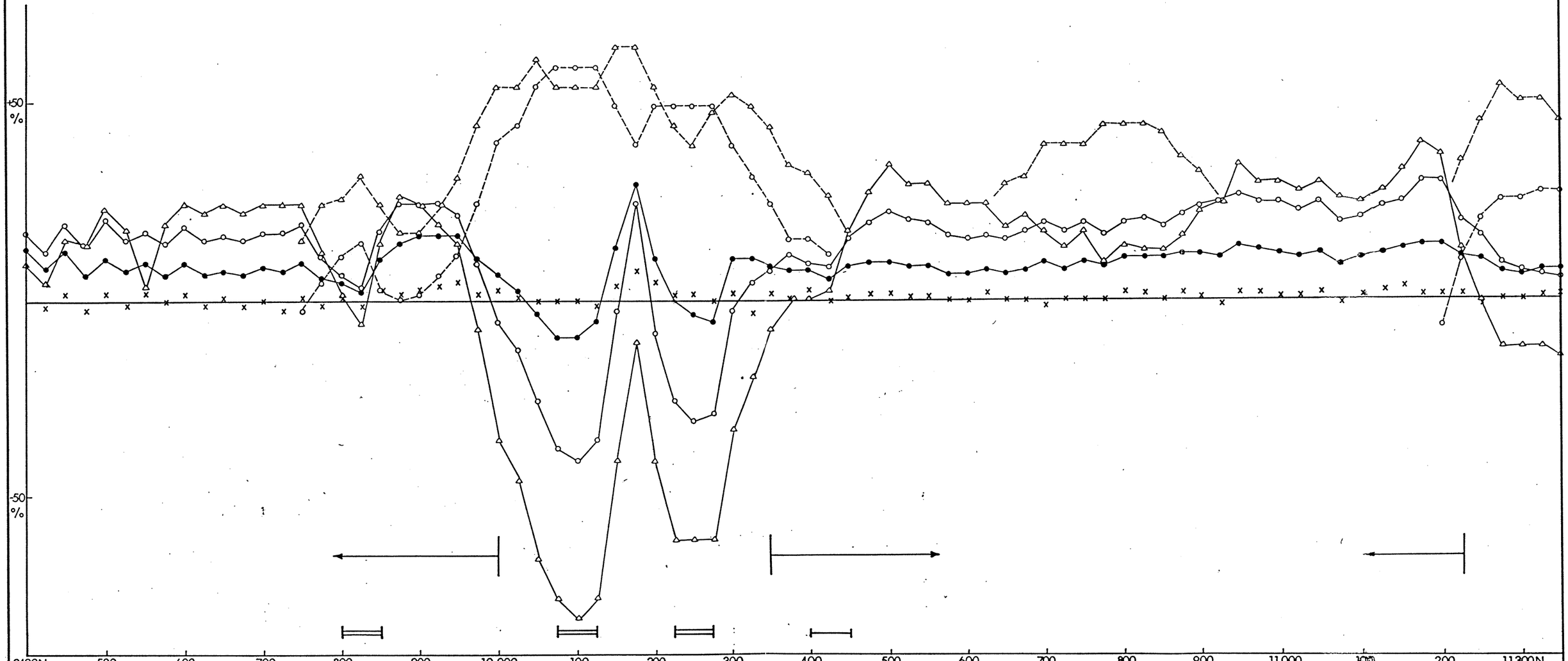
FIGURE 5

Interpretation of Ground Magnetics and Max-Min Data

Scale 1:10000

Jun 91


NORTH FLINDERS EXPLORATION
MAGELLAN 2
FIGURE 6
Interpretive Geology
with drillhole layout
Scale 1:5000
Jun 91
Lateritic capping (over dolerite)
Fe stained metapelite (phyllite)
(above Phyllitic)
Aeoline sand cover
Aeolian sand (over dolerite)
Coora Dolerite
Lower Graphitic Unit
Iron - rich chert member
Coora Dolerite
Phir alluvium (above interbedded metasediment bedrock)
Upper Graphitic Unit
Manganiferous Chert Unit
? Basic Intrusive
Contact metamorphism
(Metapelite)
Metasiltstone + ch
Pisolitic capping
meta siltstone
Thick lateritic alluvium / colluvium
MG.3
10 000 N
28 950 E
29 150 E
29 350 E
29 550 E
29 750 E
30 000 E
30 200 E
30 450 E


50
%
-50
%
9400N
500
600
700
800
900
10 000
100
200
300
400
500
600
700
800
900
11 000
100
200
11 300N
*M2V098
0·98 ppb
80 ppm
*M2V097
1·51 ppb
*M2V096
*M2V095
1·57 ppb
F.g. metasiltstone c̄ ch
± (graph)
Bnded graph Sc c̄ ch ± cord
Graph Sc c̄ lam ch
Target Fe-rich lam ch
Basic
Graph Sc c̄ dalmation-ite
Interbedded metasediment
Alluvium
Hill MG3
FREQUENCY (Hz).
222 (in phase)
888 (in phase)
1777 (in phase)
3555 (in phase)
1777 (out of phase)
3555 (out of phase)
INSTRUMENT SPACING : Tx - Rx : 100 m
NORTH FLINDERS EXPLORATION
MAGELLAN 2
FIGURE 7
Max - Min Profile
30 000 E
Scale 1:5000
Jun 91