GEOPHYSICAL REPORT

SURVEYS ON ZAP CLAIMS - 1981
PROJECT #079
Albert Creek, Northern B.C.

February, 1982 B.W. Downing
Vancouver, B.C. P. Presunka

GEOPHYSICAL SURVEYS ON THE ZAP CLAIMS, 1981

ALBERT CREEK PROJECT, NORTHERN B.C.

NTS 104P/13E

LIARD M.D.

PN 079

REPORT NO. 26-079-81

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B. W. Downing

S. Presunka

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Albert Creek, P. N. 079

1. SUMMARY

Several good VLF conductors were located, two of which warrant drilling.

Grid A conductor #1 - DDH line 250E/3850N
drilling south (180°) at -60°

Grid D conductor #1 - DDH line 700S/250E
drilling west (270°) at -55°

Two other conductors would warrant drilling if the above conductors are mineralized, namely; Grid A conductor #2, and Grid D conductor #2.

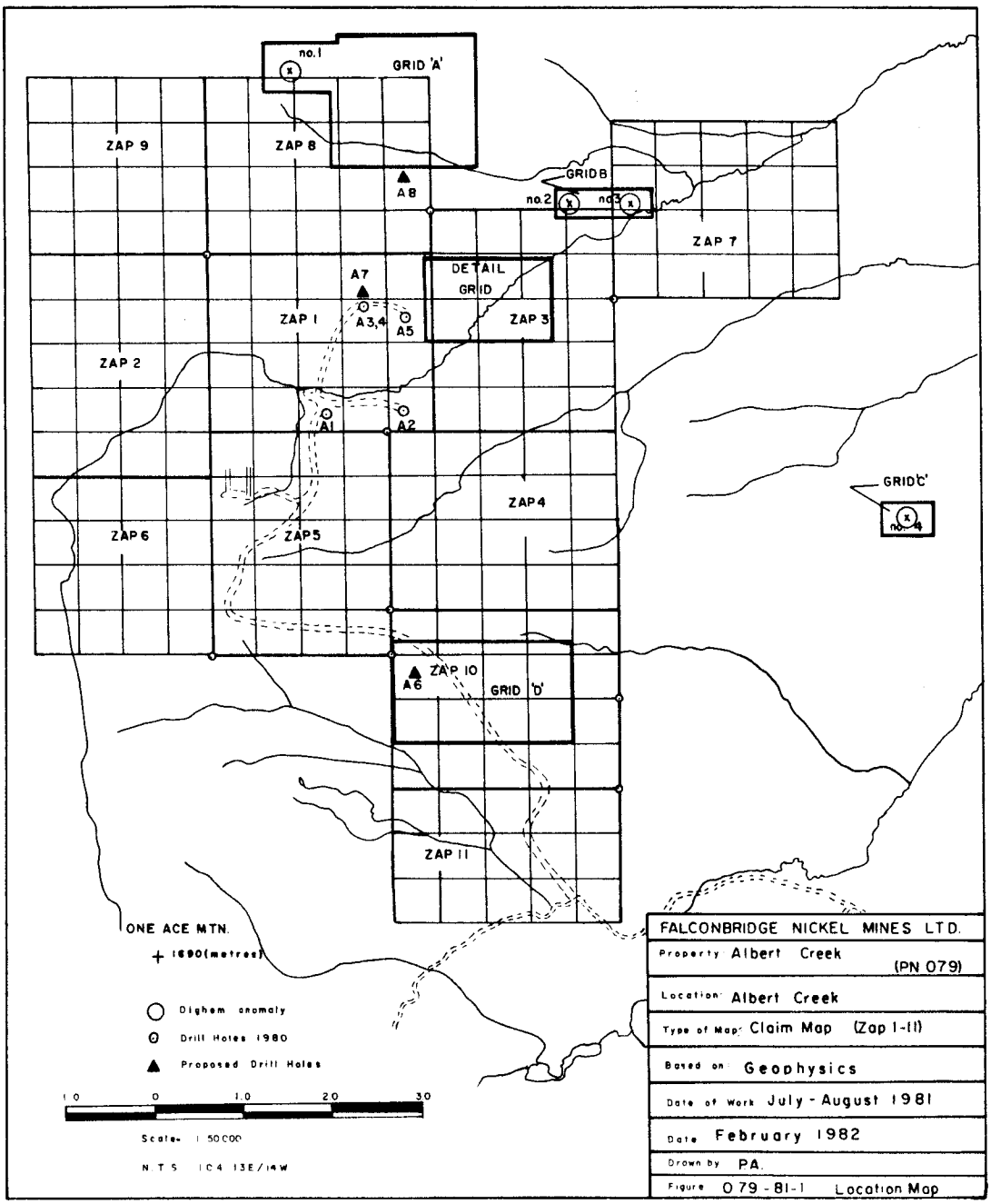
Ground follow-up of four Dighem EM anomalies did not locate any single conductor responsible for any one Dighem anomaly.

2. INTRODUCTION

A geophysical survey on five separate grids (detail, A, B, C & D grids, Figure 1) was conducted and contracted by Steve Presunka of Presunka Geophysical Explorations Limited from July 20 to August 7, 1981. Two VLF Ronka EM-16 units were used and operated by Steve and Paul Presunka. Approximately 79.6 km. of chain/compass grid lines were traversed taking 5850 readings (two VLF station readings per line station). The VLF stations used were Cutler, Maine (NAA - 17.8 kHz); Seattle, Washington (NLK - 18.6 kHz); Annapolis, Maryland (NSS - 21.4 kH_2) and Lualualei, Hawaii (NPM - 23.4 kHz). Total cost of the contracted survey was $6134.90 at a rate of $325.00 per day plus travelling expenses. Base camp was a rented trailer on Watson Lake, approximately three miles north of the town of Watson Lake, Yukon. Access to the various grids was by helicopter from Watson Lake (Frontier Helicopters).

The geophysical survey was conducted for the following reasons:

1) ground follow-up of four Dighem Airborne EM anomalies (Grids A, B and C),
2) delineation of possible anomalies in areas of favourable soil geochemical anomalies resulting from reconnaissance work done in 1980 (Grids A and D), and


no.1
GRID 'A'
ZAP 9
ZAP 8
A8
GRID B
no.2
no.3
ZAP 7
DETAIL GRID
A7
A3,4
A5
ZAP 1
ZAP 3
ZAP 2
A1
A2
ZAP4
GRID C'
no.4
ZAP6
ZAP5
ZAP 10
A6
GRID 'D'
ZAP 11
ONE ACE MTN.
+ 1690(metres)
Digham anomaly
Drill Holes 1980
Proposed Drill Holes
1.0 0 1.0 2.0 3.0
Scale- 1:50,000
N.T.S. 1C4 13E/14W
FALCONBRIDGE NICKEL MINES LTD.
Property Albert Creek (PN 079)
Location: Albert Creek
Type of Map: Claim Map (Zap 1-11)
Based on Geophysics
Date of Work July - August 1981
Date February 1982
Drawn by PA.
Figure 079 - 81-1 Location Map

3) extension of a favourable geophysical anomaly outlined and drilled (DDH A5) in 1980 (detail grid).

No magnetometer survey was conducted as the magnetic relief as observed from past surveys (1979) is very low.

3. DISCUSSION

3.1 Detail Grid

The 1979 - 80 detail grid was extended easterly to follow-up soil geochemical anomalies and a VLF EM-16 anomaly which was drilled in 1980 (DDH A5). A total of 10.3 km of line was traversed.

VLF STN. 21.4 (Figures 079-81-DG2-4) Short conductors are prevalent.

Conductor #1 - Line 9-11E; fair; NW orientation with southwest dip; approx. depth 100 metres; possibly flat lying.

Conductor #2 - Line 7-9E/ 19-20N; weak; possible shear/ fault zone (clay).

Conductor #3 - Line 14-16E / 20-21N; weak; northwest orientation; depth >100 m; due to depth not able to interpret as to cause.

Conductor #4 - Line 11-13E / 17-18N; arcuate trend, very weak; shear or clay; swamp present.

Conductor #5 - Line 14-15E / 24-25N; short, very weak; northwest orientation; depth >100 m.

Fraser filtering of the data (Stn. 21.4) indicates two short northwest trending conductors and one single station conductor of low magnitude.

No further work is recommended on this grid.

3.2 Grid A

This grid was established to cover a Dighem anomaly (NW corner of grid) and to test soil geochemical anomalies on lines 5W, 0, 5E and 10E. A total of 30.4 km. was traversed.

VLF STN. 17.8 (Figures 079-81-2-4)

- series of conductors trending northwest from line 5W to 10E.
- series of conductors trending northeast from line 6W to 13W.
- numerous secondary conductors possibly due to clay/overburden.

Conductor #1 - Line 2 to 5E / 28-29N; strong; approx. depth to cond. is 75 m; steep northerly dip;

Conductor #2 - moderate; close to surface on west end ($\sim$ 40m) and at depth on east end ($\sim$ 75 m); steep northerly dip;

Conductor #3 - Line 6E to 2E / 48N; fair; approx. depth >125 m; northerly dip;

Conductor #4 - Line 5W to 2E / 2650 to 2850N; weak, disrupted between 2W and 1W; shear/fault.

Conductor #5 - Line 8W - 6W; weak; northeast trending; fault (?).

Fraser filting of data (Stn. 17.8) indicates a strong east-west trending anomaly on lines 2 to 5E / 39N and scattered weak to moderate northwest and northeast trending anomalies.

There is no positive indication for the cause of the Dighem anomaly (#4) in the immediate vicinity, however, it may be a result of a concentration of numerous parallel northwest and northeast conductors.

The conductor on line 39N (conductor #1 - Stn. 17.8) should be drilled with a hole collared at line 250E/3950 N drilling south at 60°.

The conductor on line 42N (conductor #2 - Stn. 17.8) should also be drilled if the drilling of the primary conductor indicates mineralization; a hole collared at line 150W / 4200N drilling south at 60°.

3.3 Grid B

This grid was established to cover two Dighem anomalies (#2 and #3). A total of 7.8 km was traversed.

VLF STN. 17.8 (Figures 079-81-B2-4)

Conductor #1 - Line 6 to 7W; northeast orientation with northerly dip; depth to conductor approx. 50 metres; weak;

Conductor #2 - Line 8 - 9W; northeast orientation with southeasterly dip; depth to conductor approx. 60 metres; weak; shear or fault,

Conductor #3 - Line 0 - 2W; very weak; southeast orientation; depth approx. 60 m.

Conductor #4 - Line 2W / 3S, one station anomaly; depth approx. 50 m.

Fraser filtering of the data (Stn. 17.8) indicates a moderate northeast trending conductor on lines 8 to 10W / 1-2S, and a single station conductor on line 2W / 3S.

Conductors #1 & #2 and #4 correlate with the #2 and #3 Dighem anomalies respectively. Both Dighem anomalies occur within the valley of the major creek on the Albert Creek property.

No further work is recommended on Grid B.

3.4 Grid C

This grid was established to cover the #4 Dighem anomaly. Topographically, this area is flat with glacial overburden. A total of 4.8 km was traversed.

VLF STN. 21.4 (Figures 079-81-C2-4)

Conductor #1 - Lines 0 to 4E / 0 -1S; weak, northwest orientation; extends off grid in both directions,

Conductor #2 - Line 5-6E / 3S; very weak; possibly part of conductor #1,

Conductor #3 & #4 - North end of grid; very weak.

Fraser filtering of the data indicates no strong anomaly.

The conductors north and south of the baseline appear to be broken by a possible fault.

The conductors #3 and #4 are parallel to the creek. Conductor #1 may be responsible for the Dighem anomaly.

No further work is recommended on Grid C.

3.5 Grid D

This grid was established to cover several good soil geochemical anomalies and is in an area underlain by shale. A total of 24.1 km was traversed.

VLF STN. 18.6 (Figures 079-81-D2-4)

Conductor #1 - Lines 6 to 13S / 00 to 450E, strong; depth to conductor approx. 75 to 100 metres; steeply dipping;

Conductor #2 - Parallel to conductor #1; moderate; depth approx. 75 metres; steep southwesterly dip;

Conductor #3 - Lines 3 to 10S / 8 to 12E; weak; long broken (faulted?) conductor;

Conductor #4 - Lines 1350E to 1750E / 13S; weak; zig-zag shaped conductor;

Conductor #5 - Line 12-13S / 1E; moderate; short north-south conductor.

Fraser filtering of the data (Stn. 18.6) indicates two strong northwest trending anomalies (conductors #1 & #2) and a moderate short north-south conductor (#5). A long north-south

(#3) conductor changing to a southeast direction (#3a) could be redrawn using the 0^{o} and 10^{o} contours to show one long continuous conductor. A one station anomaly (#4) is present on line 9S/15E.

The primary conductors #1 and #2 (Stn. 18.6) should be drilled as either one long hole (DDH - line 700S / 450E) or two short holes (DDH - line 700S / 250E; DDH - Line 700S / 400E) drilling west at a 55^{o} dip.

4. CONCLUSIONS

Several moderate to strong conductors are present throughout the survey area, two of which warrant drilling (conductor #1-Grid D and conductor #1 - Grid A). It should be noted that several of the strong conductors occur in vicinity of rather steep topography along major structural / topographical lineaments. The moderate conductors are probably fault related as the Albert Creek property has undergone structural deformation. The weak conductors may be either minor fault/shear related and/or caused by glacial overburden (clay?).

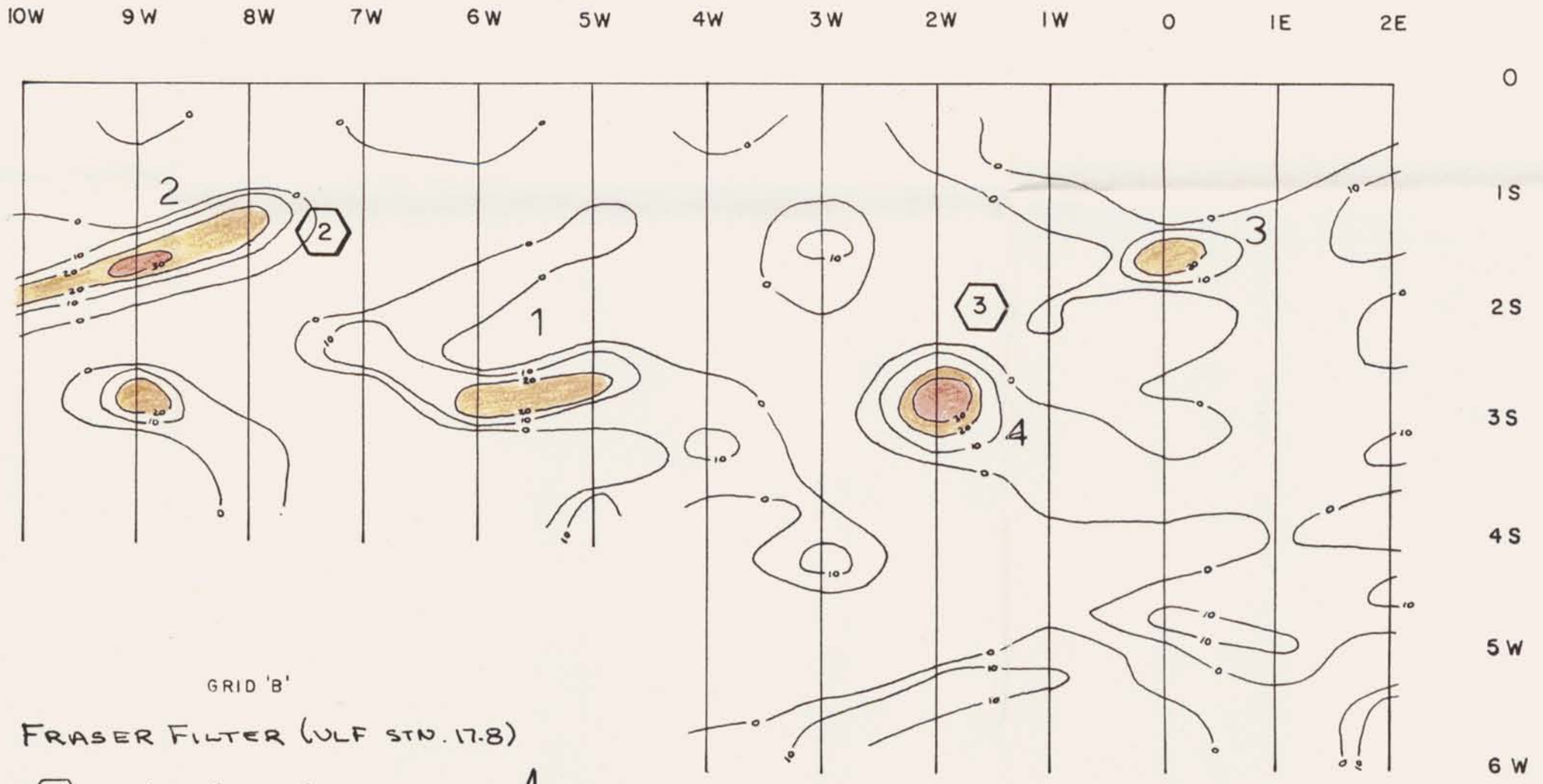


Figure 079-81-84 EM 16,
VLF stn. 17.8 (fraser filter)

50N
49N
48N
47N
46N
45N
44N
43N
42N
41N
40N
39N
38N
37N
36N
35N

13W 12W 11W 10W 9W 8W 7W 6W 5W 4W 3W 2W 1W 0 1E 2E 3E 4E 5E 6E 7E 8E 9E 10E

1 2 3 4 5

A8

CREST RIDGE VALLEY

GRID 'A'

Electromagnetic Survey
Inst. Ronka EM-16 No.2
VLF ST. 17.8 Tilt Direction 360°
Inphase Profile —·—·— (1cm = 20°)
Quadrature Profile - - - - - -
Conductor —o—o—
Secondary Conductor — — —
Scale 1:5000 August 1981

Dighem conductor
Proposed drill hole

VLF ST. 17.8 TILT DIRECTION
MAINE

N

Figure 079-81-A2 ● EM16, VLF stn 17.8 (profile)

50N
49N
48N
47N
46N
45N
44N
43N
42N
41N
40N
39N
38N
37N
36N
35N

13W 12W 11W 10W 9W 8W 7W 6W 5W 4W 3W 2W 1W 0 1E 2E 3E 4E 5E 6E 7E 8E 9E 10E

GRID 'A'

FRASER FILTER (VLF STN. 17.8)

(1) Dighem Anomaly (approximate location)

▼ Proposed drill hole

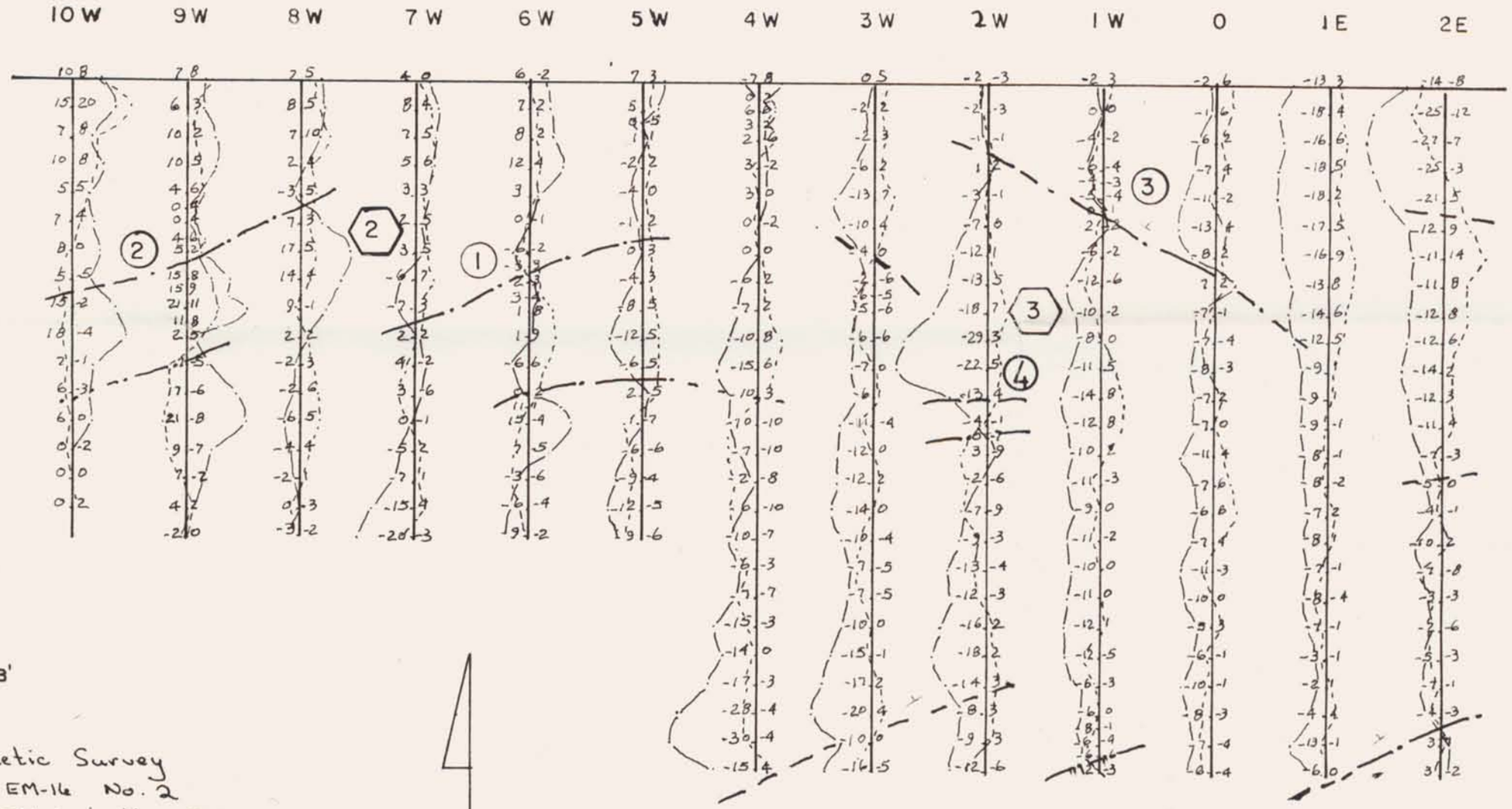
20° Contour Interval

Scale 1:5000

TILT DIRECTION

STN. 17.8

Figure 079-81-A4 EM 16
VLF stn. 17.8 (fraser filter)



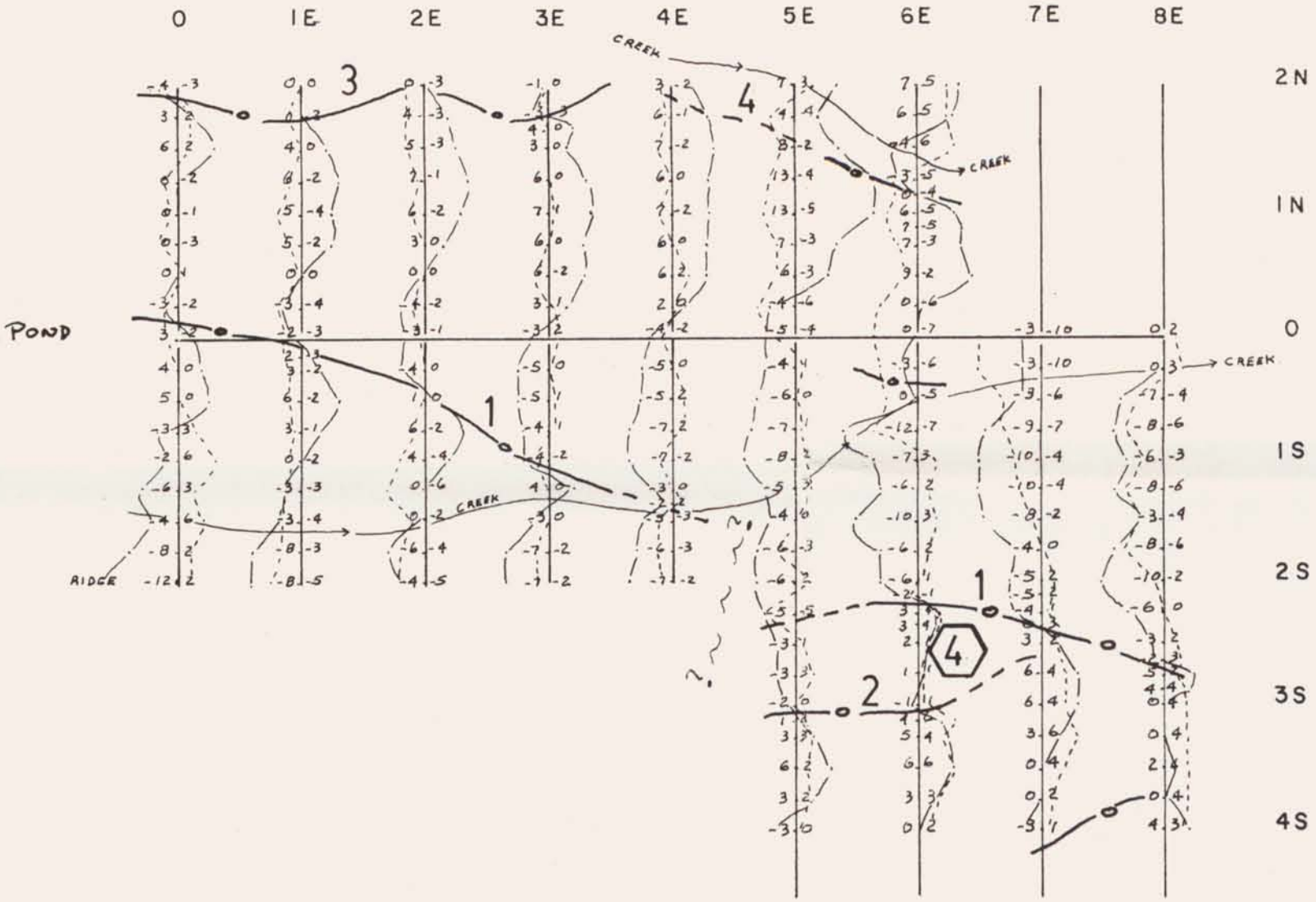
GRID 'B'

Electromagnetic Survey
Inst. Ronka EM-16 No. 2
VLF ST. 17.8 Tilt Direction 360
Inphase Profile —·—·— (1cm=20°)
Quadrature Profile ------
Conductors —o—o—
Secondary Conductors ----
Scale 1:5000 August 1981

(2) Dighem Anomaly (approximate location)

V.L.F. ST. 17.8 TILT DIRECTION

Figure 079-81-82 EM16, VLF, stn. 17.8 (profile)



GRID 'C'

Elettromagnetic Survey
Inst. Ronka- EM-16 No.2 & 20
VLF ST. 21.4 Tilt Direction 010°
Inphase Profile —·—·— (1cm = 20°)
Quadrature Profile - - - -
Conductor —o—o—
Secondary Conductor - - - -
Scale 1:5000 August 1981

(4) Dighem Anomaly (approximate location)

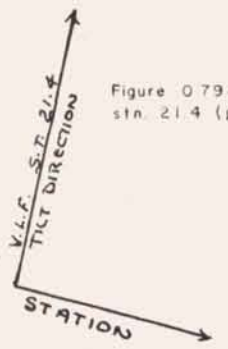
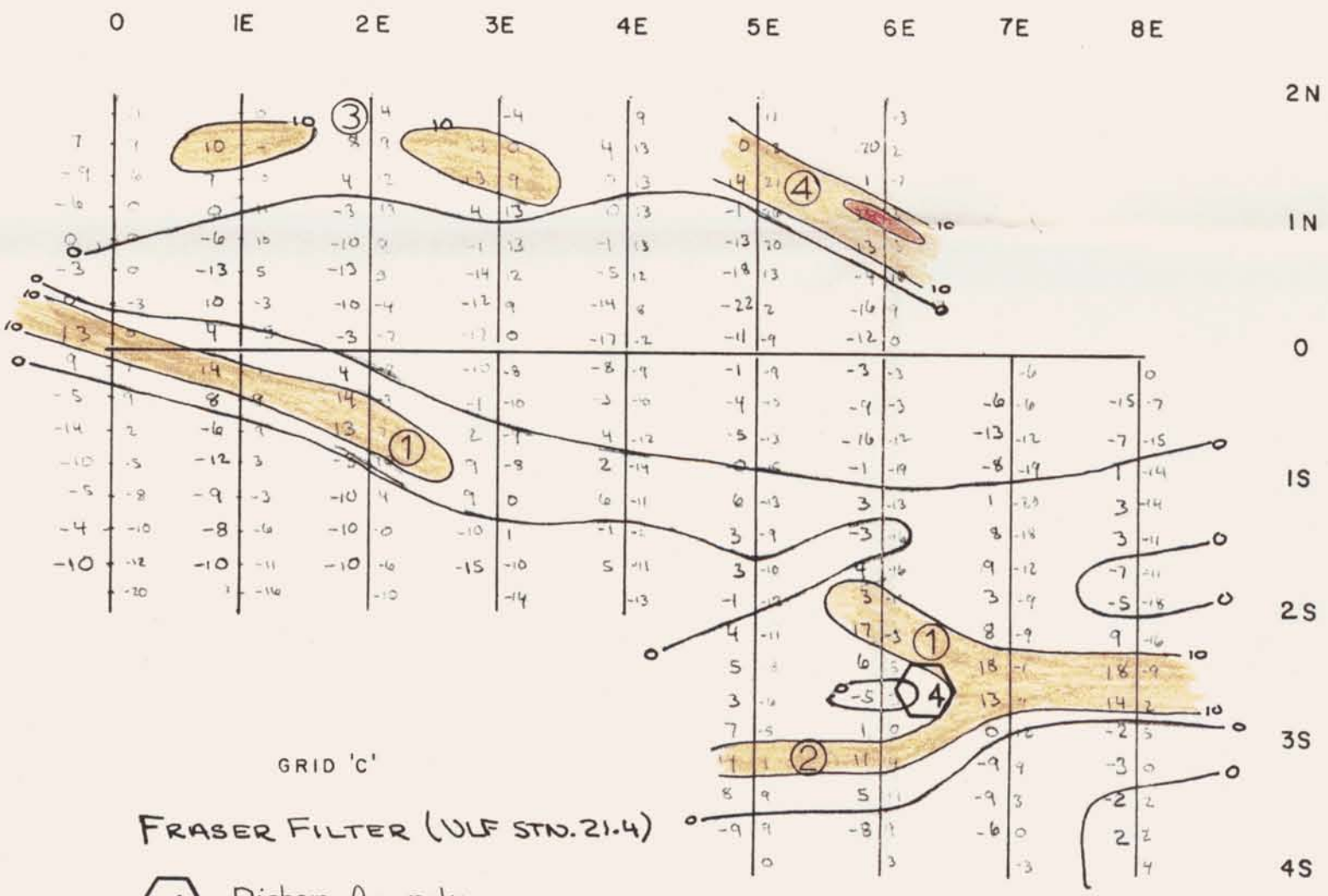


Figure 079-81-C2 EM 16, VLF, stn. 21.4 (profile)



GRID 'C'

FRASER FILTER (VLF STN. 21.4)

(4) Dighem Anomaly (approximate location)

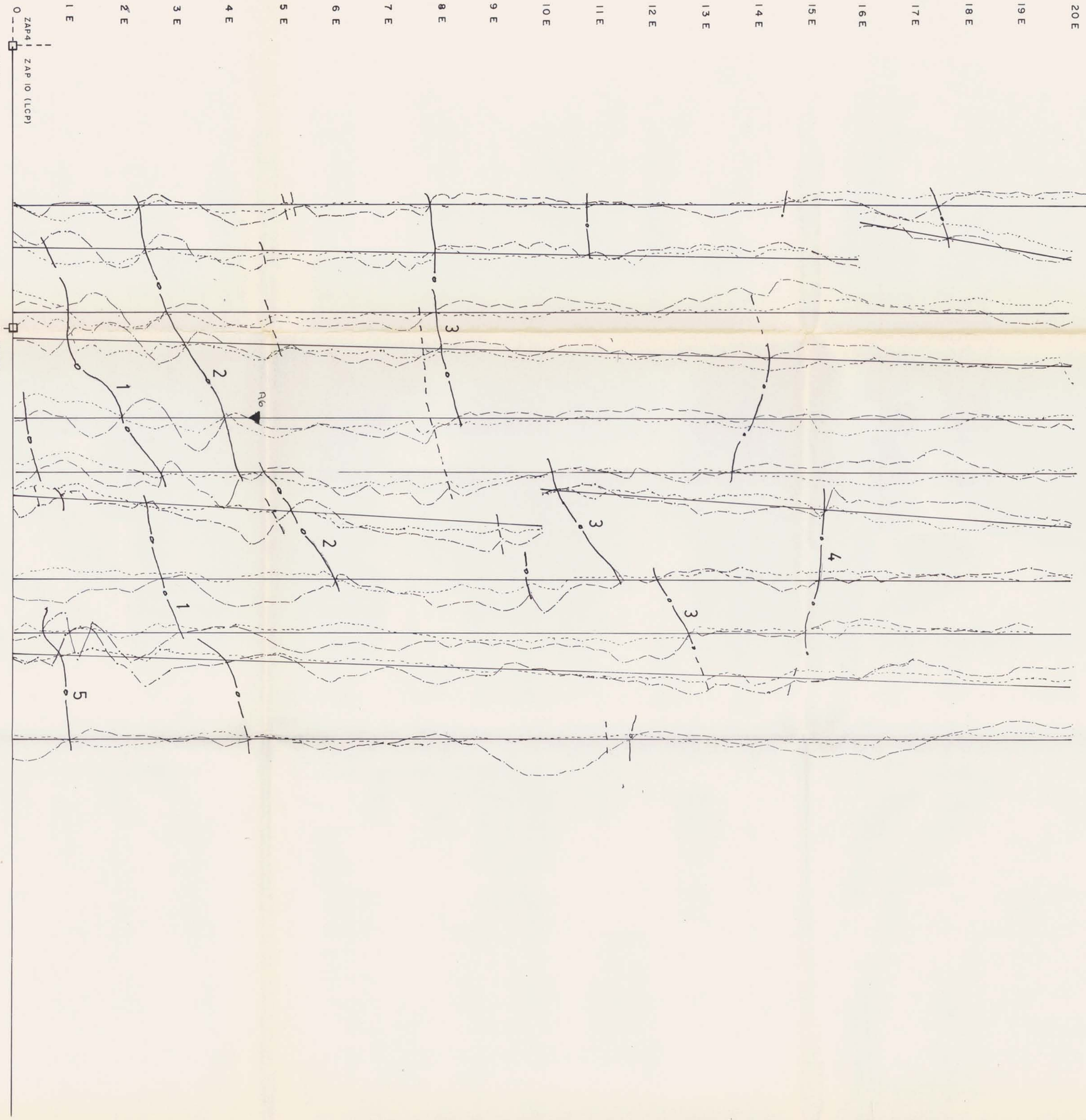
10° Contour Interval
Scale 1:5000

TILT DIRECTION

STA. 21.4

N

Figure 079-81-C4 EM16, VLF, Stn 21.4 (-fraser)



GRID 'D'

Electromagnetic Survey
Inst. Ronka EM-16 No. 2 & 20
VLF ST. 18.6 - Tilt Direction 070
Inphase Profile —·—·—(1cm = 20°)
Quadrature Profile - - - - -
Conductor —o—o—
Secondary Conductor — — —
Scale 1:5000 August 1981
▼ proposed drill hole

VLF ST. 18.6
TILT DIRECTION

Figure 079-81-02 EM 16
VLF stn. 18.6 (profile)

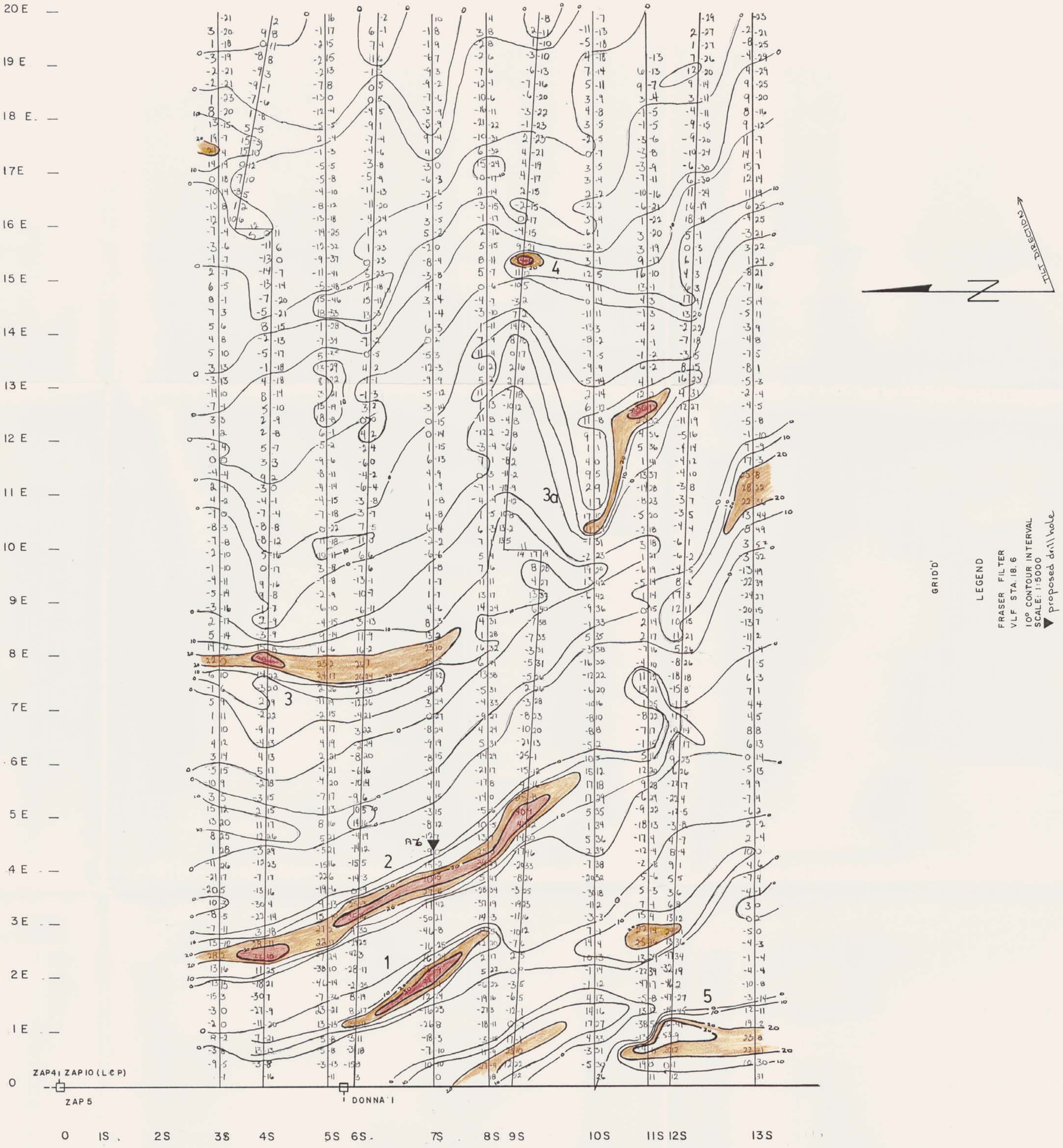
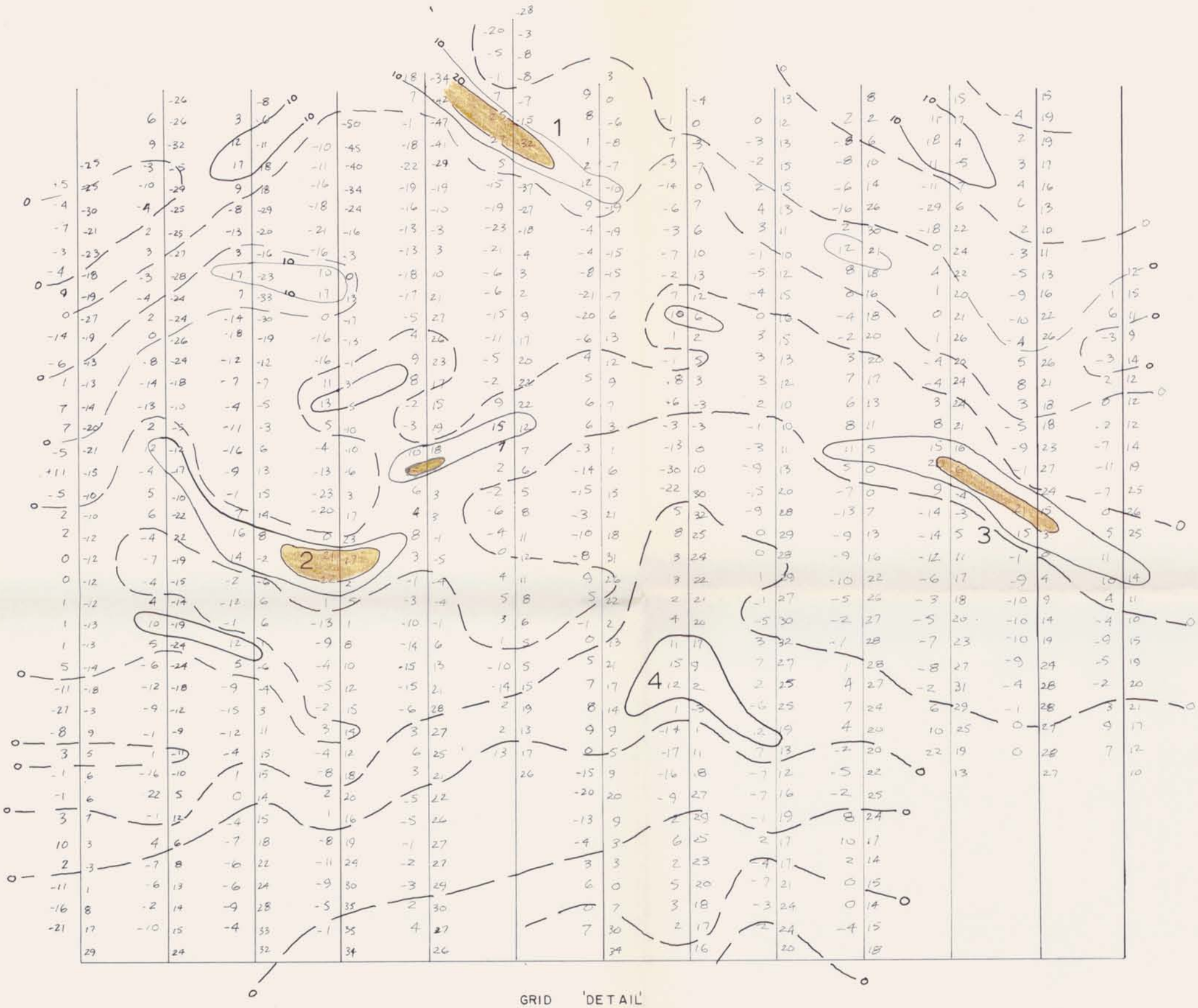


Figure 079-81-D4 EM16
VLF stn. 18.6 (fraser filter)



GRID 'DETAIL'

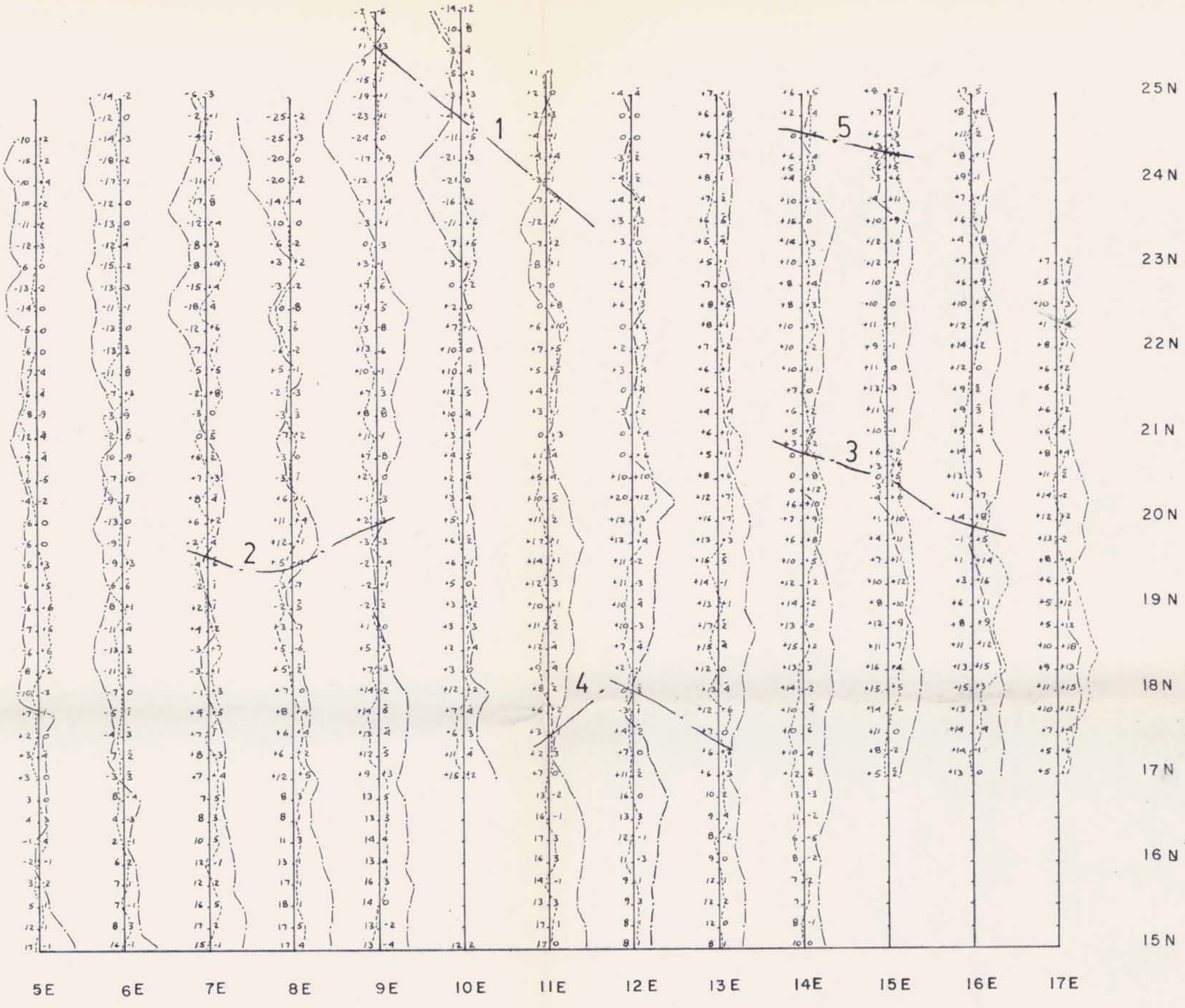
FRASER FILTER

VLF STA. 21.4

Scale 1:5000

10° Contour Interval

Figure 079-81-DG4 EM 16
VLF stn 21 4 (fraser filter)



GRID 'DETAIL'

Electromagnetic Survey
Inst. Ronka EM-16 No. 2
VLF ST. 21.4 Tilt Direction 170°
Inphase Profile —·—·—·— (1 cm = 20°)
Quadrature Profile – – – – – –
Conductor ——·——·——
Secondary Conductor – – – –
Scale 1:5000 August 1981

Figure 079-81-DG2 EM16,
VLF stn 21.4 (profile)