

COMINCO EXPLORATION PTY. LTD.

EL 2/70 Mackintosh River Area,
Tasmania.

January - February 1973

By: E.H. Skey

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73-931

700D

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DKSS

700002

COMINCO EXPLORATION PTY. LTD.

Subject: Progress Report - EL 2/70 MACKINTOSH RIVER AREA,
Tasmania.
Period: January - February 1973.
Date: February 21, 1973
By: E.H. Skey

1. SUMMARY

Subsequent to renewal of EL 2/70 in two parts on December 31, 1972, a ground EM prospecting programme was undertaken to locate precisely those airborne EM anomalies indicated during a previous programme (February 1972) by McPhar, refer Plate 929/73 attached.

Other work in this area has been undertaken by Paringa Mining and Exploration Co. Ltd. in previous summer seasons. This work was reported by G. Krummel - "Progress Report on the Mackintosh River Area EL 2/70 Tasmania 1971-72 (July 20th, 1972 - Report on file). Relevant data is incorporated here.

In general this ground EM programme was successful in locating the airborne anomalies. Geological information was scant.

Recommendations for comprehensive follow up are summarised as gridding, ground EM, soil sampling and creek traverses for geological data. No further work is recommended on anomaly 15.

In the following pages each anomaly is treated separately for convenience.

Interpretation of data is by EHS and assessment by an experienced geophysicist is necessary. A work proposal in general terms has been formulated.

MICROFILMED

OPEN FILE

ANOMALY No. 1Location

NW part of EL 2/70. Refer plate 929/73 and photos: Guildford T570/20, 19. (1"=40 chains).

Access

By APPM private road from Guildford. Permit required, (from Australian Forest Holdings Pty. Ltd., Burnie) Haflinger track to within 1 mile of anomaly. Tent camp. Walk along selected route about 40 minutes.

Topography - Timber

Large trees with dense underbrush on flat ground. Patchy undergrowth on gully slopes.

Technical Data

2 EM/magnetic traverses were completed.

Line A bearing 114° across southern edge of button grass - no significant EM results; broad 100 gamma magnetic anomaly.

Line B bearing 135° in scrub south of button grass - EM 'in line' anomaly in gully, trending 060° M; magnetic anomaly to north west, 800 gamma amplitude. The airborne anomaly appears to be misplotted. The magnetic anomaly is related to basic volcanic rocks of horizontal disposition (Tertiary). The EM anomaly occurs in a gully which has eroded through the Tertiary volcanics and exposed sheared felspathic tuffs whose cleavage strikes 350° - 360° M and dips 90° .

A flat lying feldspar porphyry dike (?) outcrops in the creek immediately west of the traverse line.

Geochemical sampling was not conducted, work would be tampered by coarse scree of basic volcanics. A single rock specimen (100616) at 1450'S contains 630 ppm Pb.

Further Work Recommendations

1. 6 hand out lines, bearing 090° M (most suitable for broadside VEM, IP/OPHEM SP or IP). Improve track access with bulldozing.
2. In line VEM and SP, try broadside VEM.
3. Creek mapping, attempt soil geochem, particularly if broadside cross-over can be located.

002

700004

EM INLINE VERT LOOP

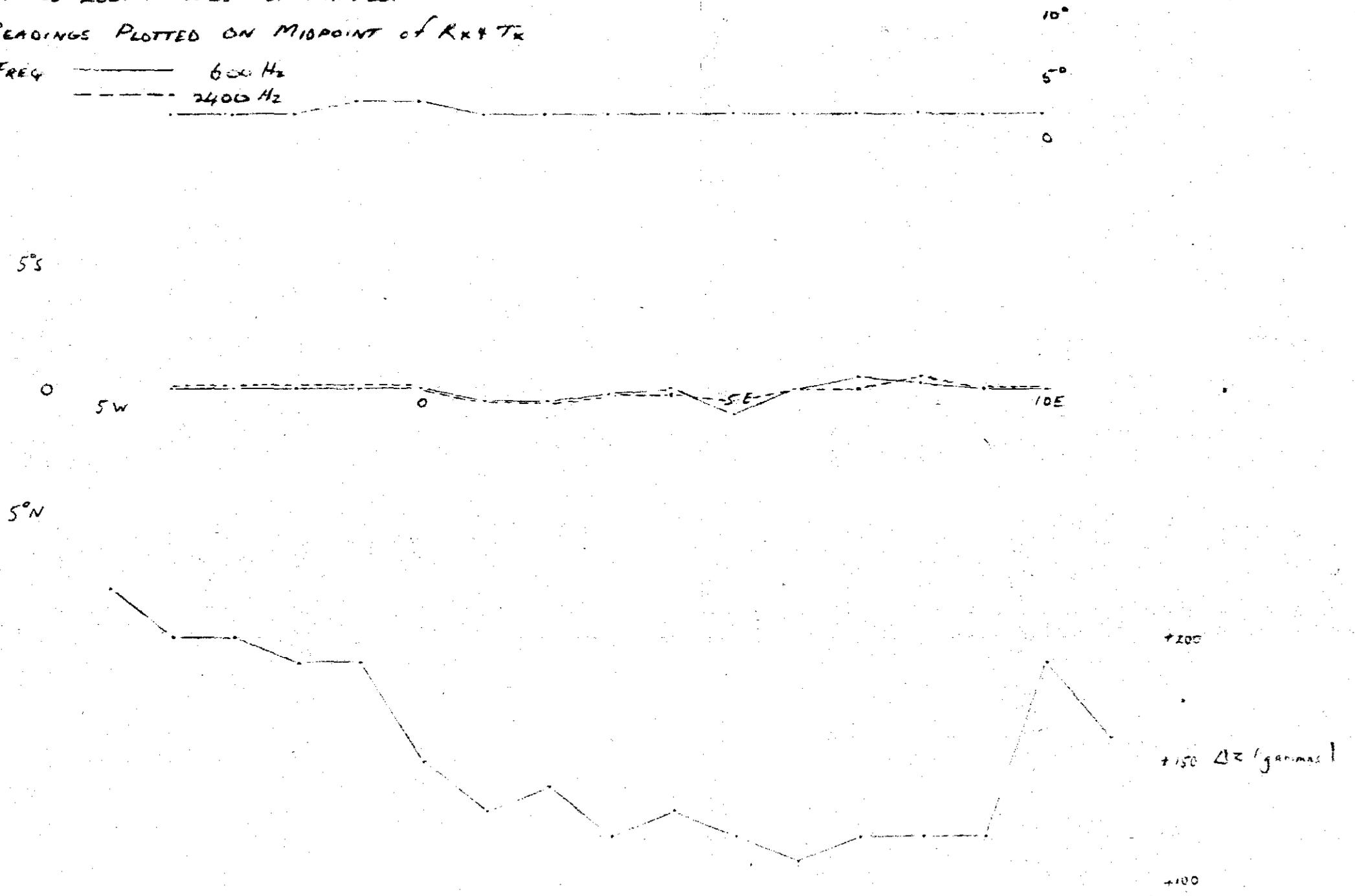
LINE 1/A 5/1/73

200 FT SEPARATION

Tx Pos 200 FT WEST of Rx Pos.

READINGS PLOTTED ON MIDPOINT of Rx & Tx

FREQ ——— 600 Hz
 - - - - - 2400 Hz



5 cm

008

700005

EM INLINE VERT LOOP

LINE 1/B 5/2/73

200 FT SEPARATION

Tx Pos 200 FT NORTH of Rx Pos

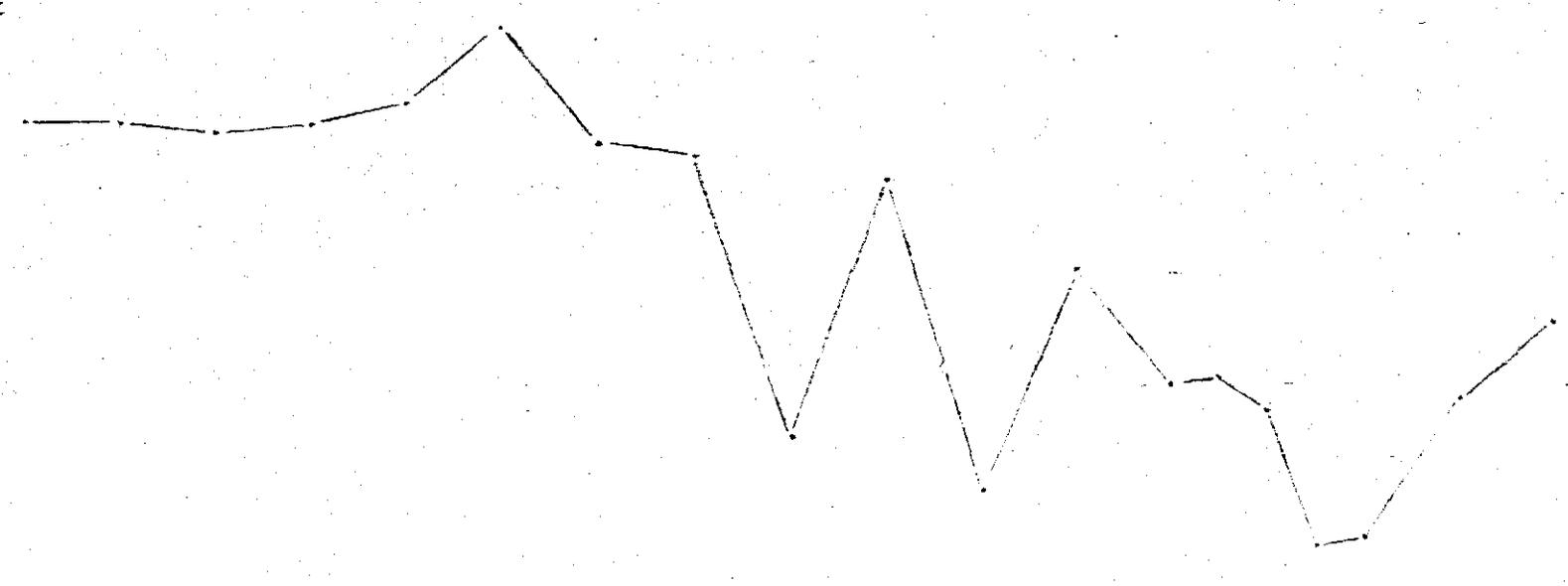
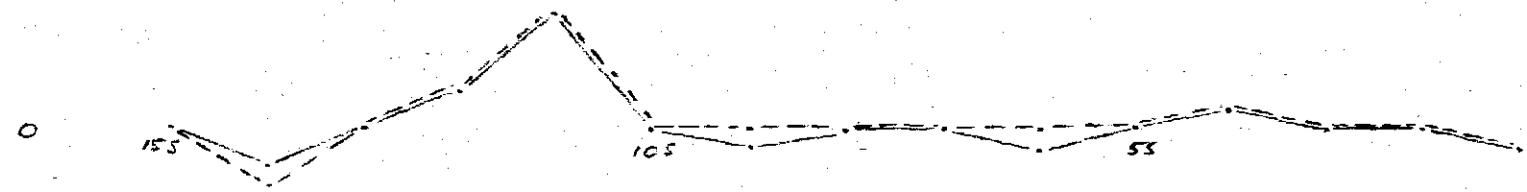
READINGS PLOTTED ON MIDPOINT of Tx & Rx

FREQ ——— 600 Hz
----- 2400 Hz

10"
5" NULL WIDTH

5° W

5° E



5 cm

ANOMALY No. 4

Location

NW part of EL 2/70. Refer Plate 929/73 and photos: Guildford T570/18, 19

Access

Currently on foot from Murchison Highway, 1 mile north of Que River, initially through logging roads. Vehicle access to within 1/2 mile of anomaly could be developed.

Topography - Timber

Large trees with very thick underbrush in area of anomaly.

Technical Data

Anomaly was not located since undergrowth not penetrable on foot without pre-cut lines.

Further Work

Clear by hand or bull dozer access to anomaly area; cut one or two lines and identify anomaly by inline VEM; soil sample with hand auger,

006

ANOMALY No. 8

Location

Central west of EL 2/70. Refer Plate 929/73, and photos: Guildford T569/205

Access

Track from Murchison Highway 1/2 mile south of Que River. For 4-wheel drive vehicle access, several large trees need clearing off track. Track ends at 300'S. Anomaly located at 1300'S approx, on traverse line.

Topography and Timber

Reasonably flat ground. Horizontal growth from 300'S to 1500'S then open ground with large trees.

Technical Data

One 2000' traverse bearing 159°M of SP, VEM and magnetics was run.

An inline EM anomaly was located between 1100'S and 1500'S. SP produced a weak (~25 millivolt) anomaly which must be viewed with caution since overnight rain prevented reproduction of the first days' readings. Ideally the whole line should have been repeated. No significant magnetic results were achieved.

Soil samples were collected with an auger at the following locations:

		Cu	Pb	Zn	Ag (ppm)
1275E	No: 100630	300	130	8	4
1300E	100609	210	76	7	8
1325E	100614	27	50	6	
1350E	100627	100	92	3	5
1375E	100617	200	33	7	2
1400E	100624	28	12	4	
1450E	100628	52	200	10	5
1500E	100626	23	90	4	

Results are appended, together with depth and soil descriptions.

Two Paringa stream sediment samples in this area are of interest; they show lead and zinc values which by inspection of data appear 5-10 times the normal for the gross geological unit (Cambrian acid volcanics) in this area. The location and lead/zinc values are shown on photo T569/205. (300 Pb/265 Zn, 195Pb/265 Zn) Copper values are low.

1/2 mile north of anomaly 8 is a trench. The stratigraphic relationship is not known. Sampling and mapping data is appended (Plate MAC 1). It is considered that further work in this area is justified. The available data is inadequate.

Scattered outcrops along the access track were noted.

Location X: contacted black shales and grey siltstones
Strike 360°M.

Location Y: Strongly weathered intermediate (?)
volcanics.

Location Z: Weathered intermediate (?) volcanics and
siltstones.

(Refer photo 205)

Samples collected on the traverse line are yellow sandy clays
possibly weathered acid volcanics.

Further Work Recommendations

1. Bulldozed/hand cut grid of 5 lines 200' apart.
2. Attempt broadside VEM, or other VHEM technique if orientation problems severe.
3. Soil samples, over EM anomalies, 1/4 mile spaced stream sediment sampling.
4. Creek mapping, trenching.
5. Extension and if possible, deepening of the "Kimber" trench to extend geochemical sampling.

005

700009

EM INLINE VERT LOOP

LINE 8/A 29/1/73

200 FT SEPARATION

Tx Pos 200 FT NORTH of Rx Pos

READINGS PLOTTED ON MIDPOINT of Rx & Tx Pos

FREQ ——— 600 Hz
----- 2400 Hz

10°
5°
0°
Null Width

5° W

0°

5° E

205

155

105

55

0

ΔZ (gamma_e)

-50
-100

0

Millivolts

-50

5 cm

ANOMALY No. 15Location

SW part of EL 2/70, about 2½ miles NE of Tullah.
Refer plate 929/73 and photo: Guildford T569/163.

Access

By dirt track, usable by utility in dry weather, on the north bank of the Mackintosh River. Wade river. Track on south bank of Mackintosh River also good quality, but terminates at steep scree slope. Possible foot access in wet weather, - need to wade tributary of Mackintosh.

Topography and Timber

Flat ground of fluvioglacial (?) gravels. Low grass/swamp, bracken.

Technical Data

Two VEM/magnetic traverses bearing 090°M were undertaken. Magnetic data is of no interest. Small dip readings at 100ft. Rx/Tx spacing were not repeated or improved with 200 ft. spacings.

Inspection of the banks of the Mackintosh River and the level nature of this ground in a series of terraces suggests that fluvioglacial gravels, being presently eroded by the Mackintosh are of the order of 20 ft. thick.

Inspection of the Mackintosh 1"=1 mile geological map indicated that the Quarternary deposits are underlain by a faulted association of Ordovician Gordon Limestone and Cambrian acid volcanics and/or sediments.

Further work

None recommended.

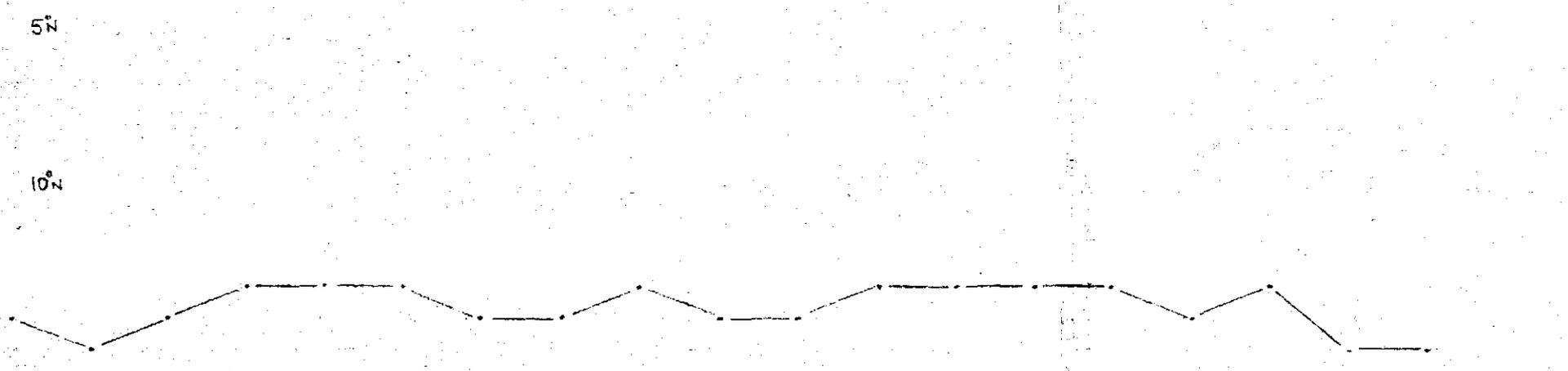
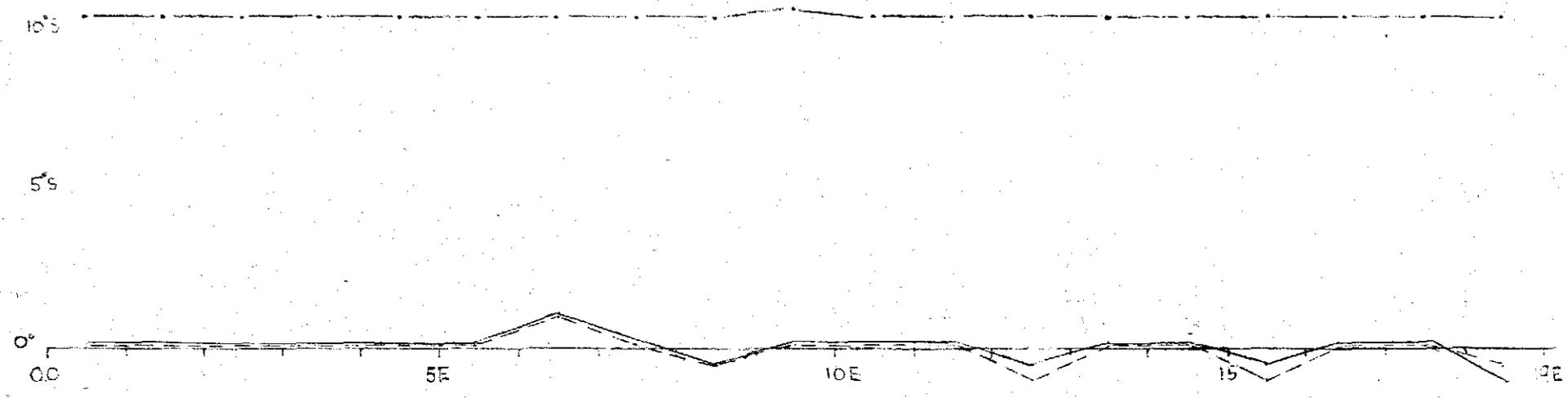
D10

700011

LINE 15A 33-1-73
100 FT. SE2 E.M. INLINE VERT. LOOP
TX 100 FT E OF RX POSITION
READINGS PLOTTED ON MIDDPOINT OF RX+TX.

— 600 HZ
- - - 2400 HZ

10°
5° NULL WIDTH



-150
ΔZ (gamma)
-200

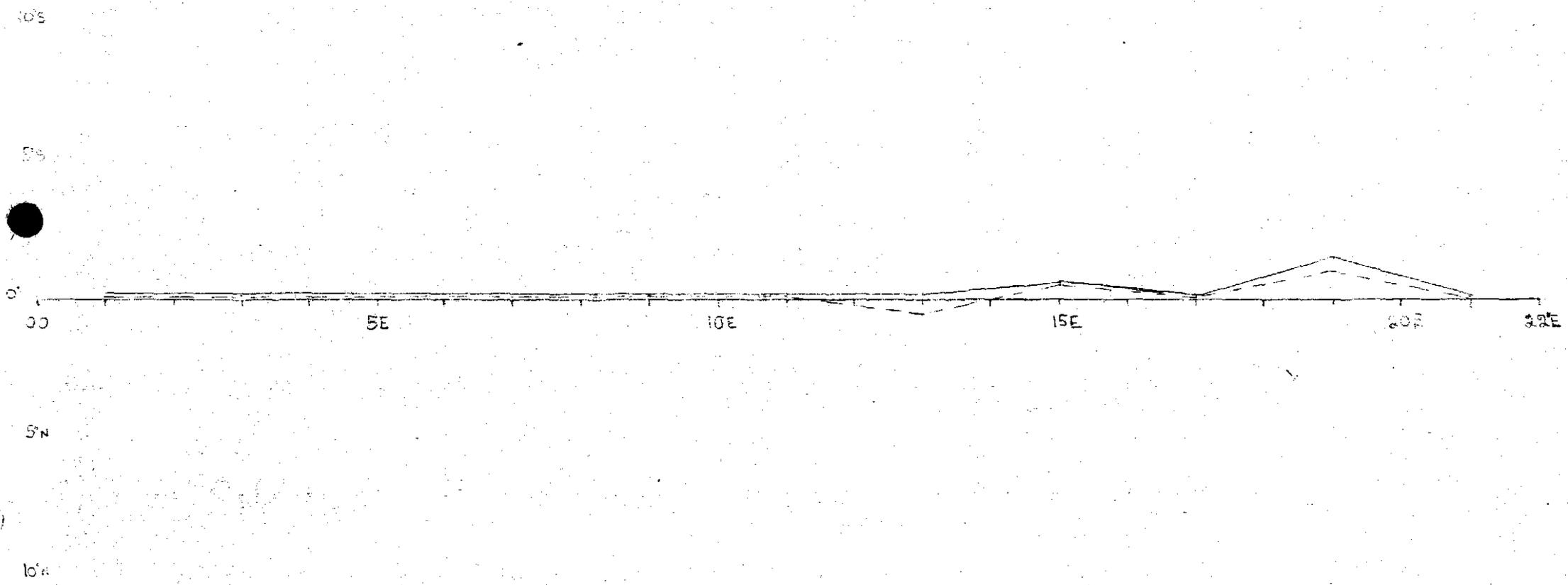
5 cm

011

LINE 158 13-1-73
200 FT. SEP. E.M. INLINE VERT LOOP
TX 200 FT. W OF RX POSITION
READINGS PLOTTED ON MIDDPOINT OF RX & TX

700012

—— 600 HZ
- - - 2400 HZ



5 cm

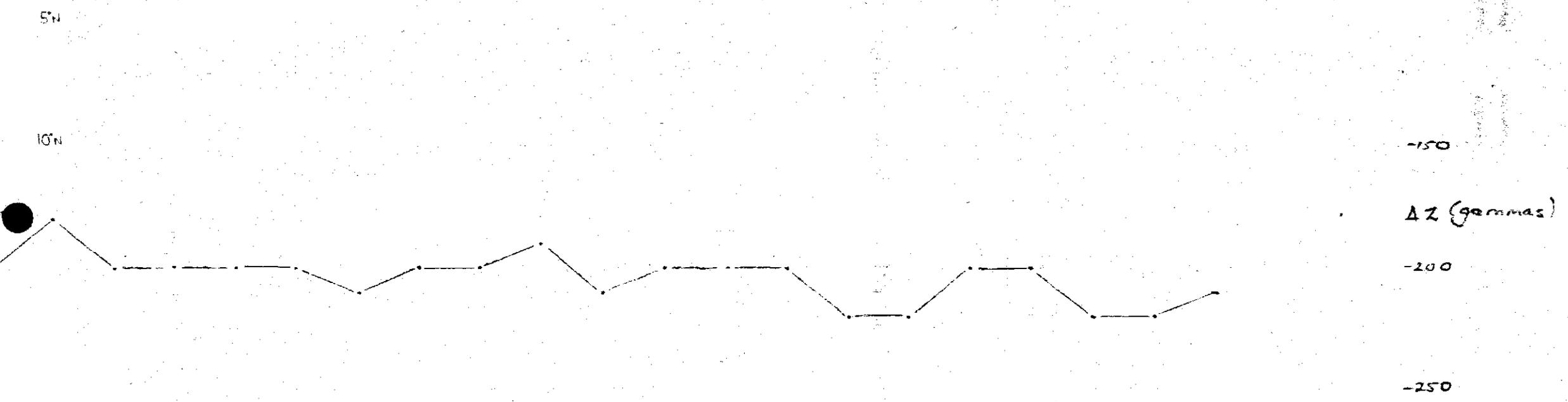
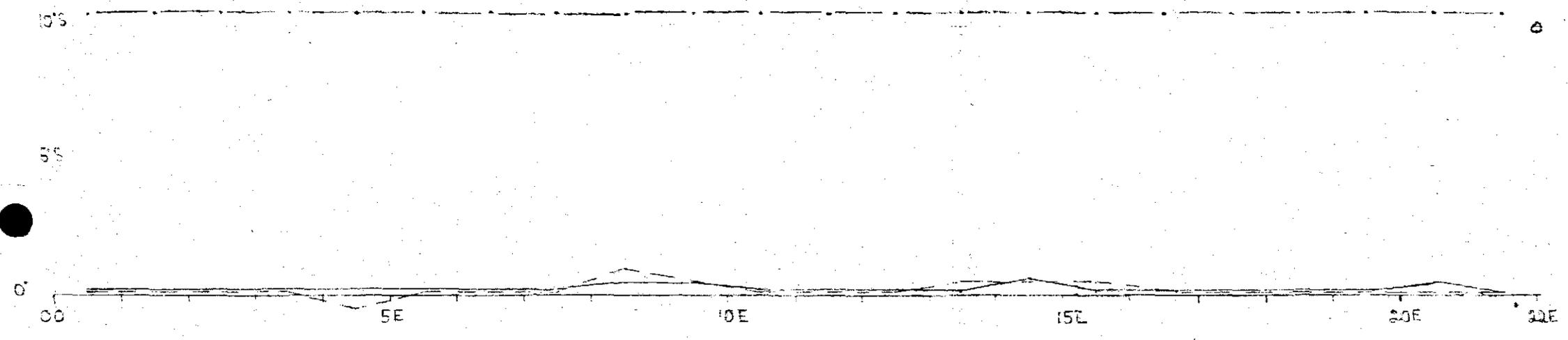
013

LINE 15B 13-1-73
100ft SEP E.M. IN LINE VERT. LOOP
Tx 100ft W OF Rx POSITION
READINGS PLOTTED ON MIDPOINT OF Rx + Tx

700013

— 500 HZ
- - - 3400 HZ

10
5 NULL WIDTH



-150
ΔZ (gammas)
-200
-250

5 cm

012

700014

LINE 15B 23-1-73
200 FT SEP. E.M. INLINE VERT. LOOP
TR 200 FT W. OF R. POSITION
READINGS PLOTTED ON MIDPOINT OF R. & T.R.

—— 600 HZ
- - - 2400 HZ

10'S

5'S

0
00'

5'N

10'N

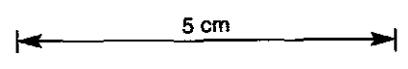
5E

10E

15E

20E

25E



ANOMALY No. 16Location

SW part of EL 2/70, about 2½ miles NE of Tullah.
Refer plate 929/73 and photo: Guildford T569/163.

Access

By dirt track, usable by utility in dry weather, on the north bank of the Mackintosh River. Wade river. Track on south bank of Mackintosh River also good quality, but terminates at steep scree slope. Possible foot access in wet weather, - need to wade tributary of Mackintosh.

Topography and Timber

Flat ground of fluvioglacial (?) gravels. Low grass/swamp, bracken.

Technical Data

A single traverse bearing 135°M was run at 100' and 200' Rx/Tx spacings using "inline" VEM. Broadside VEM with 200' spacing produced a cross-over at 500E. 1°E and W dips were achieved in this vicinity with 100' spaced Rx/Tx using the inline method. No dips were measured with 200' spacing and a shallow source (ground water in gravels?) is indicated.

Geological comments are as for Anomaly 15.

Further Work

Recommendations await experienced assessment of the EM data. Like Anomaly 15 this area is readily accessible so that any further work would not require major track/line cutting.

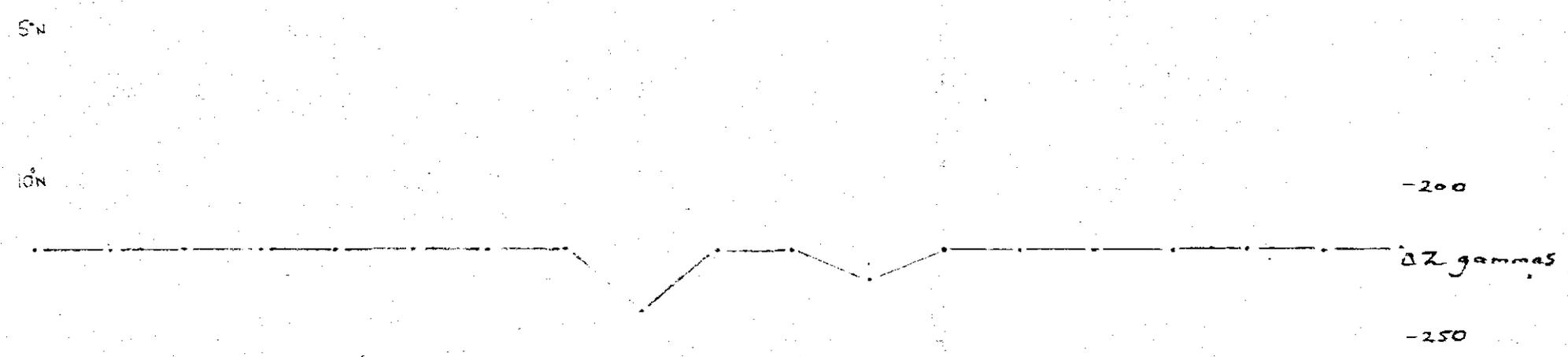
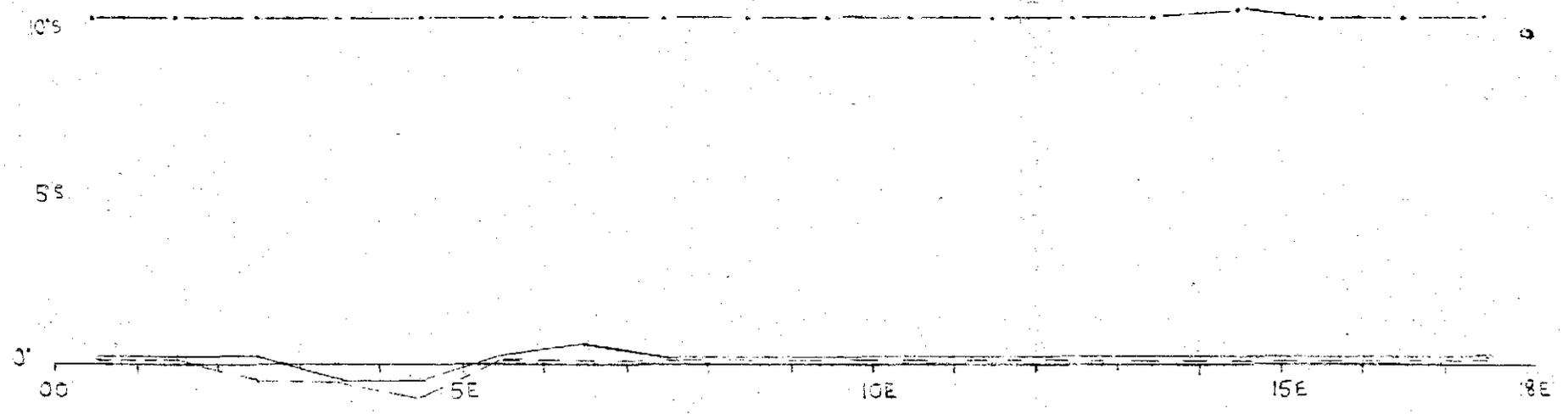
015

LINE 16 A 23-1-73
100ft SEP. EM. INLINE. VERT. LOOP
Tx 100ft W. OF Rx POSITION
READINGS PLOTTED ON MIDDLEPOINT OF Rx+Tx

700016

—— 600 HZ
- - - 2400 HZ

10°
5° NULL WIDTH



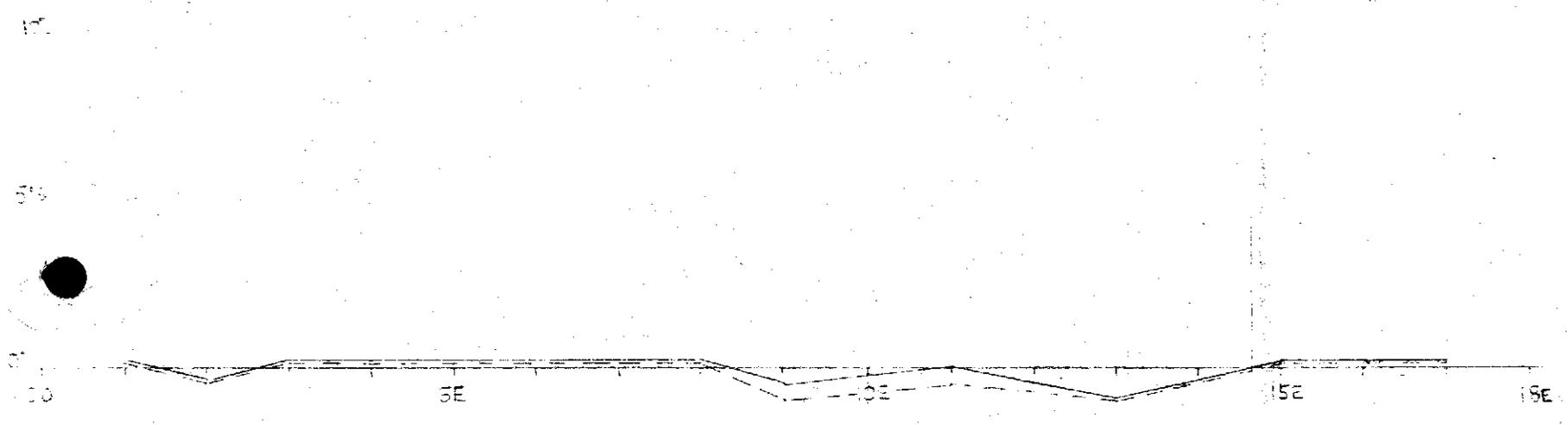
5 cm

016

700017

LINE 16A 23-1-73
300ft. SEP. EM. INLINE VERT. LOOP
To 300ft. W. OF RA POSITION
READINGS PLOTTED TO MIDPOINT OF RA-TX

----- 400 Hz
----- 3400 Hz



5 cm

017

Rx LINE 16A 2-2-73
Tx LINE 16B 200ft N
E.M. BROADSIDE VERT LOOP
LINE SE? 200ft
READINGS PLOTTED ON Rx POSITION
—— 600 HZ
- - - 2400 HZ

700018

10W

5W

0

00

10E

5E

10E

5E

10E

5 cm

ANOMALY No. 9Location

NE corner of EL 2/70. Refer Plate 929/73 and photos: Cuildford T570/156.

Access

Bitumen/gravel road from Devonport to within 8 miles of Waldheim Chalet. Then 2 miles approx along gravel track, useable by utility to shacks (photo 156). Would require 4-wheel drive vehicle in wet weather.

Topography and Timber

Open button grass.

Technical Data

A single traverse bearing 305° M of 200' Rx/Tx spaced inline VEM and ground magnetics served to locate the airborne anomaly.

The magnetic anomaly is related to vesicular basalt of Tertiary age occurring as valley fill. Cambrian sericitic quartz porphyries 400' to the north strike 030° M and dip 55° W. No airborne EM anomaly occurs over exposed Cambrian volcanics; it is restricted to the Tertiary basalts.

The ground-airborne EM anomaly is tentatively attributed to either an ionic conductor associated with the essentially flat Tertiary-Cambrian contact or to a fault occupying the valley.

Further Work

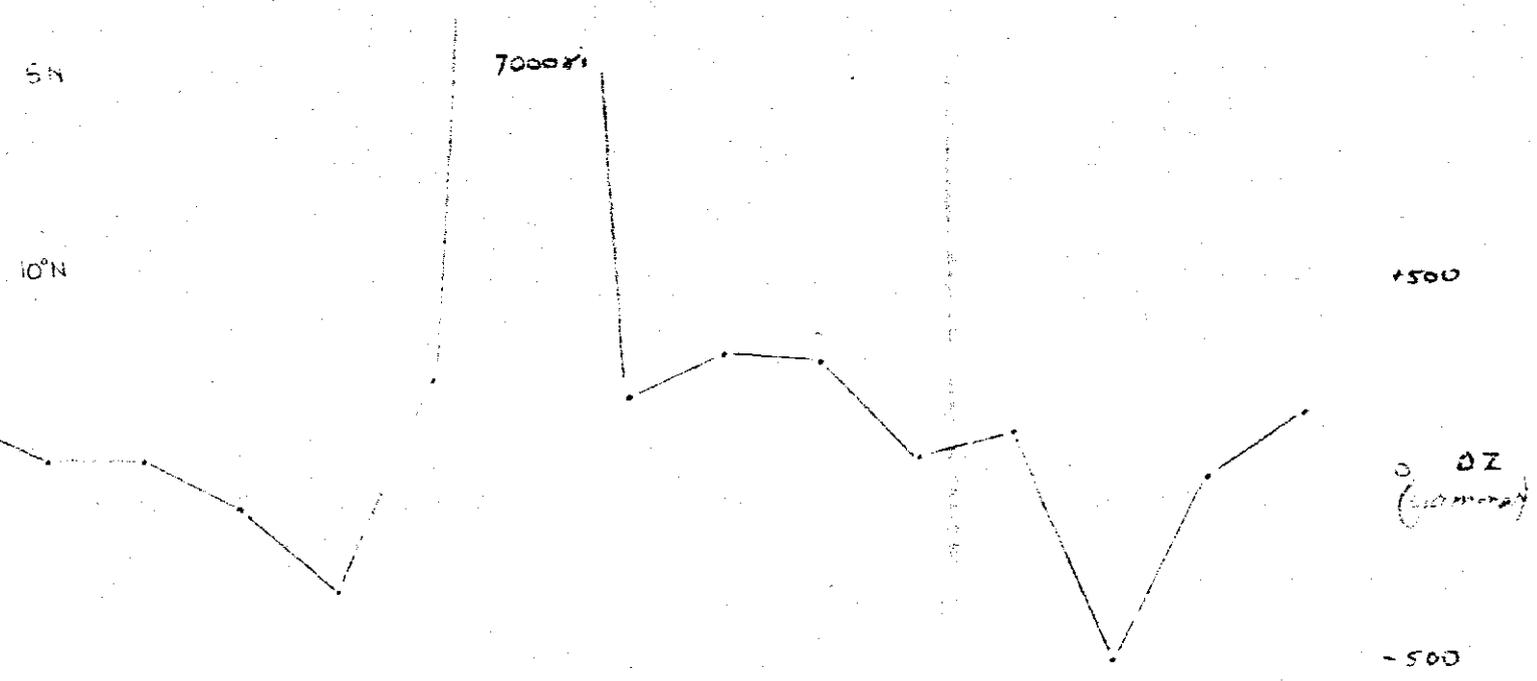
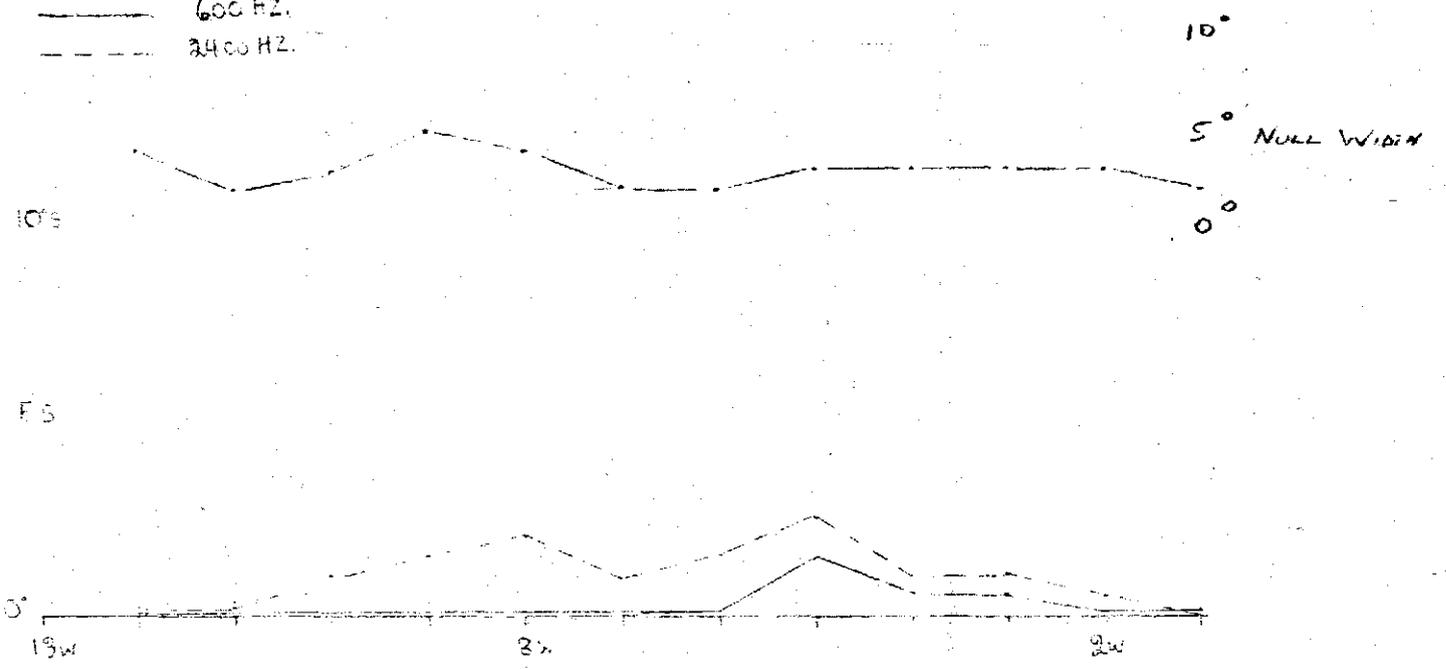
Further work is not recommended, however, a formal interpretation of the EM data is required.

019

700020

LINE 9A 26-1-73
 200 FT SER. E.M. INLINE VERT. LOOP
 TX 200 FT. E. OF RX POSITION
 READINGS PLOTTED ON MIDDLEPOINT OF RX-TX

—— 600 HZ.
 - - - 2400 HZ.



5 cm

ANOMALY No. 12

Location

NE corner of EL 2/70. Refer plate 929/73 and photos: Guildford T570/156.

Access

Bitumen/gravel road from Devonport to within 8 miles of Waldheim Chalet. Then 2 miles approx. along gravel track, useable by utility to shacks (photo 156). Would require 4-wheel drive vehicle in wet weather.

Topography and Timber

Open button grass.

Technical Data

Two lines bearing $233^{\circ}M$ were established 200' apart.

In line VEM with 200' Rx/Tx spacing was carried out on one line and subsequently HEM on the same line.

The second line was used to control broadside VEM.

There is no outcrop in the immediate vicinity of the traverses as the area is a swamp. Ground magnetics suggest that the swamp is underlain by basalt.

An outcrop of porphyritic quartz-diorite occurs 600' to the NE of the ground EM anomaly. It contains rare pyrite cubes (< 2mm).

The EM profiles are appended for further assessment.

Further Work

Awaits assessment of EM data.

022

LINE 12A 28-1-73

200 FT. SEP. E.M. INLINE VERT. LOOP.

Tx 200 FT. E OF Rx POSITION

READINGS PLOTTED ON MIDPOINT OF Rx + Tx.

—— 600 HZ.
- - - 2400 HZ.

10°

5° NULL WIDTH

10S

5S

0°

10W

5W

00

5E

5N

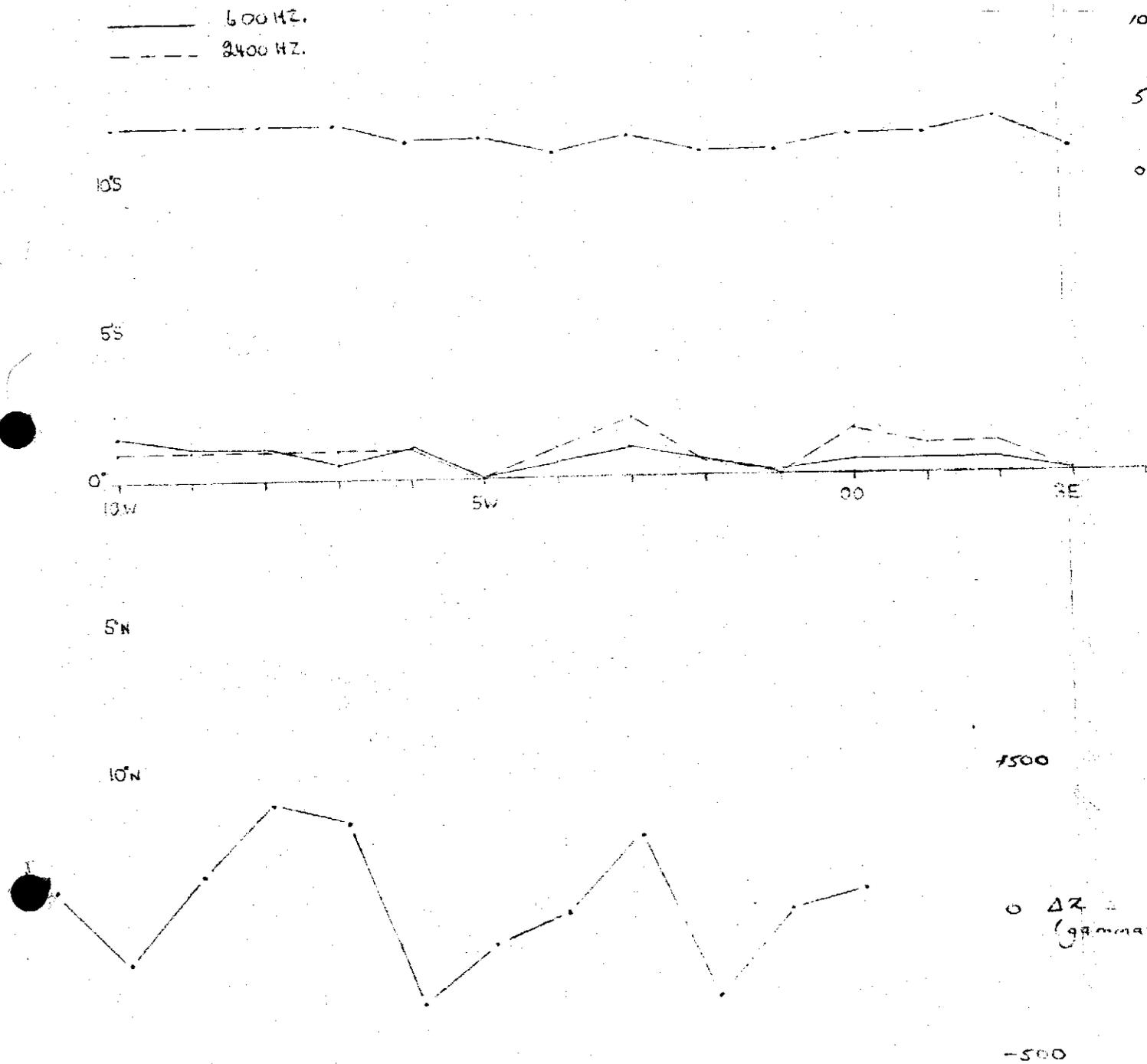
10N

1500

0 ΔZ (GRAMS)

-500

5 cm



021

700023

RLINE 12A 28-1-73

TR LINE 12B

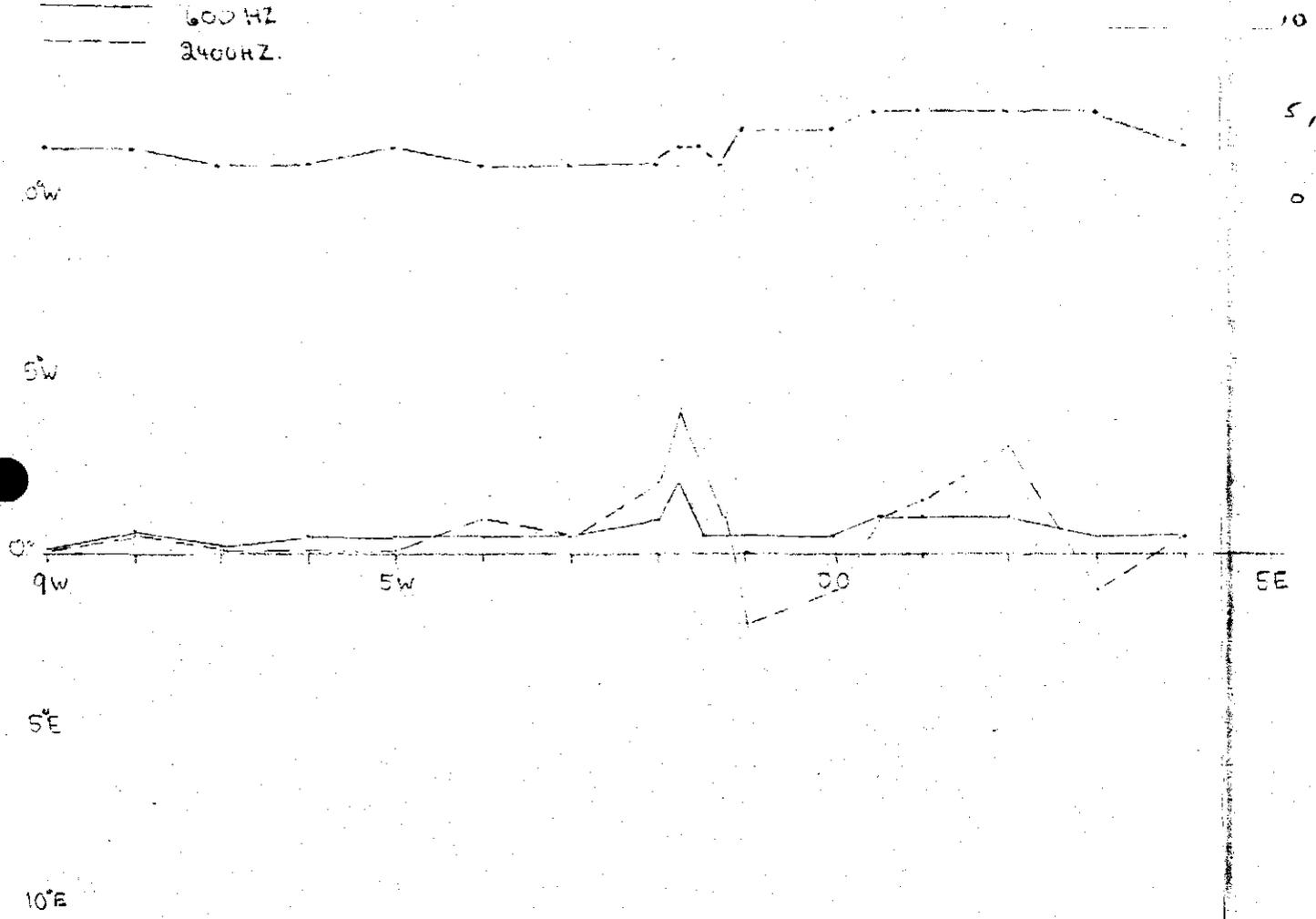
E.M. BROADSIDE VERT. LOOP

LINE SEP. 200ft.

READINGS PLOTTED ON RE POSITION

600HZ

2400HZ.

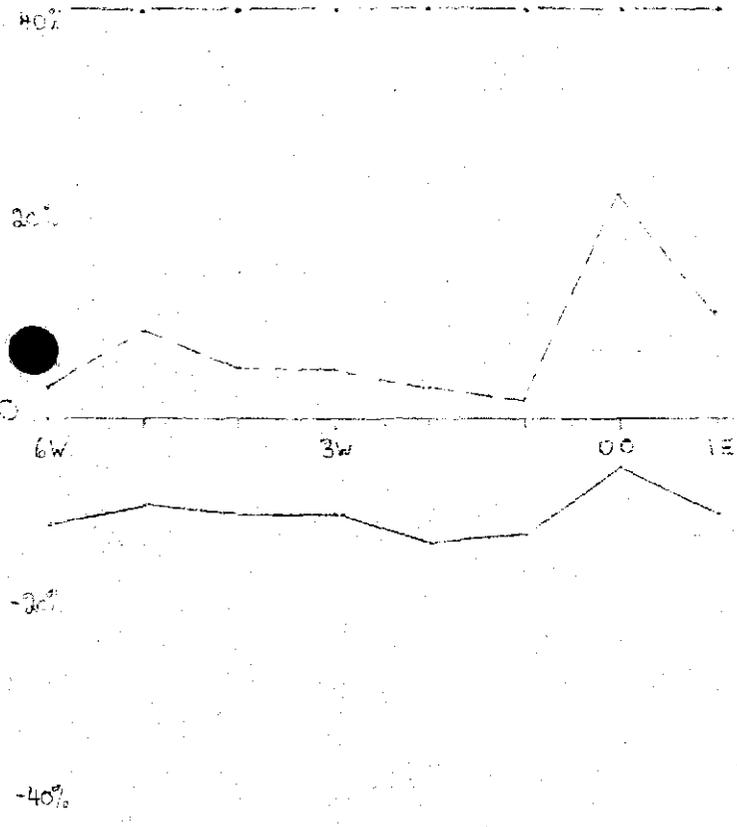


5 cm

023

LINE 12A 28-1-73
 200 FT SEP. HORIZ. LOOP
 Tx 200 FT. E OF Rx POSITION
 READINGS PLOTTED ON MIDPOINT OF Rx-Tx
 FREQ 2400 HZ
 _____ IN PHASE
 - - - - - OUT OF PHASE

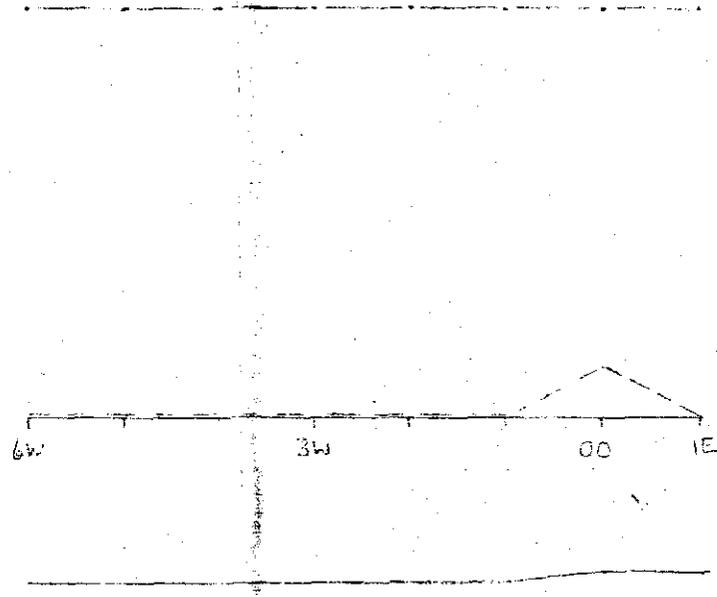
10°
 5° NULL WIDTH



700024

LINE 12A 28-1-73
 200 FT SEP. HORIZ. LOOP
 Tx 200 FT. E OF Rx POSITION
 READINGS PLOTTED ON MIDPOINT OF Rx-Tx
 FREQ 600 HZ
 _____ IN PHASE
 - - - - - OUT OF PHASE

10°
 5° NULL WIDTH



5 cm

024

ANOMALY No. 11

Location

NE corner of EL 2/70. Refer plate 929/73 and photo: Guildford T570/158.

Access

As for Anomalies 9 and 12. Beyond the shacks Haflingers are recommended, though normal 4-wheel drive vehicles may reach the "Ridge Track Line" position readily in wet weather.

Topography and Timber

Open gently rolling button grass.

Technical Data

The airborne EM anomaly is a long feature interpreted over approximately 2 miles. An associated magnetic anomaly occurs at the southern end.

This anomaly was examined at three localities on the ground, with work concentrated at the northern end (between airborne lines 88 and 89) where the strongest airborne responses were obtained.

Lines A-D (between airborne lines 88 and 89)
Line A bears 305° M. Lines B, C, D bear 285° M with C 200' NE of B, and D 200' NE of C. Line A 5W equals Line B 5W.

In line (100' spacing, 200' spacing), and broadside vertical loop EM and HEM were used with success. The easy terrain caused no orientation or short cable problems.

Outcrop in the old bulldozed survey base line visible on photo 158 comprised mica schist and phyllite, after black slate, striking north-south. An area with quartz veinlets and stringers adjacent to lines A and B contains fresh disseminated pyrite. The ground anomaly is located south east of the base line and the area is covered by button grass. Samples were collected by auger. Recovery of the sample was made difficult by water which flowed into the holes from the peat. It is estimated that bedrock is less than 5 feet below surface.

		Cu	Pb	Zn
375W	100611	33	20	28
400W	100635	18	280	18
425W	100625	24	20	20
450W	100621	20	16	21
475W	100612	15	16	24

This part of Anomaly 11 has been soil sampled by Parings. The data is appended. Linear Cu-Pb-Ag anomalies would appear to be related to the EM conductor.

025

Ridge Track (between airborne lines 87 and 88)

A single traverse of inline VEM along the track identified the anomaly. There is no outcrop but bedrock is less than 1 foot from surface and is of micaceous black slate. Samples of soil/weathered bedrock were collected at the following localities.

		Cu	Pb	Zn
300W	100636	20	12	16
335W	100620	17	13	20
365W	100610	15	10	34
400W	100631	20	16	34

Southern Line

This traverse bears 080 M and is located between airborne lines B2 and B4.

The anomaly was located by inline VEM and ground magnetics. No outcrop occurs in the anomalous area but biotite schist striking 180° M dipping 60° W outcrops approx. 1000' WNW of the anomaly, (position X on photo) At position Y (700'E) quartz-mica phyllite strikes 170° M and dips 50° W. This outcrop is approx. 800' east of the EM anomaly peak. The geological association of this anomaly is similar to that of No. 14 (q.v.) At Z (photo 158), 1100E quartz-mica schist is strongly contorted.

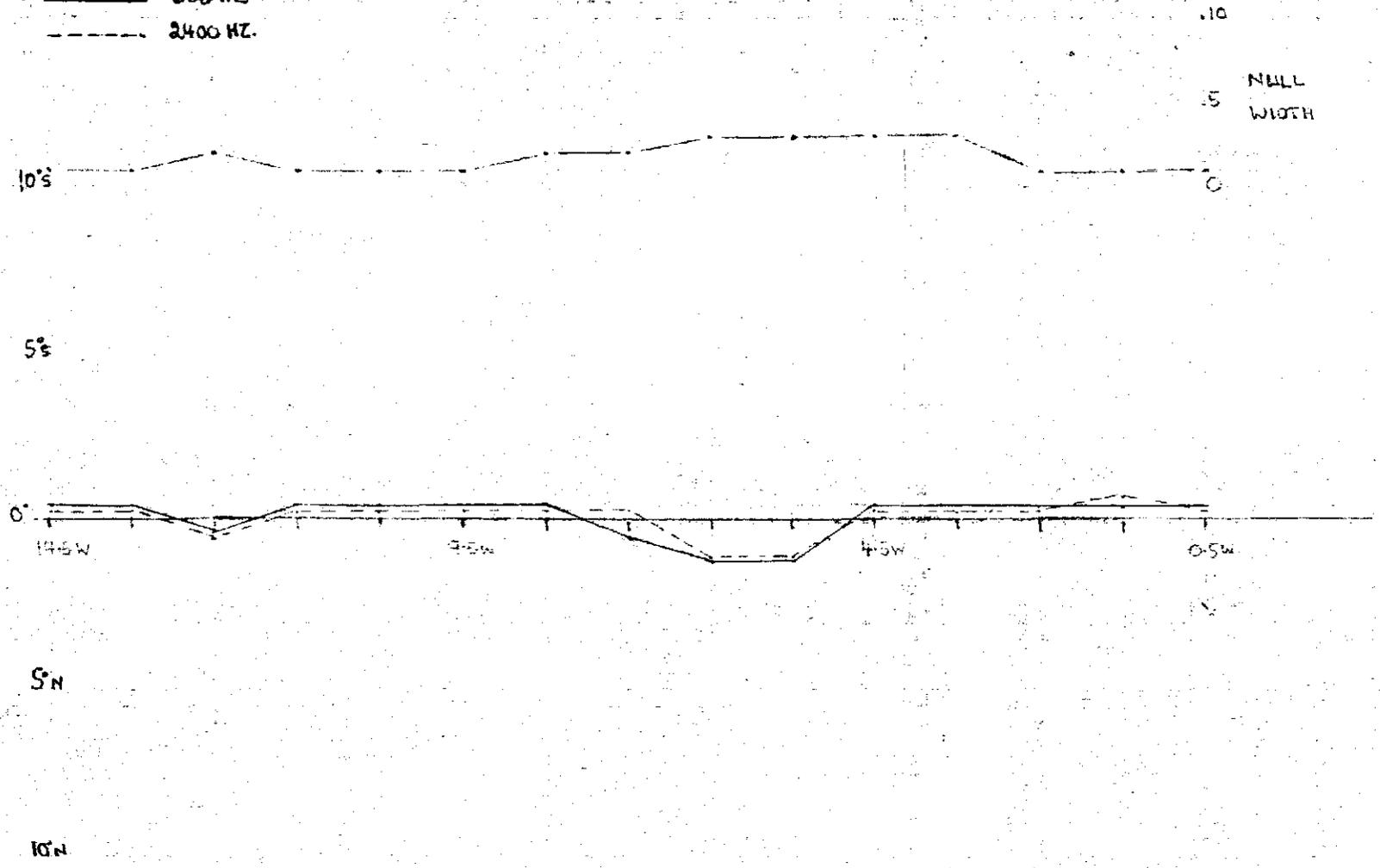
Further Work

This area is readily amenable to gridding, mapping, soil/rock geochemistry and ground VEM. It is probable that the EM anomaly is related to pyritic (plus graphitic?) horizon in metamorphosed black shales. The magnetic anomaly is currently unexplained though pyrrhotite may be the cause.

It is likely that a comprehensive geochemical sampling programme would be required to select the most interesting parts of this conductor which may prove to be contiguous with anomaly 14, 5 miles to the south west.

LINE RA 25-2-79
100 FT. 500 E.M. INLINE VERT. LOOP
Tx. 100 FT. E. OF Rx POSITION
READINGS PLOTTED ON MIDPOINT OF Rx & Tx.

— 600 HZ.
- - - 2400 HZ.



5 cm

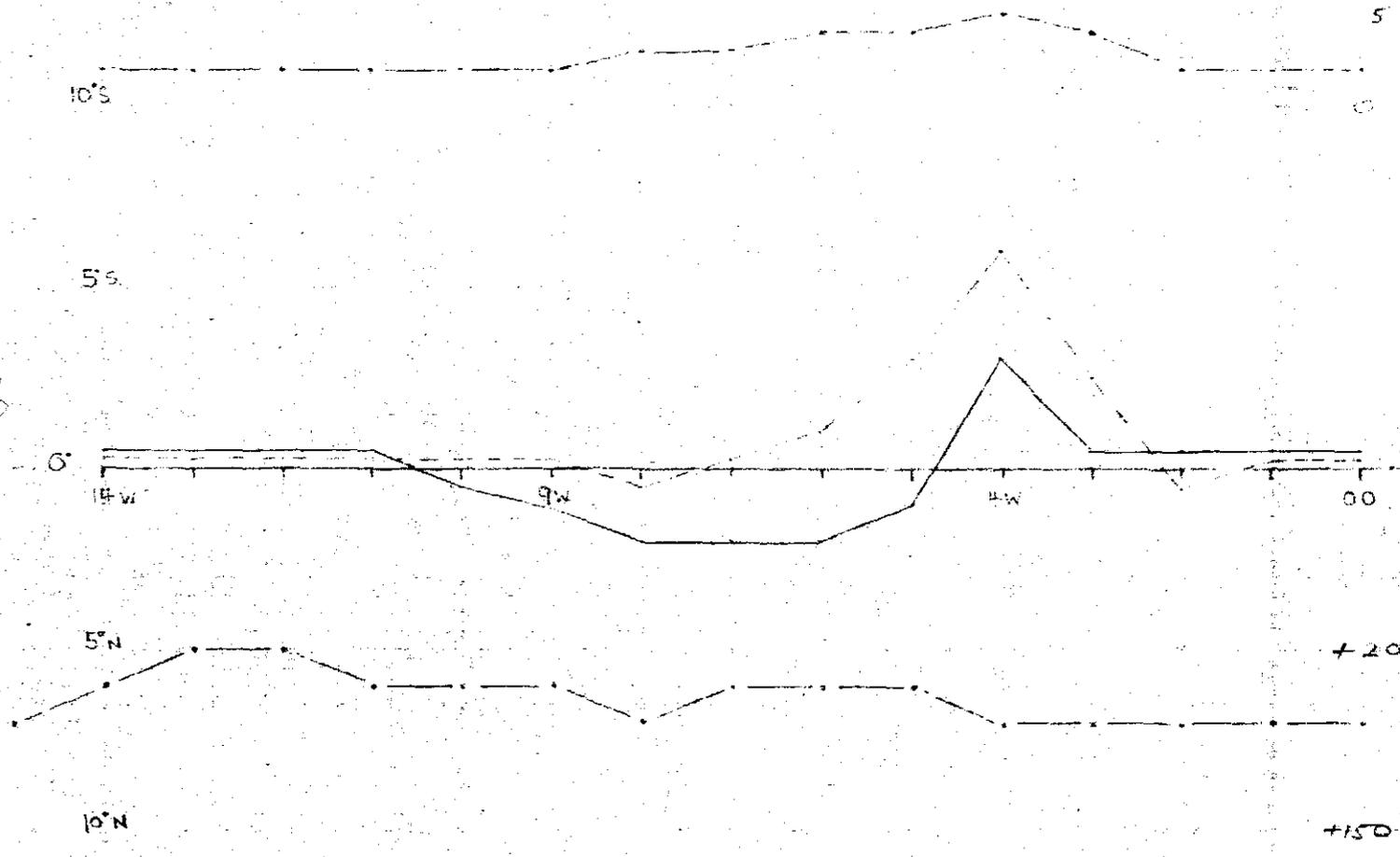
028

700028

LINE 11A AS-E-13
200ft SER. E.M. IN LINE. VERT. LOOP
1/2 200ft E. OF R. POSITION
READINGS PLOTTED ON MIDPOINT OF R+TR

— 600 HZ
- - - 2400 HZ

5 NULL WIDTH



028

700029

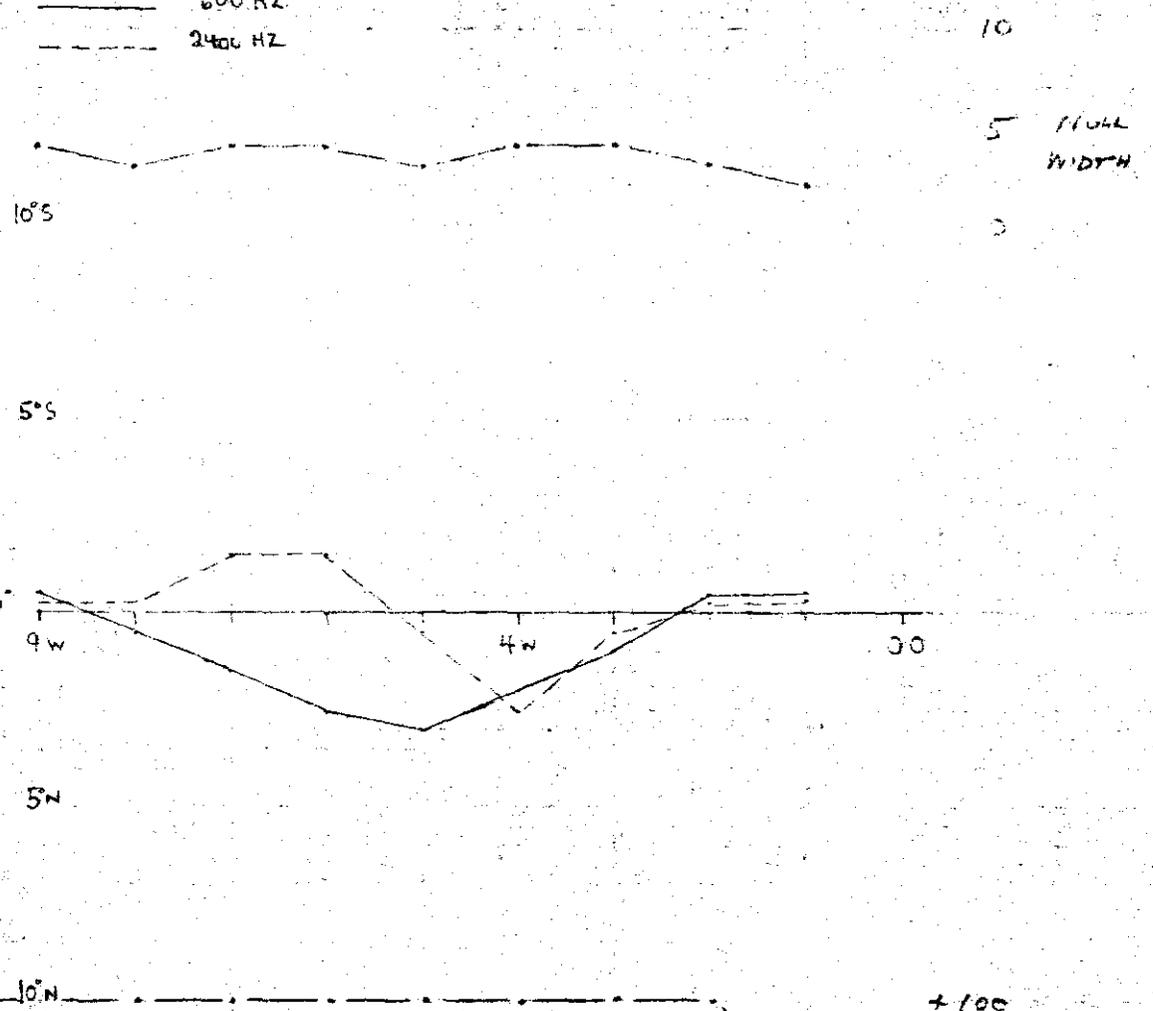
LINE 11B 11-1-73

200 FT SEP. E.M. IN LINE. VERT. LOOP

TX 200 FT E. OF RX POSITION

READINGS PLOTTED ON MIDDLEPOINT OF RX+TX

—— 600 HZ
 - - - 2400 HZ



+100
 ΔZ
 (gamma)
 +50

5 cm

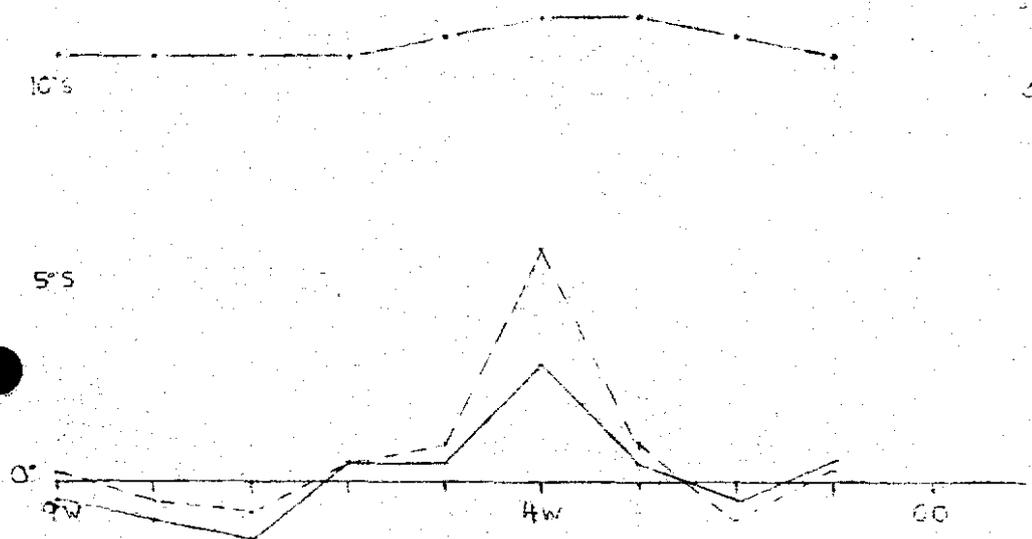
030

700030

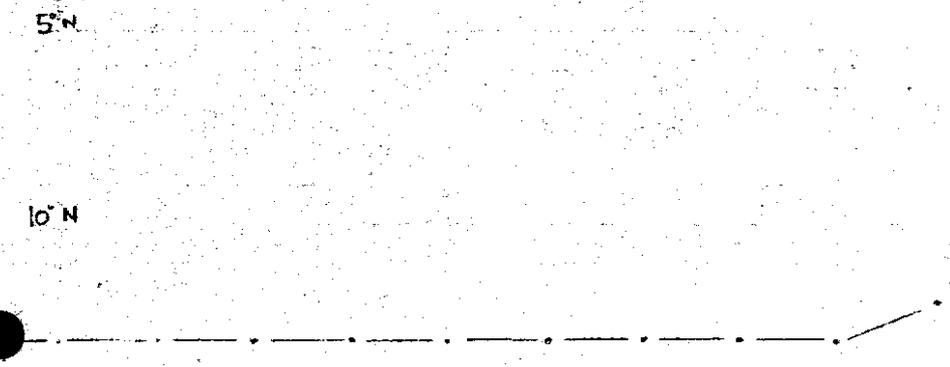
LINE UC 26-1-72
200 FT. SEP. E.M. IN LINE VERT. LOOP
Tx 200 FT E OF Rx POSITION
READINGS PLOTTED ON MIDPOINT OF Rx + Tx

—— 600 HZ
- - - 2400 HZ

10
5
0
5
10



+150
 ΔZ (gms)
+150



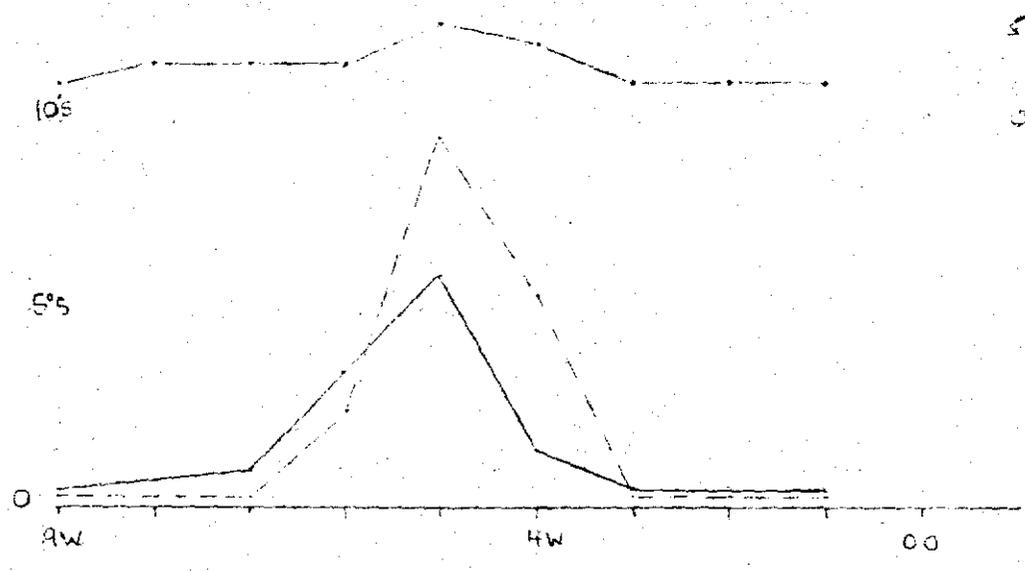
5 cm

031

700031

LINE 11D 26-1-73
 200 FT. SEP. E.M. IN LINE VERT LOOP
 Tx 200 FT E OF Rx POSITION
 READINGS PLOTTED ON MIDDPOINT OF Rx+Tx

— 600 HZ.
 - - - 2400 HZ.



10
5 Null
Width
0

5N

10°N

+150

ΔZ gamma

-100

5 cm

029

700032

Rx LINE 11 D. 26-1-73

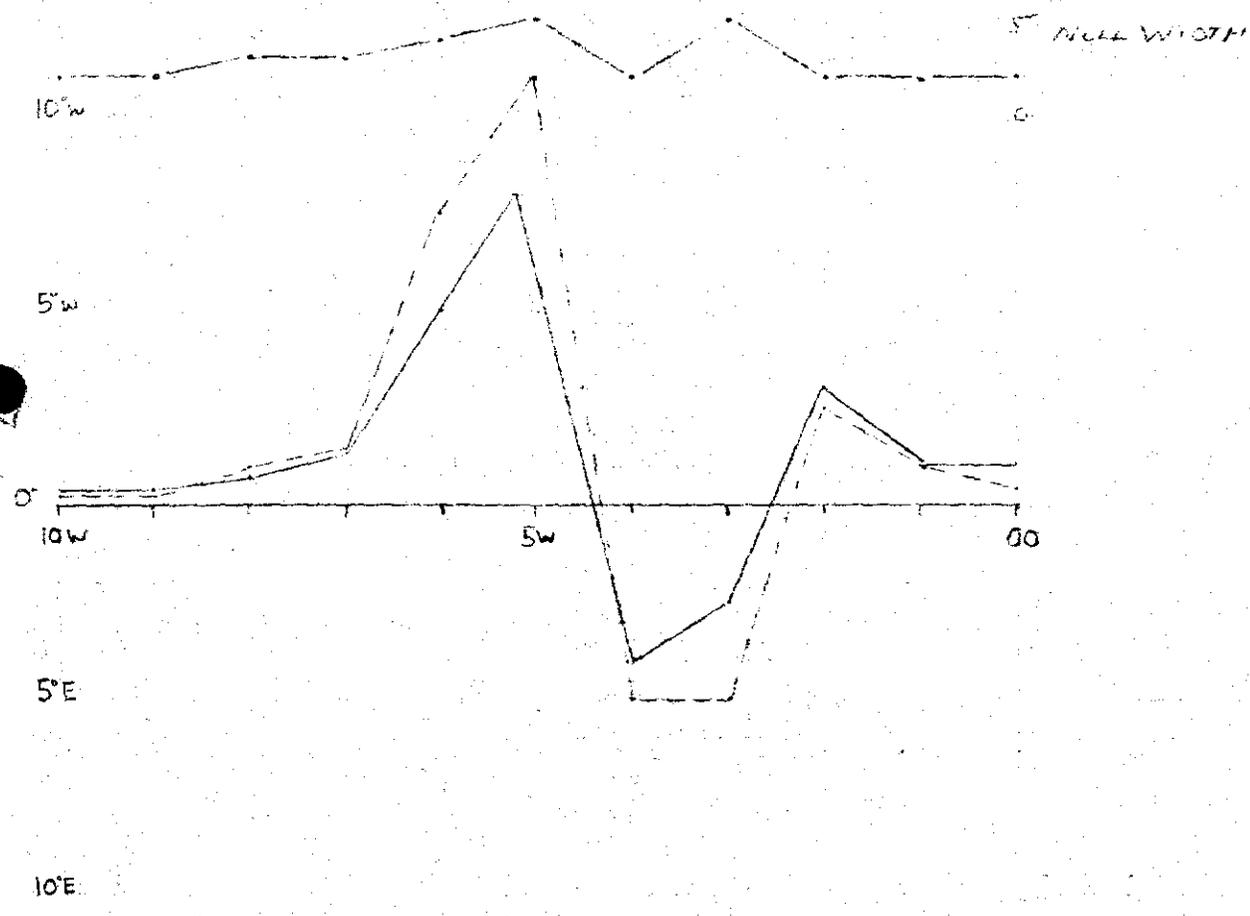
Tx LINE 11 C

E.M. BROADSIDE VERT LOOP

LINE SEP. 200 FT.

READINGS PLOTTED ON Rx POSITION

----- 600 HZ
----- 2400 HZ



5 cm

034

700033

LINE T.L.D. 26-1-13

200 ft SEP. HORIZ. LOOP

Tx 200ft E OF Rx POSITION

READINGS PLOTTED ON MIDPOINT OF Rx + Tx

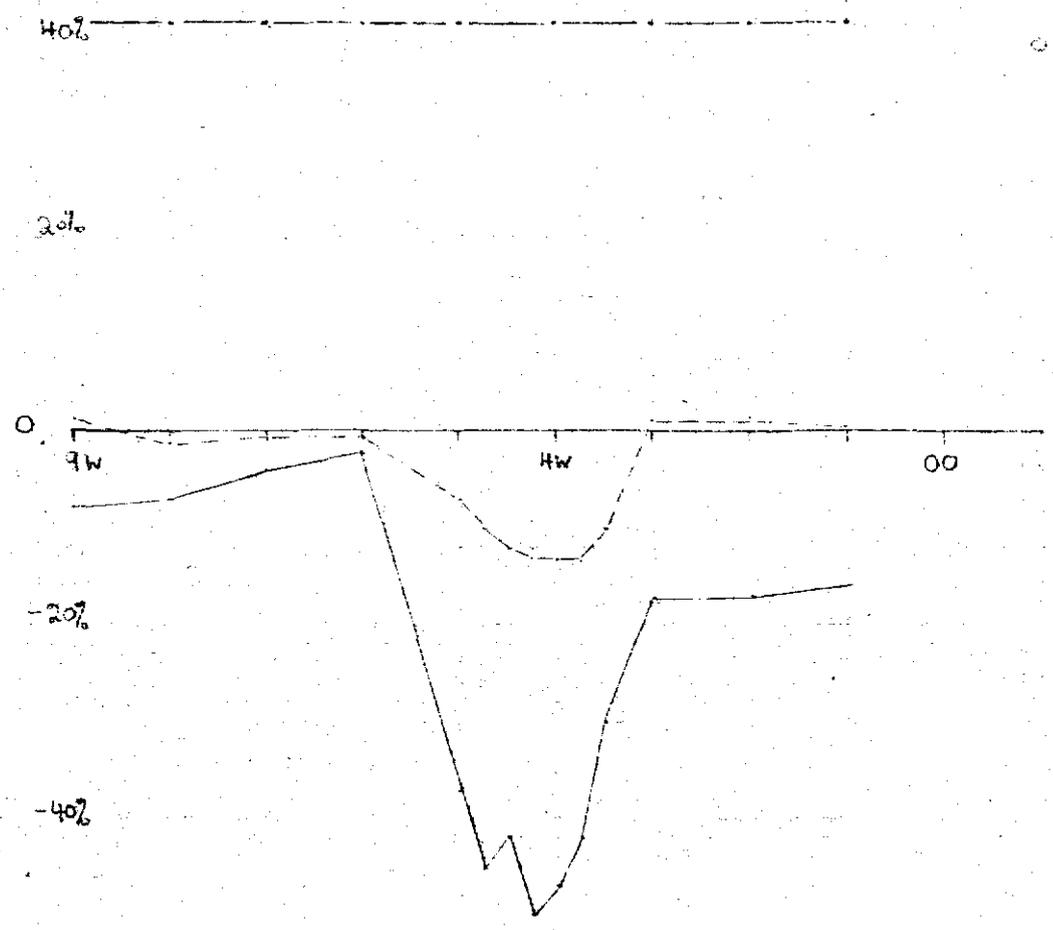
FREQ. 2400 HZ.

— IN PHASE

- - - OUT OF PHASE

10

NULL WIDTH



5 cm

033

700034

LINE ID 26-1-73

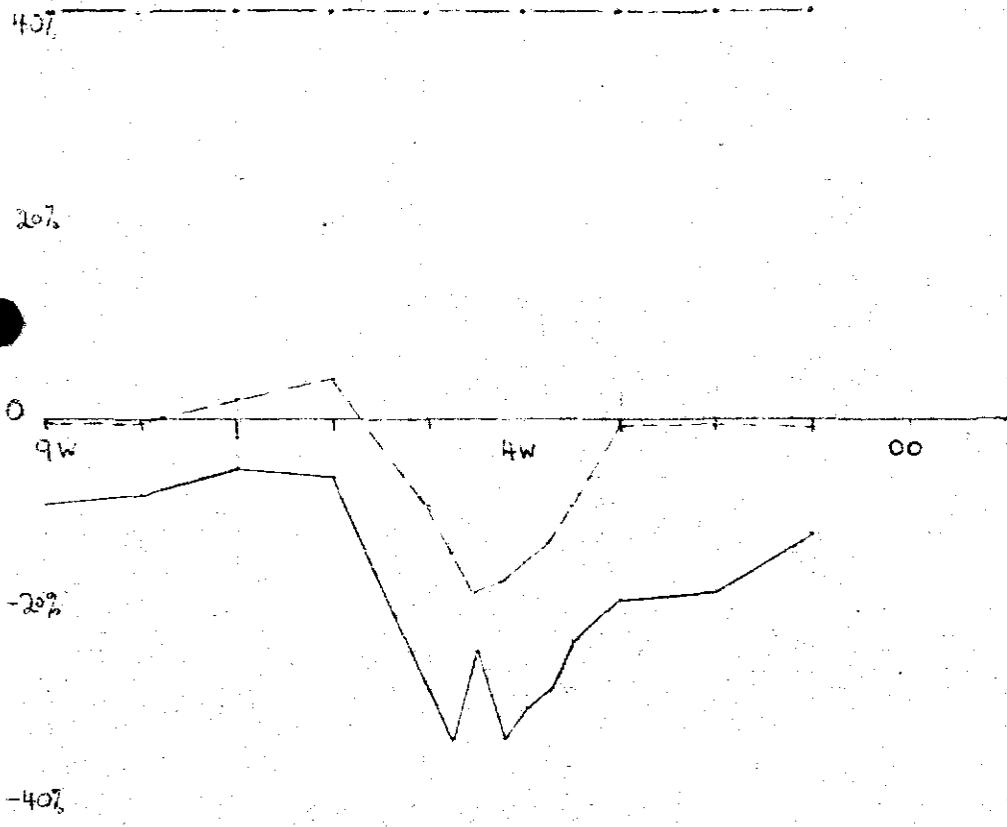
200ft SEP. HORIZ. LOOP

Tx 200ft E. of Rx POSITION

READINGS PLOTTED ON MIDPOINT OF Rx & Tx

FREQ 600 HZ.

—— IN PHASE
- - - - OUT OF PHASE



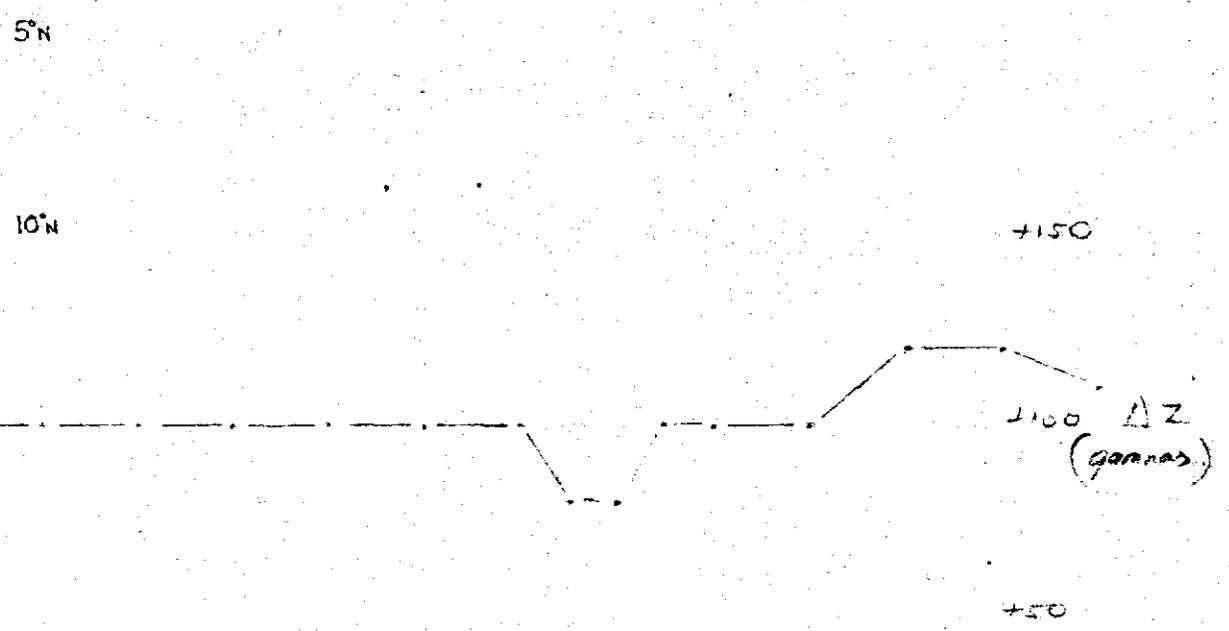
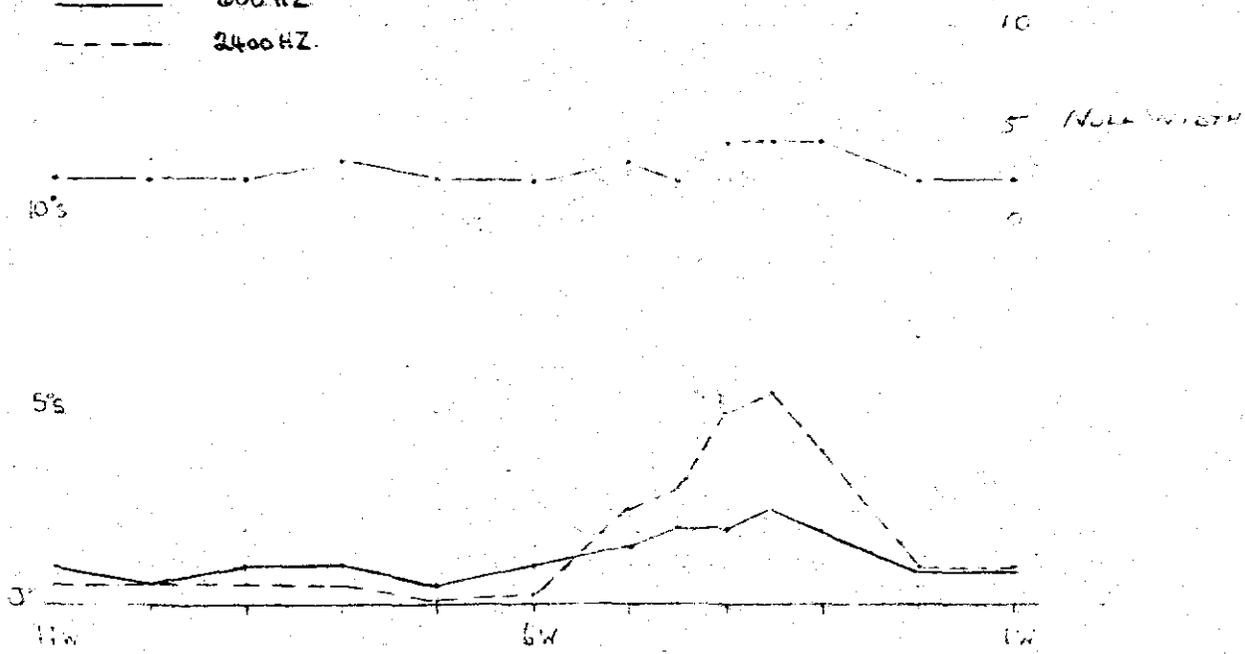
5 cm

034

700035

LINE 11 RIDGE TRACK 25-T-Tx
300ft SEP. E.M. INLINE VERT. LOOP
Tx 200ft E OF Rx POSITION
READINGS PLOTTED ON MIDPOINT OF Rx+Tx

—— 600 HZ
- - - 2400 HZ



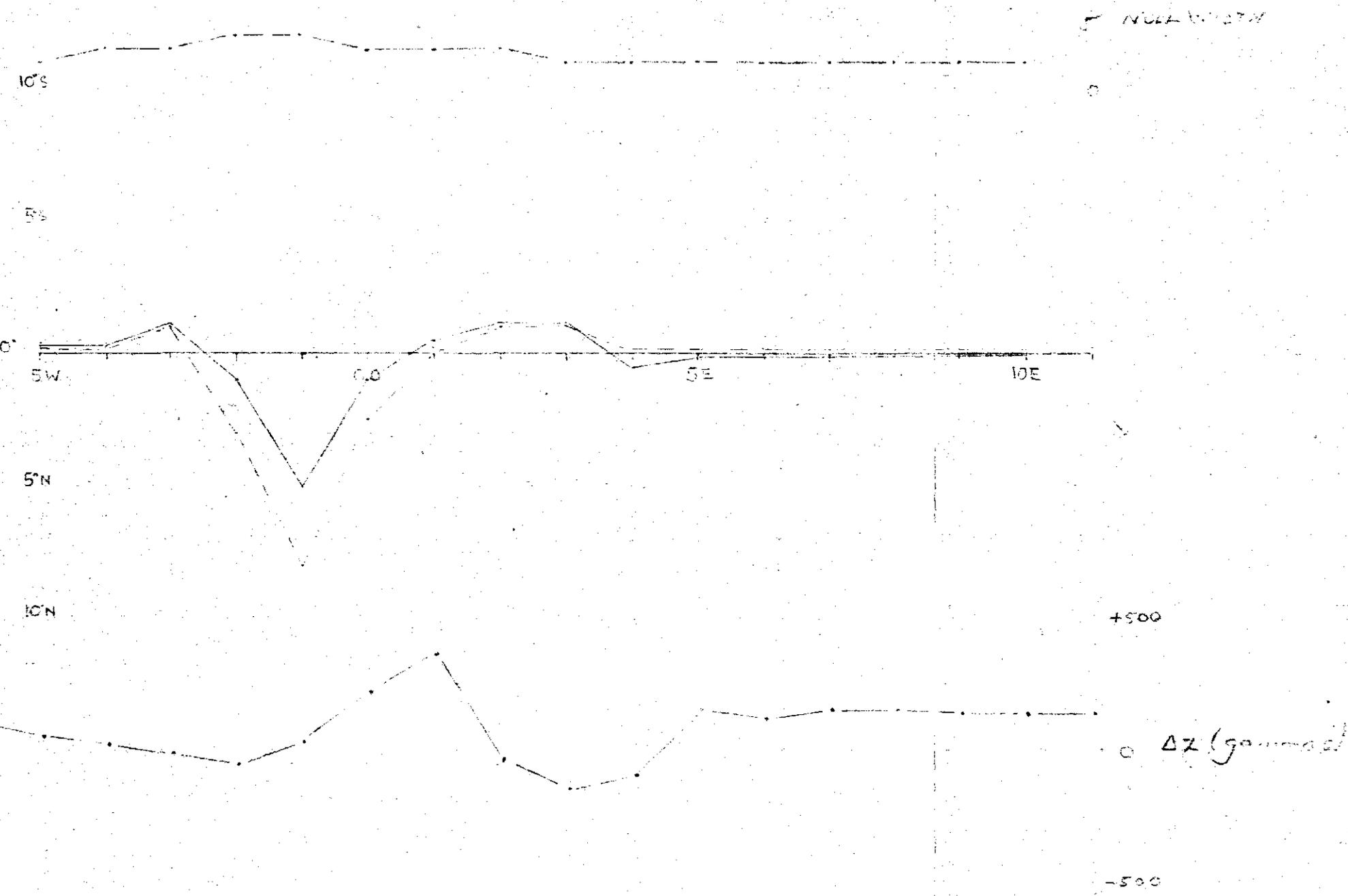
5 cm

035

LINE 11 SOUTHERN 22-1-72
200 FT. SEP. E.M. INLINE VERT. LOOP
Tx 200 FT. E. OF R₂ POSITION
READINGS PLOTTED ON MIDPOINT OF R₁ & R₂

700036

—— 600 HZ.
- - - 2400 HZ.



5 cm

REFERENCES

Krummel, G. Progress Report on the Mackintosh Area EL2/70 Tasmania 1971/72 (AMPL Report).

McPhar Geophysics Pty. Ltd. - Report on the Combined Helicopter Magnetic and Electromagnetic Survey in the Mackintosh River Area, Tasmania. February 1971.

ATTACHMENTS

Plate 929/73 1"=1 mile Mackintosh Exploration Area. EL 2/70. (At back of report)

List of sample results. (At back of report)

Envelope containing 1"=40 chain photographs ^{EHS} (file copy only) (Not supplied with this report)

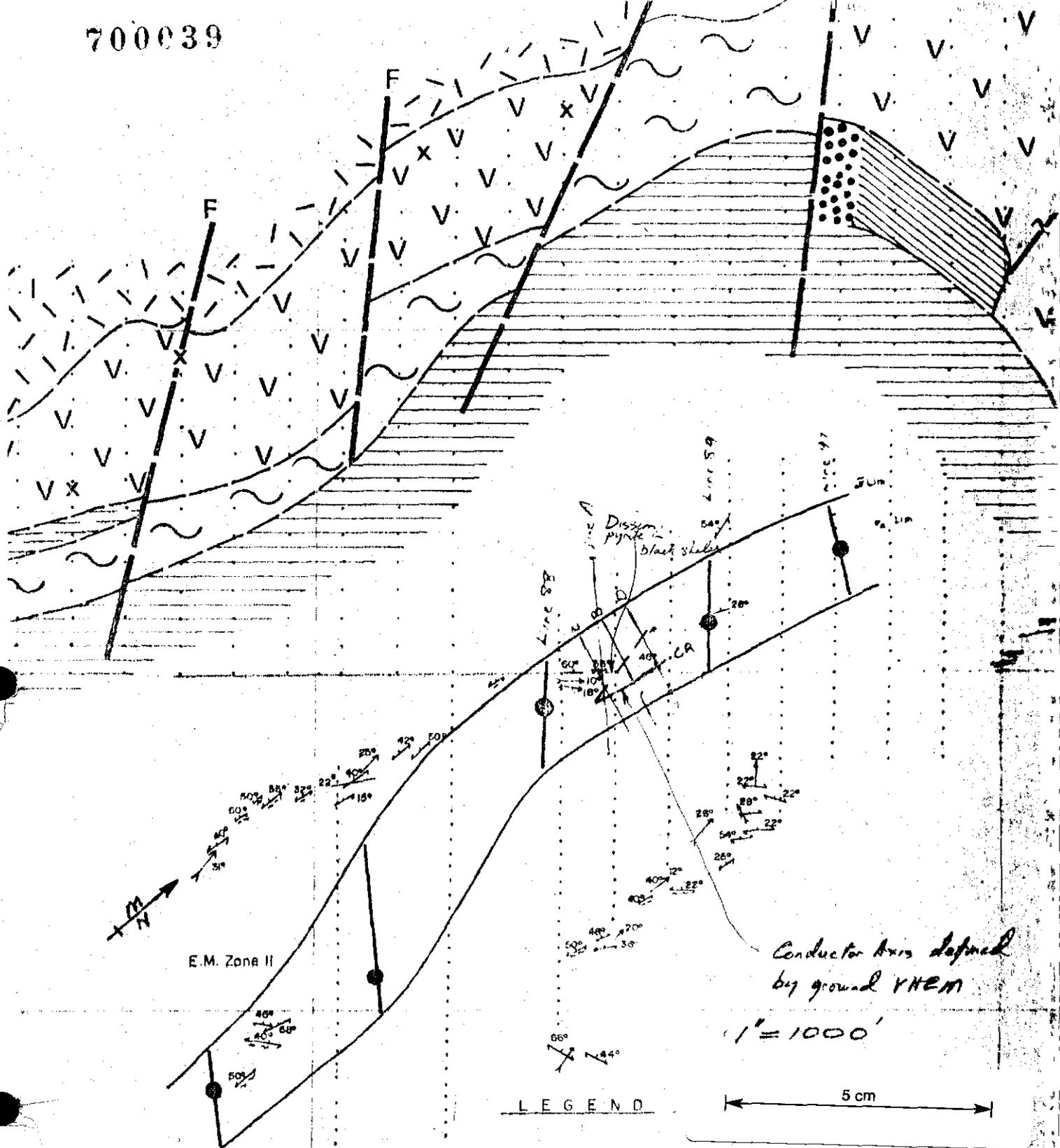
Text Figures:

Line 1/A	Inline VEM	200'	separation and ground magnetics.
Line 1/B	Inline VEM	200'	" " " "
Line 8/A	Inline VEM	200'	" " " "
			and SP.
Line 15/A	Inline VEM	100'	Separation and ground magnetics.
Line 15/A	Inline VEM	200'	separation
Line 15/B	Inline VEM	100'	separation and ground magnetics.
Line 15/B	Inline VEM	200'	separation
Line 16/A	Inline VEM	100'	separation and ground magnetics.
Line 16/A	Inline VEM	200'	separation
Line 16/A-B	Broadside VEM	200'	line separation
Line 9/A	Inline VEM	200'	separation and ground magnetics.
Line 12/A	Inline VEM	200'	" " " "
Line 12/A-B	Broadside VEM	200'	line separation.
Line 12/A	HEM	200'	separation.
Line 11/A	Inline VEM	100'	separation.
Line 11/A	Inline VEM	200'	separation and ground magnetics.
Line 11/B	Inline VEM	200'	separation and ground magnetics.
Line 11/C	Inline VEM	200'	separation and ground magnetics.
Line 11/D	Inline VEM	200'	separation and ground magnetics.
Line 11/C-D	Broadside VEM	200'	line separation.
Line 11/D	HEM	200'	separation (2400 Hz)
Line 11/D	HEM	200'	separation (600 Hz)
Line 11/(Ridge Track)	Inline VEM	200'	separation and ground magnetics.
Line 11/(Southern Line)	Inline VEM	200'	" " " "

Plate MAC 1 1"=30' Kimber Trench Sections.

Geology	1"=1000'	}	Anomaly 11 (northern end)
Boil Geochemistry Ag	1"=1000'		
Cu	1"=1000'		
Pb	1"=1000'		
Zn	1"=1000'		

Signed E.H. Skay
E.H. Skay.
Exploration Geologist



E.M. Zone II

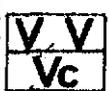
Conductor bars defined by ground VEM

1" = 1000'

LEGEND

5 cm

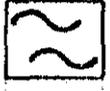
- 

QUARTZ MICA AND QUARTZ MICA FELDSPAR PORPHYRIES
- 

UNDIFFERENTIATED VOLCANIC SUITE WITH SHARD BEARING QUARTZ TUFF? CHERTY VOLCANICS AND CHERTY QUARTZITES. CHERTIFIED VOLCANICS.
- CAMBRIAN**

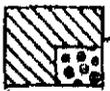


QUARTZITE



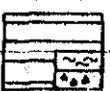
INTERCALATED CHERT AND SLATE, SHALE, TUFF

QUARTZ-CHLORITE SCHIST.
- PRE CAMBRIAN**



FOLIATED, BANDED QUARTZITE } ? MT SUMER GROUP

SILICEOUS SANDSTONE }
- PRE CAMBRIAN**

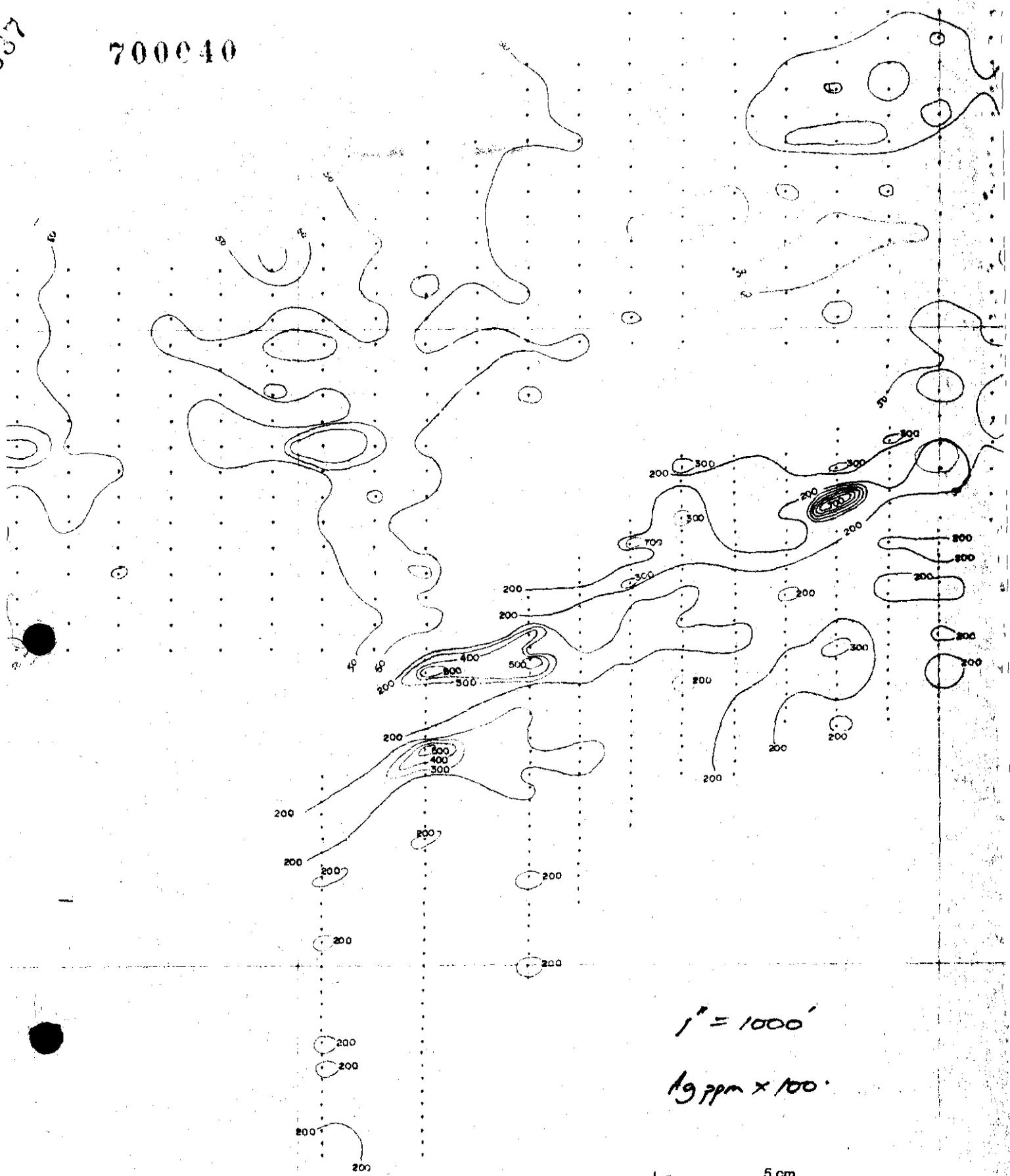


QUARTZITE AND QUARTZ MICA SCHIST } METAMORPHOSED

BLACK SHALES + SCHIST } BRECCIA

037

700040



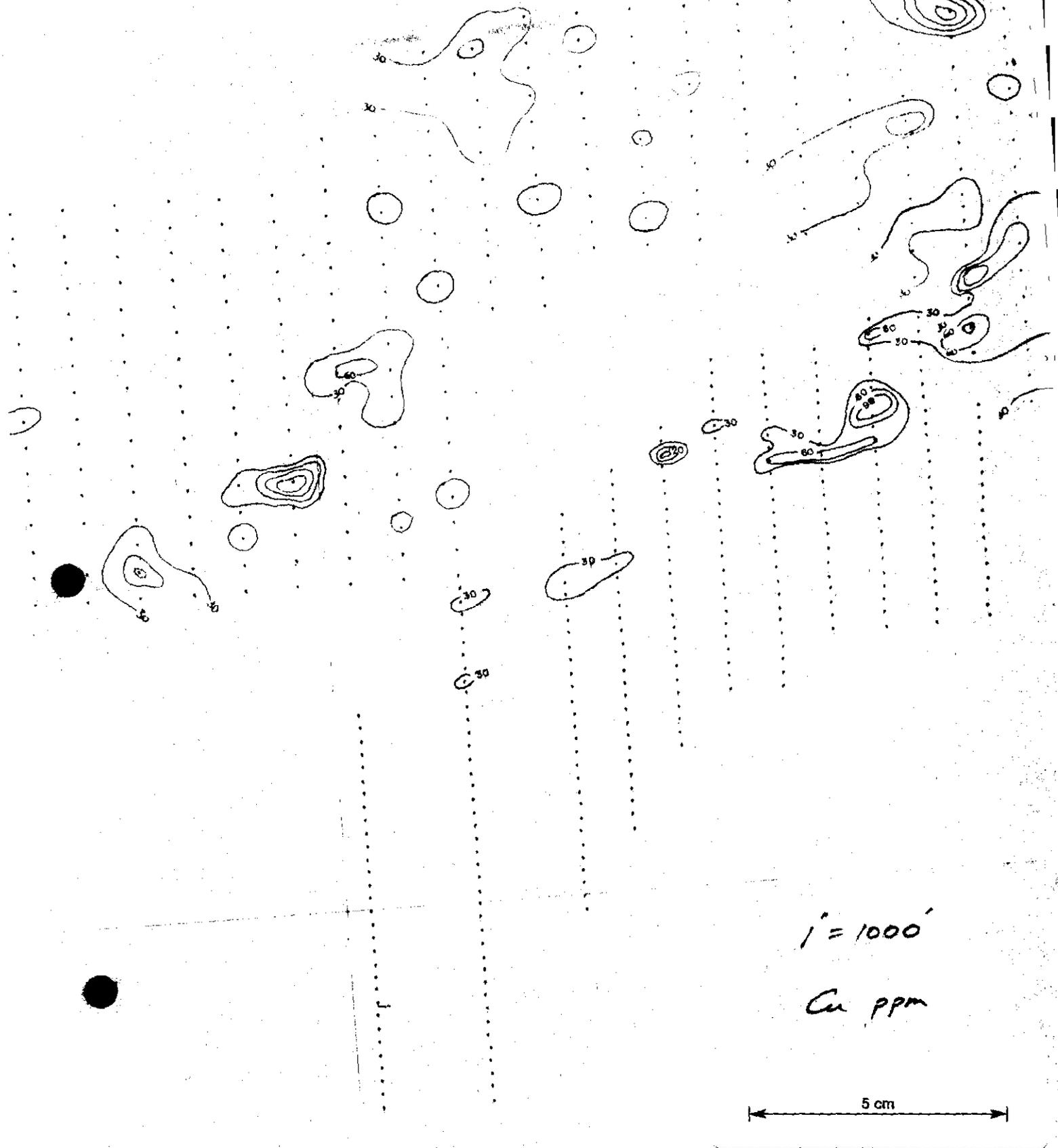
1" = 1000'

Ag ppm x 100

5 cm

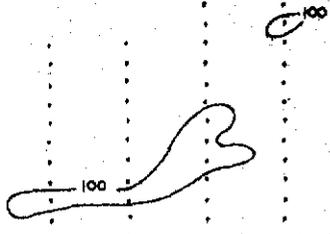
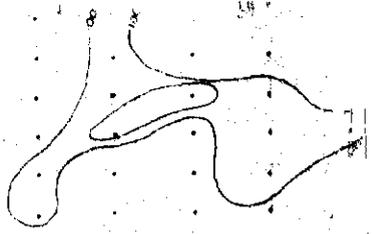
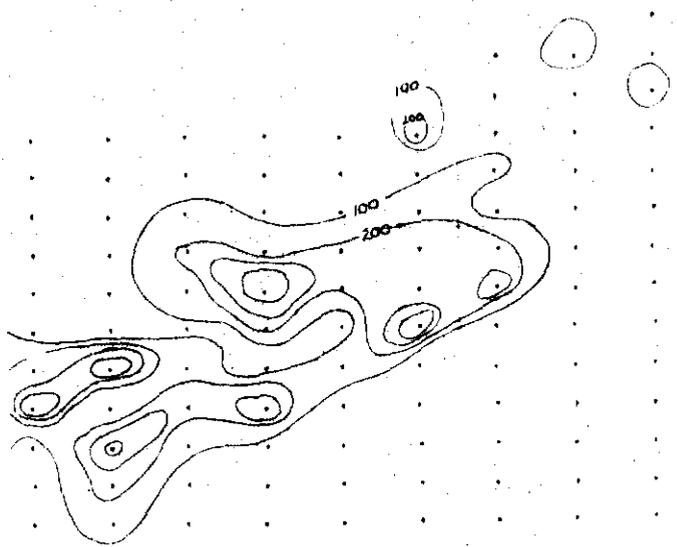
039

700041



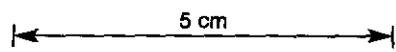
040

700042



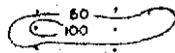
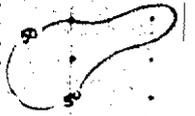
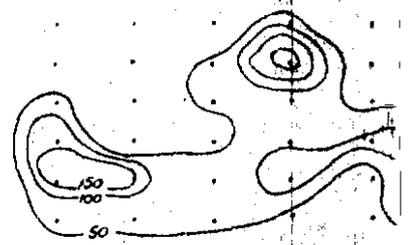
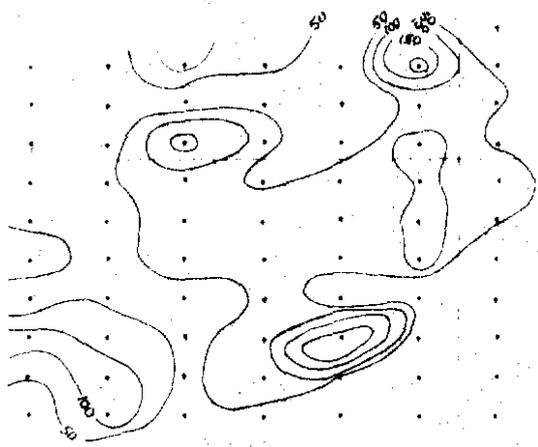
1" = 1000'

Pb ppm



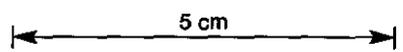
038

700043



1" = 1000'

Z.A. P.P.



700045

Project

Mackintosh

Date

February 1973.

Job Type

Rocks/soils

Operator

EHS

Sample No.	Anomaly	Line	Position	Depth	Cu	Pb/Zn	Ag	Remarks
100630	8	A	1275E	2.5'	300	130/8		Gritty yellow clays
09	8	A	1300E	2'-3'	210	76/7		" " "
14	8	A	1325E	6"-12"	27	50/6		" " "
27	8	A	1350E	6"-12"	100	92/3		" yellow/brown "
17	8	A	1375E	6"-12"	200	33/7		Brown Fe oxides, yellow clay
24	8	A	1400E	6"	28	12/4		Weath. acid volc.?
28	8	A	1450E	16"-2'	52	200/10		Yellow/grey sands and clays.
26	8	A	1500E	6"-2'	23	90/4		yellow/brown clays
11	11	D	375W	3'	33	20/28		Clay, shale debris.
35	11	D	400W	1½'-2½"	18	280/18		" " "
25	11	D	425W	8"-2'	24	20/20		" " "
21	11	D	450W	8"-3'	20	16/21		" " "
12	11	D	475W	8"-3'	15	16/24		" " "
36	11	Ridge Track	300W	12"-15"	20	12/16		" " "
20	11	"	335W	6"	17	13/20		" " "
10	11	"	365W	6"-9"	15	10/34		" " "
31	11	"	400W	8"-1'	20	16/34		" " "
16	1	B	1450S	0	13	630/50		Greenish grey tuff (?). yellow patches (jarosite?) & Fe oxides.
18	1	B	3015 95 1350S	0	16	50/250		ox. feldspathic tuff