

81-1605

Vol 1.

885001



PROJECT NAME:

COMSTAFF PROPRIETARY LIMITED

TITLE:

REPORT ACCOMPANYING LICENCE RENEWAL

APPLICATION FOR

EXPLORATION LICENCE 1/68

TASMANIA

AREA NAME/S, STATE 1: 250,000 SHEET NO/S & COORDINATES: Burnie K55-03

COMMODITY/IES: Sn, Cu-Pb-Zn-Ag, W, Cr, Pt/Pd/Os, Au

TEXT PAGES NO: 2

PLAN NOS: TAS-2-2589, TAS-2-2593

TABLE NOS: -

APPENDICES: 2

AUTHOR/S: G F Pigott

DATE: 21st May 1981

OPEN FILE

AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

COMSTAFF PROPRIETARY LIMITEDREPORT ACCOMPANYING LICENCE RENEWAL APPLICATION FOREXPLORATION LICENCE 1/68TASMANIA

We hereby apply for renewal of Exploration Licence 1/68 over the existing area of 175 square kilometres for a further period of six months ending 31st December 1981. In support of our application for renewal we set out below a summary of the work undertaken and currently in progress in the six months ending 30th June 1981, along with estimated expenditure figures. Also set out is our proposed work programme for the latter six months of 1981 along with the budget. Plans summarising work completed and proposed are attached while copies of technical reports are appended.

Work Completed (Plan TAS-2-2589)

The results of a helicopter borne Dighem survey carried out over the north east sector of the tenement were processed and received. Approximately 60 line km were flown. No significant anomalies were found. A set of geophysical interpretation plans for the complete Dighem data is appended.

Ground follow-up work commenced on four of the selected Dighem anomalies - 57A, 44A, 18C and 21G. Grid cutting, geological mapping, geochemical sampling and geophysical surveying were carried out in order to locate and identify the sources of the anomalies. A report detailing this work along with maps and sections is appended: "Report on Exploration, Heazlewood Area EL 1/68 for Comstaff Pty Ltd." No highly prospective targets have emerged from the programme, although further work is required including test drilling.

Expenditure

Expenditure on the tenement during the period 1.1.81 to 30.3.81 has been \$58,327 with an estimated \$27,527 to be expended in April, May and June bringing the six monthly total to \$85,854.

Proposed Programme (Plan TAS-2-2593)

Target Sn, Cu, Cr, Pt/Pd/Os, Au.

1. Continue the establishment of access tracks into the more remote Dighem anomalies.

2.

2. Commence the investigation of Dighem anomalies 5A, 19C, 59B and 63A. This will involve the establishment of grids and will include geological mapping, geochemical sampling, and geophysical surveying.

Proposed Budget July - December 1981

EL 1/68 Heazlewood \$60,420

Approved by



R J Kernick
EXPLORATION MANAGER

Compiled by
G F Pigott
Senior Geologist

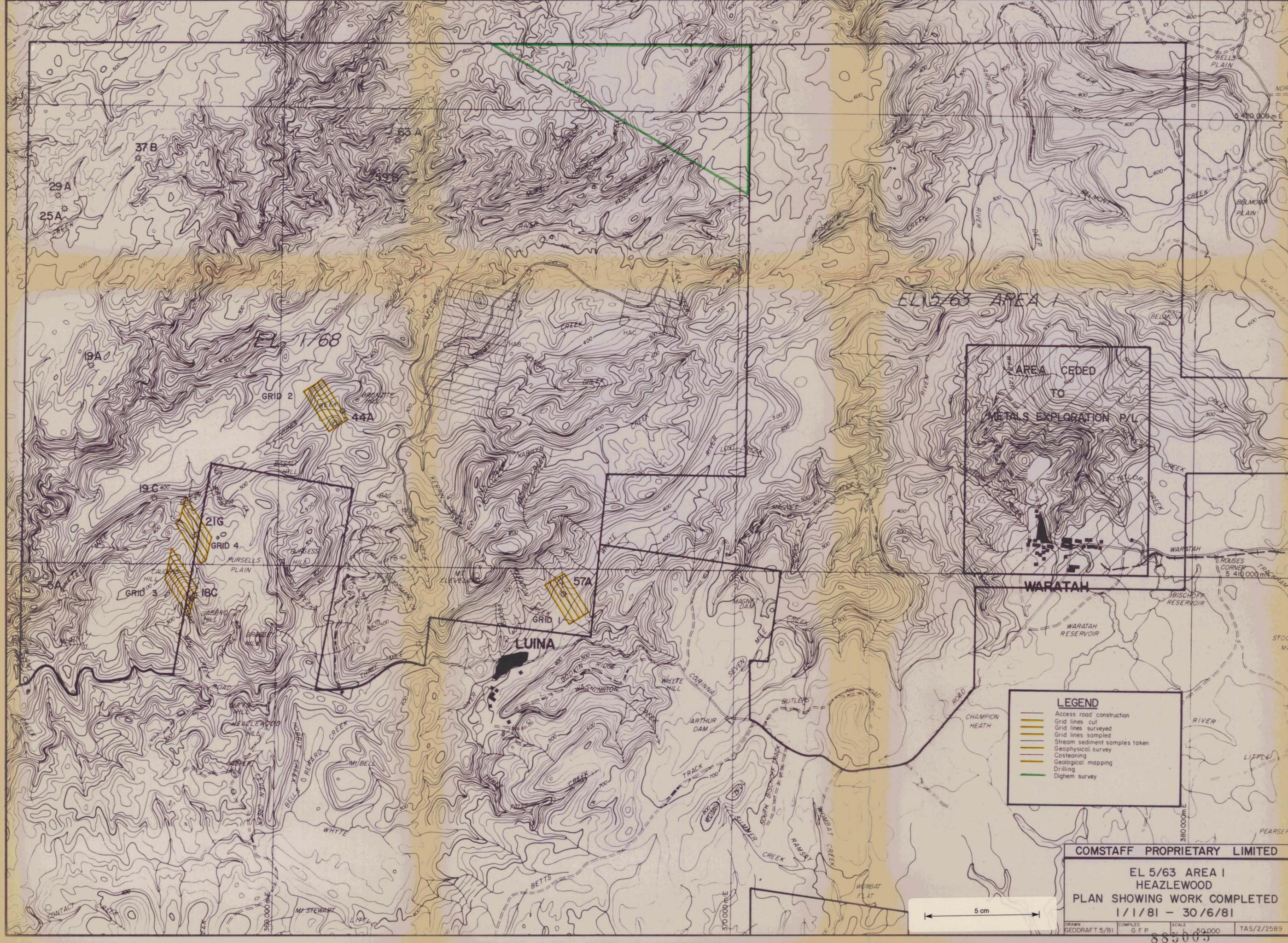
21st May 1981

LIST OF PLANS

TAS-2-2589	Heazlewood: Plan showing work completed 1.1.81 - 30.6.81	1:50 000
TAS-2-2593	Heazlewood: Plan showing work proposed 1.7.81 - 31.12.81	1:50 000

LIST OF APPENDICES

1. Geophysical Interpretation for Dighem Survey 4 sheets
1:15 000 scale.
2. Report on Exploration Heazlewood Area EL 1/68 for
Comstaff Pty Ltd.



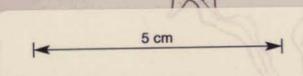
LEGEND

- Access road construction
- Grid lines cut
- Grid lines surveyed
- Grid lines sampled
- Stream sediment samples taken
- Geophysical survey
- Costeoning
- Geological mapping
- Drilling
- Dighem survey

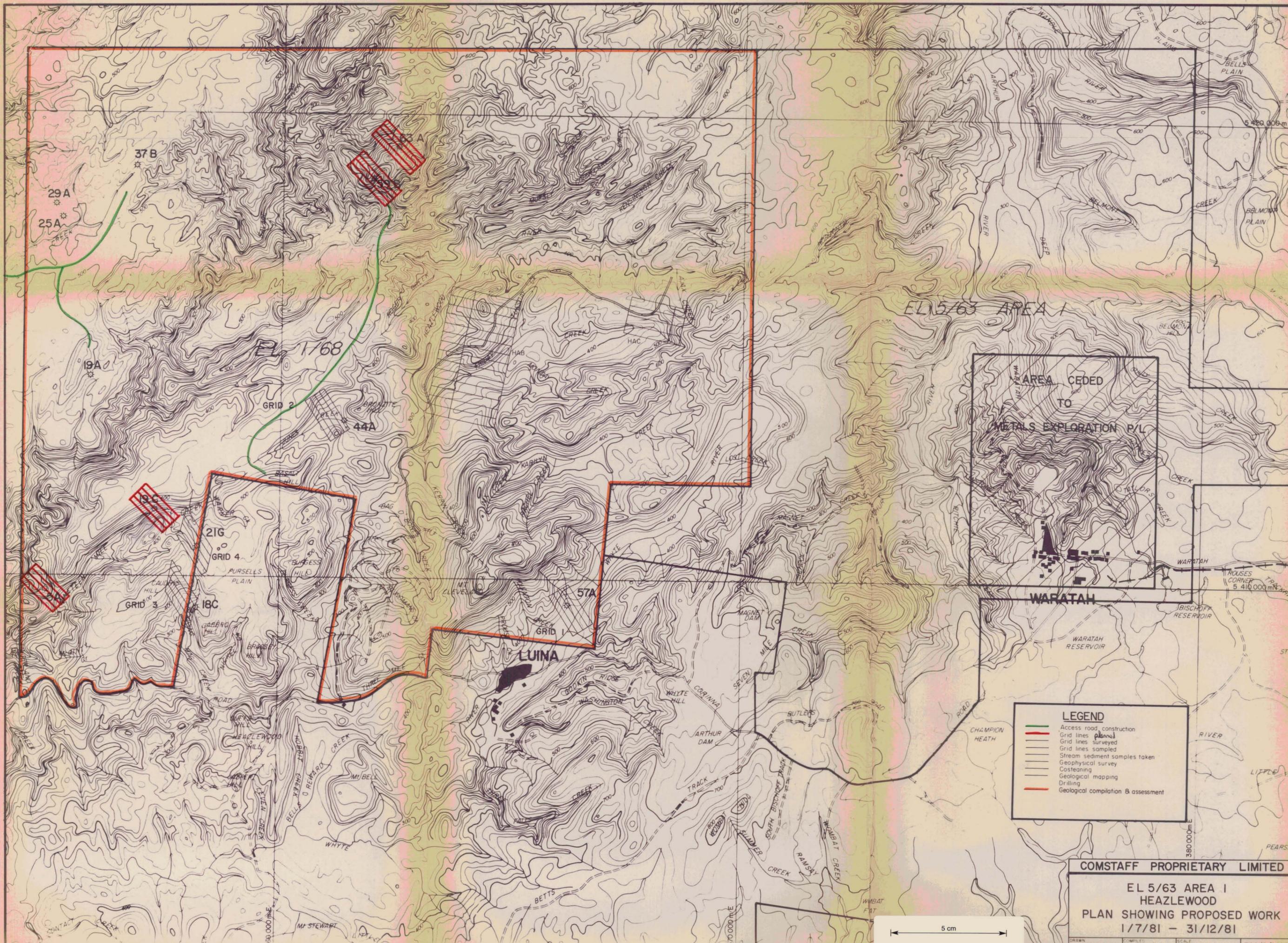
COMSTAFF PROPRIETARY LIMITED

EL 5/63 AREA I
HEAZLEWOOD
PLAN SHOWING WORK COMPLETED
1/1/81 - 30/6/81

DRAWN: GEODRAFT 5/81 COMPILED: G.F.P. SCALE: 50,000 TAS/2/2589



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LEGEND

- Access road construction
- Grid lines planned
- Grid lines surveyed
- Grid lines sampled
- Stream sediment samples taken
- Geophysical survey
- Costeering
- Geological mapping
- Drilling
- Geological compilation & assessment

COMSTAFF PROPRIETARY LIMITED

EL 5/63 AREA I
HEAZLEWOOD
PLAN SHOWING PROPOSED WORK
1/7/81 - 31/12/81

DRAWN: GEODRAFT 5/81
SCALE: 50 000
TAS/2/2593

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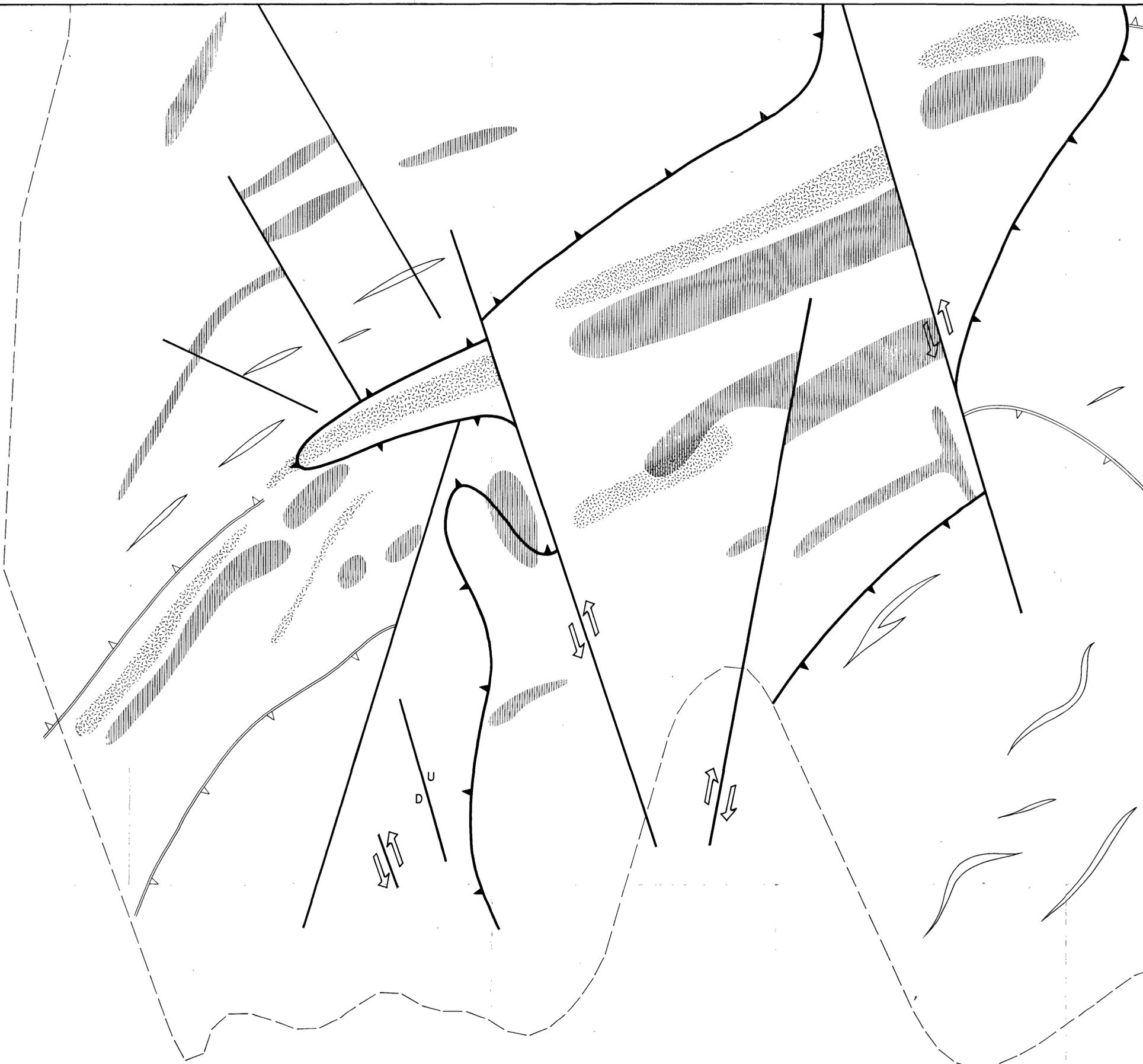
APPENDIX 1

Geophysical Interpretation for Dighem Survey

Heazlewood Area

FOUR MAPS

1. TAS-2-2344
2. TAS-2-2345
3. TAS-2-2346
4. TAS-2-2347



LEGEND

- area of basalt
- Edge of basalt
- Serpentinite
- Fault
- Magnetic intrusive - basic to ultra basic composition
- Reversly magnetized intrusives
- Boundary of extremely high magnetic zone
- Boundary of high magnetic zone
- Major conductors
- Magnetic lineaments of intermediate amplitude
- Major magnetic anomalies

SHEET LAYOUT

2	4
1	3

5 cm

RESEARCH & TECHNICAL SERVICES DIVISION 885008

AUSTRALIAN ANGLIO AMERICAN LTD

PROJECT	COMSTAFF PTY. LTD.		
AREA	HEAZLEWOOD	E.L. 1/68	
DATA	GEOPHYSICAL INTERPRETATION OVERLAY FOR DIGHAM SURVEY		
COMPILED	D B T.	SCALE	1 : 15 000
DRAWN	L L Jan 1981	REF No	TAS-2-2344
AMENDED			



LEGEND

-  area of basalt
-  Edge of basalt
-  Serpentine
-  Fault
-  Magnetic intrusive basic to ultra basic composition
-  Reversly magnetized intrusives
-  Boundary of extremely high magnetic zone
-  Boundary of high magnetic zone
-  Major conductors
-  Magnetic lineaments of intermediate amplitude
-  Major magnetic anomalies

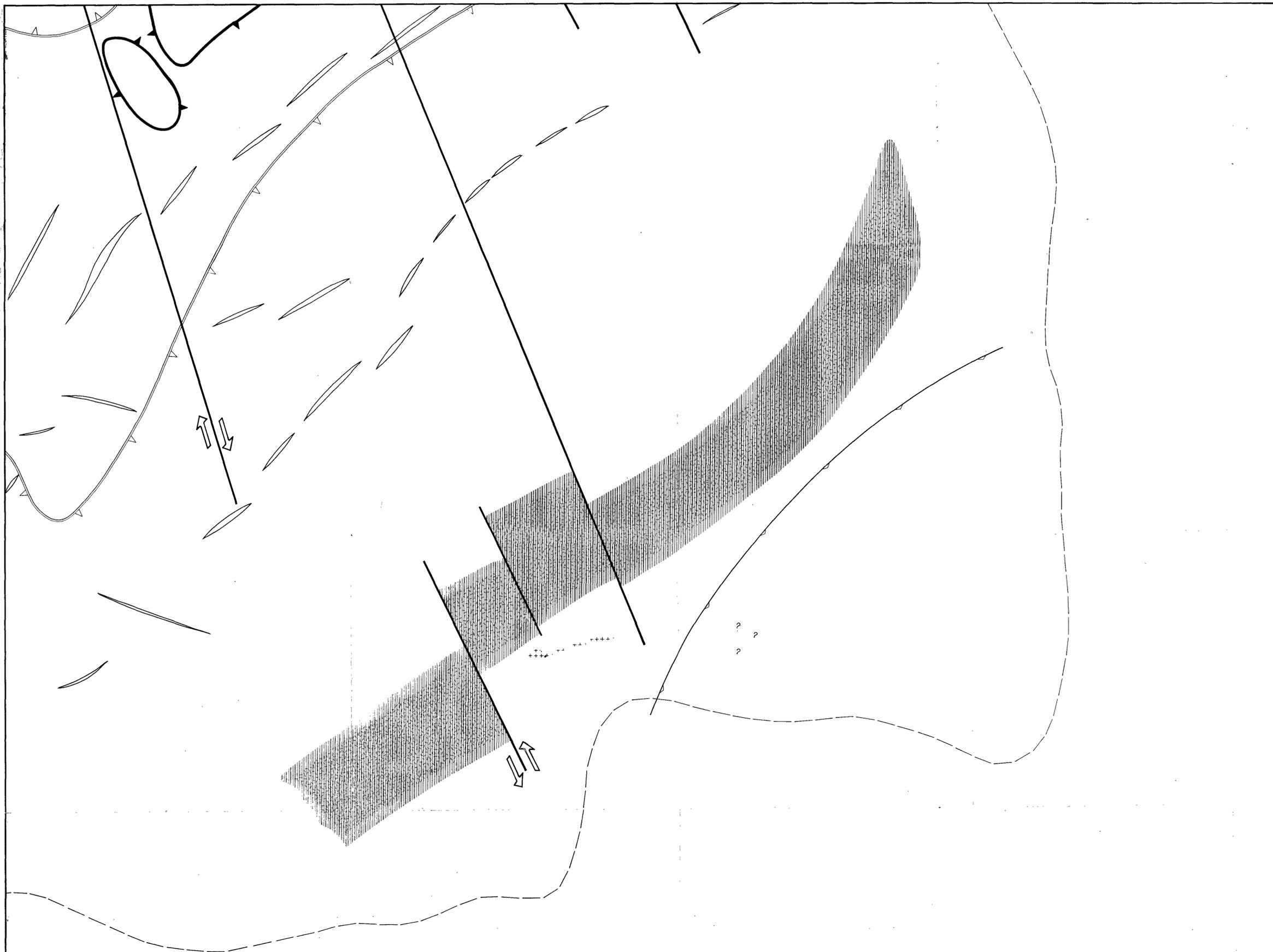
SHEET LAYOUT

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RESEARCH & TECHNICAL SERVICES DIVISION			
AUSTRALIAN ANGLIO AMERICAN LTD			
PROJECT	COMSTAFF PTY. LTD.		
AREA	HEAZLEWOOD	E.L. 1/68	
DATA	GEOPHYSICAL INTERPRETATION OVERLAY FOR DIGHAM SURVEY		
COMPILED	DBT	SCALE	1 : 15 000
DRAWN	LL Jan 1981	REF No	TAS-2-2345
AMENDED			

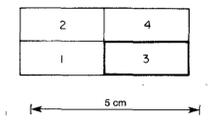
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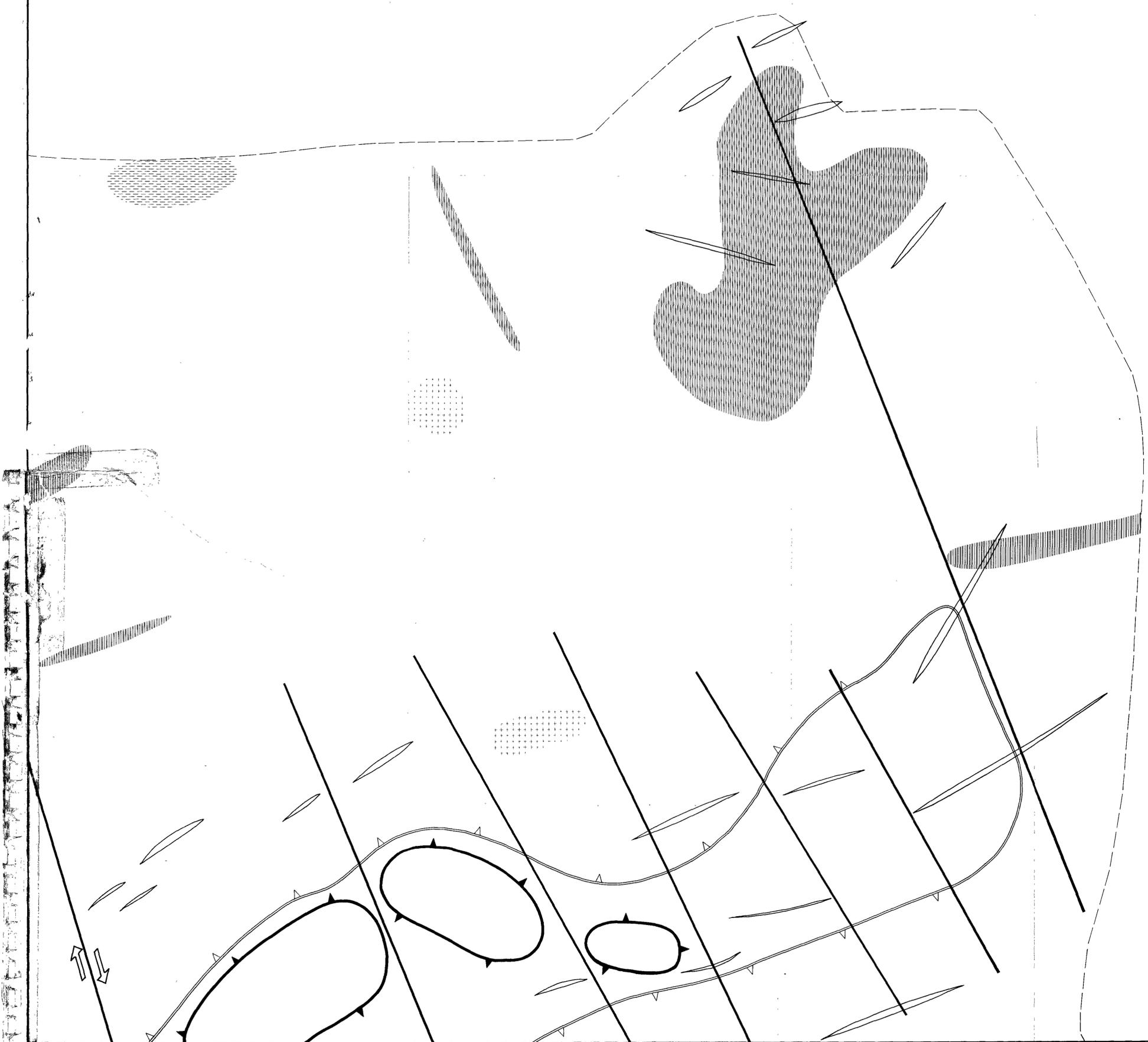
LEGEND

-  area of basalt
-  Edge of basalt
-  Serpentine
-  Fault
-  Magnetic intrusive - basic to ultra basic composition
-  Reversely magnetized intrusives
-  Boundary of extremely high magnetic zone
-  Boundary of high magnetic zone
-  Major conductors
-  Magnetic lineaments of intermediate amplitude
-  Major magnetic anomalies

SHEET LAYOUT



RESEARCH & TECHNICAL SERVICES DIVISION			
AUSTRALIAN ANGLo AMERICAN LTD			
PROJECT	COMSTAFF PTY. LTD.		
AREA	HEAZLEWOOD	E.L.	1/68
DATA	GEOPHYSICAL INTERPRETATION OVERLAY FOR DIGHAM SURVEY		
COMPILED	D.B.T.	SCALE	1:15000
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AMENDED			

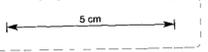


LEGEND

-  area of basalt
-  Edge of basalt
-  Serpentinite
-  Fault
-  Magnetic intrusive - basic to ultra basic composition
-  Reversly magnetized intrusives
-  Boundary of extremely high magnetic zone
-  Boundary of high magnetic zone
-  Major conductors
-  Magnetic lineaments of intermediate amplitude
-  Major magnetic anomalies

SHEET LAYOUT

2	4
1	3



RESEARCH & TECHNICAL SERVICES DIVISION

AUSTRALIAN ANGLIO AMERICAN LTD

PROJECT	COMSTAFF PTY. LTD.		
AREA	HEAZLEWOOD	E.L. 1/68	
DATA	GEOPHYSICAL INTERPRETATION OVERLAY FOR DIGHAM SURVEY		
COMPILED	D.B.T.	SCALE	1 : 15 000
DRAWN	L.L. Jan. 1981	REF No	TAS - 2 - 2347
AMENDED	March 1981		

APPENDIX 2

Report on Exploration Heazlewood Area EL 1/68 for Comstaff Pty Ltd

5 vol

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of M ^s	A.G.	C.C.	E.O.	D.S.M.E.
Received	1 JUN 1981			E & L
Answered				
DEPT. OF MINES				
REF. No. 4509/81				

VOLUME 1 + 2

REPORT ON EXPLORATION

HEAZLEWOOD AREA

EL 1/68

FOR COMSTAFF PTY. LTD.

MAY 1981

MICROFILMED

OPEN FILE

SUMMARY

The objective of the programme was "to locate and identify the sources of 4 (four) Dighem anomalies within the southern part of Comstaff's EL 1/68 in north west Tasmania."

Field work was carried out between January and April 1981.

Four grids were established each comprising five 1,000 metre lines spaced 120 metres apart.

The grids were geologically mapped. One grid, near Luina, comprised a sequence of micaceous sandstones, cherts and basic/ultrabasic rocks of Cambrian age. The other three grids lay within the Cambrian Heazlewood Complex of ultramafic rocks.

Geochemical sampling (hand auger, stream sediment and heavy concentrate) in and around the gridded areas failed to reveal any major anomalous zones.

Ground magnetic anomalies appear to be directly related to basic/ultrabasic rock types which sometimes have a high visible magnetite content.

The "Max-Min" E.M. survey defined three of the four Dighem anomalies on the ground. The anomalies have intermediate to moderate conductivity and are all fairly shallow to top of conductor. They do not appear to relate to geochemically, magnetic or geologically anomalous zones.

No highly prospective targets have emerged from the programme and further work should be related to general priorities within the Exploration Licence.

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CONTENTS OF ACCOMPANYING VOLUMES	
REGIONAL LOCATION PLAN	(TAS/2/1897)

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INTRODUCTION

The objective of this exploration programme was "to locate and identify the sources of 4 (four) Dighem anomalies within the southern part of Comstaff's EL 1/68 in north west Tasmania".

This programme was contracted to Douglas McKenna and Partners P.L. to carry out and supervise. The geological mapping and interpretation was done by J.K. Couper. Exploration Surveys International performed the gridding, surveying, geochemical and ground magnetic surveys. Geoterrex Pty. Ltd. was contracted to run the "Max-Min" electromagnetic survey, which was interpreted by D.B. Trussell of Australian Anglo American Ltd. A. Jannink compiled the report and supervised the project.

Field work commenced, as programmed, during the last week of January 1981 and was completed in the first week of April 1981, two weeks later than scheduled. The delay was caused by not achieving the estimated 350 metres per man per day in grid cutting due to the rougher vegetation and terrain than anticipated.

GRIDDING AND SURVEYING

Four grids were laid in using tape and compass and line of sight. Each grid comprises five 1,000 metre lines spaced 120 metres apart. Twenty metre (horizontal) stations were established on each line using tape and clinometer, and the ends of lines were connected by tie lines. The grid lines have a bearing of 315° magnetic, parallel to the airborne Dighem survey.

Each grid was established to encompass a Dighem anomaly:

Grid Number	Anomaly Number
Grid 1	57A
Grid 2	44A
Grid 3	18C
Grid 4	21G

Grids 1 and 2 were located such that the anomalies were at the centre of the grids. However, the anomalies 18C and 21G lie on, or adjacent to, the boundary of the Exploration Licence. As a result, these anomalies on grids 3 and 4 lie on the centre lines of the grids, but only 160 metres from their southern ends (ie. not in the centres of the grids).

The datum positions of each grid were located in the field and agreed upon with a representative of Comstaff Pty. Ltd.

The grid positions are shown on the accompanying Location Plan.

The topography of each grid is shown on the Geological Plans.

GEOLOGY

GRID 1 (ANOMALY 57A)

The grid is divided into three generalized rock units based on limited outcrop and float. Interpreted trends are approximately grid north east.

Basic and ultrabasic rocks and interpreted weathered equivalents occur mainly in the grid south. These form part of the Whyte River Complex.

Cherts and silicic and argillaceous sediments occur within the central part of the grid.

Micaceous sandstones and associated argillaceous sedimentary rocks sub-outcrop in the north-western part of the grid.

On the basis of minor weathered outcrop and soil geochemistry, possible basic units may occur within the sediments.

GRID 2 (ANOMALY 44A)

The grid area lies almost entirely on ultrabasic rocks of the Heazlewood Complex. The predominant rock types are serpentinite and peridotite. Gabbroic rocks outcrop in the south-east of the grid. Metasedimentary rocks, basalt and chloritic schists occur in the north of the grid at the margin of the Complex.

The trend of layering is sub-normal to the grid lines, and dip is to grid north.

There is an abrupt change between lines 3360E and 3480E at 3000N to 3300N from ultrabasic to gabbroic rocks. This is probably caused by a grid north-south trending fault between 3000N and 3400N. A marked change in magnetic trend and in geochemical values for nickel and zinc occurs at this boundary.

GRID 3 (ANOMALY 18C)

The grid area lies over ultrabasic rocks of the Heazlewood Complex.

Rock types in the area are serpentinites, peridotites, pyroxenites and gabbroic rocks.

The rocks are layered and occur as meso-bands and macro-bands of contrasting composition.

In the grid north, layering is essentially across the grid and north dipping. In the south of the grid, layering dips southerly and easterly; the structure is obscure. Compass readings are generally unreliable in this area.

GRID 4 (ANOMALY 21G)

The grid lies within the Heazlewood Complex. In the grid area, serpentinites and serpentitized dunite are dominant. Pyroxenite occurs in meso-bands with the serpentinites and is restricted and discontinuous in outcrop. Rock layering indicates strikes across the grid, and dip is to grid north at angles down to approximately 18°.

Discontinuities in magnetic intensity between grid lines, as illustrated in plan projection, relate in part to topography, and possibly to a grid north-north-east trending fault. Such a fault may pass through the following co-ordinates:

- 7120 N 7000E
- 7630 N 7120E
- 7860 N 7240E

GEOCHEMISTRY

The table below lists the number of geochemical samples taken from each of the grids:

Sample Type	Number of Samples				
	Grid 1	Grid 2	Grid 3	Grid 4	Total
Hand Auger	252	249	-	255	756
Stream Sediment	51	26	39	23	139
Heavy Concentrate	3	4	4	4	15
Total	306	279	43	282	910

Hand auger samples were taken from the "C" horizon every 20 metres along each line. The samples were dried and sieved to minus 80 mesh prior to despatch for assay. After consultation with Comstaff Pty. Ltd., it was decided that no hand auger samples would be taken from Grid 3 and that those taken from Grid 4 would only be analysed if the stream sediment samples showed interesting geochemical response. A total of 501 samples was despatched for assay for Copper, Lead, Zinc, Silver, Nickel and Tin.

The stream sediment samples were collected approximately every 200 metres from drainage channels within the gridded areas and up to 1 kilometre from the grids. The samples were dried and sieved to minus 20 mesh and minus 80 mesh. 139 minus 80 mesh samples were assayed for Copper, Lead, Zinc, Silver, Nickel and Tin. The 26 samples taken around Grid 3 were also analysed for Gold.

Four panned heavy concentrate samples were taken from each gridded area (3 only from Grid 1). A fifth of a cubic foot was panned in each case. The samples were split and assayed for Copper, Lead, Zinc, Nickel, Silver, Chromium, Arsenic and Gold by AAS and for Tin and Tungsten by XRF.

GRID 1 (ANOMALY 57A)Hand Auger Samples:

Soil geochemical values broadly reflect the indicated geology, with higher values (in particular of nickel and zinc, and to a lesser extent, copper) reporting over areas of basic and ultrabasic rocks. None of the metal in soils results appears to be significantly anomalous.

Peak values obtained were:

Cu	Pb	Zn	Ag	Ni	Sn
124	23	215	0.2	930	/0 (ppm)

Stream Sediment/Heavy Concentrate Samples:

The stream sediment samples also appear to only reflect different rock types. Copper, lead and zinc have two to four times average values south of the grid where basic rocks occur. Nickel has local highs that also reflect basic to ultrabasic rock types.

Peak and average values obtained were:

	Stream Sediment		Heavy Concentrate		
	Peak	Average	Peak	Average	(ppm)
Cu	40	18	45	27	
Pb	22	5	20	13	
Zn	193	65	180	112	
Ag	0.1	0.03	x	x	
Ni	640	133	200	170	
Sn	7	2	10	8	
Au			x	x	
As			9	6	
Cr			210	155	
W			x	x	

GRID 2 (ANOMALY 44A)Hand Auger Samples:

Soil geochemical samples for nickel and zinc report highest over ultrabasic rocks. Copper values peak in the northern part of the grid over basaltic and meta-sediment derived soils. Small co-incident copper (52 ppm) and lead (47 ppm) peaks occur on all lines and can be directly correlated with the drainage. They occur at:

3540N 3000E
 3540N 3120E
 3480N 3240E
 3340N 3360E
 3480N 3480E

Peak values obtained were:

Cu	Pb	Zn	Ag	Ni	Sn	(ppm)
210	47 ³⁷	490	0.3	5,200	10	

Stream Sediment/Heavy Concentrate Samples:

Slightly higher (up to 2 x average) nickel values were recorded south-west of, and in the southern half of the grid, once more reflecting ultrabasic rock types. Two zinc assays, also in the south-west quarter of the grid were also twice background. Otherwise no anomalous values were obtained.

Very high chromium assays were found in the heavy concentrate samples, but no gold was recorded.

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Peak and average values obtained were:

	Stream Sediment		Heavy Concentrate		(ppm)
	Peak	Average	Peak	Average	
Cu	49	20	20	16	
Pb	23	9	225	86	
Zn	870	390	870	550	
Ag	x	x	0.5	0.1	
Ni	3,400	1,325	3,100	2,350	
Sn	5	1	7	4	
Au	x	x	x	x	
As			20	10	
Cr			26.5%	15%	
W			x	x	

GRID 3 (ANOMALY 18C)

Stream Sediment/Heavy Concentrate Samples:

Generally higher nickel values (about twice average) were found east of the gridded area. Zinc assays were also higher in this area (3 x average) and in an area to the south east of the grid. These values probably reflect different rock type backgrounds. One spot high for lead (31 ppm) was found near where the track crosses line 5360E.

Chromium assays in the heavy concentrate samples were fairly high.

Peak and average values obtained were:

	Stream Sediment		Heavy Concentrate		(ppm)
	Peak	Average	Peak	Average	
Cu	9	4	10	6	
Pb	31	7	20	13	
Zn	1,020	250	505	264	
Ag	0.3	0.06	x	x	
Ni	1,400	470	1,550	764	
Sn	5	0.5	9	5	
Au			x	x	
As			3	2	
Cr			9.55%	4.8%	
W			x	x	

GRID 4 (ANOMALY 21G)

Stream Sediment/Heavy Concentrate Samples:

The southern half of the grid, and just north of the grid, appear to have generally higher background (2 x average) for nickel. Zinc is slightly higher within the gridded area. Two spot highs for tin were found: in the south-centre of the grid (20 ppm), and in a tributary to the east of the northern half of the grid (25 ppm). No anomalous samples were found.

Once more there were high chromium contents in the heavy concentrate samples.

Peak and average values obtained were:

	Stream Sediment		Heavy Concentrate		(ppm)
	Peak	Average	Peak	Average	
Cu	25	9	20	11	
Pb	23	7	30	20	
Zn	780	415	600	476	
Ag	0.1	x	x	x	
Ni	5,000	2,170	3,200	2,340	
Sn	25	3	5	3	
Au			x	x	
As			5	4	
Cr			15.5%	9.9%	
W			x	x	

GEOPHYSICS

An electromagnetic survey, using the "Max-Min" system, was run over all the lines of each grid between 5 March, 1981 and 19 March, 1981. Readings were taken every 40 metres, with loop separation being 160 metres. The survey was carried out by Geoterrex Pty. Ltd. of Sydney. Interpretation of the results by D.B. Trussell of Australian Anglo American Ltd. follows below.

The ground magnetic survey was performed between 28 March, 1981 and 1 April, 1981, and on 6 and 7 April, 1981 (Sun-spot activity caused delays between 1 and 6 April). Readings were taken every 20 metres on each of the lines. Base lines were run on each grid to correlate the individual lines. Comstaff's Geometrics G816 Portable Proton Magnetometer was used for the survey. Results were also interpreted by D.B. Trussell:

"Chief Divisional Geologist, Eastern Division

Senior Geophysicist RATS

GROUND GEOPHYSICS HEAZLEWOOD GRIDS 1 TO 4

14.4.1981

The following comments are based on field plots of the data. All information will be reviewed when properly draughted profiles become available. These should show topography, geology, EM and magnetics on the same sheet. Quantitative interpretation of the magnetics will be carried out at that time.

Grid 1 (Anomaly 57A)

An EM conductor is present on the four western lines: on 1000E at 1300N, on 1120E at 1410N, on 1240E at 1480N, and on 1360E at 1560N. The conductor is open to the east. The dip in all cases is steep (80°) and to the south. The inphase to out of phase ratio on all three frequencies (222 Hz, 888Hz and 1777Hz) is approximately one. This indicates the source has an intermediate conductivity. This is in agreement with the Dighem anomaly. The depth of the top of the conductor is estimated to be within 20 metres of surface.

The four western lines have also been covered by a magnetic survey. A thin near surface (10m or less), magnetic body of near vertical dip is located 40 to 70m west of the conductor on lines 1000E, 1120E and 1240E. The magnetic anomaly is 200nT in amplitude. It is not the source of the EM conductor.

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The low frequency response of the conductor is strongest on line 1000E. Therefore from a geophysical point of view this is the best line on which to place a drill hole. A 60° angle from grid south to intersect 1280N, 1000E at a depth of 40 metres should adequately test the conductor.

A second near vertical conductor is located at 1680N on 1000E and 1760N on 1120E. The other lines do not extend sufficiently far north to cover the conductor. The source of this conductor is less conductive than the main conductor.

Grid 2 (Anomaly 44A)

This anomaly which is located between two major magnetic anomalies has been successfully located on the ground. Ground results are entirely consistent with those obtained in the airborne survey.

The conductor is located at 3430N on 3000E, 3460N on 3120E, 3480N on 3240E and 3440N on 3360E. The conductor is open to the east. The conductor has a higher conductivity than that on grid one. It is in the intermediate to good conductivity range. There is no significant magnetic anomaly directly associated with the conductor. An anomaly of less than 300nT would be obscured by the generally high variability (typically 700 to 1000nT) in the magnetic background. The dip of the conductor is northward on 3360E, near vertical on 3240E, southward on 3120E and southward on 3000E. The depth to the top of the conductor is 50m.

Large amplitude (3000nT) magnetic anomalies occur on the north and south end of all lines. These are almost certainly due to serpentinite or other ultrabasic rocks. The dip of the eastern body is northward. The other is near vertical.

The anomalies are located:

on 3000E south of 3200N and also between 3600N and 3800N
on 3120E between 3020N and 3220N and also between 3620N
and 3880N

on 3240E between 3060N and 3180N and also between 3700N
and 3940N

on 3360E between 3020N and 3240N and also between 3680N
and 3940N

on 3480E between 3240N and 3320N and also between 3700N
and 3900N.

There are conductors associated with the magnetic anomalies on lines 3240E, 3360E and 3480E. These are probably due to magnetite influencing the results but could of course be caused by sulfides. If the magnetite bodies are exposed then samples should be taken so they can be examined by the senior geophysicist.

The conductor is best examined by a 60° drill hole to intersect 3480N 3240E at a depth of 60m. There is a suggestion of a northerly dip therefore a drill site to grid north of this point is recommended.

Grid 3 (Anomaly 18C)

The conductor is located at 5320N on 5000E, 5280N on 5120E and 5600N on line 5360E. It is not fully defined on 5240E and 5480E but probably is located at 5360N and 5540N respectively. It has low conductivity. The dip is 45° and to the south. The anomaly is open both east (where it goes off Comstaff property) and west. A substantial magnetic anomaly is located nearby but the Dighem results indicate that it is not the cause of the EM anomaly. The conductor is within 10m of the surface.

A drill hole from the south of 45° to intersect the 5000E 5320N at 20m depth should adequately test the anomaly. The source is sufficiently close to the surface that some geochemical support should exist before the anomaly warrants a drill hole.

There is a major magnetic anomaly at the south end of all lines (south of 5080N on 5000E, south of 5320N on 5120E, south of 5400N on 5240E, south of 5640N on 5360E, and south of 5680N on 5480E). This must be caused by serpentinite or other ultrabasic rocks.

On the three western lines there is an indication of a deep (80m) conductor at 5680N on 5000E, at 5820N on 5120E and at 5960N on 5240E, due to the low anomaly amplitude. If there is geological interest in this location then drilling could be contemplated. This conductor was not detected by the Dighem survey. It is unlikely to have a geochemical response.

Grid 4 (Anomaly 21G)

The results from this grid do not correlate from line to line. Reasons for this were outlined in my memo 13th April 1981 to the Chief Divisional Geologist, Eastern Division. A grid at right angles to the flight lines should be established. If access is suitable it should be possible to carry out an in-house CEM survey to locate the conductor. This work could be completed in 3 days of clear weather. In normal winter weather conditions 10 days will likely be required.

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Conductive responses occur on line 7000E at 7160N and 7800N and on line 7480E at 7520N and 7880N. Because of the grid alignment these anomalies are probably not significant.

D.B. Trussell

DBT:CS

DISCUSSION

GRID 1 (ANOMALY 57A)

The airborne Dighem anomaly was located on the ground on the four western lines:

1300N 1000E
1410N 1120E
1480N 1240E
1560N 1360E

The anomaly has intermediate conductivity and is interpreted to have a steep dip (80°) to the south. The top of the conductor is estimated to lie within 20 metres of the surface.

The anomaly lies close to (within 100 metres in all cases) the interpreted contact between cherts and basic/ultrabasic rocks (there is no outcrop in this area). The anomaly is within the projected chert horizon. A small magnetic anomaly lies between 40 and 100 metres to the south, and may be associated with the contact zone. Geochemical values for nickel increase to the south of the magnetic anomaly. There is a slight increase in copper geochemistry over the Dighem anomaly on line 1000E, but otherwise there is no significant geochemical response associated with the Dighem anomaly.

The smaller Dighem anomaly on lines 1000E and 1120E at 1680N and 1760N respectively, coincides with the contact between the cherty horizon and micaceous sandstones. A basic rock unit is also mapped at this contact causing higher nickel geochemical assays.

GRID 2 (ANOMALY 44A)

The Dighem anomaly was located on the ground on the four western lines:

3430N 3000E
3460N 3120E
3480N 3240E
3480N 3360E

The conductor is in the intermediate to good conductivity range, and is interpreted to be steeply dipping with its top about 50 metres below ground level.

The anomalous zone co-incides with the east-west valley of Jones Creek where there is poor outcrop. The mapped rocks in the area are weathered fine grained serpentinites. On line 3360E at 3500N, ultramafic float carries traces of sulphide (? pentlandite).

The geochemistry in the zone is not anomalous. Slightly higher copper and lead occurs at 3480N 3240E but this is thought to be associated with the drainage where it crosses the grid line.

No significant magnetic anomaly is associated with the EM conductor. The high magnetic trends in the north and south of the grid are consistent with the rock layering.

GRID 3 (ANOMALY 18C)

The "Max-Min" survey located conductors at:

5320N 5000E
5280N 5120E
5360N 5240E (not fully defined)
5600N 5360E
5540N 5480E (not fully defined)

The conductor has low conductivity, is within 10 metres of the surface and dips about 45° south.

The anomaly lies within serpentinite rocks which have high magnetic relief as opposed to the pyroxenites which have magnetic lows. No geochemically anomalous zones were picked up in the stream sediment sampling.

The EM anomaly appears to be related to the serpentinite rock, possibly due to its high magnetite content.

GRID 4 (ANOMALY 21G)

The airborne Dighem defines three close spaced anomalies on a flight path approximately along the central line of the grid. These anomalies may relate to a north-south trending source. It is possible that this source is the (grid) north-north-east postulated fault. The EM anomaly on line 7000E at 7160N co-incides with this fault zone, and there are slight responses on lines 7120E and 7240E where the projected fault crosses them.

The "Max-Min" conductor at 7800N on line 7000E co-incides with Dighem anomaly 20C. It lies within serpentinitized dunite rocks.

The ground magnetic profiles reflect rock layering, with the highest readings over banded serpentinite/pyroxenite.

The stream sediment sampling produced no anomalous results.

RECOMMENDATIONS

No highly prospective targets have emerged from the exploration programmes on the four grids. Further work should be related to general priorities within the Exploration Licence.

GRID 1 (ANOMALY 57A)

The conductor has been well defined, but is only of intermediate conductivity and has no back-up magnetic or geochemical response. It can be easily tested with a short hole as proposed in D.B. Trussell's memo.

GRID 2 (ANOMALY 44A)

As for Grid 1, the conductor has no supporting magnetic or geochemical anomalies. However, the top of the conductor is 50 metres below surface, and may not have produced any geochemical anomalies. The presence of traces of sulphides in ultramafic float nearby does make this target slightly more prospective than those within the other grids. Numerous alluvial workings - probably for osmiridium - were noted in the area. The conductor, once more, could easily be tested as per D.B. Trussell's memo.

It may also be worth investigating the chromite and platenoid potential of this area.

GRID 3 (ANOMALY 18C)

It may be worth collecting soil geochemical samples over the shallow conductor area. However, the stream sediment and heavy concentrate samples failed to define any anomalous zones.

GRID 4 (ANOMALY 21G)

To test a possible north-south trend of the Dighem anomaly, cross lines may be cut and ground EM run over them. However, the geochemical response from this area is not encouraging.

What appears to be an old drill pad was found at 7150N 7000E. This location is close to the postulated NNE trending fault. A literature search of the previous exploration in this area should be carried out.

Douglas McKenna + Partners P.L.
Douglas McKenna & Partners P.L.

8th May, 1981

VOLUME 2
 GRID 1 (ANOMALY 57A)
 ACCOMPANYING DRAWINGS

Title	Drawing No.
Geology & Topography	1 - 01
Ground Magnetic Readings	1 - 02
Geochemistry for Copper	1 - 03
" " Lead	1 - 04
" " Zinc	1 - 05
" " Nickel	1 - 06
" " Silver	1 - 07
" " Tin	1 - 08
Stream Sediment Samples	1 - 09
Section 1000E	1 - 10
" 1120E	1 - 11
" 1240E	1 - 12
" 1360E	1 - 13
" 1480E	1 - 14
" 1000E "Max-Min" Profiles	1 - 15
" 1120E " " "	1 - 16
" 1240E " " "	1 - 17
" 1360E " " "	1 - 18
" 1480E " " "	1 - 19

VOLUME 3
 GRID 2 (ANOMALY 44A)
 ACCOMPANYING DRAWINGS

Title	Drawing No.
Geology & Topography	2 - 01
Ground Magnetic Readings	2 - 02
Geochemistry for Copper	2 - 03
" " Lead	2 - 04
" " Zinc	2 - 05
" " Nickel	2 - 06
" " Silver	2 - 07
" " Tin	2 - 08
Stream Sediment Samples	2 - 09
Section 3000E	2 - 10
" 3120E	2 - 11
" 3240E	2 - 12
" 3360E	2 - 13
" 3480E	2 - 14
" 3000E "Max-Min" Profiles	2 - 15
" 3120E " " "	2 - 16
" 3240E " " "	2 - 17
" 3360E " " "	2 - 18
" 3480E " " "	2 - 19

VOLUME 4
GRID 3 (ANOMALY 18C)
ACCOMPANYING DRAWINGS

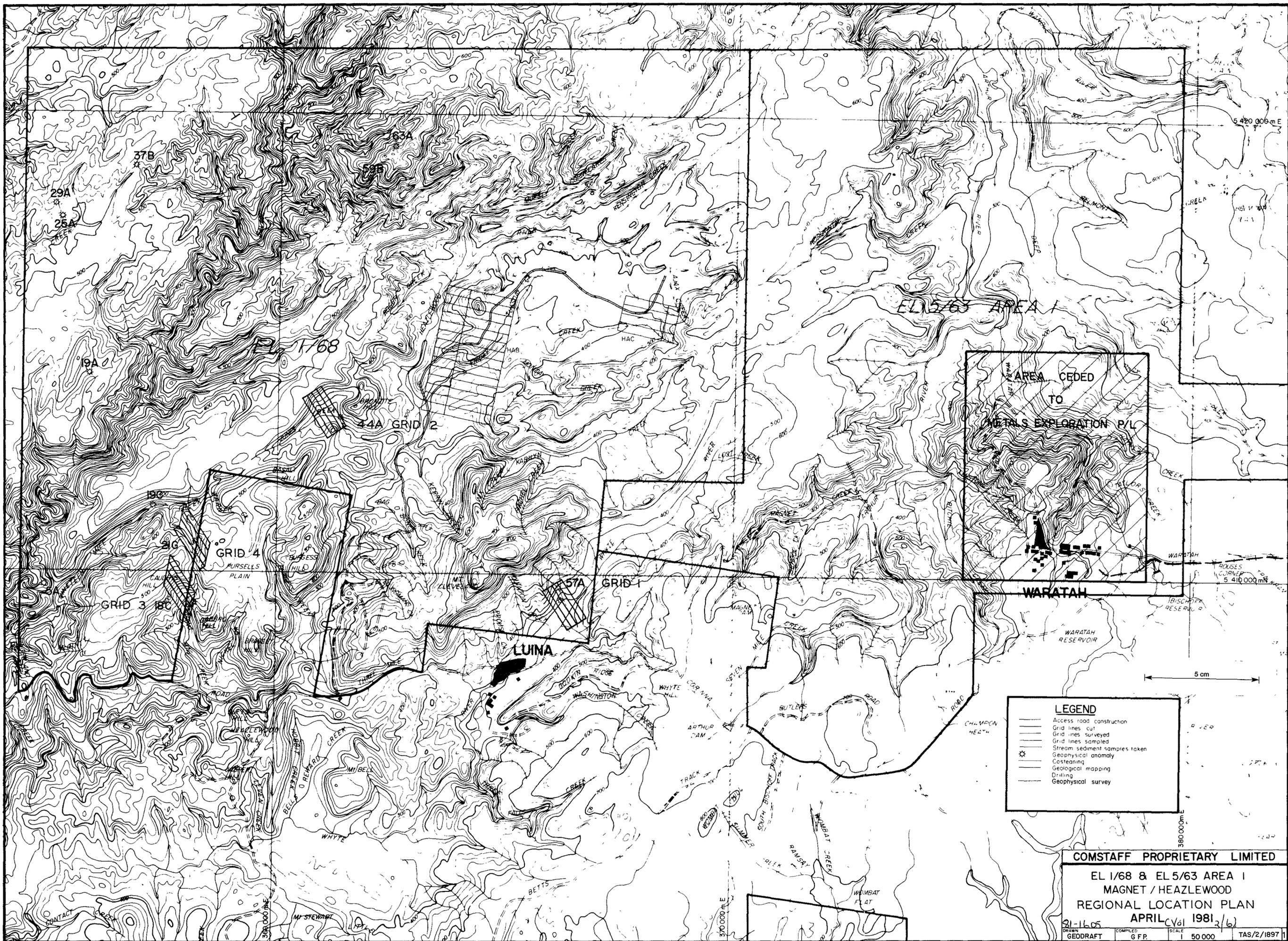
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Geology & Topography	3 - 01
Ground Magnetic Readings	3 - 02
Stream Sediment Samples	3 - 09
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" 5360E	3 - 13
" 5480E	3 - 14
" 5000E "Max-Min" Profiles	3 - 15
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" 5240E " " "	3 - 17
" 5360E " " "	3 - 18
" 5480E " " "	3 - 19

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VOLUME 5
GRID 4 (ANOMALY 21G)
ACCOMPANYING DRAWINGS

Title	Drawing No.
Geology & Topography	4 - 01
Ground Magnetic Readings	4 - 02
Stream Sediment Samples	4 - 09
Section 7000E	4 - 10
" 7120E	4 - 11
" 7240E	4 - 12
" 7360E	4 - 13
" 7480E	4 - 14
" 7000E "Max-Min" Profiles	4 - 15
" 7120E " "	4 - 16
" 7240E " " "	4 - 17
" 7360E " " "	4 - 18
" 7480E " " "	4 - 19



LEGEND

- Access road construction
- Grid lines cut
- Grid lines surveyed
- Grid lines sampled
- Stream sediment samples taken
- ⊛ Geophysical anomaly
- Costeering
- Geological mapping
- Drilling
- Geophysical survey

COMSTAFF PROPRIETARY LIMITED
 EL 1/68 & EL 5/63 AREA I
 MAGNET / HEAZLEWOOD
 REGIONAL LOCATION PLAN
 APRIL 1981
 31-1605
 DRAWN: GEODRAFT COMPILED: G.F.P. SCALE: 50 000 TAS/2/1897

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of M	A.O.	C.G.	E.G.	D.S.M.E
Received - 1 JUN 1981				E & I
DEPT. OF MINES				
REF. NO. 4509181				

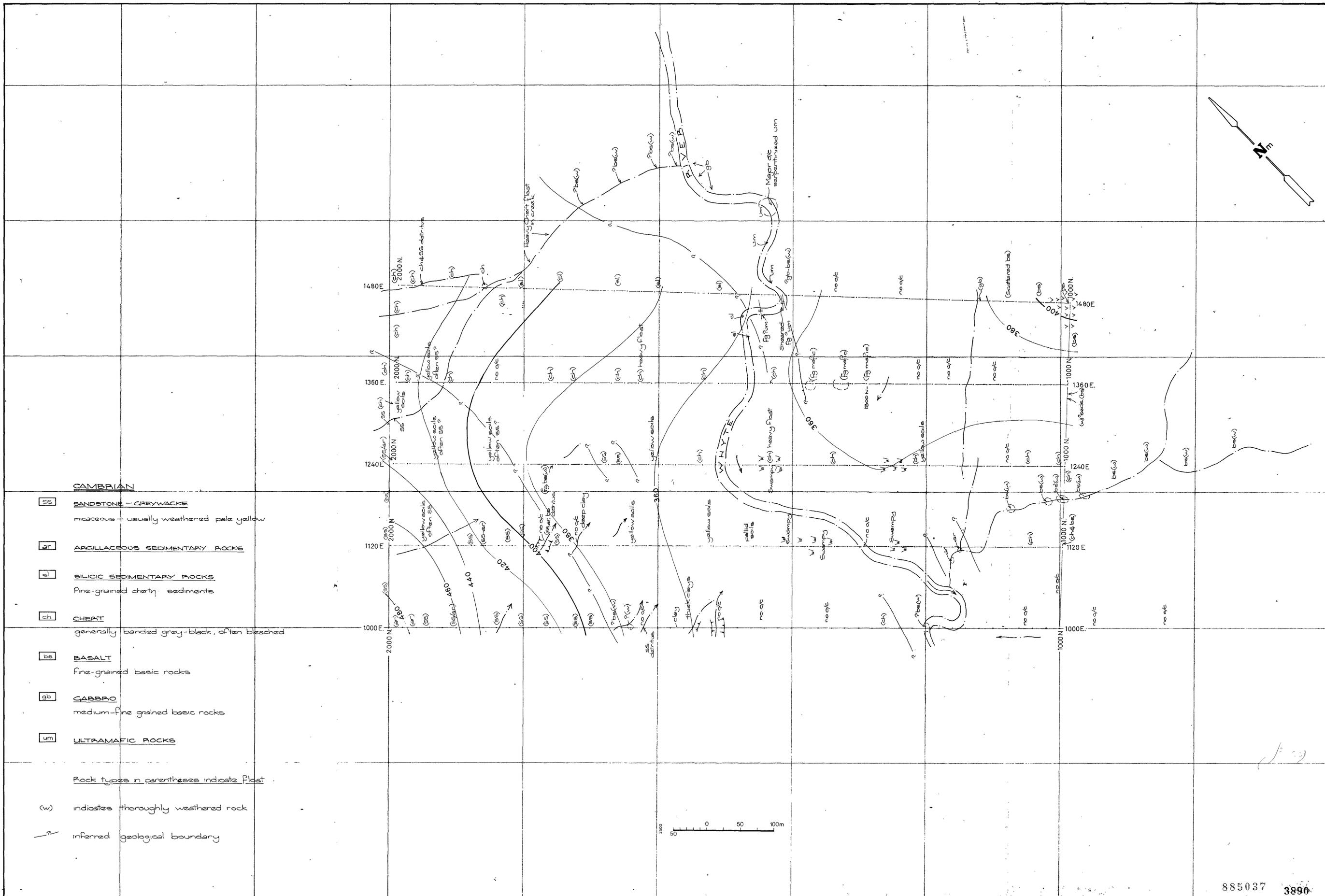
VOLUME # 3

GRID 1 (ANOMALY 57A)

ACCOMPANYING DRAWINGS

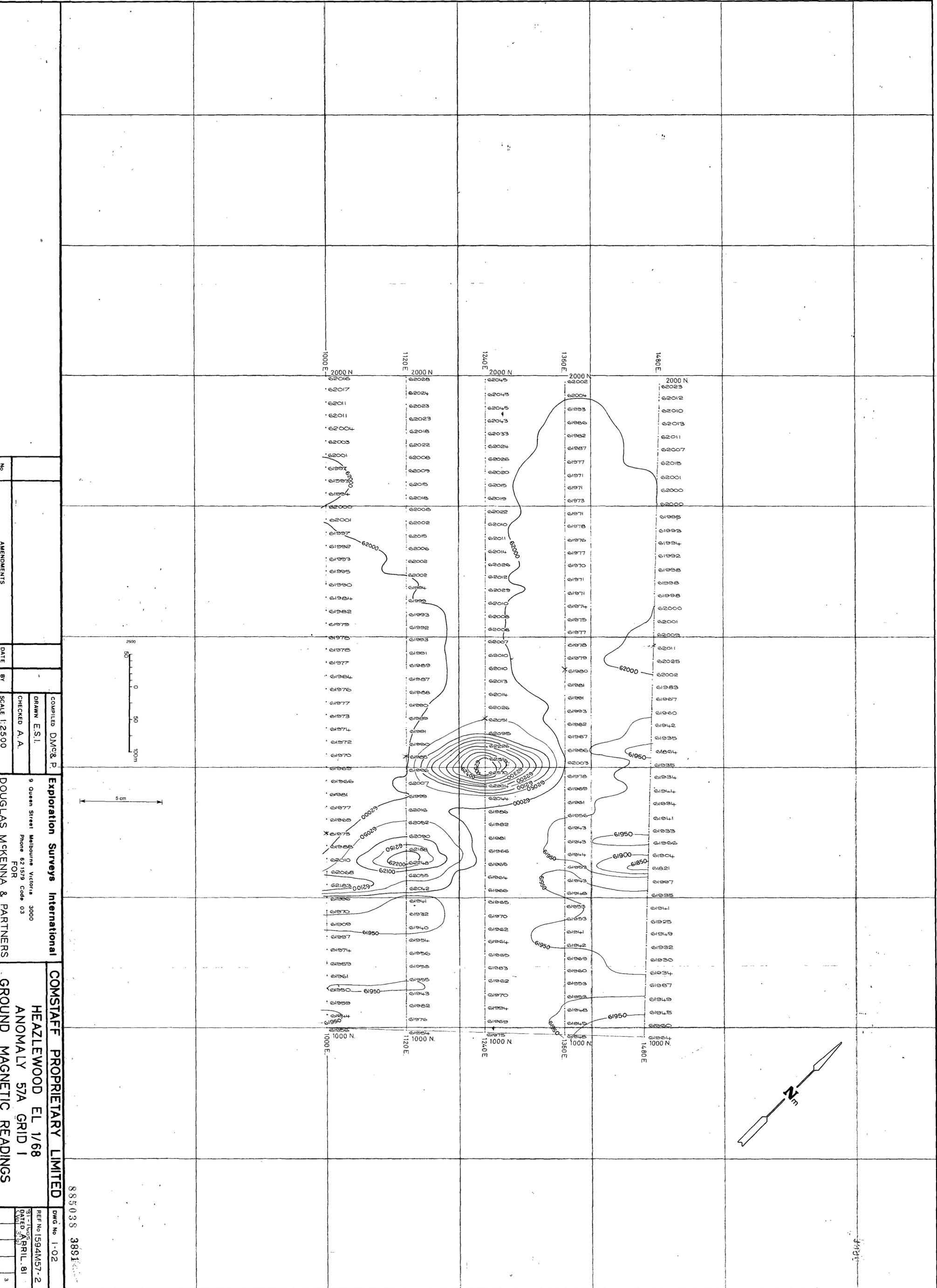
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Ground Magnetic Readings	1 - 02.
Geochemistry for Copper	1 - 03.
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" " Nickel	1 - 06.
" " Silver	1 - 07.
" " Tin	1 - 08.
Stream Sediment Samples	1 - 09.
Section 1000E	1 - 10.
" 1120E	1 - 11.
" 1240E	1 - 12.
" 1360E	1 - 13.
" 1480E	1 - 14.
" 1000E "Max-Min" Profiles	1 - 15.
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" 1480E " " "	1 - 19.

OPEN FILE



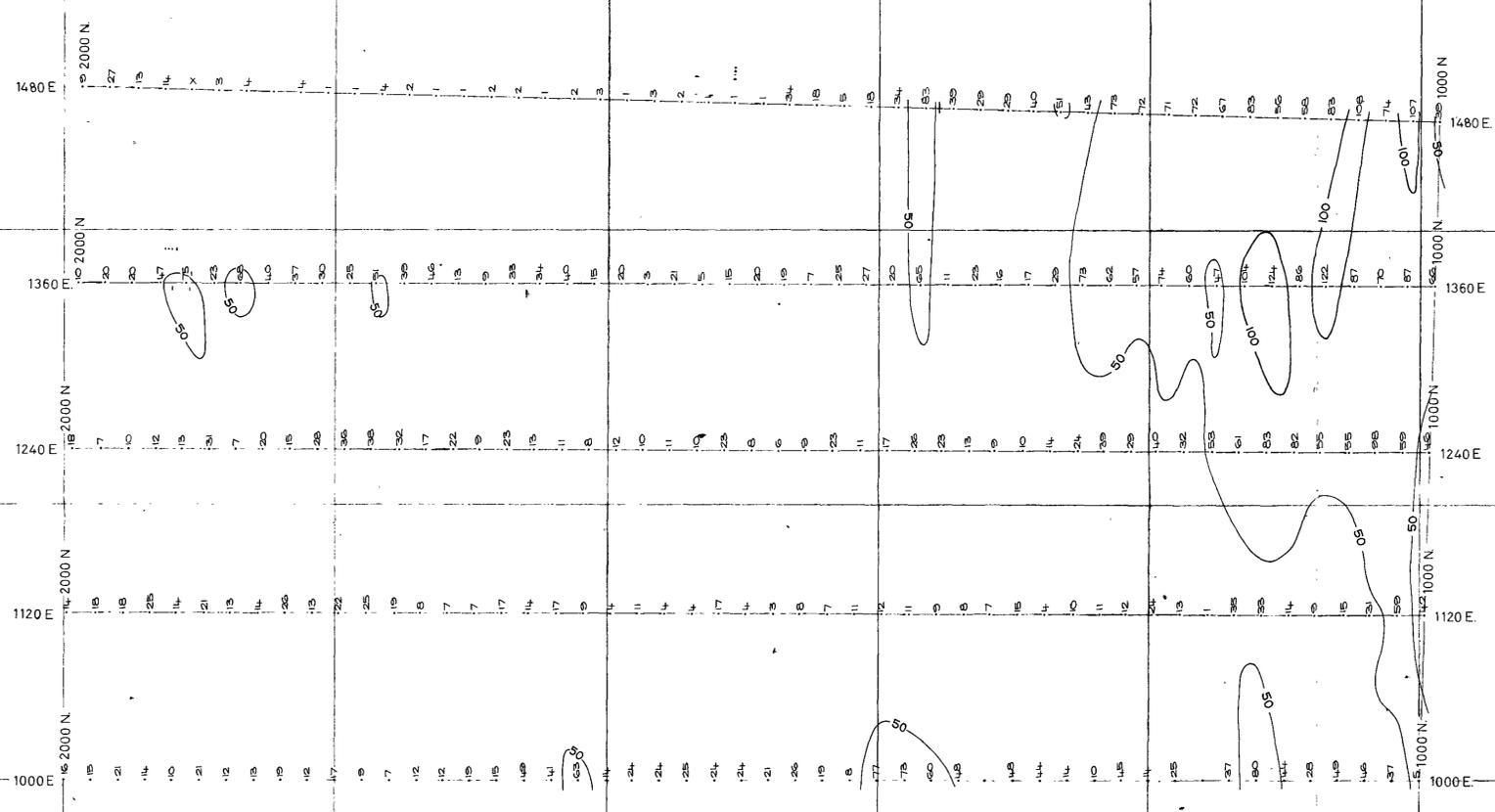
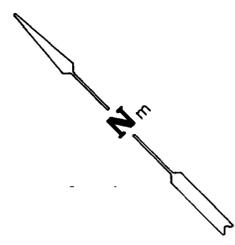
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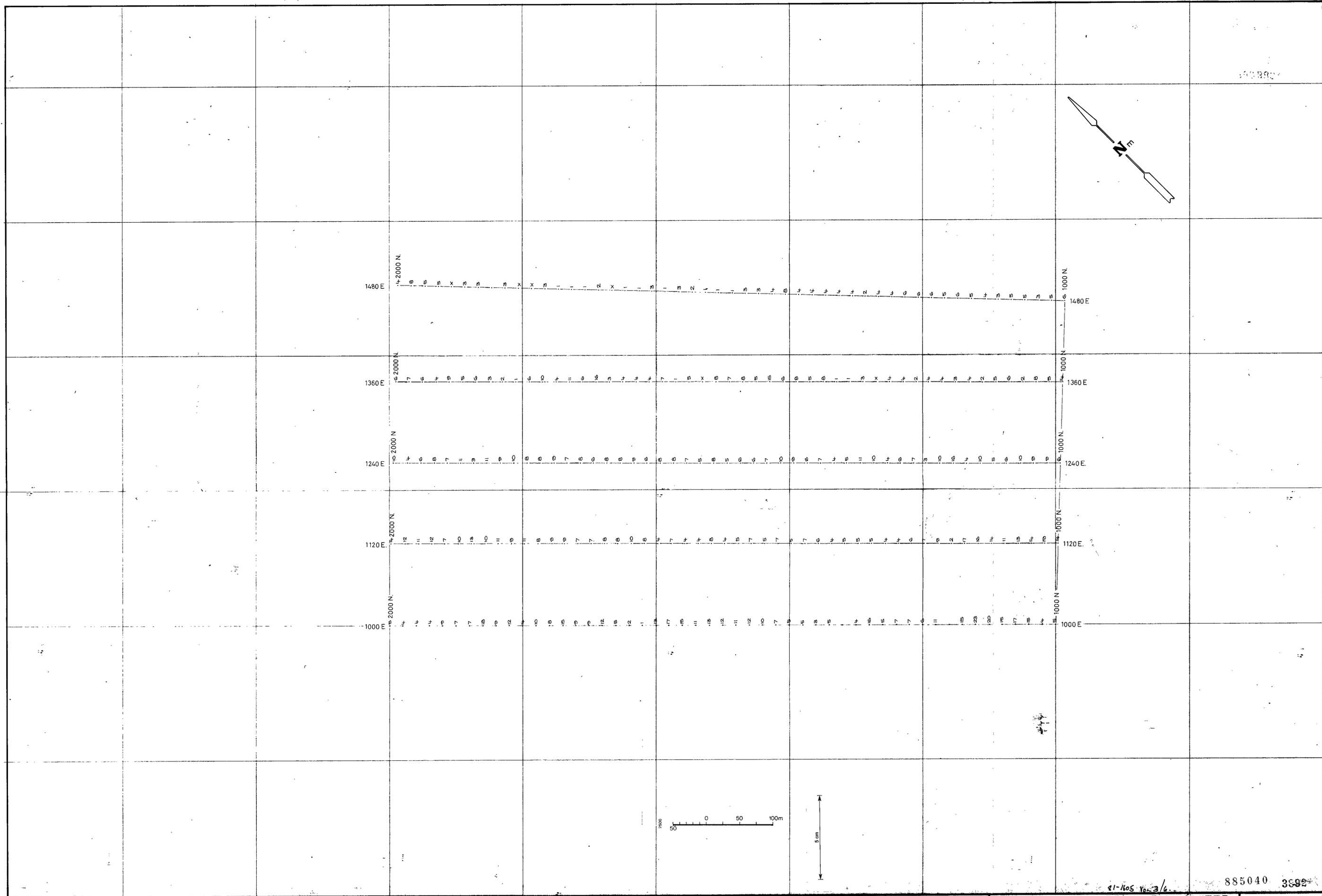
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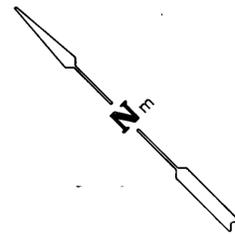


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 1360 E 13600 N
 1240 E 12400 N
 1120 E 11200 N
 1000 E 10000 N

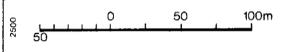
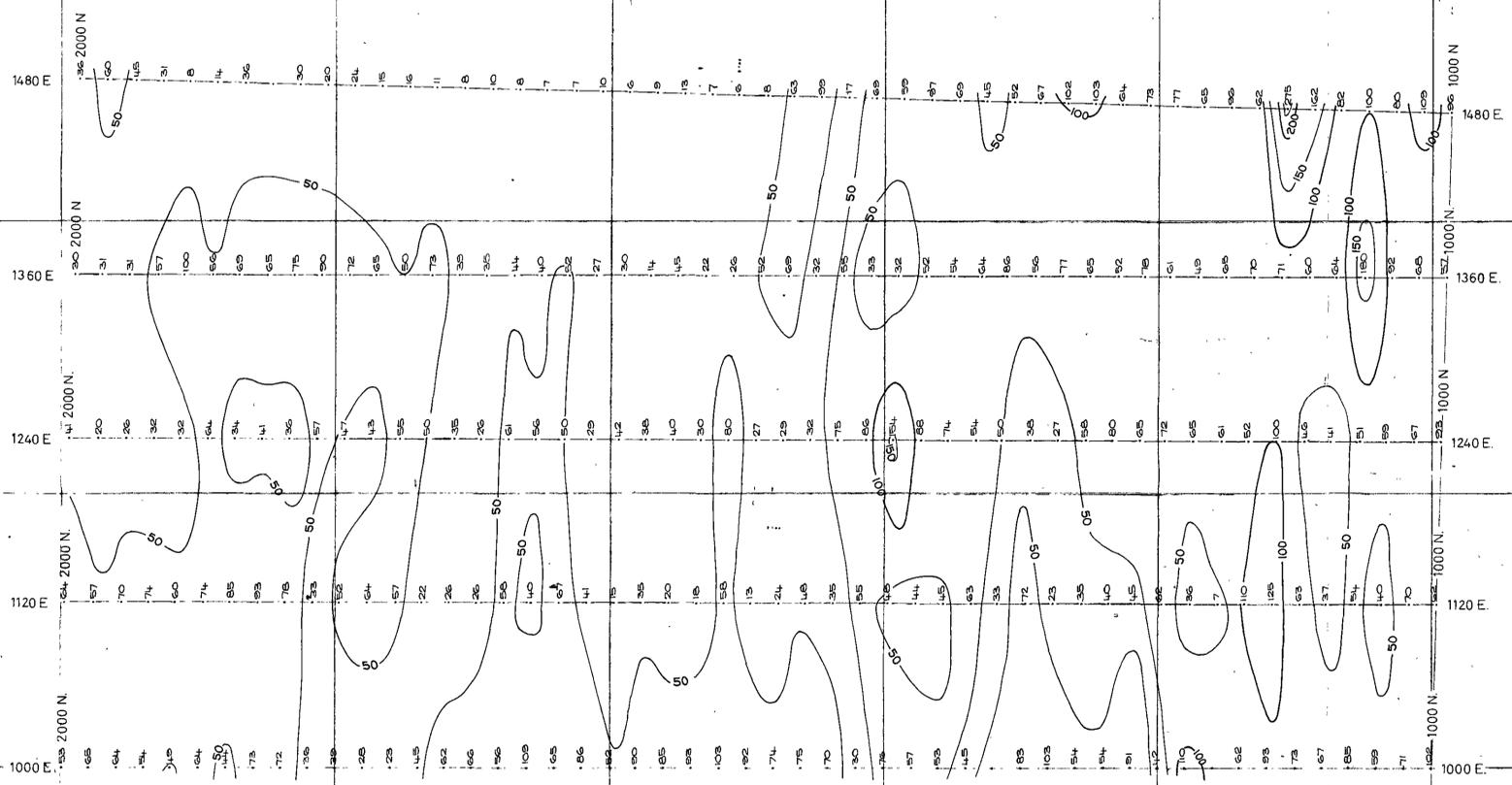
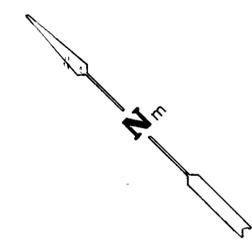
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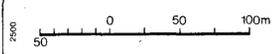
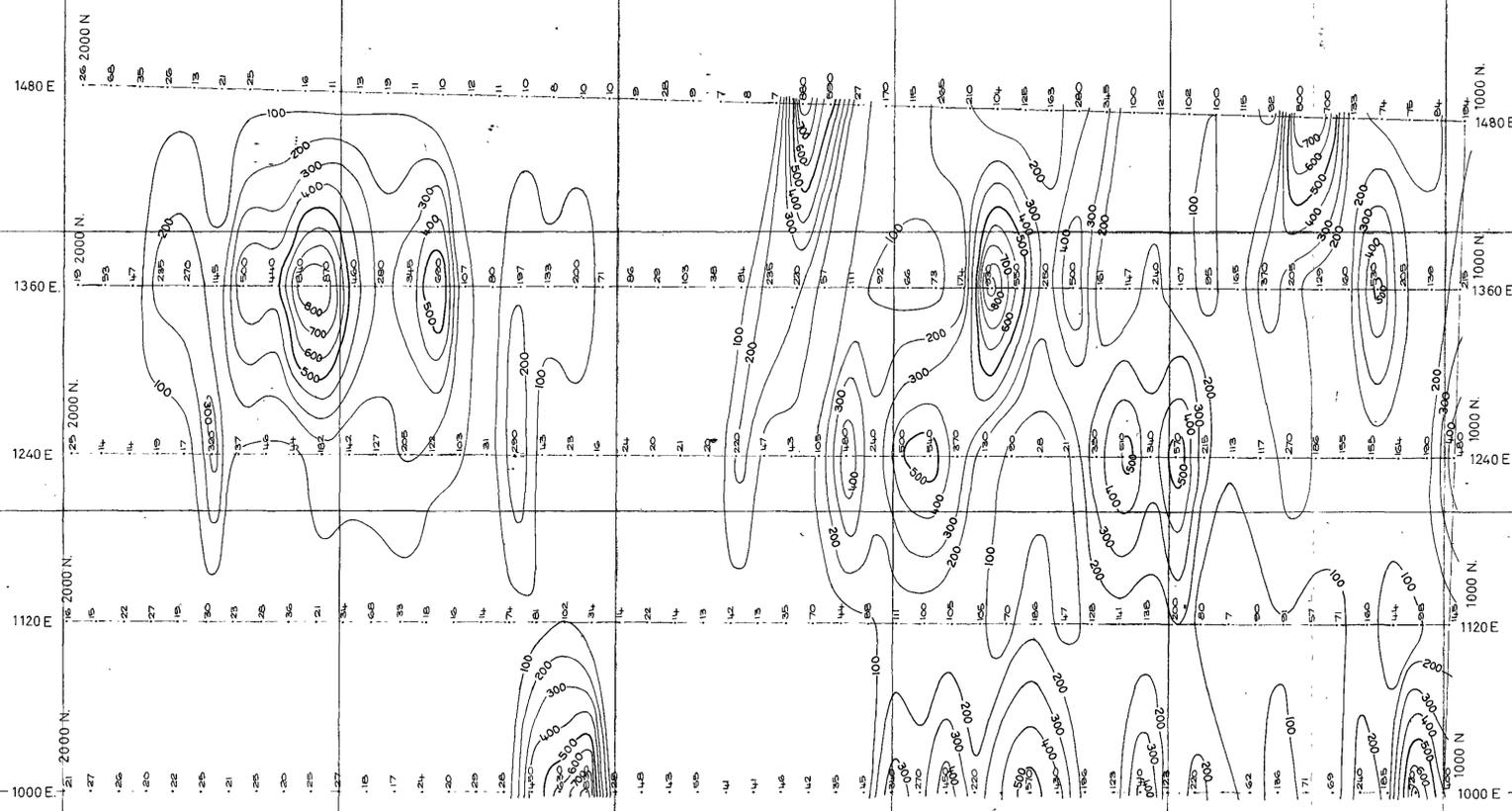
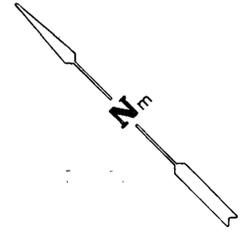
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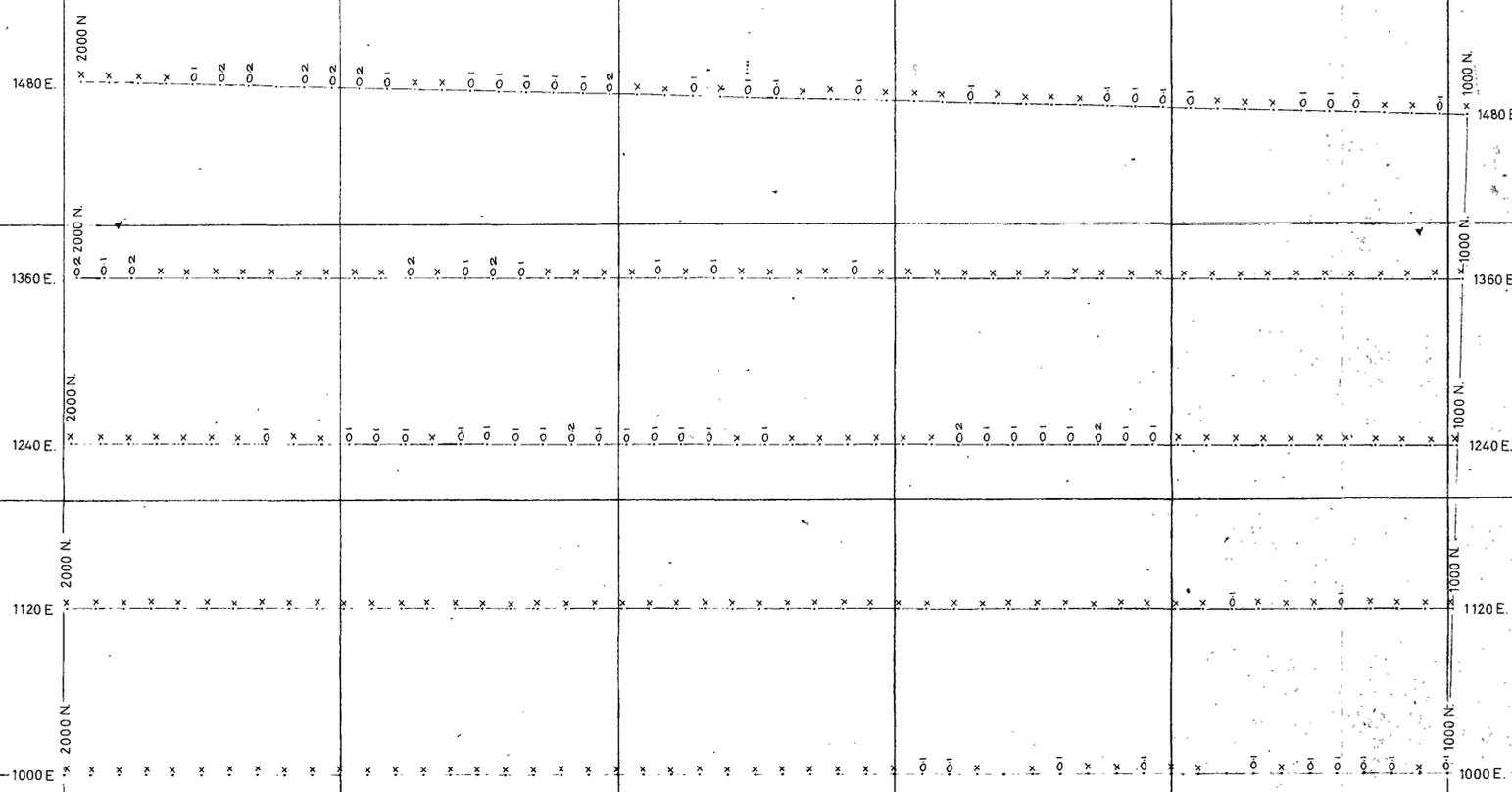
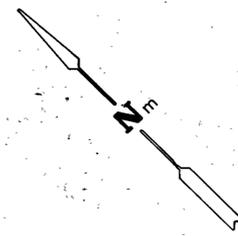
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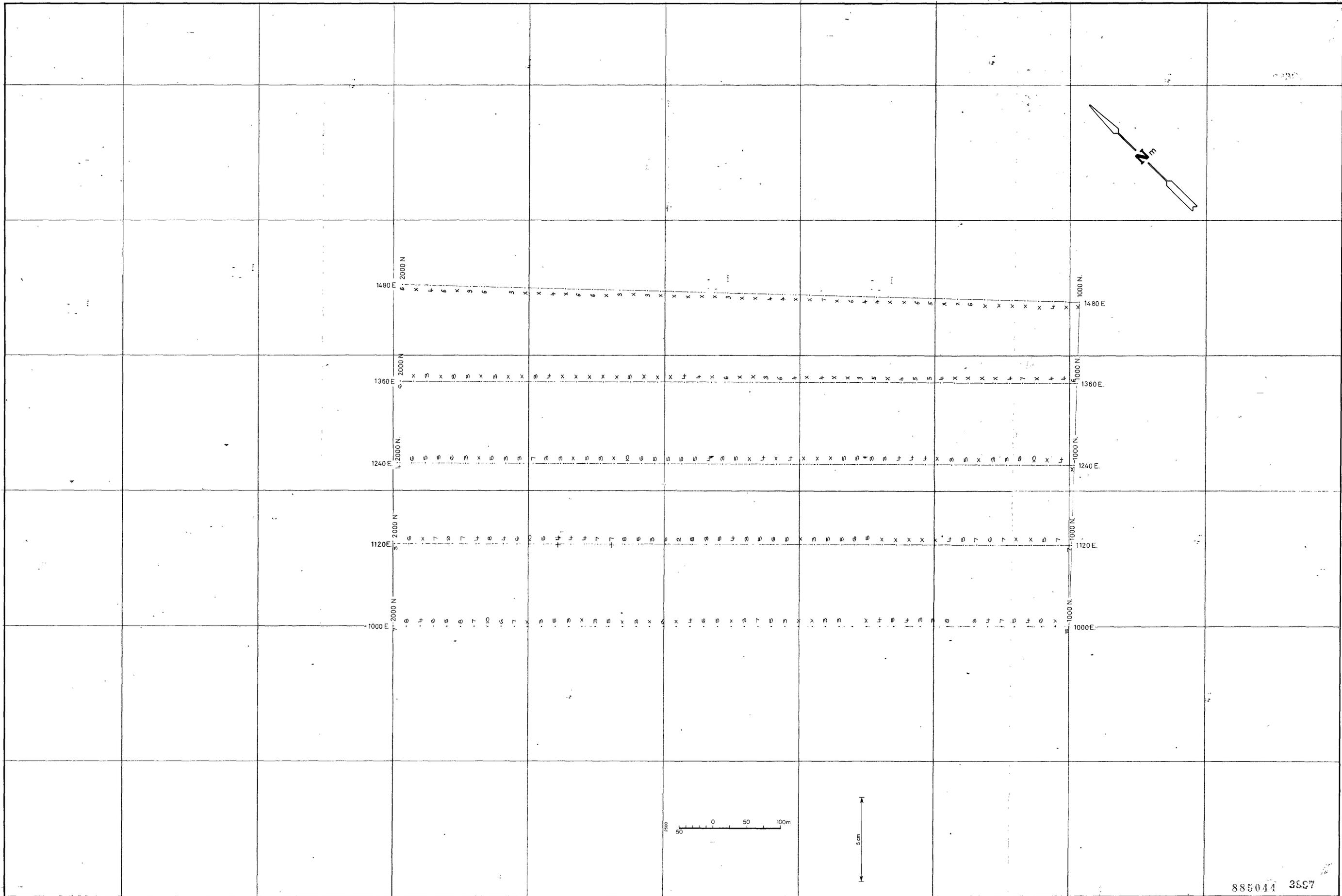
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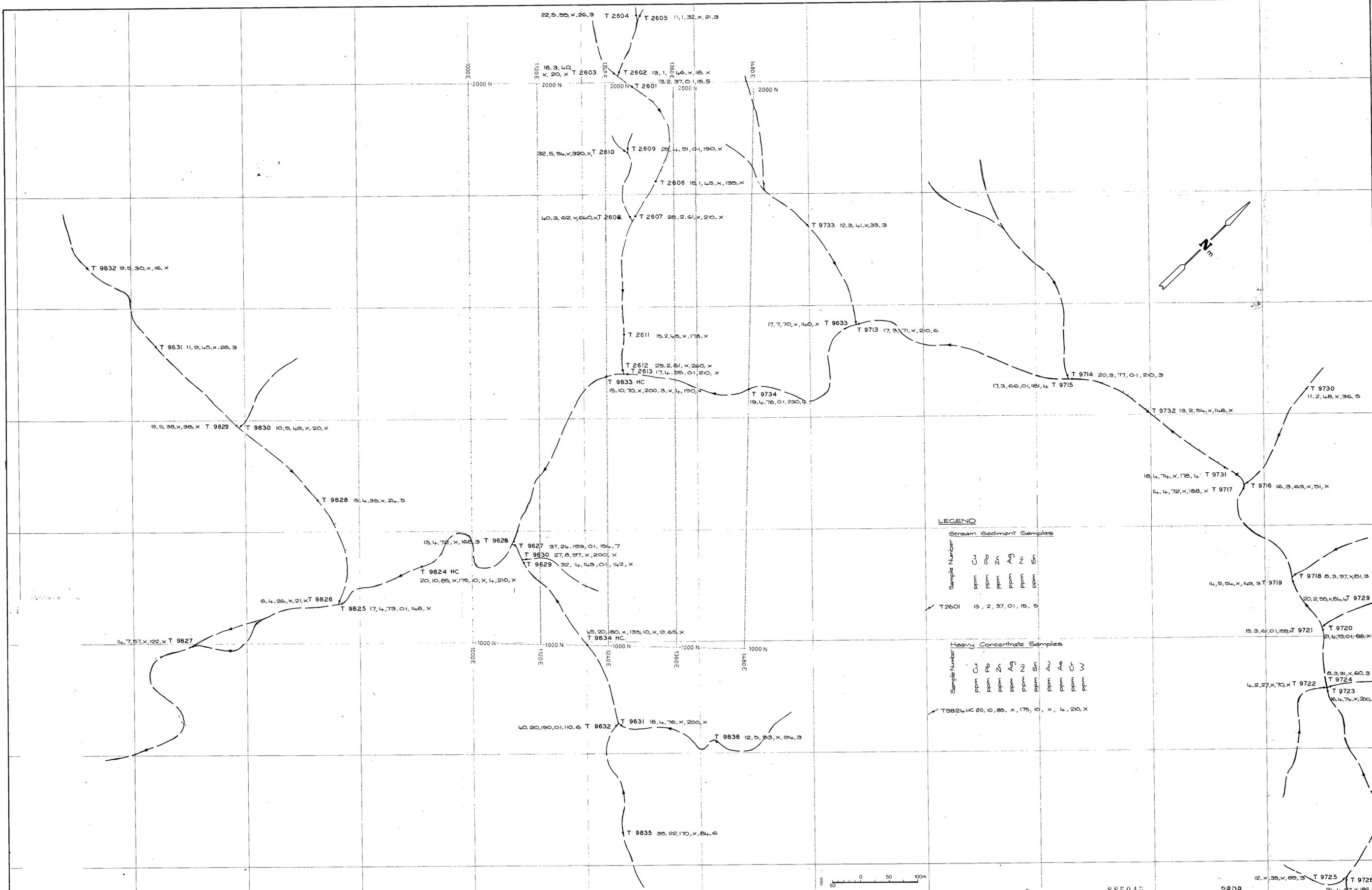


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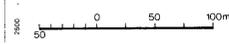
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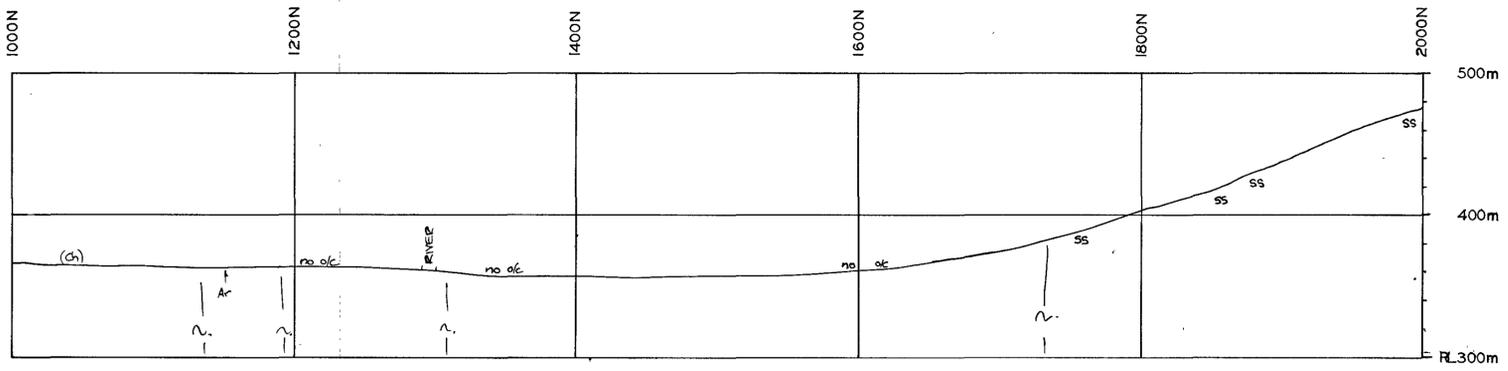
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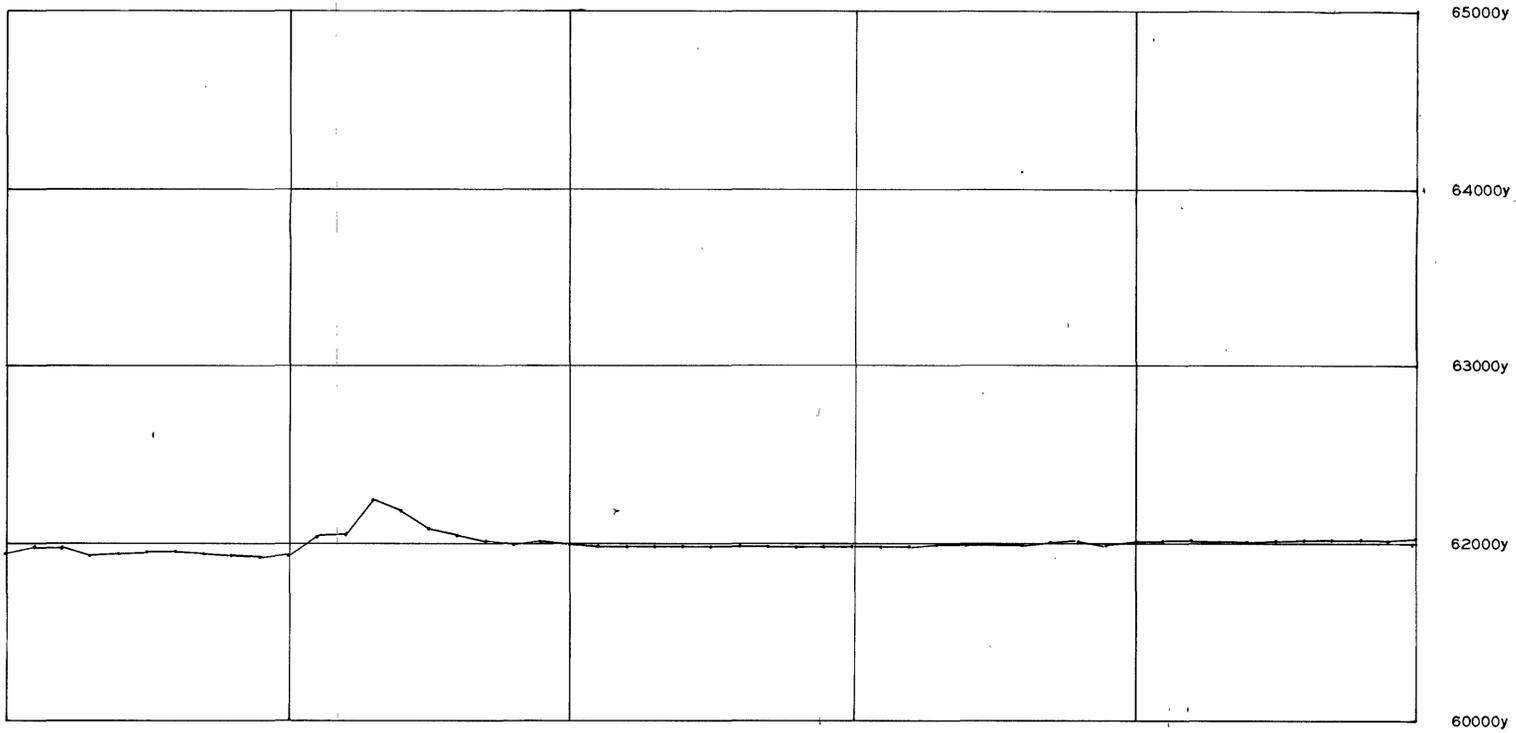


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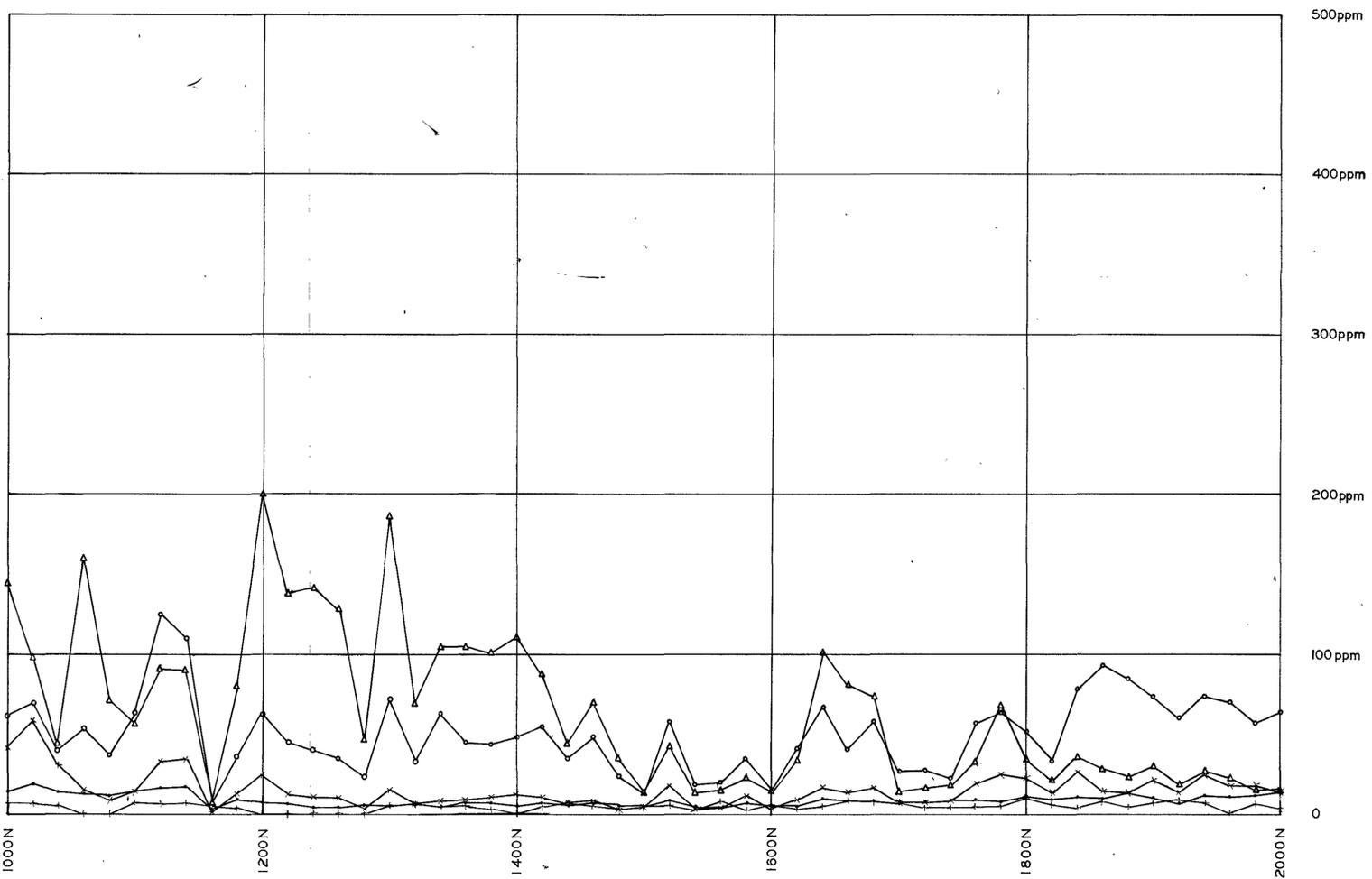
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GEOLOGY



GROUND MAGNETICS



LEGEND

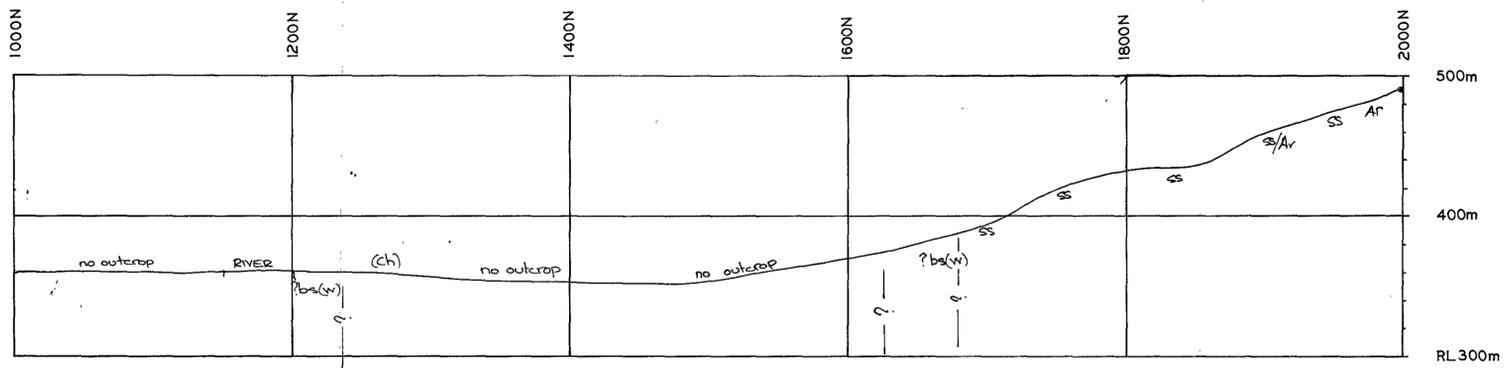
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- △ Ni
- + Sn

GEOCHEMISTRY

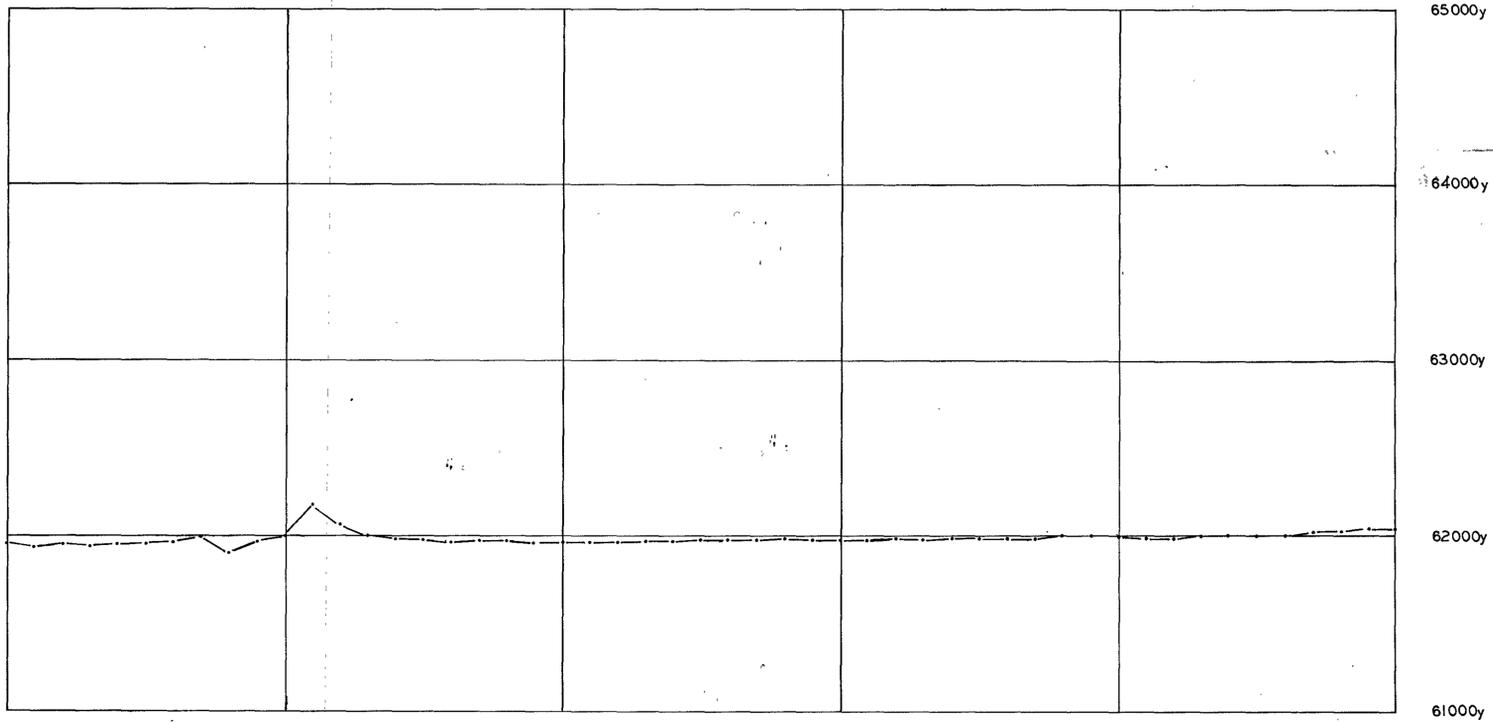
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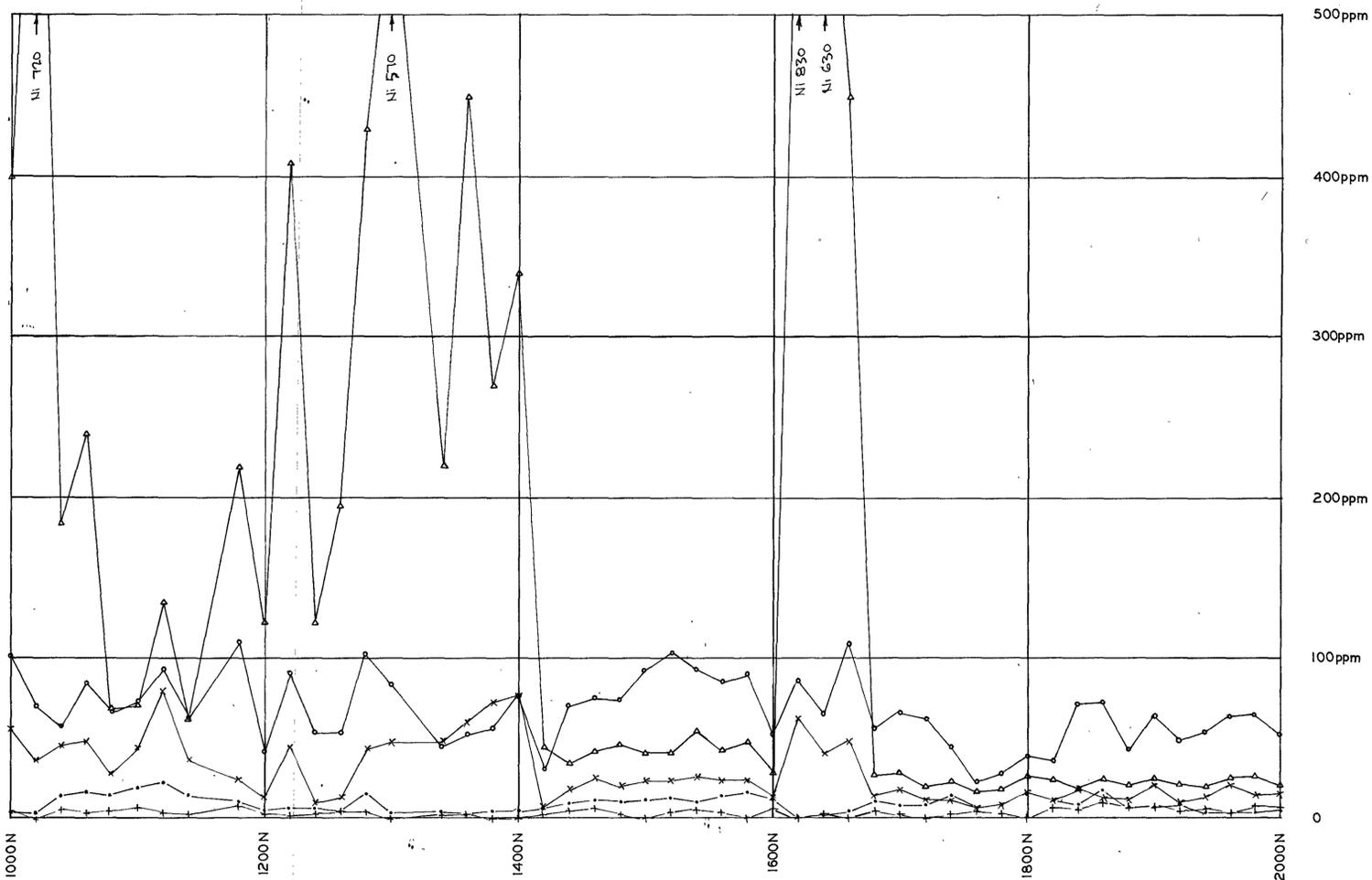
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GEOLOGY



GROUND MAGNETICS

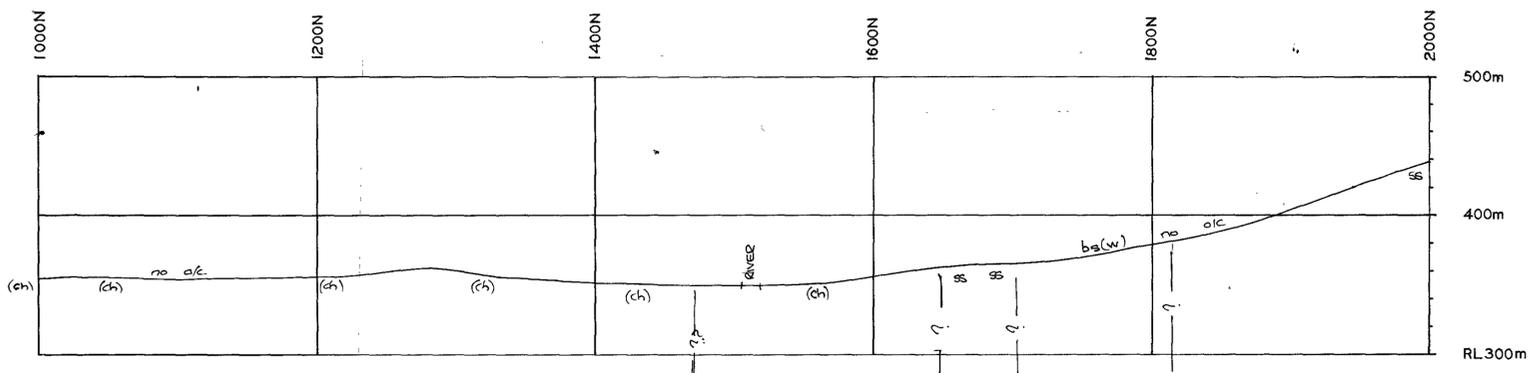


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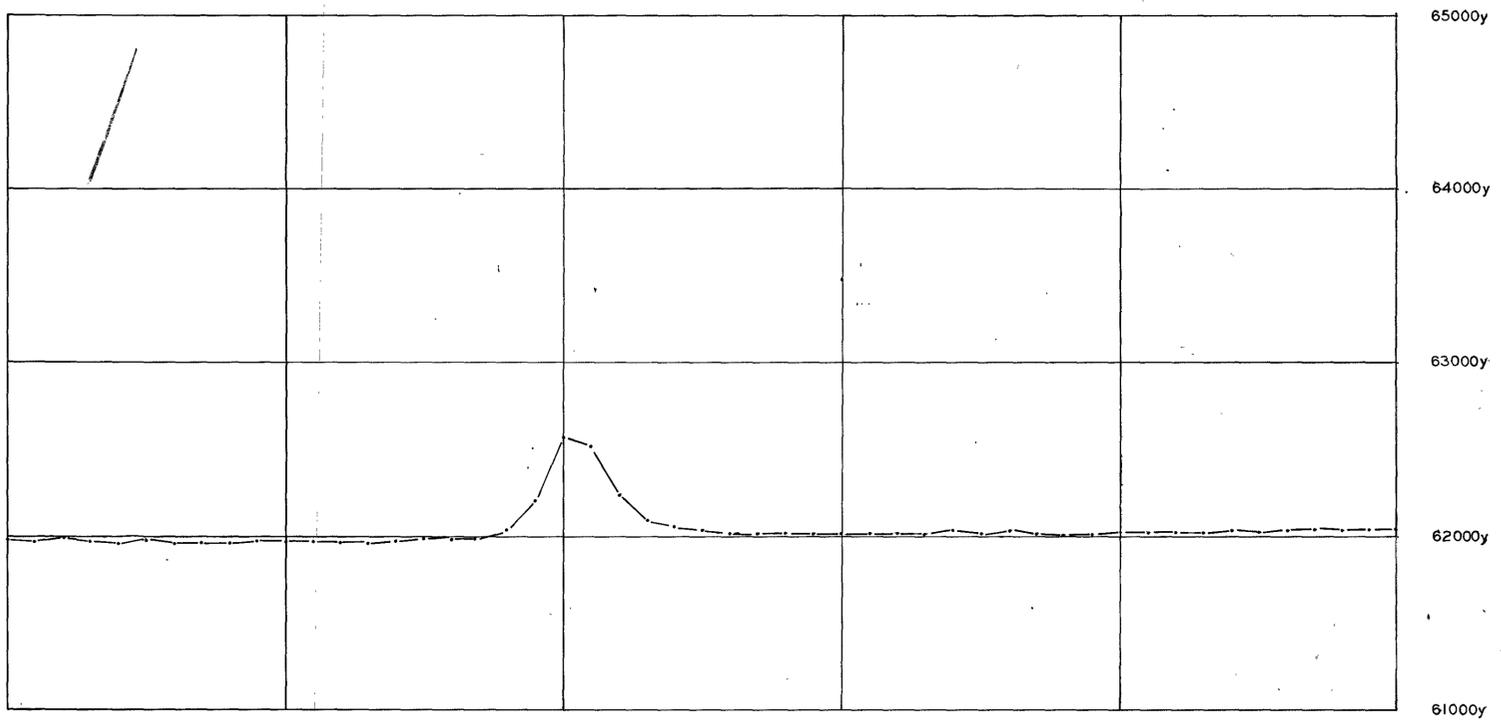
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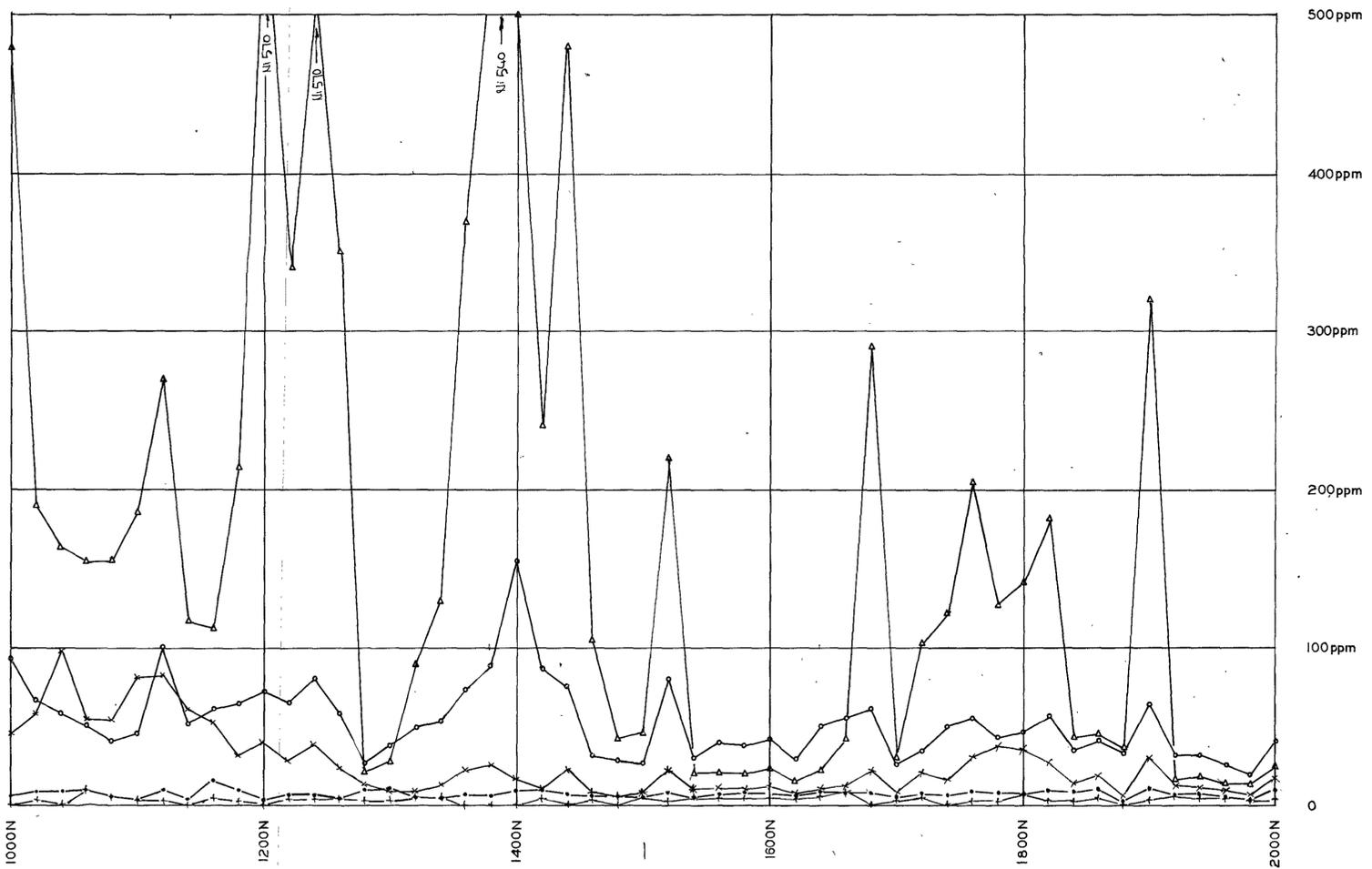
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GEOLOGY



GROUND MAGNETICS



LEGEND

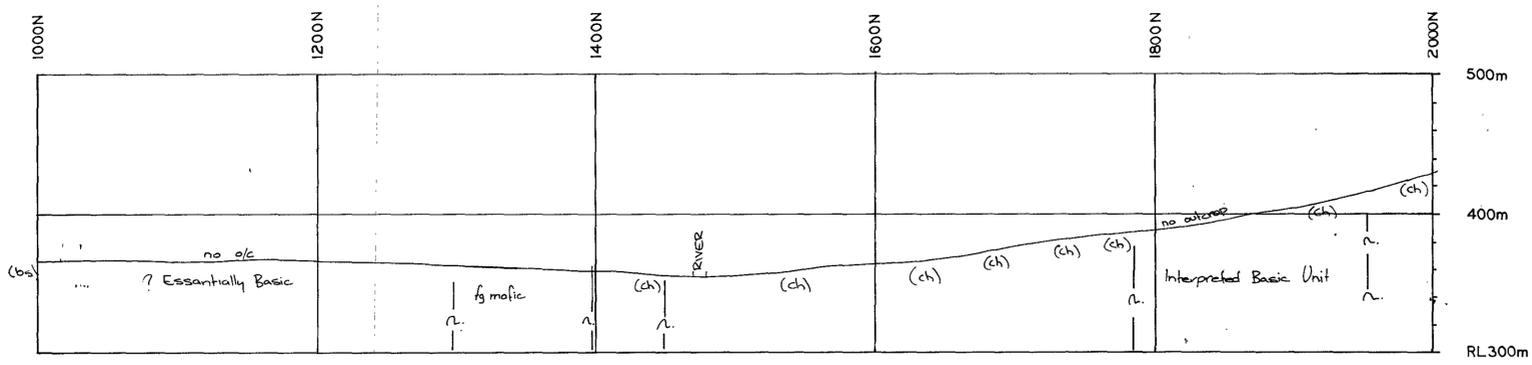
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- o Zn
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- + Sn

GEOCHEMISTRY

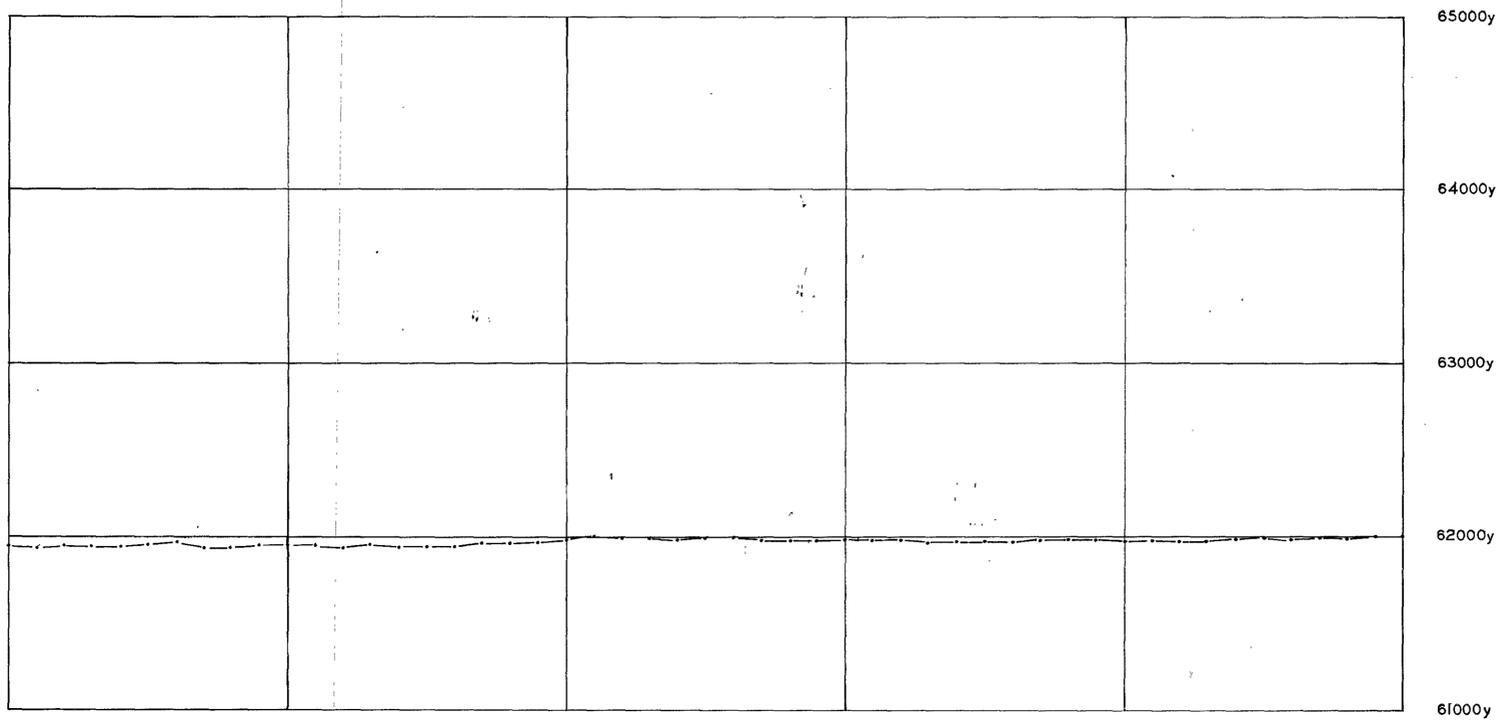
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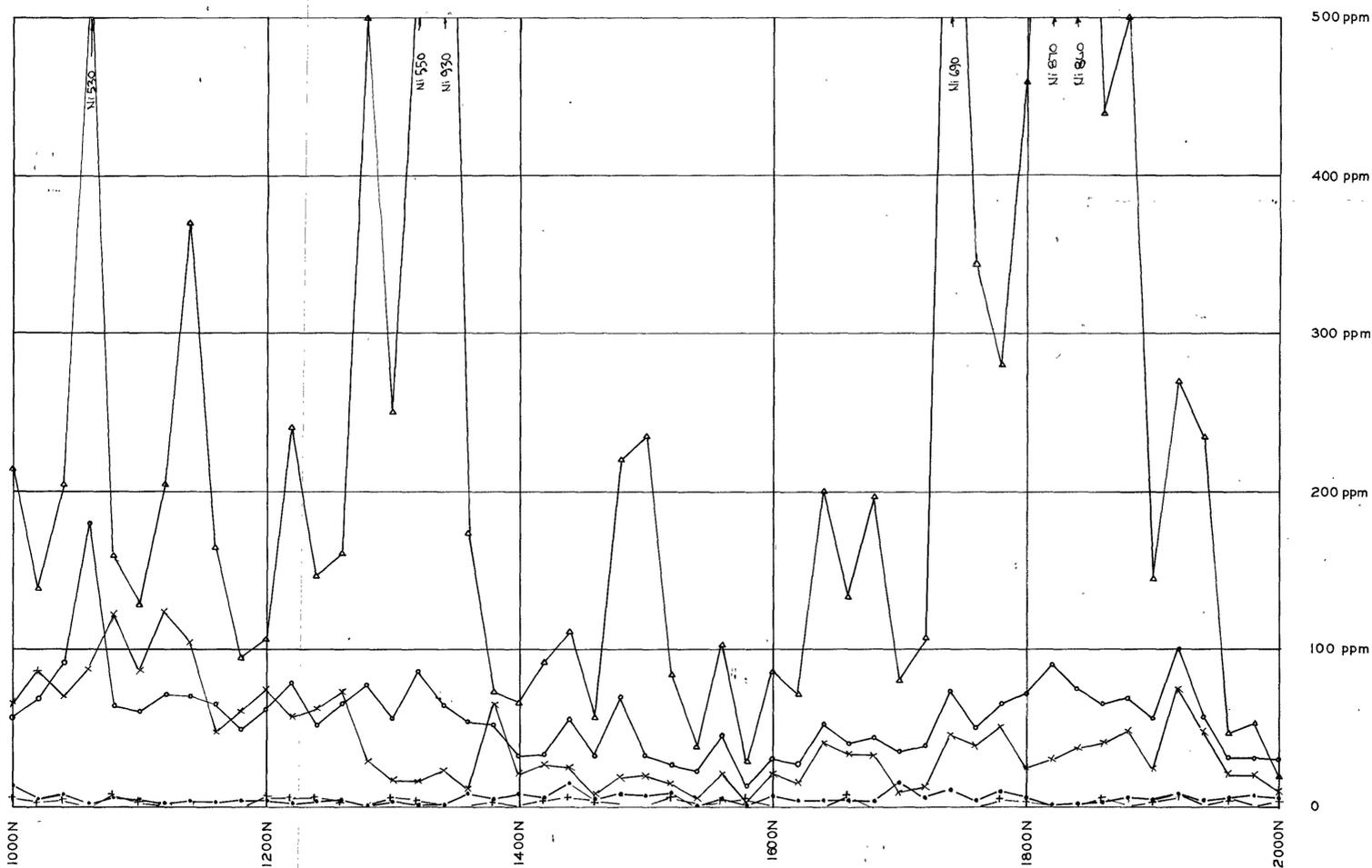
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GEOLOGY



GROUND MAGNETICS



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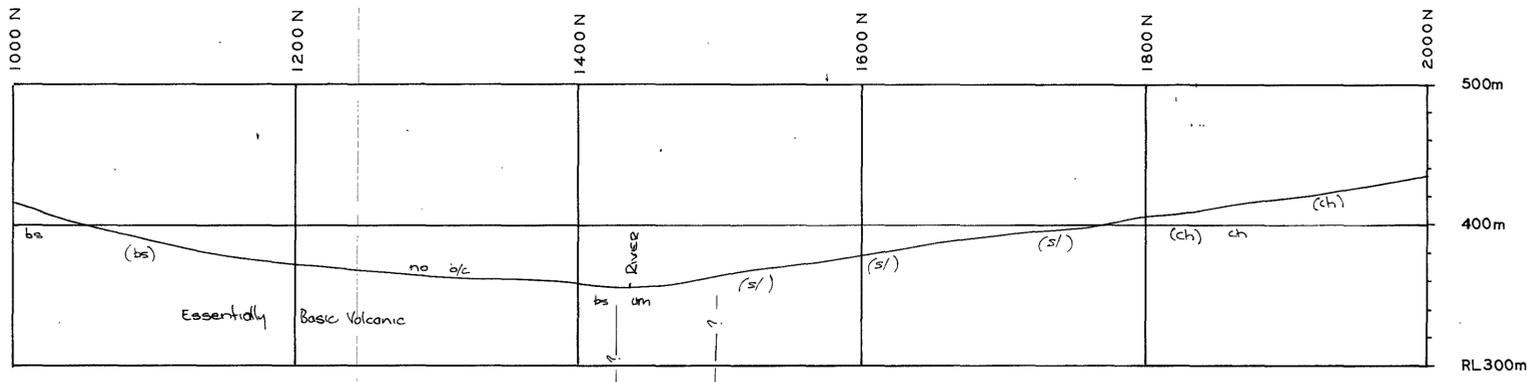
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GEOCHEMISTRY

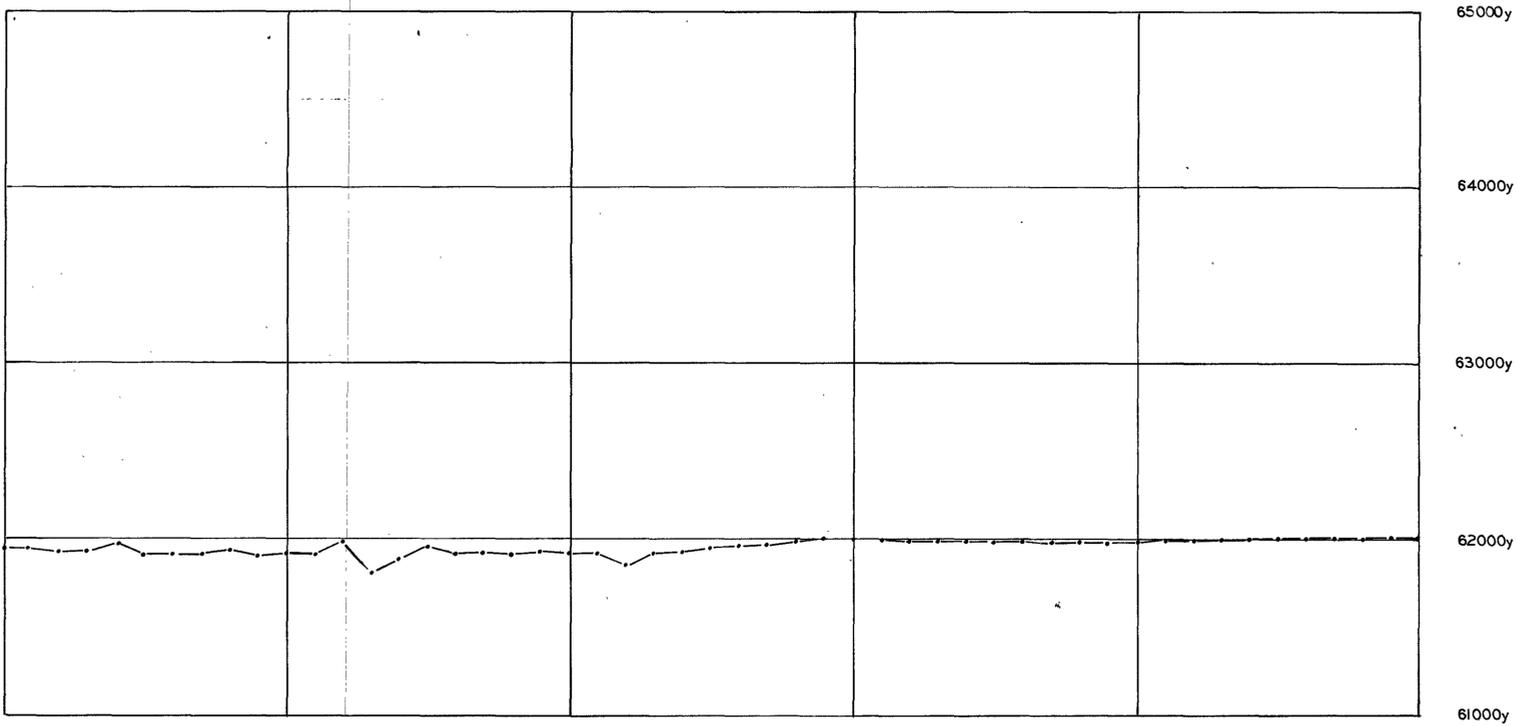
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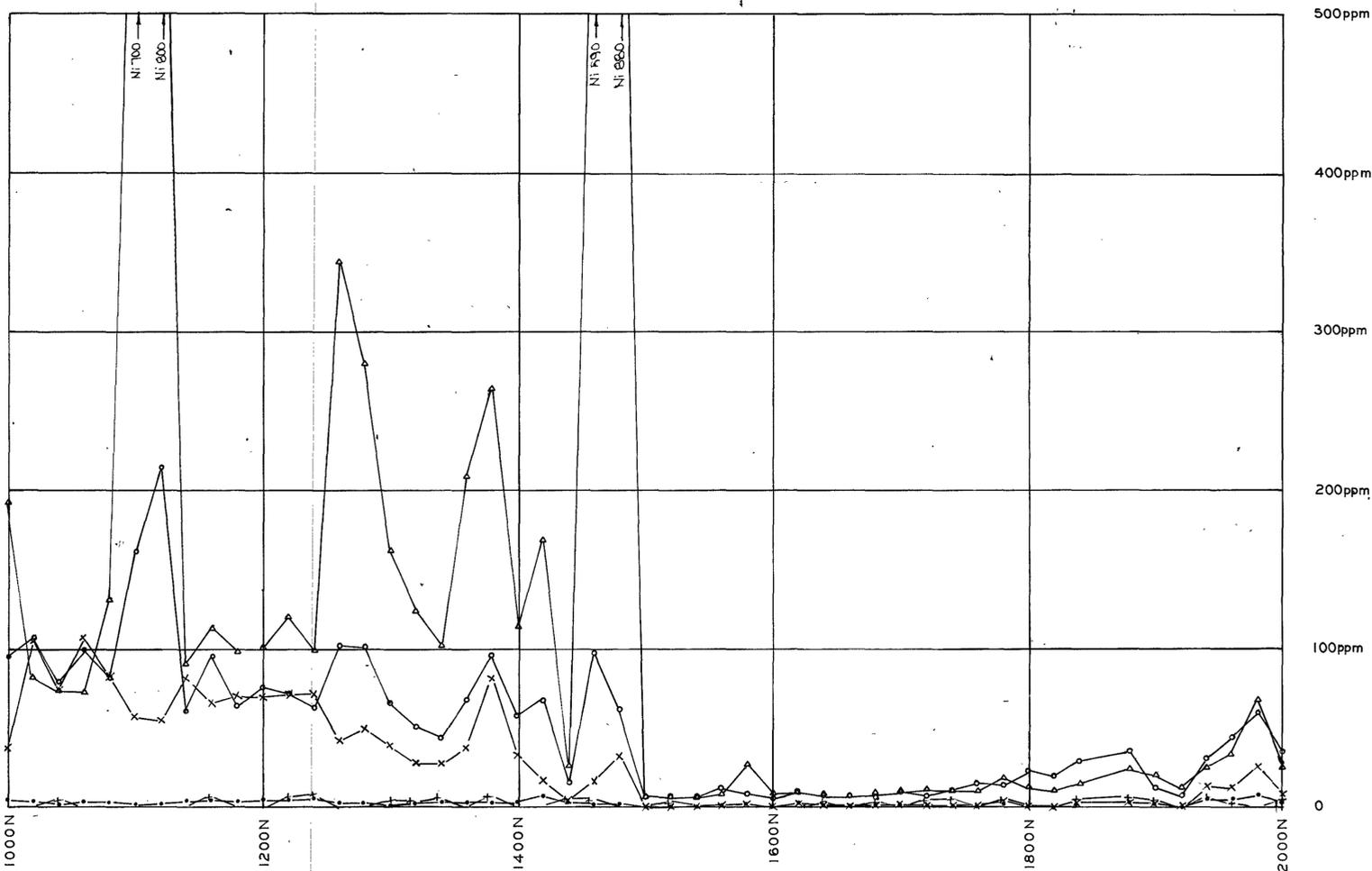
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		DRAWN E.S.I.		4 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03		HEAZLEWOOD EL 1/68 ANOMALY 57A GRID 1 SECTIONS: LINE 1360 E		REF No 1594M57-1	
CHECKED A.A.		FOR		DOUGLAS MCKENNA & PARTNERS		DATED APRIL 81		14	
No	AMENDMENTS	DATE	BY	SCALE					



GEOLOGY



GROUND MAGNETICS



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		COMPILED D.M.C. & P.	Exploration Surveys International	COMSTAFF PROPRIETARY LIMITED	DWG No 1-14
		DRAWN E.S.I.	4 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03	HEAZLEWOOD EL. 1/68 ANOMALY 57A GRID 1 SECTIONS LINE 1480 E	REF No 1594M57-1
No	AMENDMENTS	DATE BY	SCALE	FOR DOUGLAS MCKENNA & PARTNERS	51-1605 DATED APRIL 81 CIVIL 30
					15

GRID 1, LINE 1 (1000E)
ANOMALY 57A

1-15

222 HZ

888 HZ

1777 HZ

1000N

1200N

1400N

1600N

1800N

2000N

LEGEND

-o-o- IN-PHASE
-x-x- QUADRATURE

SCALE - 1:2500

1.6cm = 10%

DWG. No

1-15

5cm

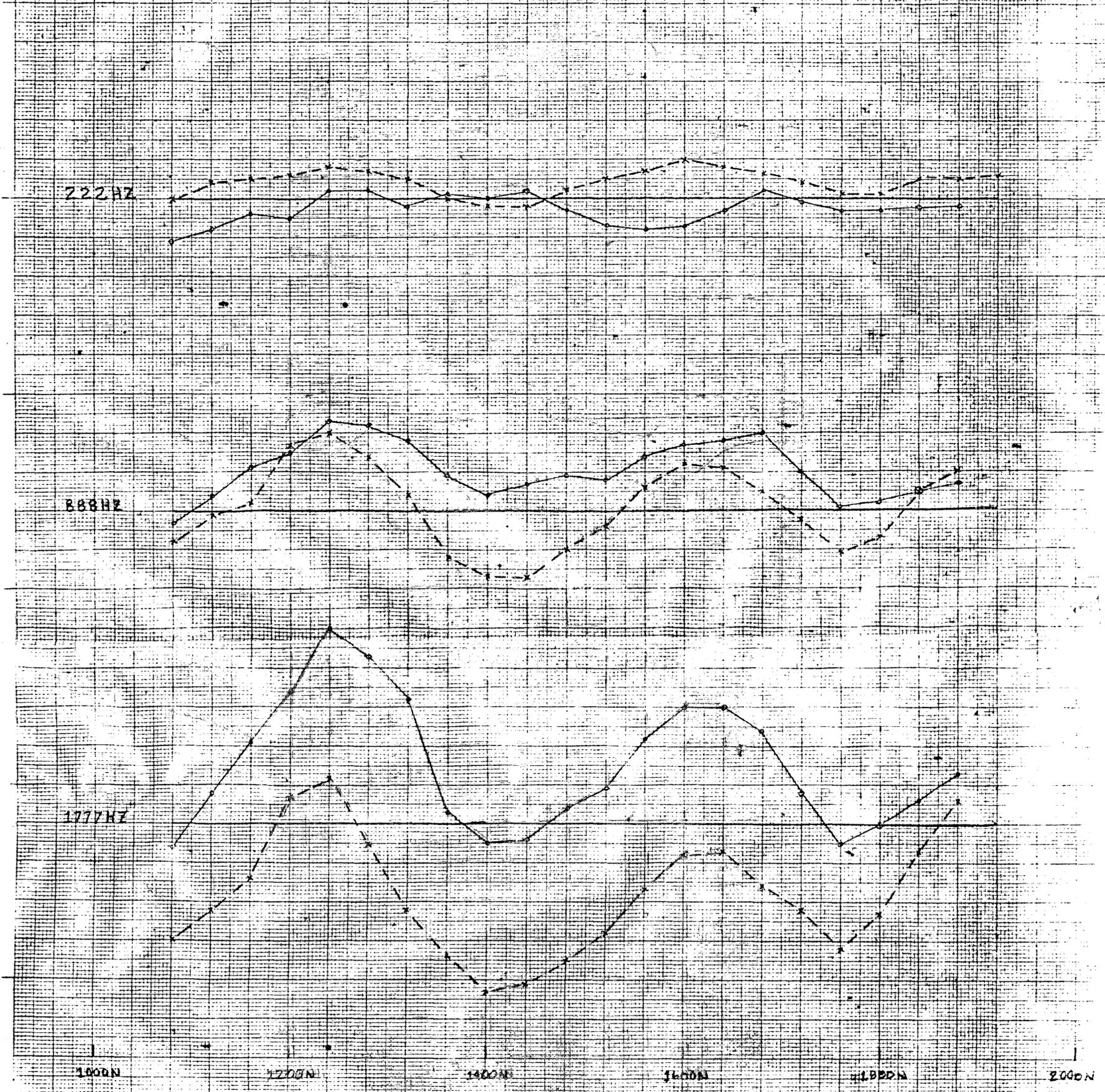
COIL SEPARATION = 160 m

SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (BS-1305) - 6/3/81

GRID 1, LINE 2 (1120E)

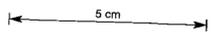
ANOMALY 57A



LEGEND

- +--+ IN-PHASE
- o--o- QUADRATURE

SCALE = 1:2500 DWG No 1-16
 1.6cm = 10%



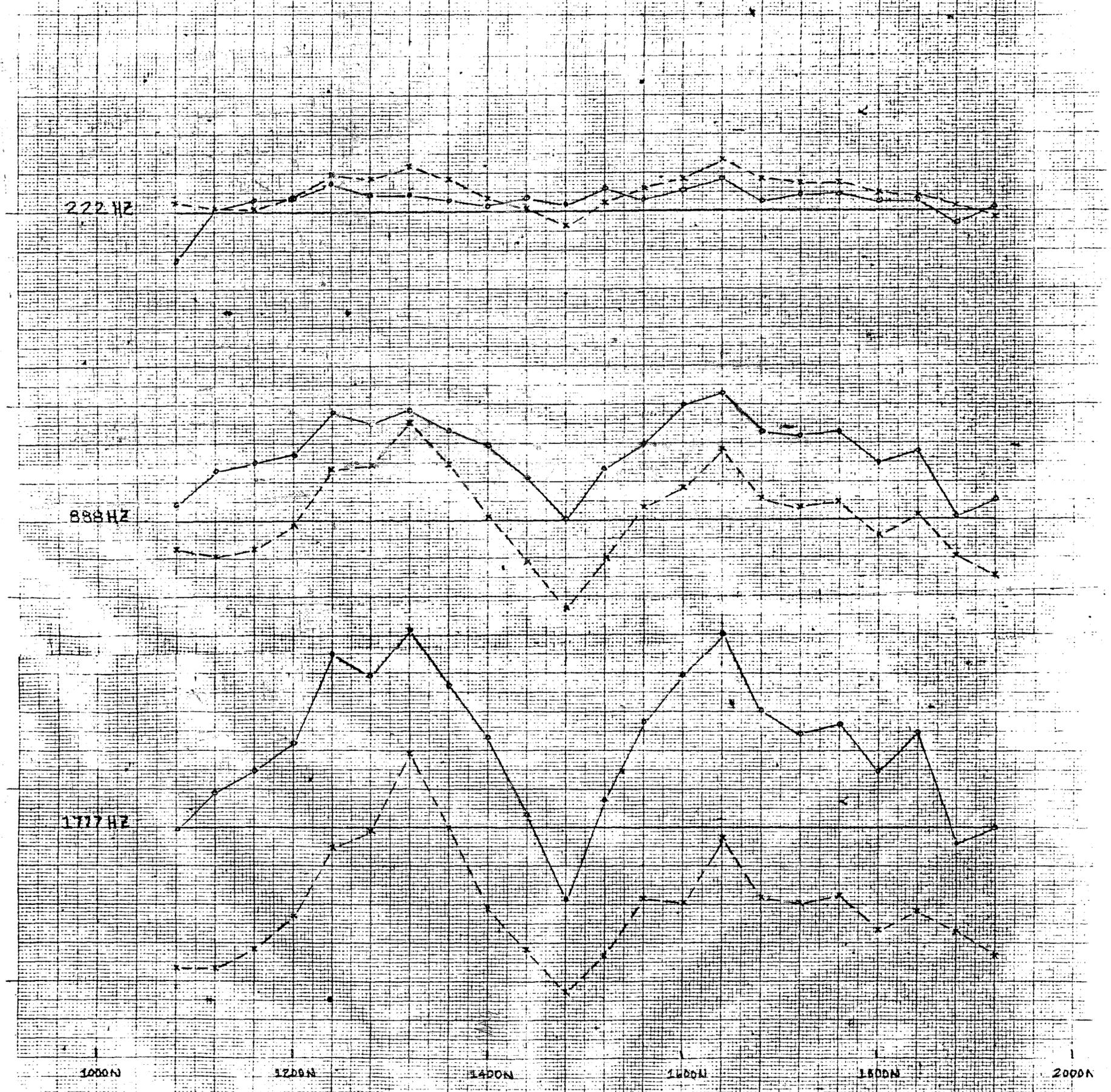
COIL SEPARATION = 160m

SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1305) - 7/3/1981

GRID 1, LINE 3 (1240E)

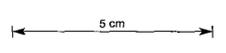
ANOMALY 57A



LEGEND

- IN-PHASE
- x- QUADRATURE

SCALE = 1:2500 DWG No. 1-17
 1.6cm = 10%



COIL SEPARATION = 160 m

SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1293) - 7/3/1981

GRID 1, LINE 4 (136GE)

ANOMALY STA

222HZ

888HZ

1777HZ

1000N

1200N

1400N

1600N

1800N

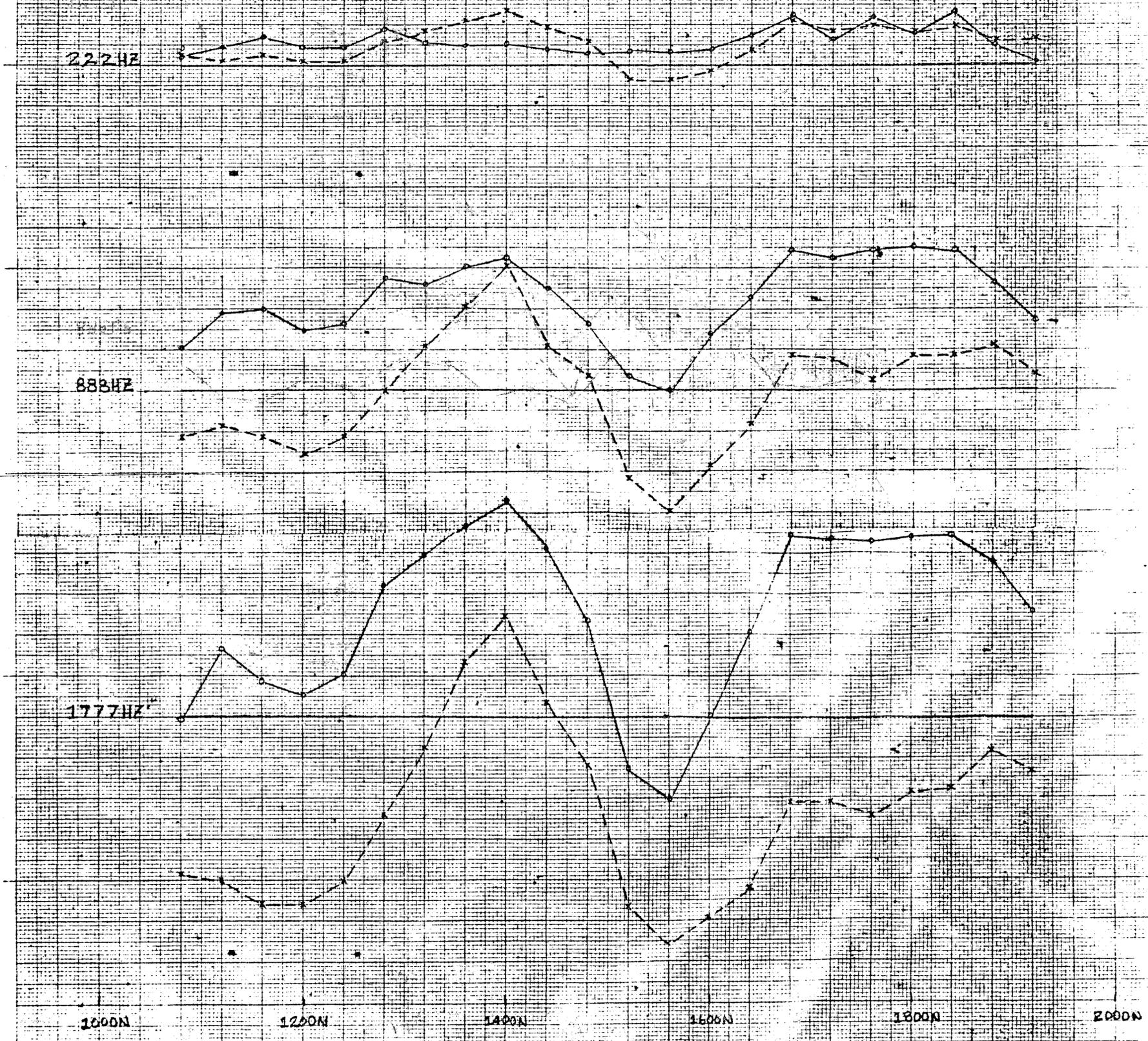
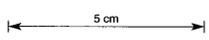
2000N

LEGEND

- o-o- IN-PHASE
- x-x- QUADRATURE

SCALE 1:2500 DNE No
1.6cm: 10% 1-18

COIL SEPARATION = 160m.



SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1305) - 11/3/81

GRID 1, LINE 5 (14805)

ANOMALY 57A

1-19

222HZ

888HZ

1777HZ

1000N

1200N

1400N

1600N

1800N

2000N

LEGEND

—o—o— IN-PHASE

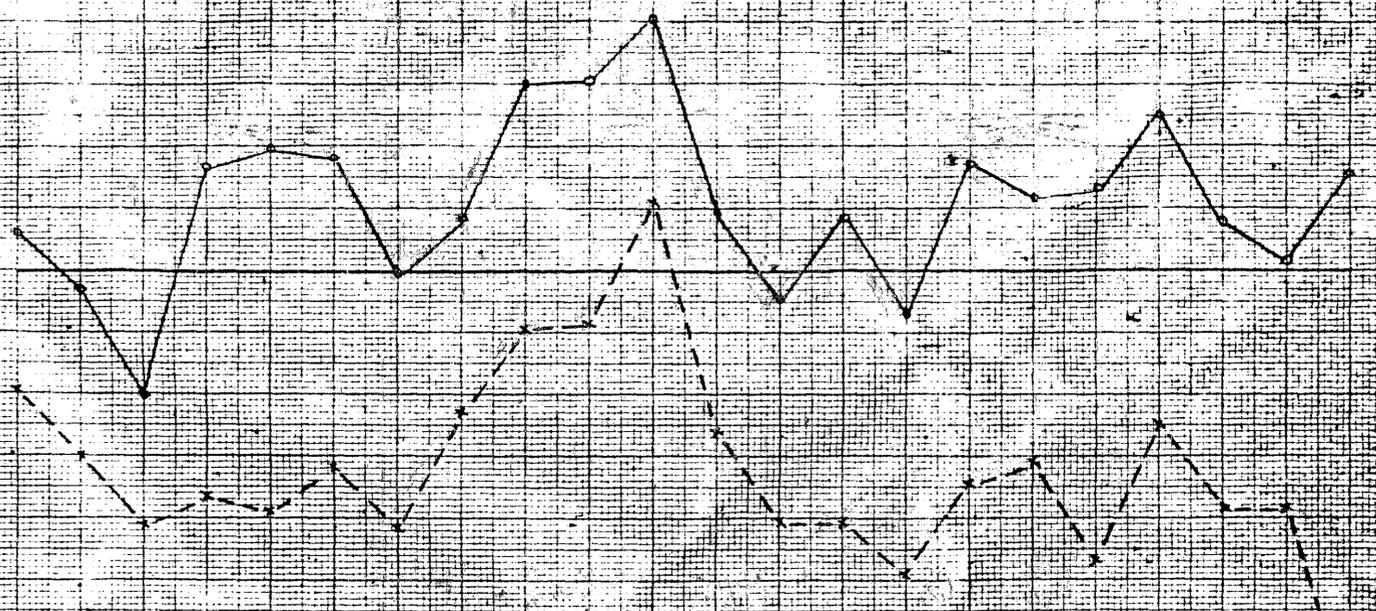
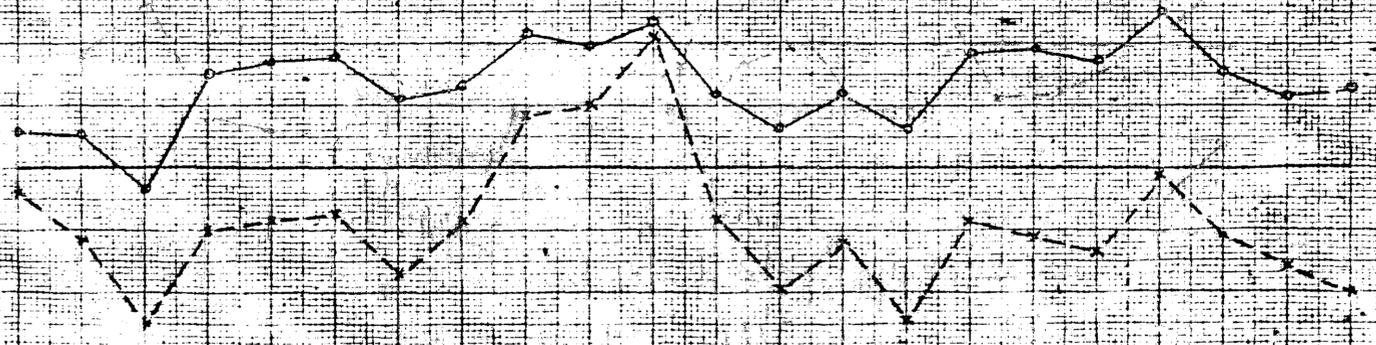
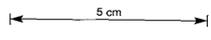
-x-x- QUADRATURE

SCALE 1:2500

1.6cm = 10%

DWG No 1-19

COIL SEPARATION = 160 m



3909

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REF. NO. 4509181			

81-1605 VOL 4/6

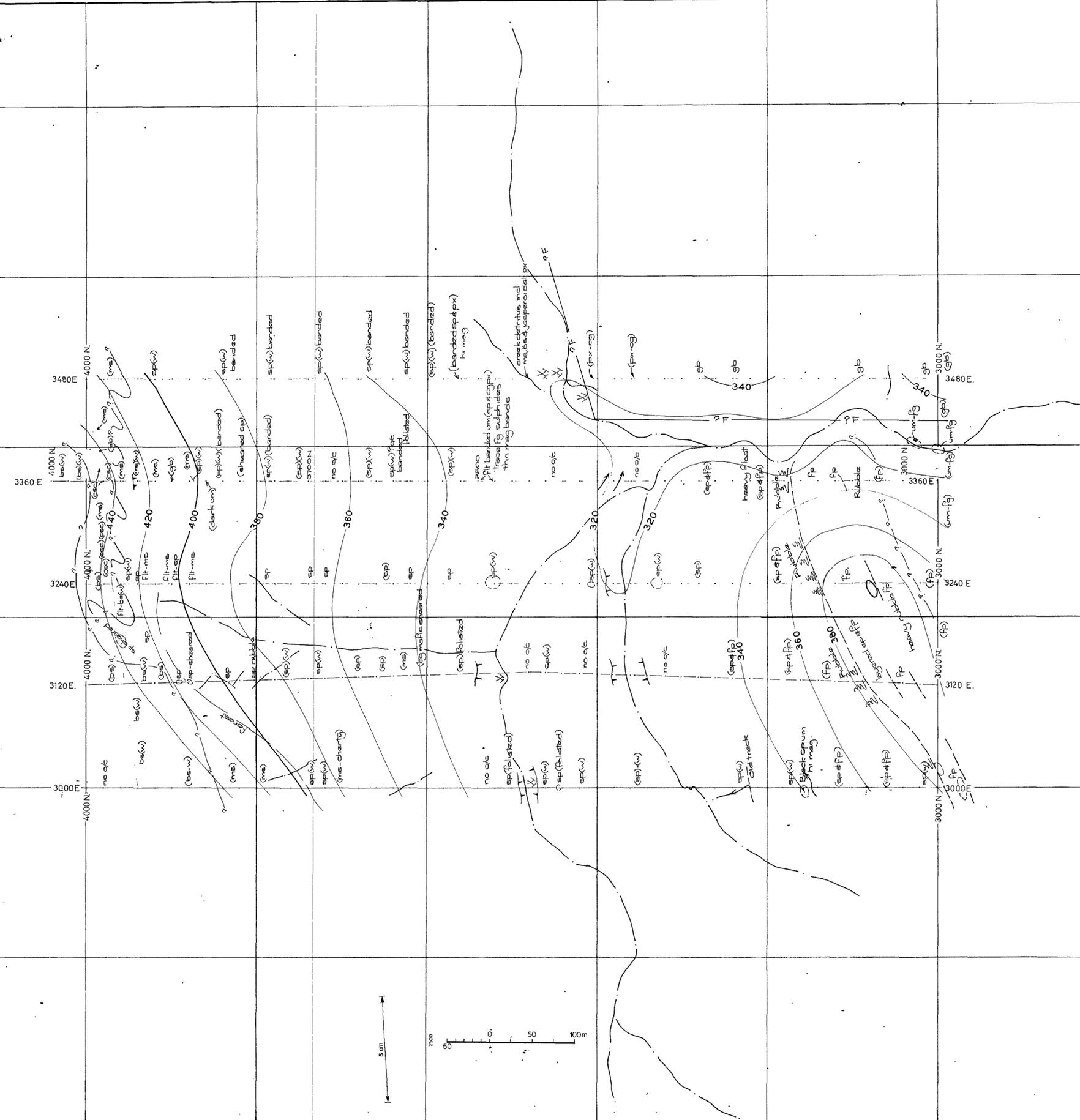
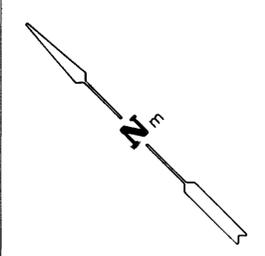
VOLUME 4

GRID 2 (ANOMALY 44A)

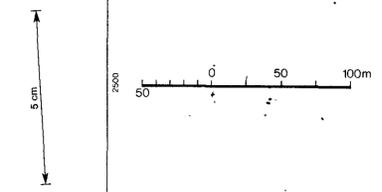
ACCOMPANYING DRAWINGS

Title	Drawing No.
Geology & Topography	2 - 01.
Ground Magnetic Readings	2 - 02.
Geochemistry for Copper	2 - 03.
" " Lead	2 - 04.
" " Zinc	2 - 05.
" " Nickel	2 - 06.
" " Silver	2 - 07.
" " Tin	2 - 08.
Stream Sediment Samples	2 - 09.
Section 3000E	2 - 10.
" 3120E	2 - 11.
" 3240E	2 - 12.
" 3360E	2 - 13.
" 3480E	2 - 14.
" 3000E "Max-Min" Profiles	2 - 15.
" 3120E " " "	2 - 16. - Unavailable
" 3240E " " "	2 - 17.
" 3360E " " "	2 - 18.
" 3480E " " "	2 - 19.

OPEN FILE

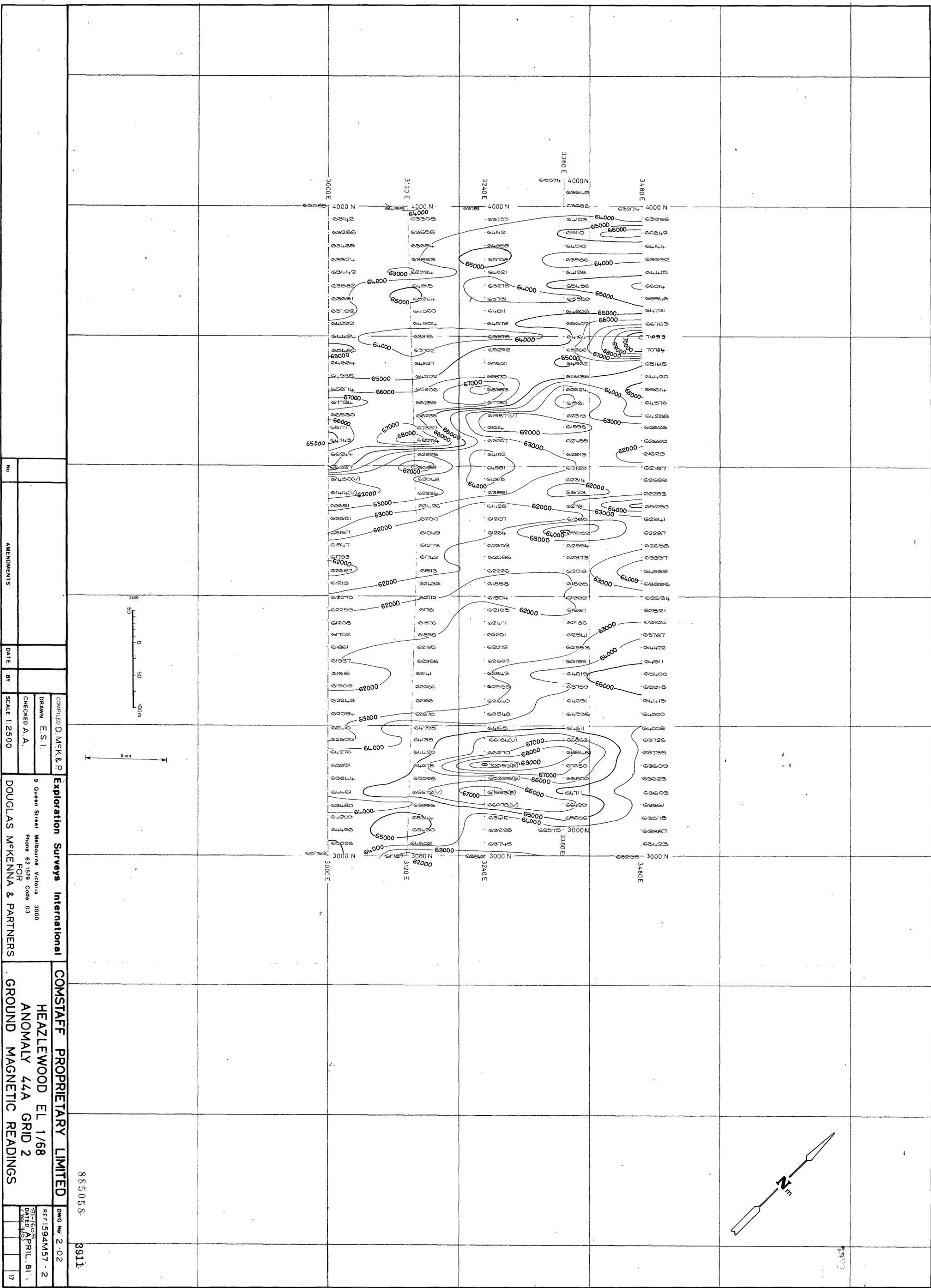


- CAMBRIAN**
 - sp SERPENTINITE**
Undifferentiated - includes massive fine grained serpentinite and banded serpentinite - ? after dunitic magnetic bands common.
 - fp FELSIC PERIDOTITE**
generally massive - altered
often layered with fg serpentinite
 - px PYROXENITE**
coarse-medium grained
Generally layered with fg serpentinite
 - um ULTRAMAFIC**
Fine grained
 - gb GABBRO**
medium grained basic rocks
 - bs BASALT** - usually weathered (? CAMBRIAN)
fine grained to glassy, slightly vesicular northern part of grid.
 - ms META SEDIMENTS**
banded cherty and fine grained meta sediments in northern part of grid
 - sch CHLORITIC SCHISTS**
weathered - associated with meta sediments in northern part of grid.
- Rock types in parenthesis indicate float
- - - - - Approximate geological boundary
 - ? - ? - Inferred geological boundary
 - / - / - Inferred geological fault
 - cg coarse grained
 - fg fine grained
 - (w) weathered
 - drainage



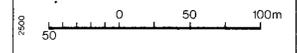
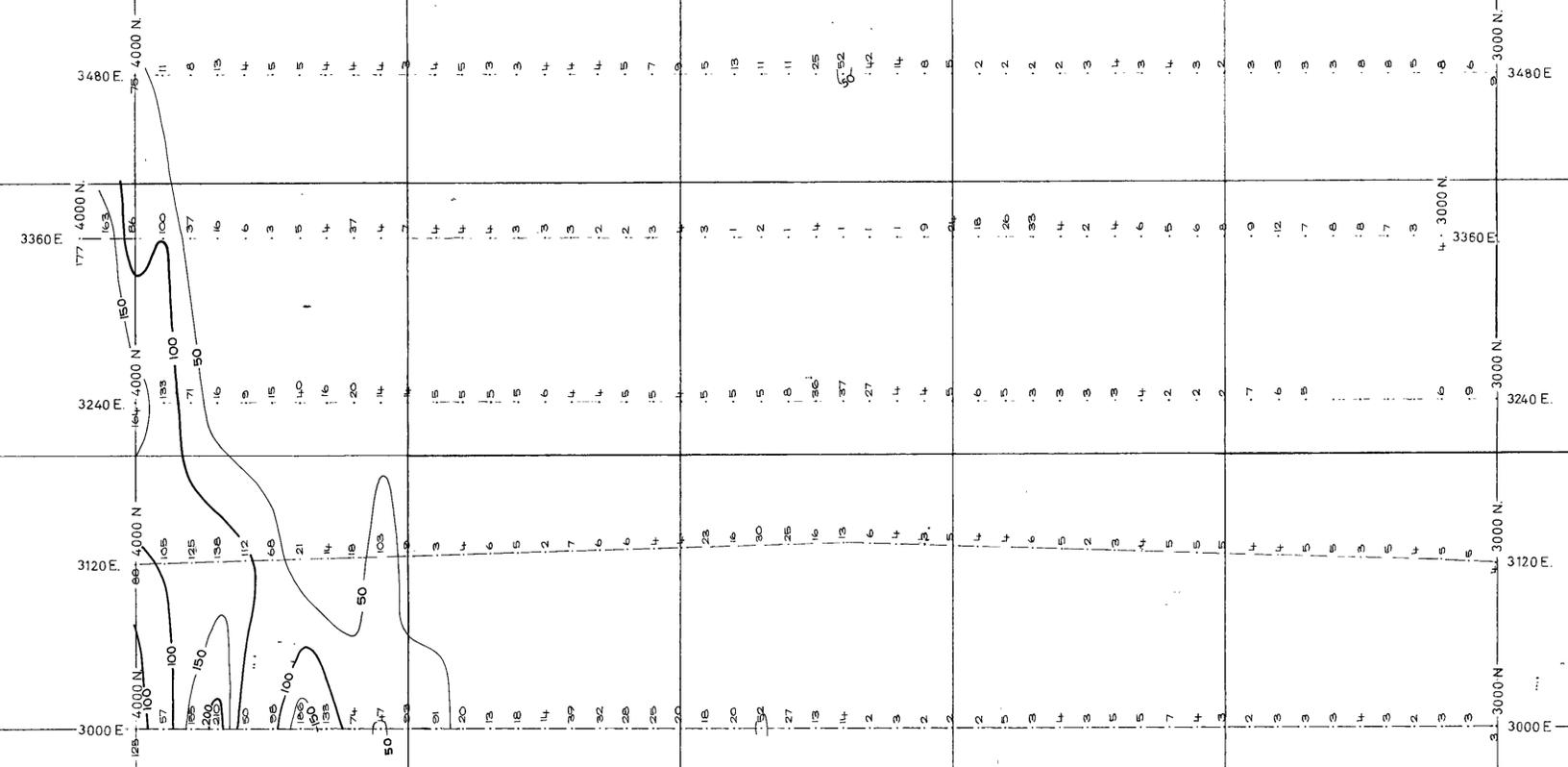
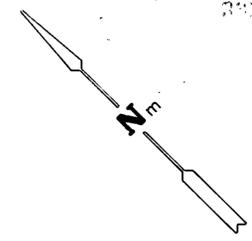
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				DOUGLAS McKENNA & PARTNERS							
No	AMENDMENTS	DATE	BY								

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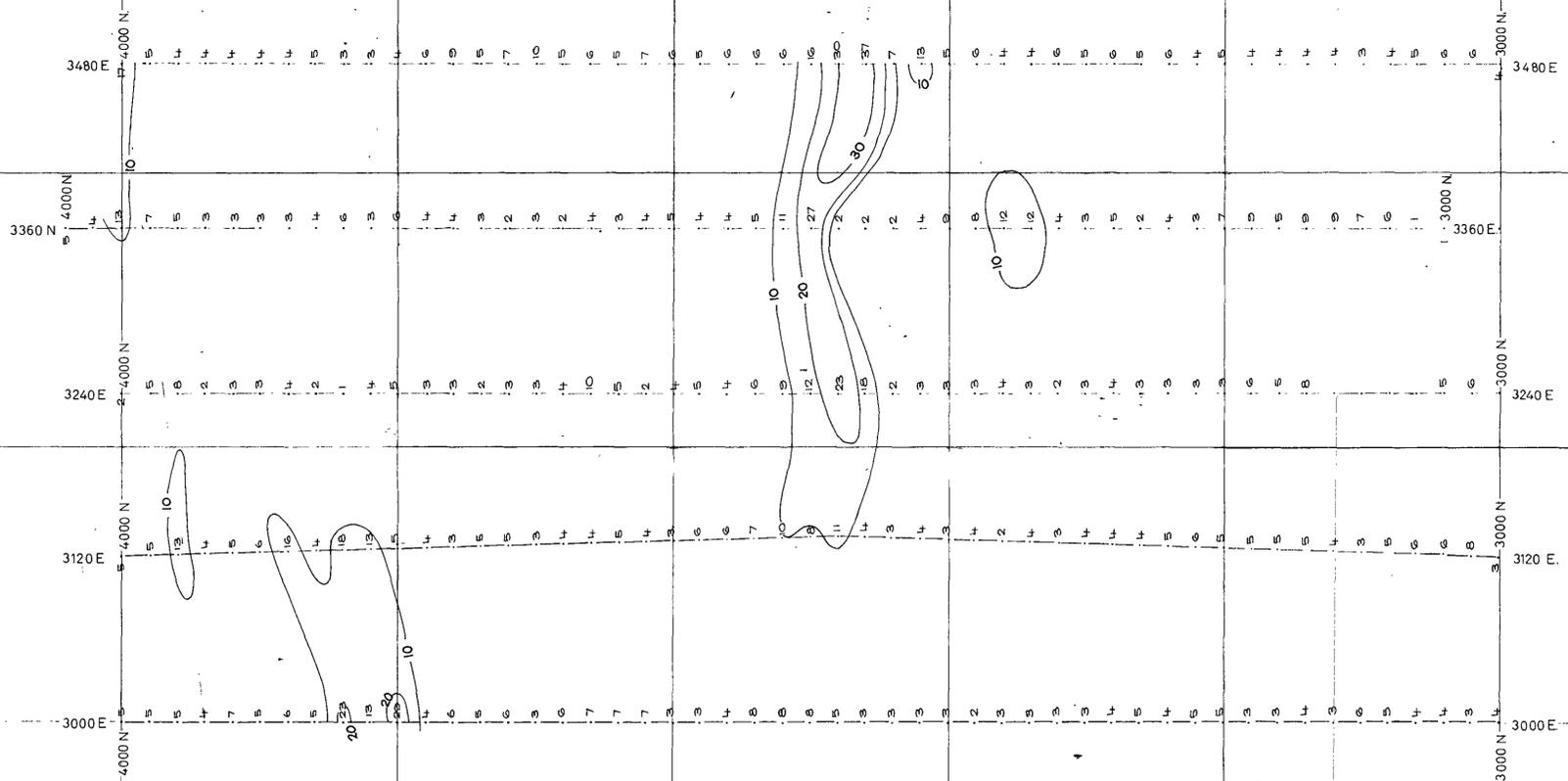
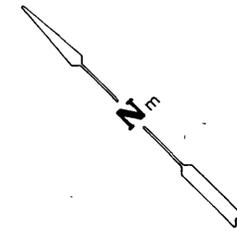
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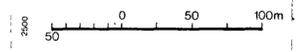
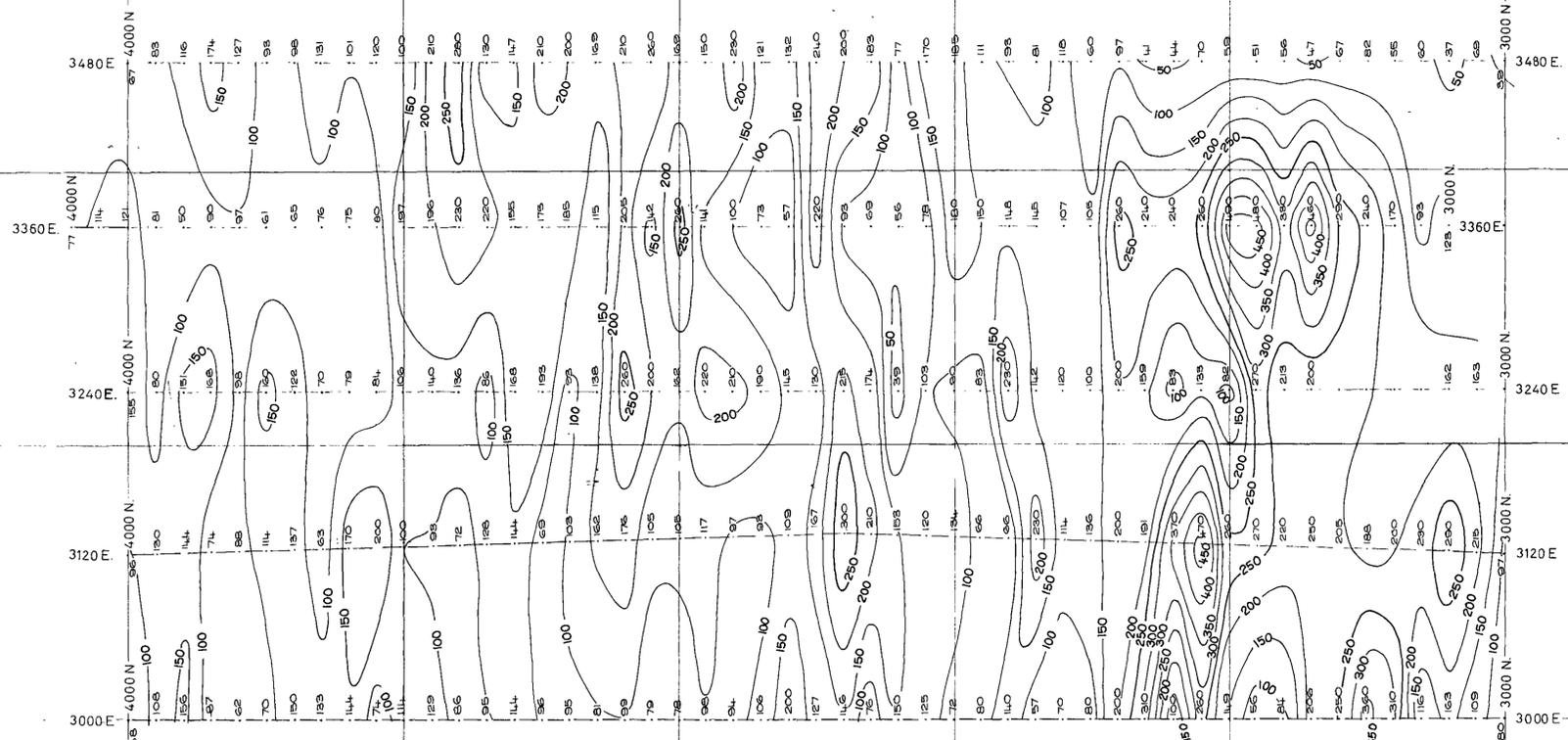
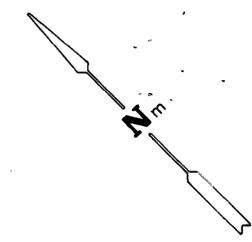
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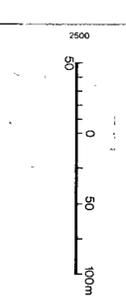
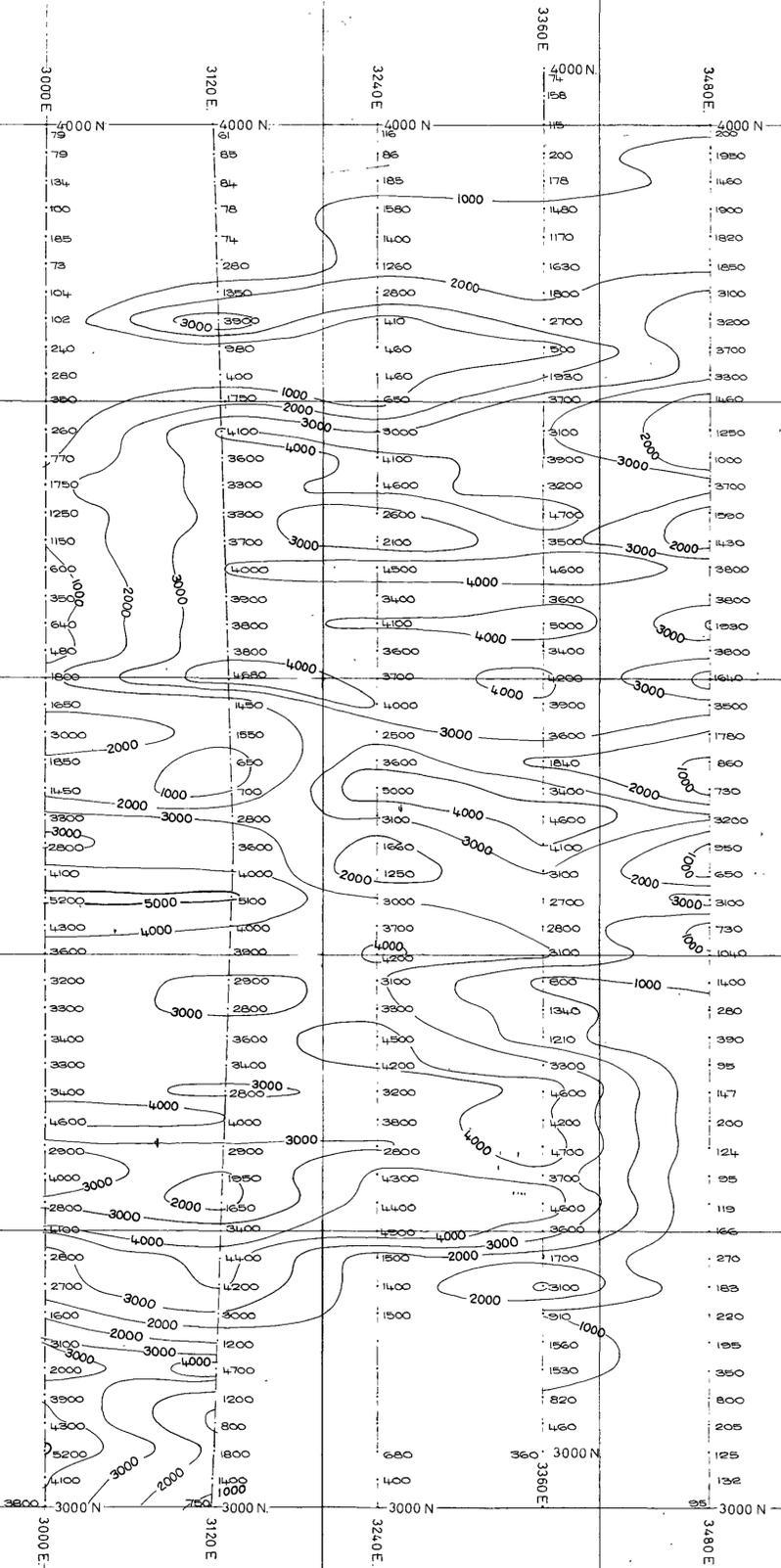
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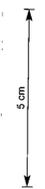
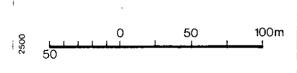
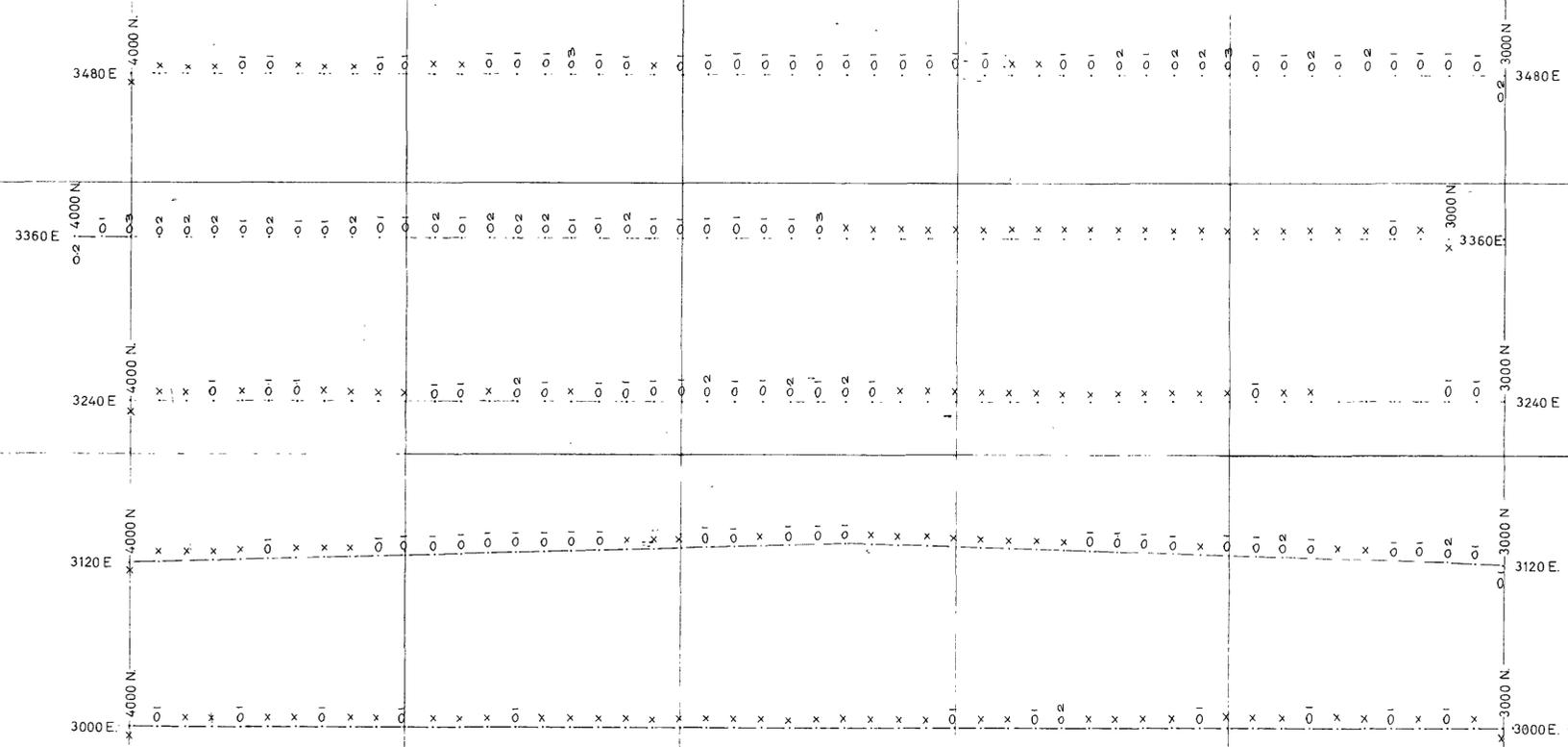
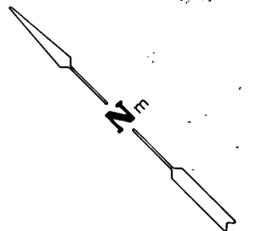


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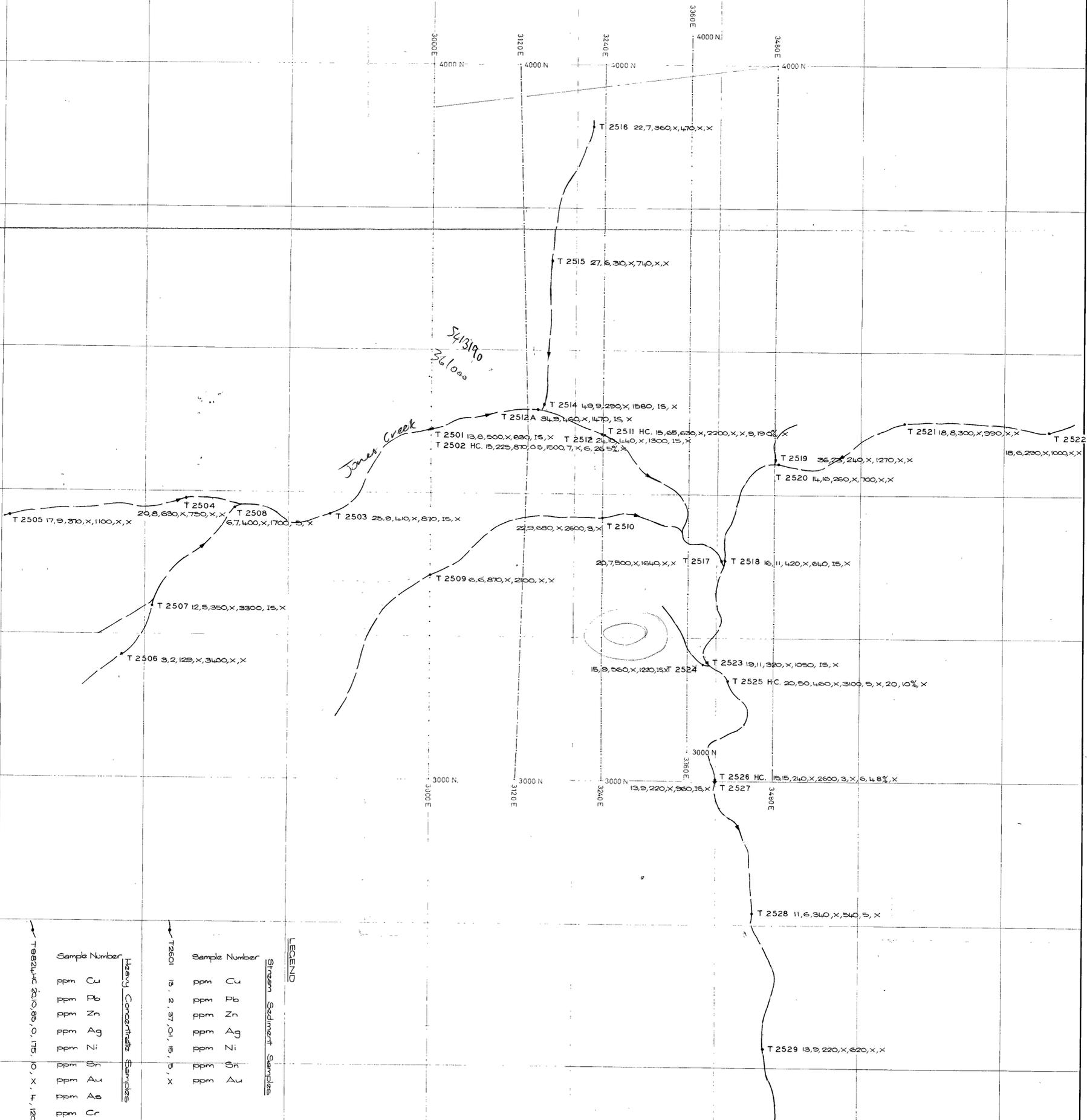
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REF No. 1594M57-2		DATE APRIL 91		PAGE 21		21	



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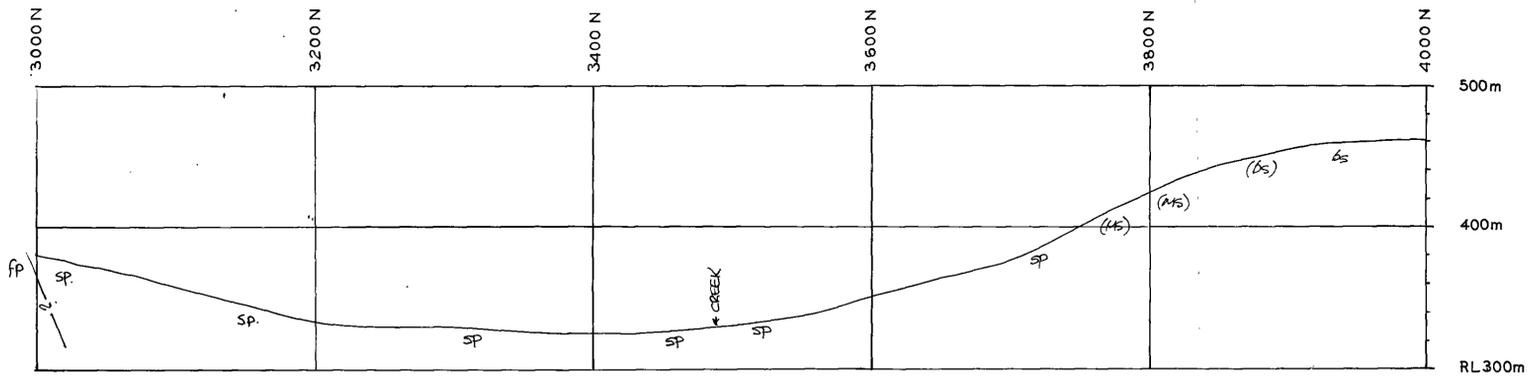
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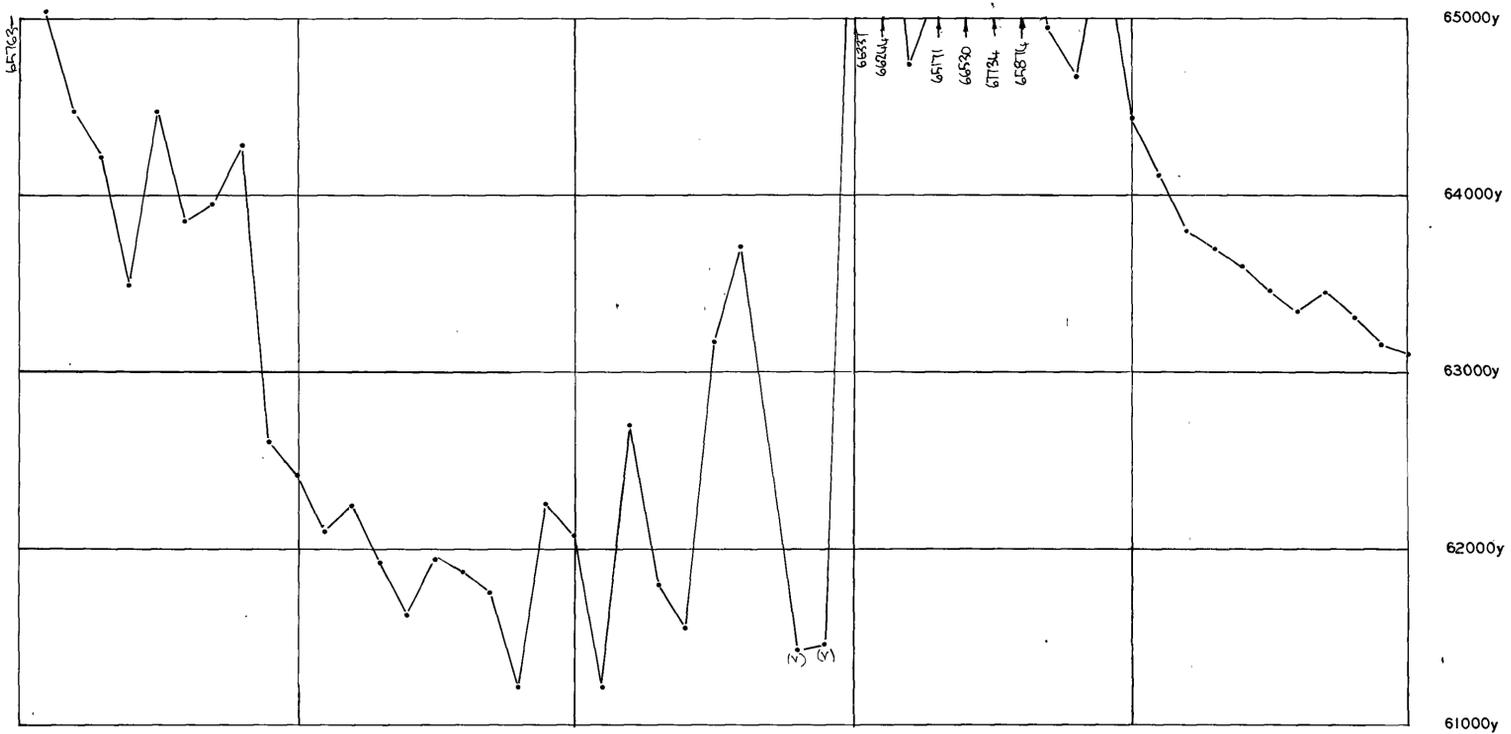
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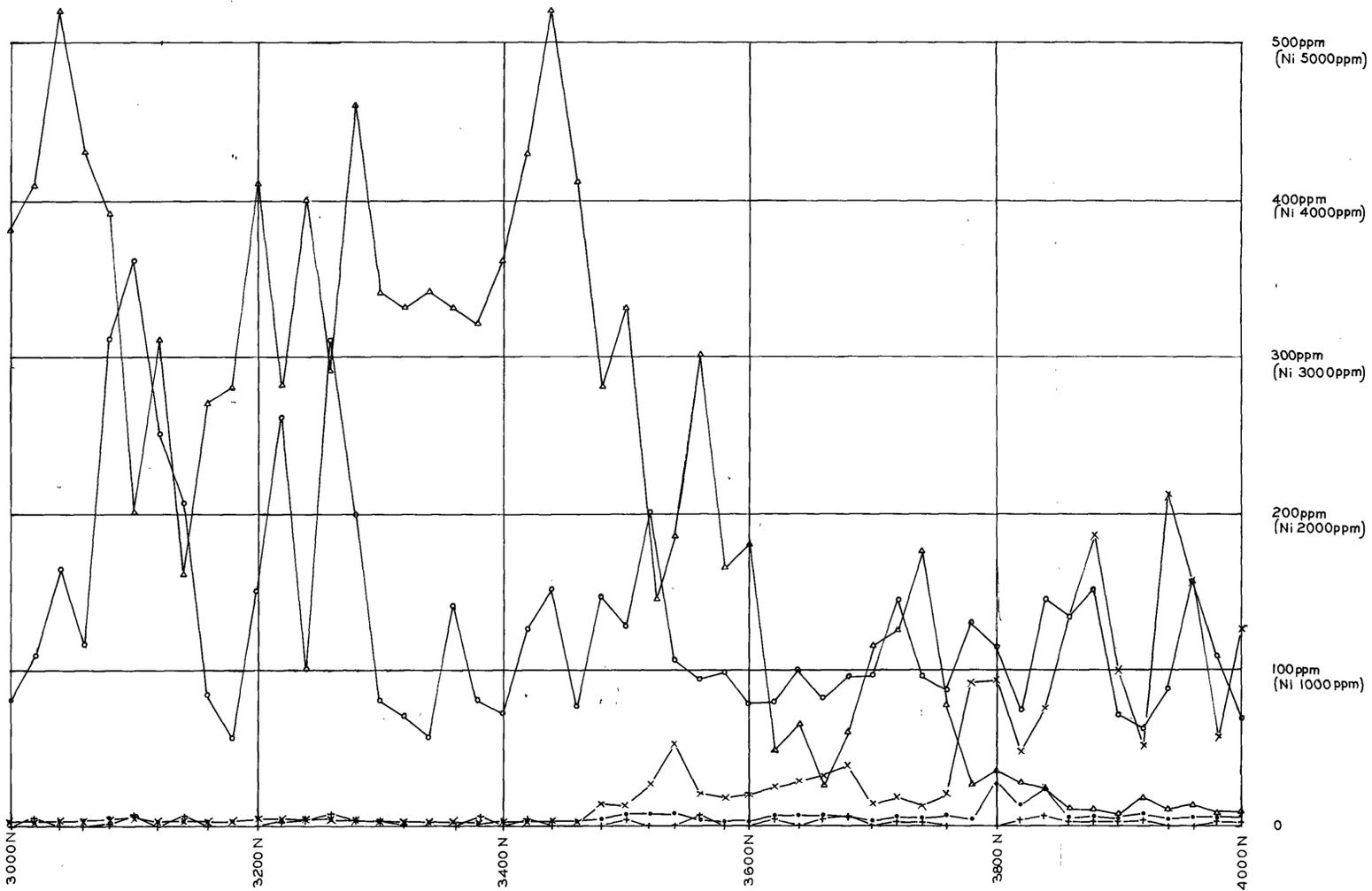
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Phone 62 1579 Code 03		HEAZLEWOOD EL 1/68			
FOR DOUGLAS MCKENNA & PARTNERS		ANOMALY 44A GRID 2			
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GEOLOGY



GROUND MAGNETICS



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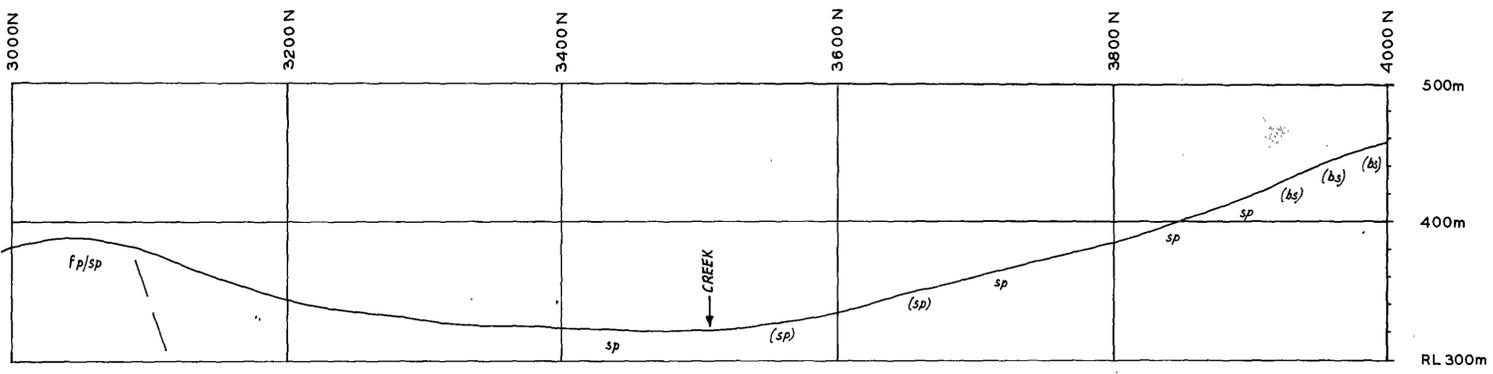
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GEOCHEMISTRY

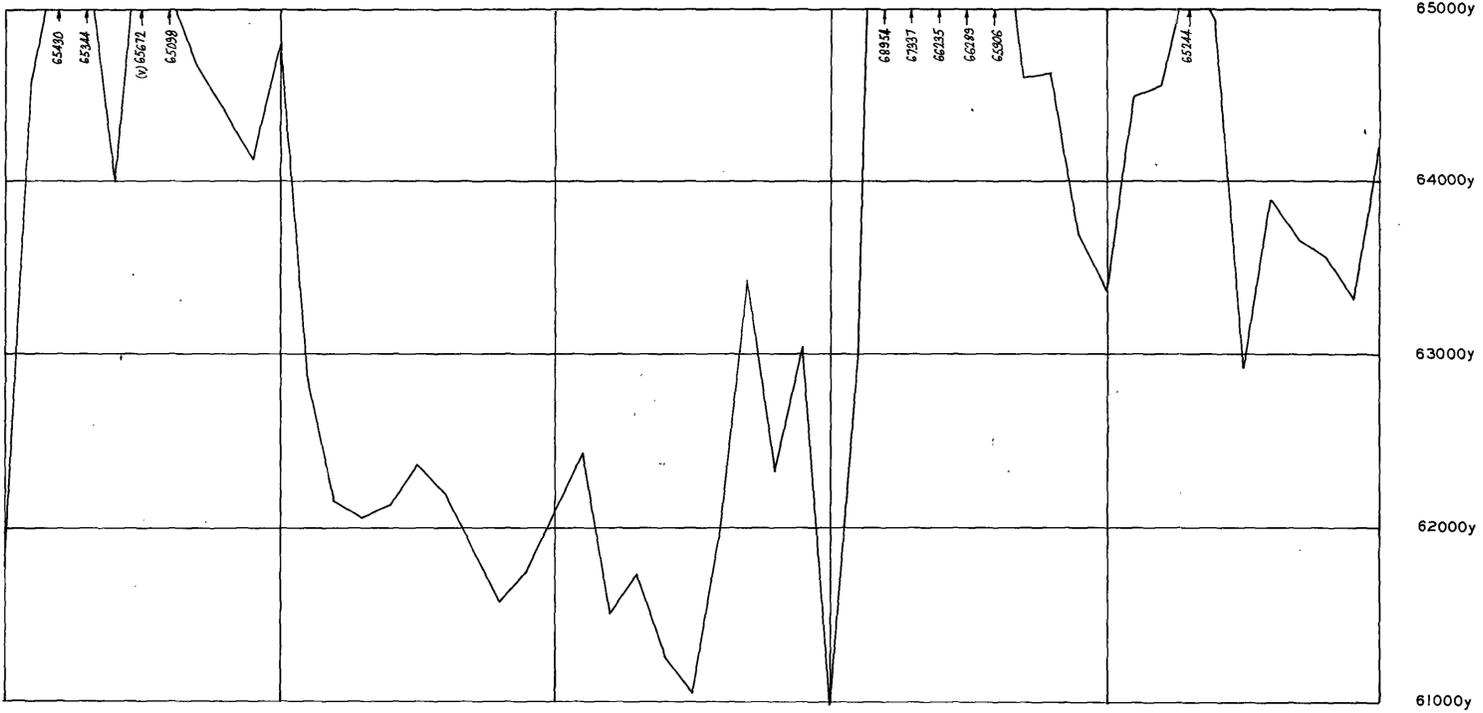
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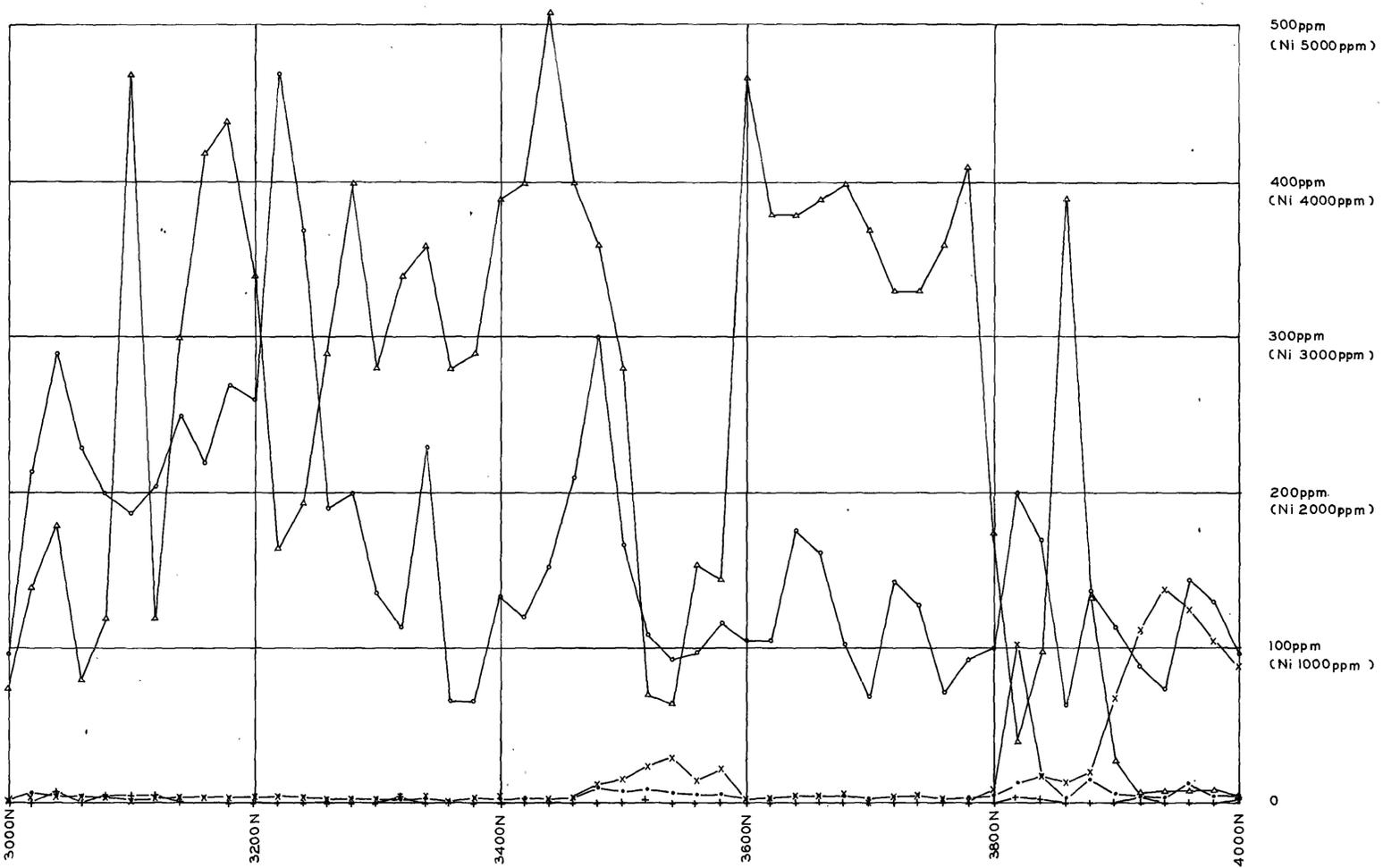
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						25	



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GROUND MAGNETICS



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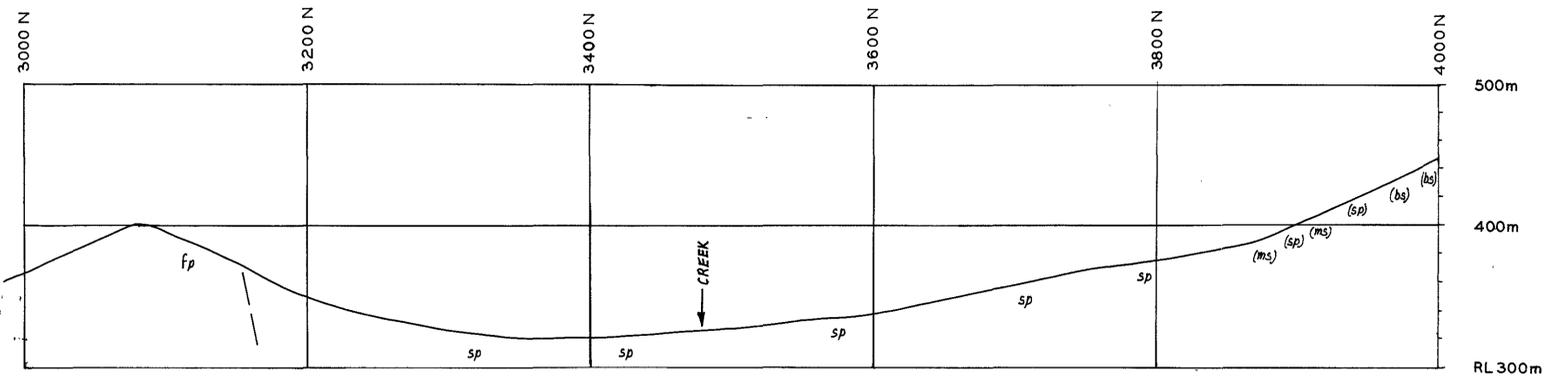
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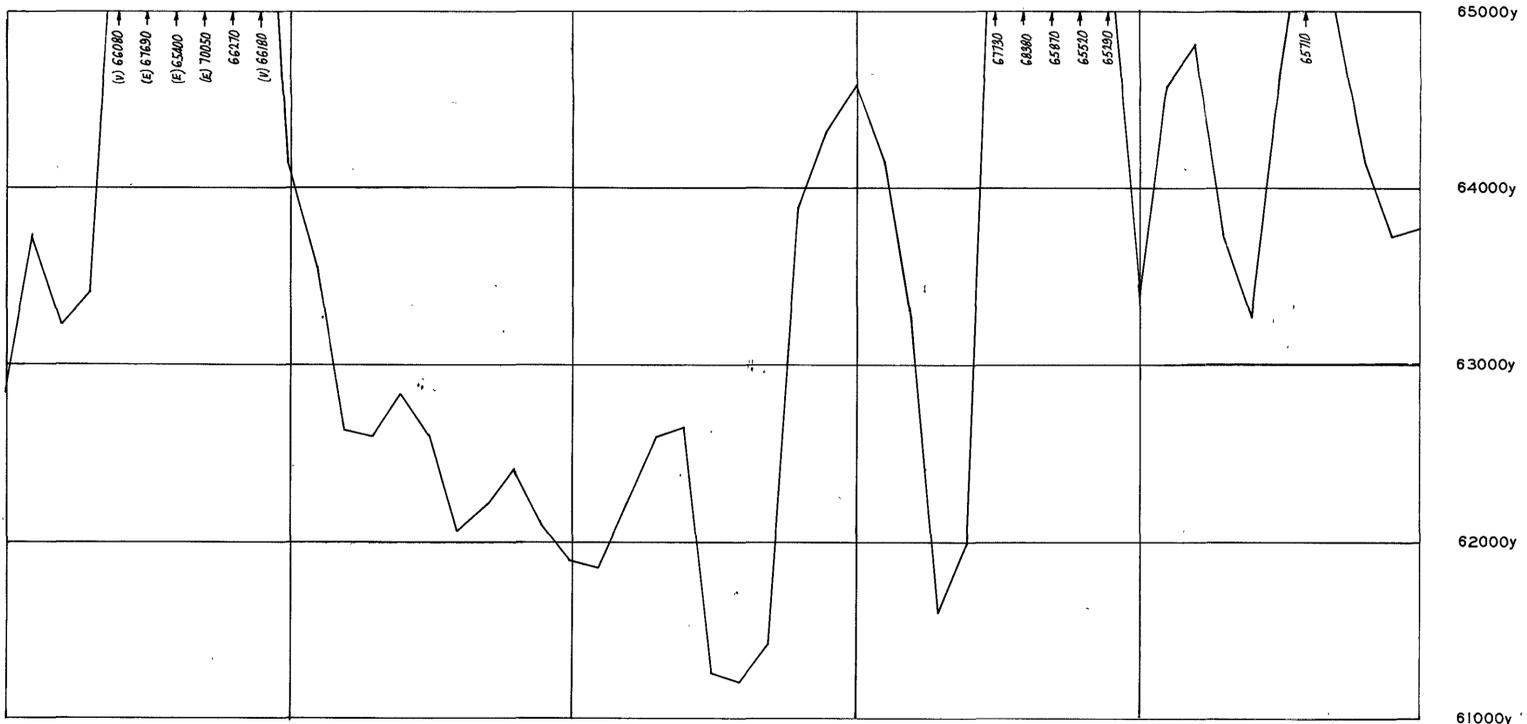
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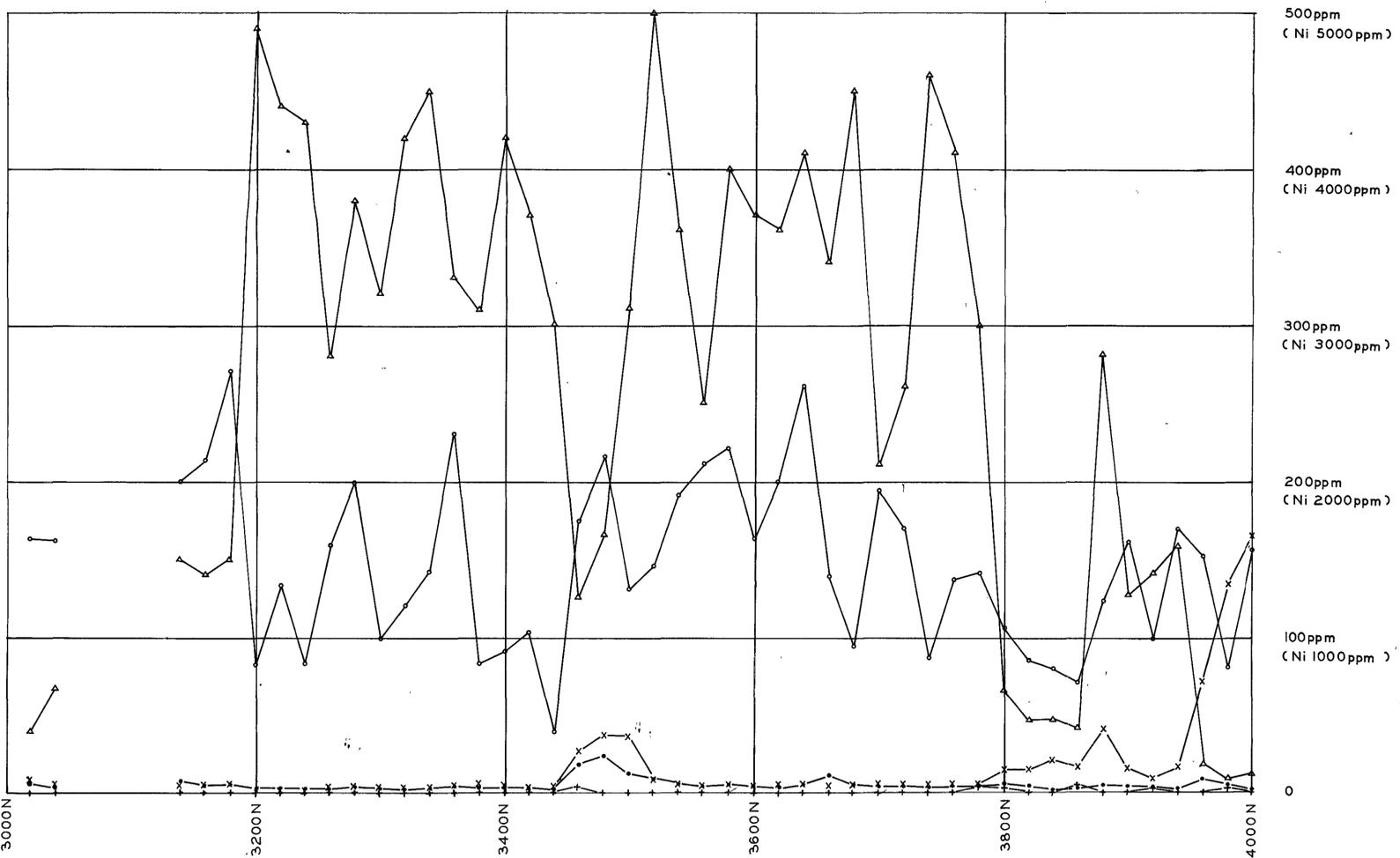
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GEOLOGY



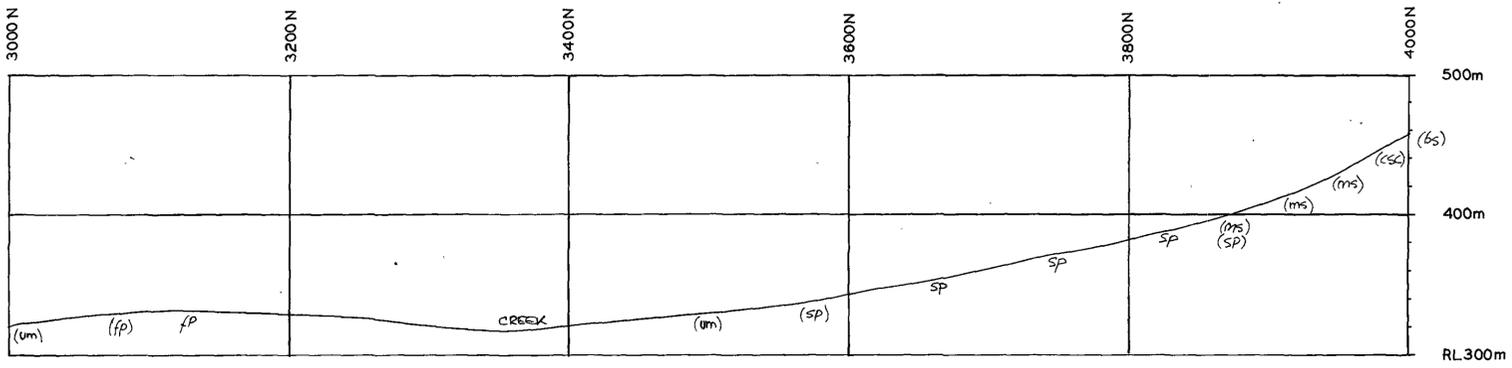
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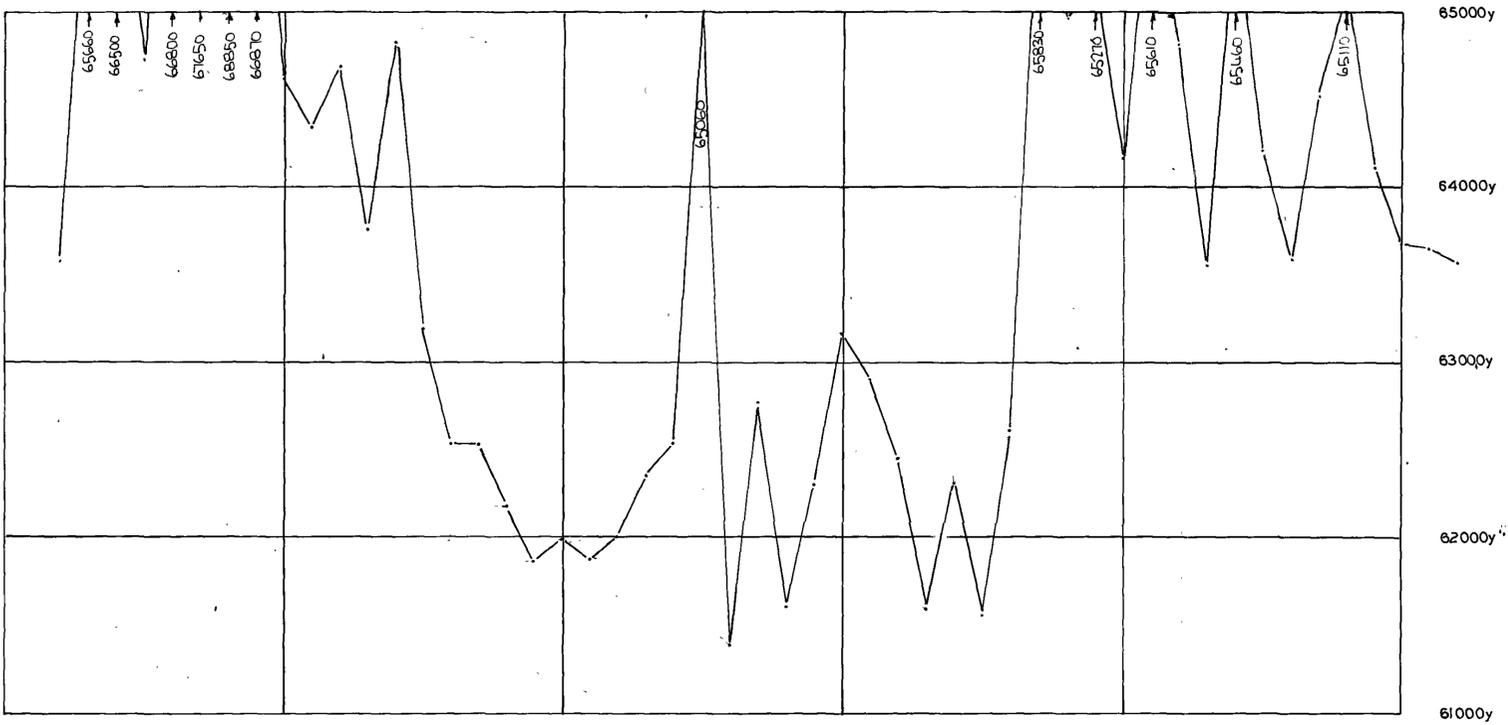
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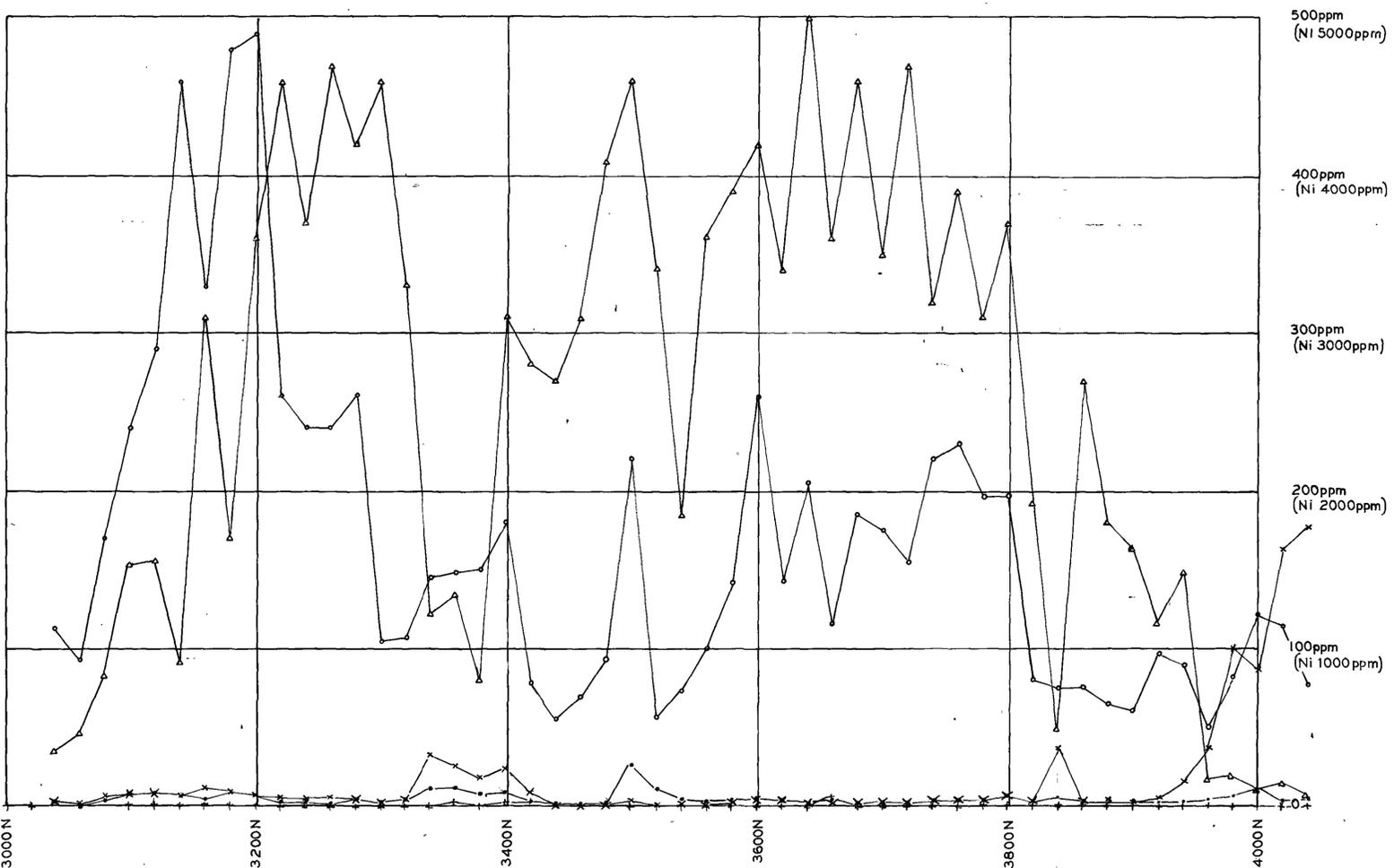
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GEOLOGY



GROUND MAGNETICS



LEGEND

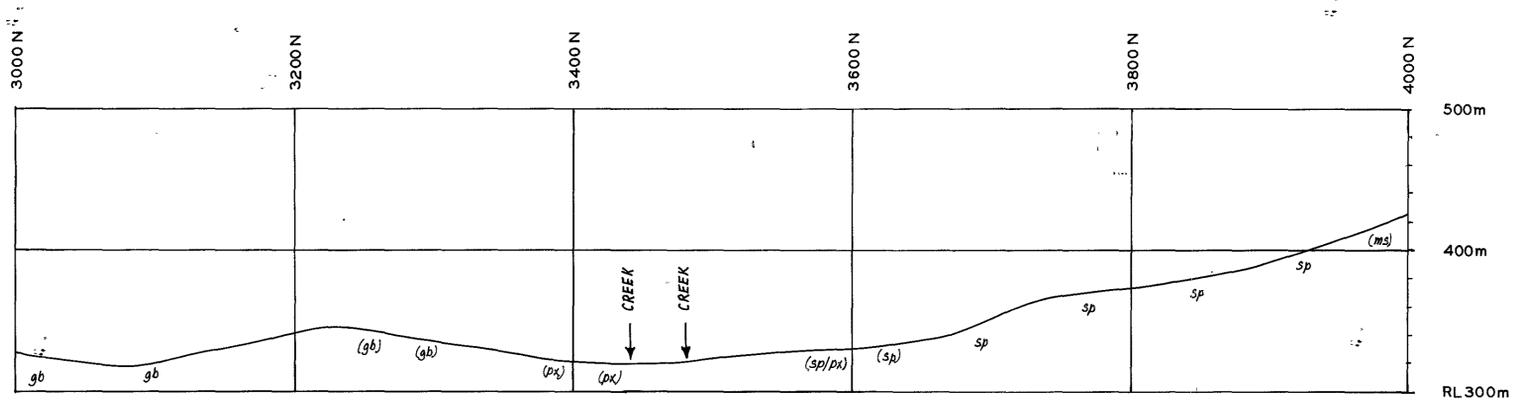
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GEOCHEMISTRY

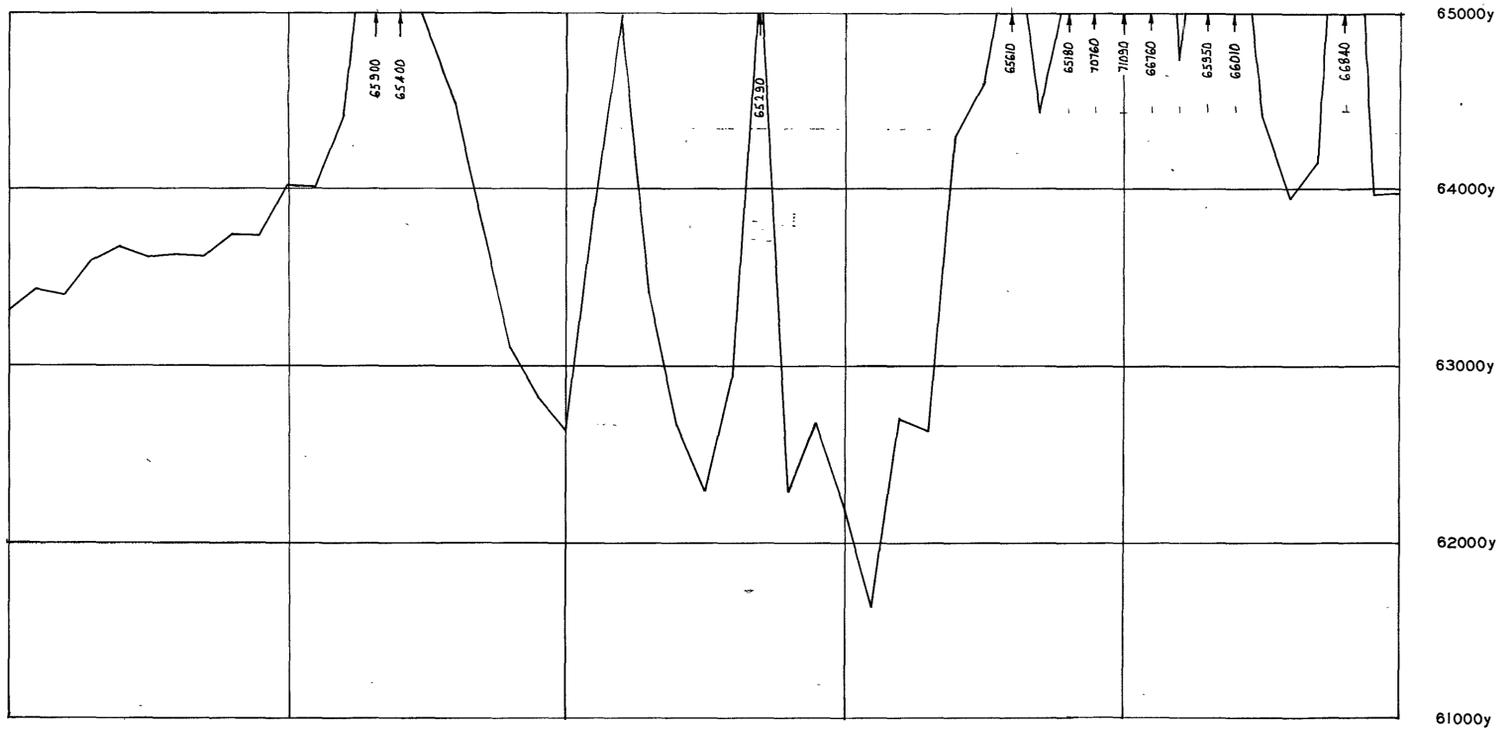
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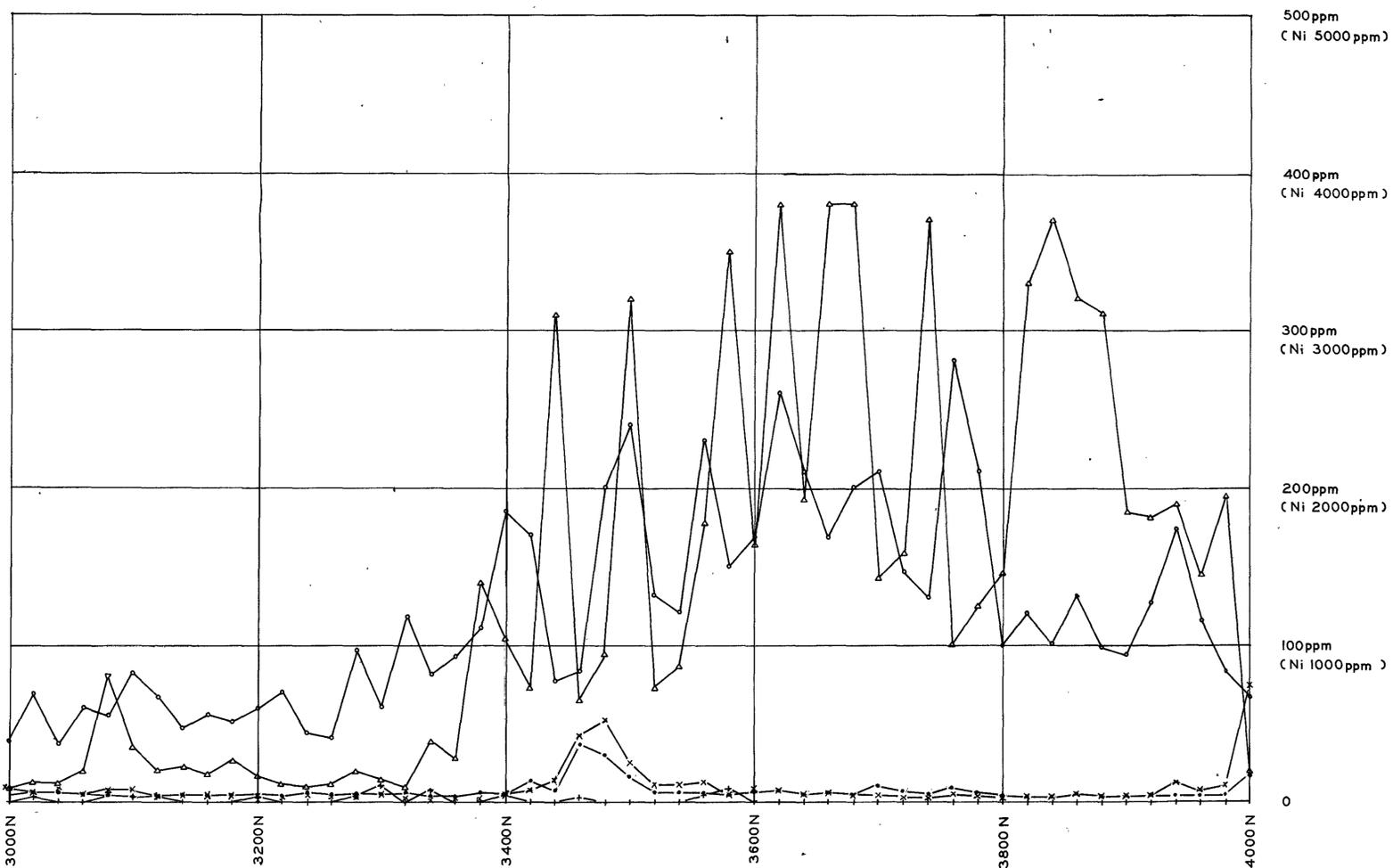
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GEOLOGY



GROUND MAGNETICS



GEOCHEMISTRY

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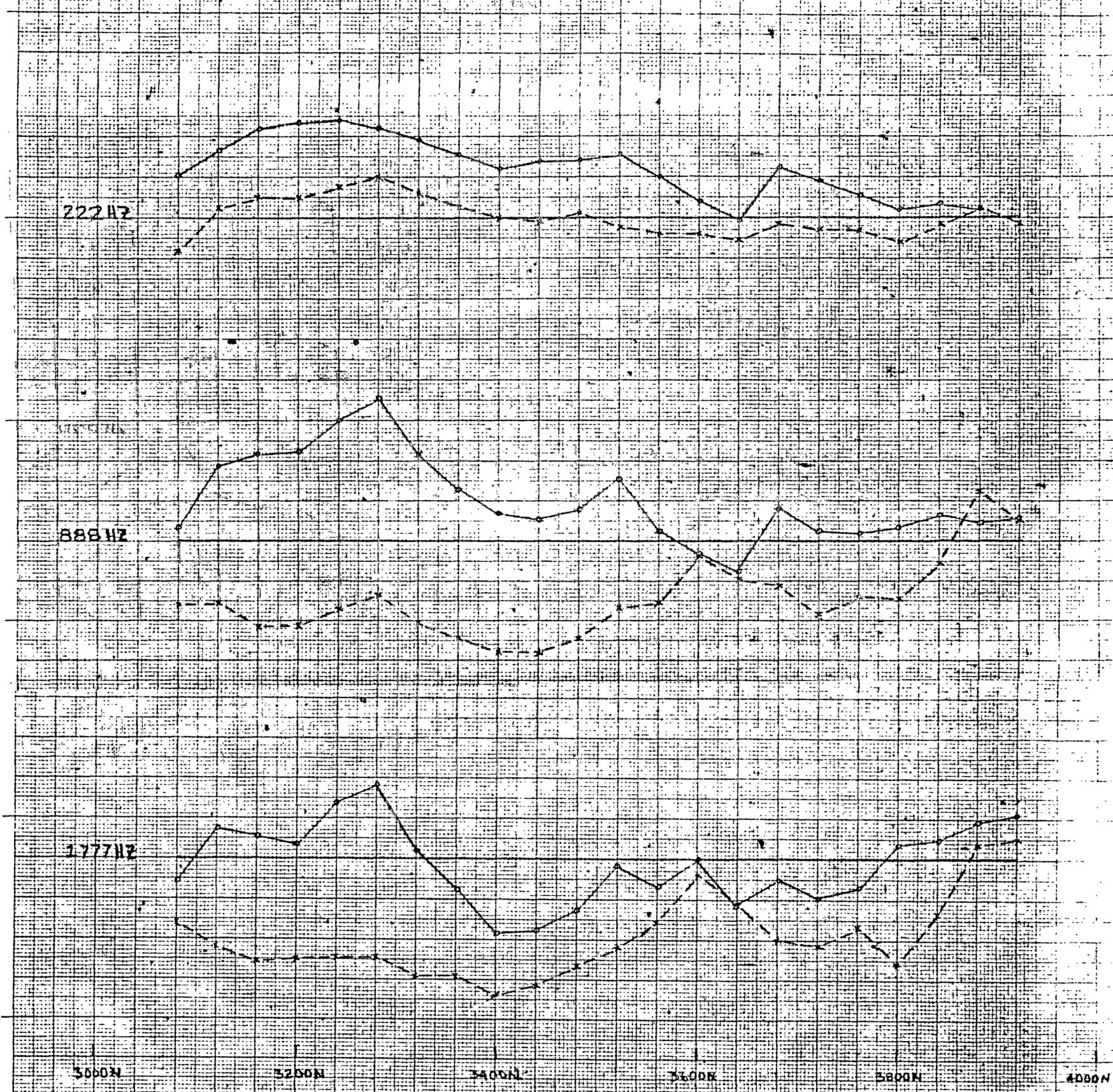
No.	AMENDMENTS	DATE	BY	COMPILED D.M.C. & P.	Exploration Surveys International	COMSTAFF PROPRIETARY LIMITED	DWG No 2-14.
				DRAWN E.S.I.	4 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03	HEAZLEWOOD EL 1/68 ANOMALY 44A GRID 2 SECTIONS: LINE 3480 E	REF No 1594M57-2
				CHECKED A.A.	FOR DOUGLAS MCKENNA & PARTNERS		29

SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1305) 15/3/81

GRID 2, LINE 1 (3000E)

ANOMALY 44A

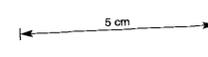


LEGEND

- IN-PHASE
- x-x- QUADRATURE

SCALE = 1:2500 81-1605 (Vol 4/6) Dwg No
 1.6cm = 10% 2-15

COIL SEPARATION = 160 m

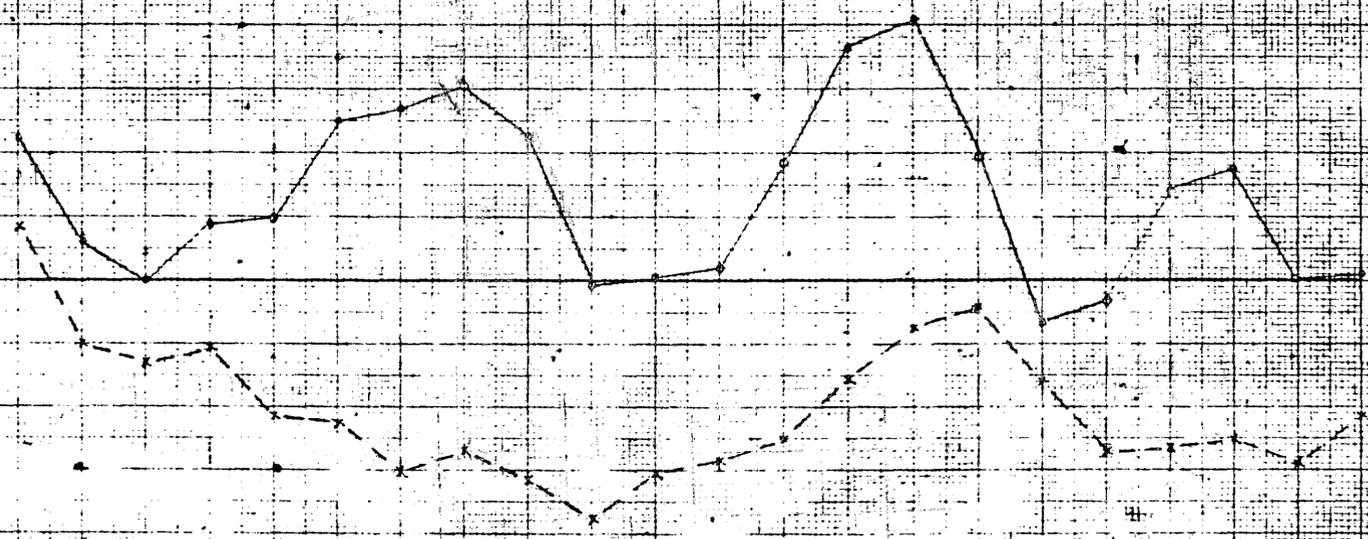
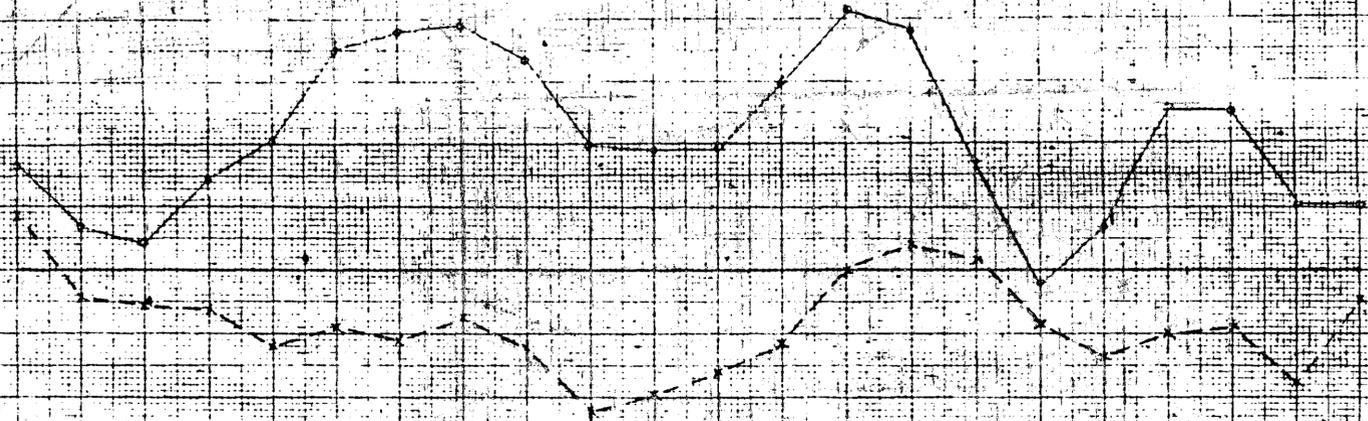


SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85+1305) 18/3/81

GRID 2, LINE 3 (3240E)

ANOMALY 44A



3000N

3200N

3400N

3600N

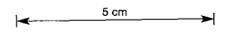
3800N

4000N

LEGEND

- IN-PHASE
- x-x- QUADRATURE

SCALE 1:2500
1.6m 10% 2-17



COIL SEPARATION = 100 m

81-1605 Vol 4/6 2-18 3926

SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1305) 19/3/81

GRID 2, LINE 4 (3360 E)

ANOMALY 44A

222 HZ

868 HZ

1777 HZ

3600N

3200N

3400N

3600N

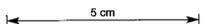
3800N

4000N

LEGEND

- IN-PHASE
- x-x- QUADRATURE

SCALE 1:2500 Dwg No 1.6cm 10% 2-18



COIL SEPARATION = 160 cm

SAVAGE RIVER MAX-MIN SURVEY

FOR D. M. KENNA (85-1305) 11/3/81

GRID 2, LINE 5 (3480E)

ANOMALY 44A

222 HZ

988 HZ

1777 HZ

3000N

3200N

3400N

3600N

3800N

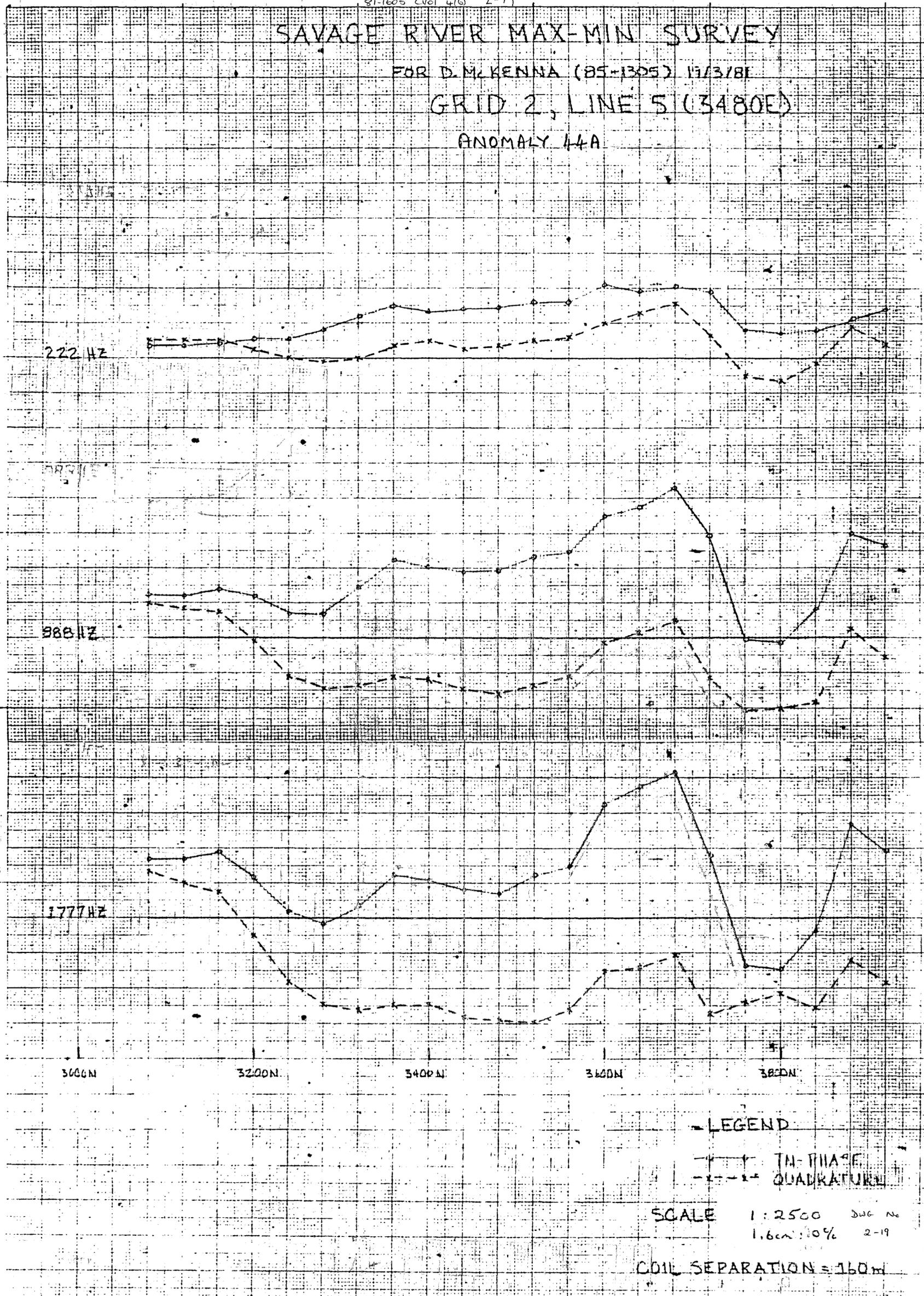
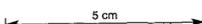
4000N

LEGEND

- - - - IN-PHASE
- - - - QUADRATURE

SCALE 1:2500 DWG No
1.6cm:10% 2-19

COIL SEPARATION = 160m



885075

PLATE NO.	CC	EO	S.S.M.E.
APPROVED	JUN 1981		P & I
DEPT. OF MINES			
REF. NO. 4509181			

VOLUME 5

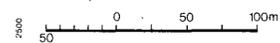
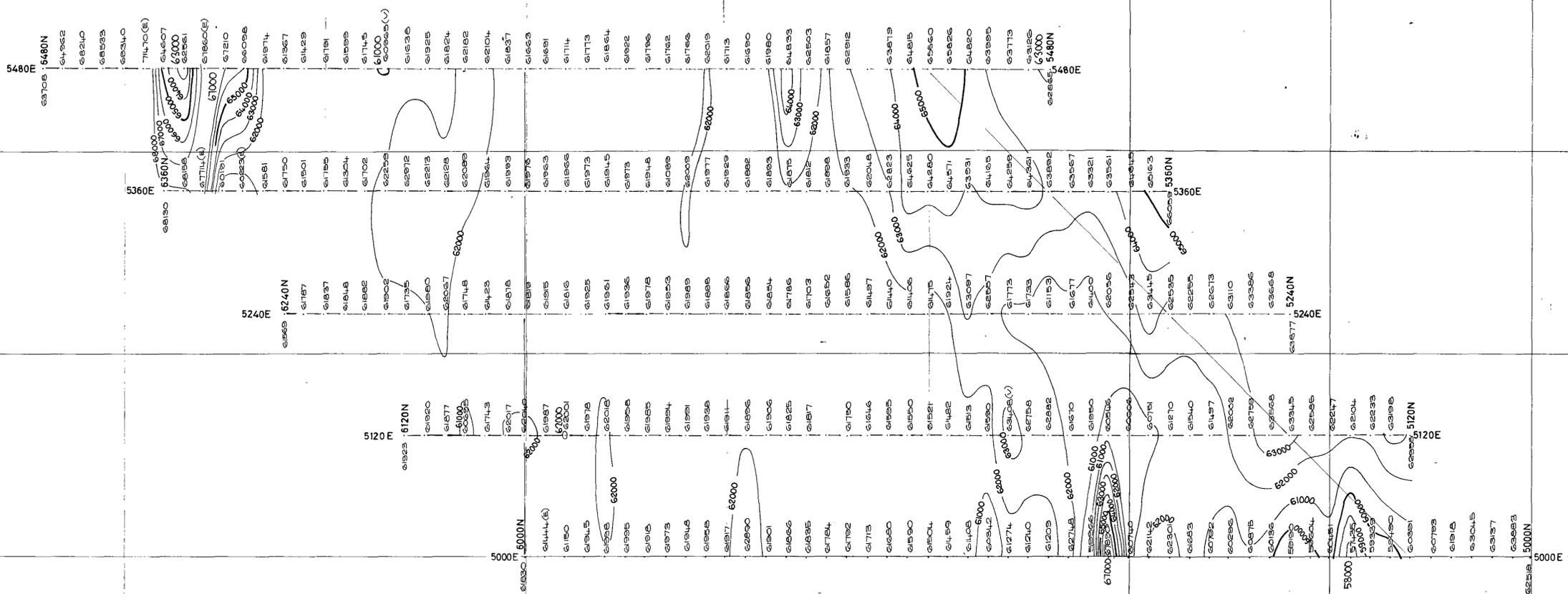
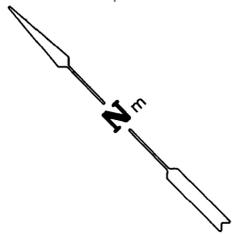
GRID 3 (ANOMALY 18C)

ACCOMPANYING DRAWINGS

Title	Drawing No.
Geology & Topography	3 - 01
Ground Magnetic Readings	3 - 02
Stream Sediment Samples	3 - 09
Section 5000E	3 - 10
" 5120E	3 - 11
" 5240E	3 - 12
" 5360E	3 - 13
" 5480E	3 - 14
" 5000E "Max-Min" Profiles	3 - 15
" 5120E " " "	3 - 16
" 5240E " " "	3 - 17
" 5360E " " "	3 - 18
" 5480E " " "	3 - 19

OPEN FILE

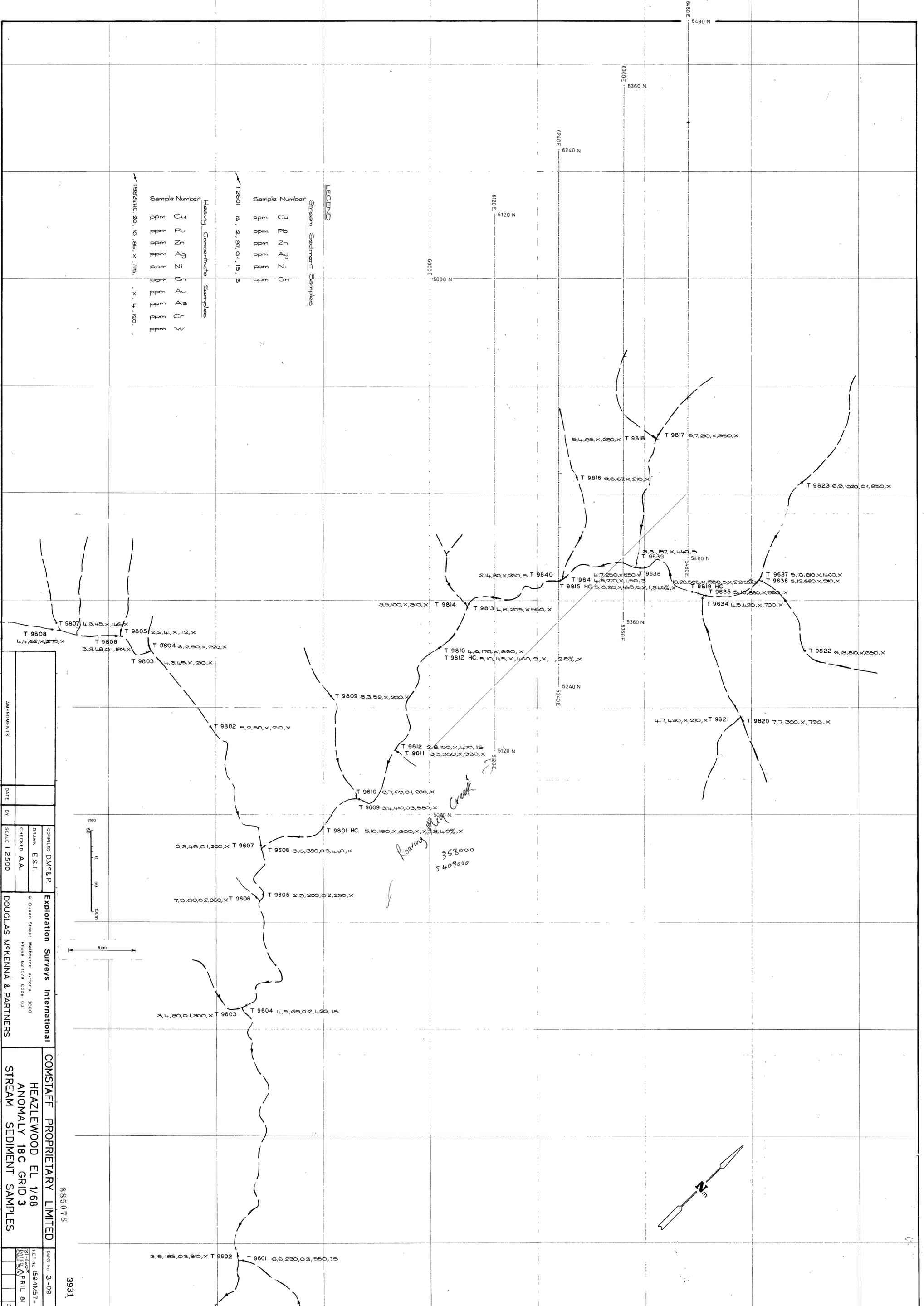
3928



885077

2526

No	AMENDMENTS	DATE	BY	COMPILED D.M.C.&P.	Exploration Surveys International 9 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03 FOR DOUGLAS MCKENNA & PARTNERS	COMSTAFF PROPRIETARY LIMITED HEAZLEWOOD EL 1/68 ANOMALY 18C GRID 3 GROUND MAGNETIC READINGS	DWG No 3-02 REF No 1594M57-3 31-16-81 DATED APRIL, 81 V.O. 3/81	31
				DRAWN E.S.I.				



LEGEND

Stream Sediment Samples

U	Q	N	P	Z	W
ppm	ppm	ppm	ppm	ppm	ppm

Heavy Concentrate Samples

U	Q	N	P	Z	W
dd	dd	dd	dd	dd	dd

Sample Number

T 9824 HC 20, 10, 85, X, 175, X, 4, 120, X

AMENDMENTS

DATE	BY	SCALE
		1:2500

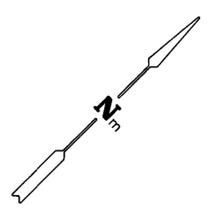
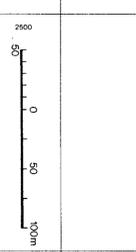
COMPLETED DWG & P
DRAWN E.S.I.
CHECKED A.A.

Exploration Surveys International
9 Queen Street Melbourne Victoria 3000
Phone 62 1579 Code 03

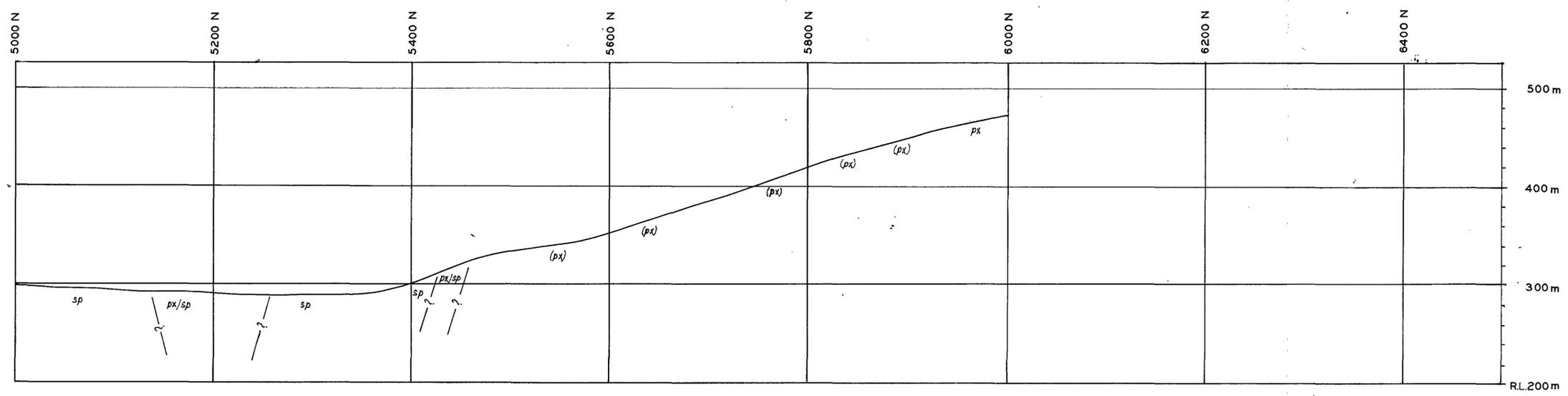
DOUGLAS MCKENNA & PARTNERS

COMSTAFF PROPRIETARY LIMITED
HAZLEWOOD EL 1/68
ANOMALY 18C GRID 3
STREAM SEDIMENT SAMPLES

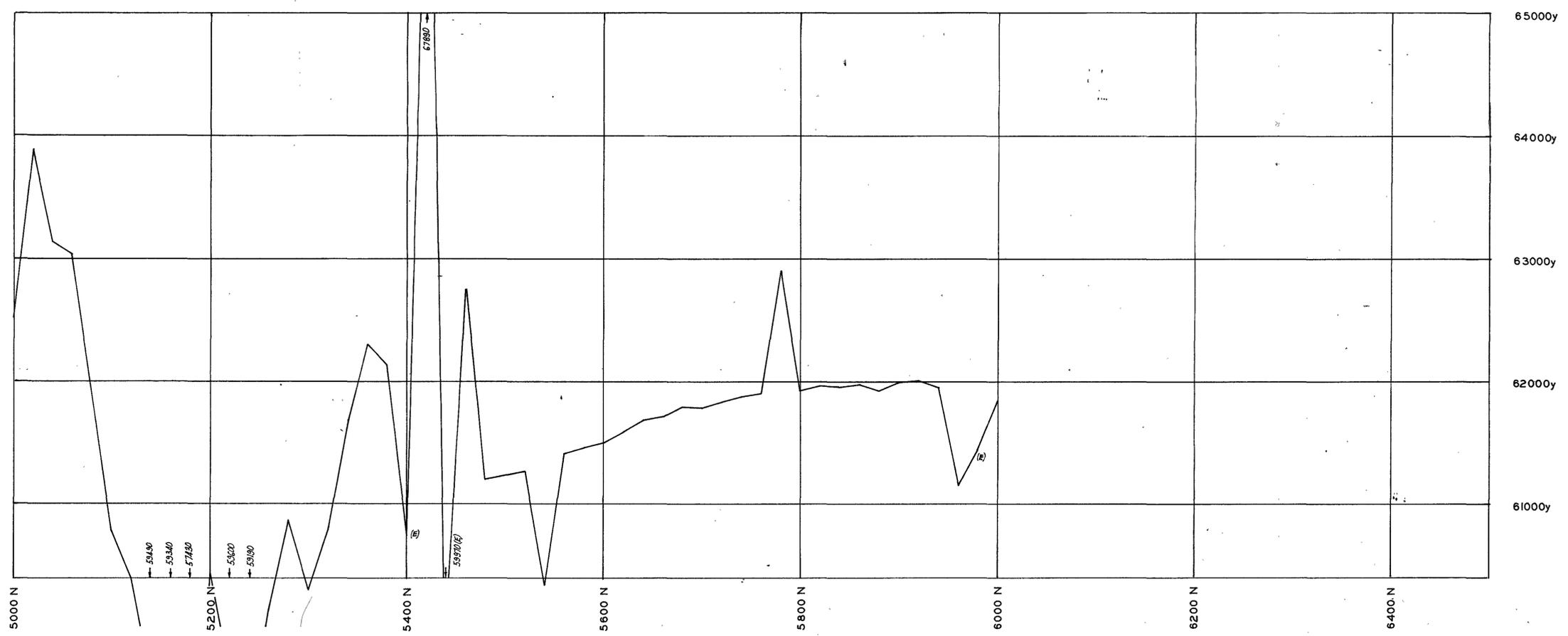
885078
3931
DWG No 3-09
REF No 1594MST-
8/1/88
PRL B1
32



Raining
Creek
358000
5409000



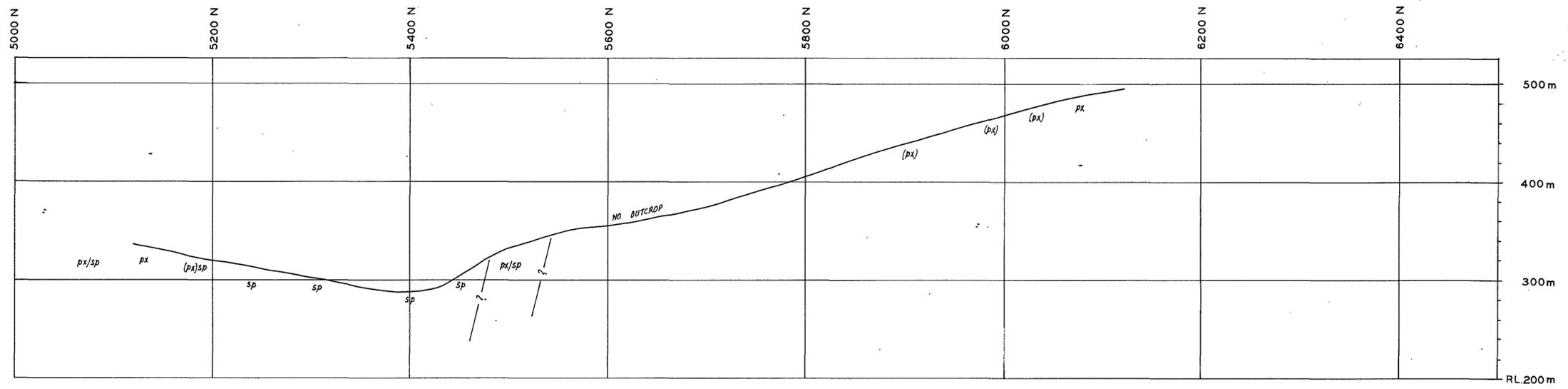
GEOLOGY



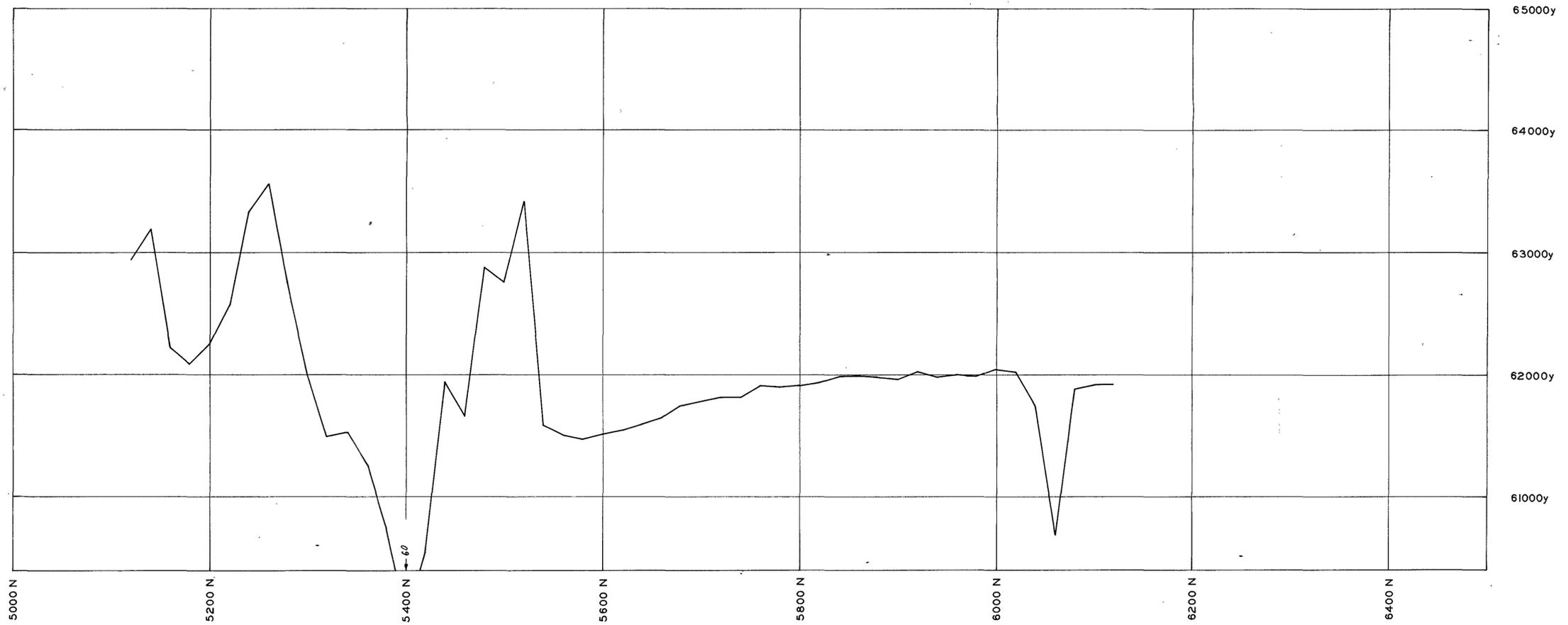
GROUND MAGNETICS

885079 3932

		5 cm		COMPILED D.M.C. & P.		Exploration Surveys International		COMSTAFF PROPRIETARY LIMITED		DWG No 3-10	
				DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000		HEAZLEWOOD EL 1/68 ANOMALY 18C GRID 3 SECTIONS: LINE 5000 E		REF No 1594M57-3	
				CHECKED A.A.		Phone 62 1579 Code 03				DATED APRIL .81	
				FOR		DOUGLAS MCKENNA & PARTNERS					
No	AMENDMENTS	DATE	BY	SCALE							33



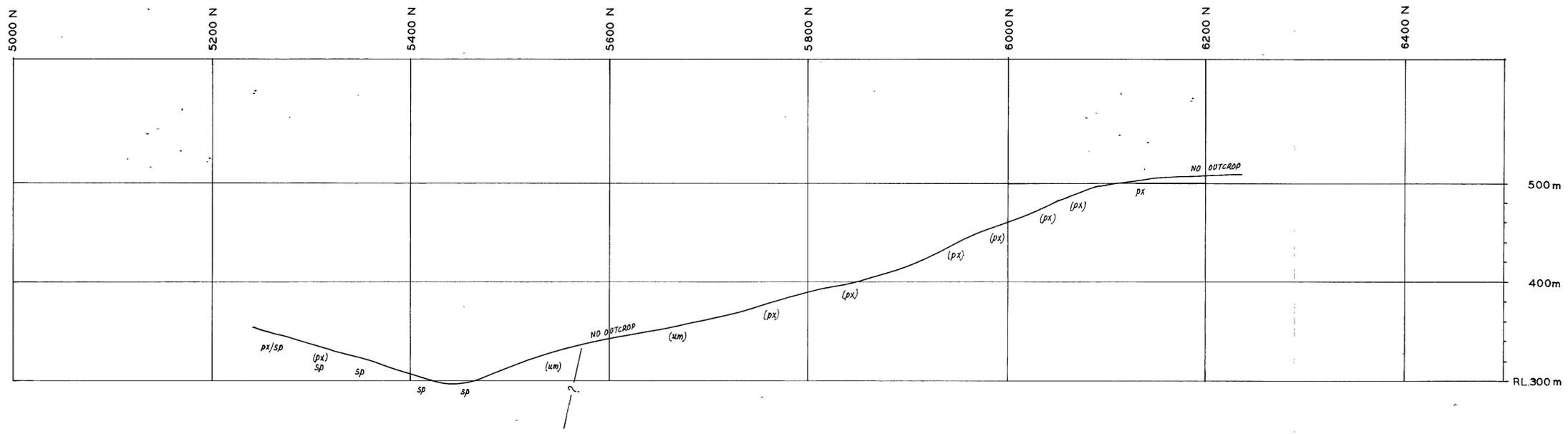
GEOLOGY



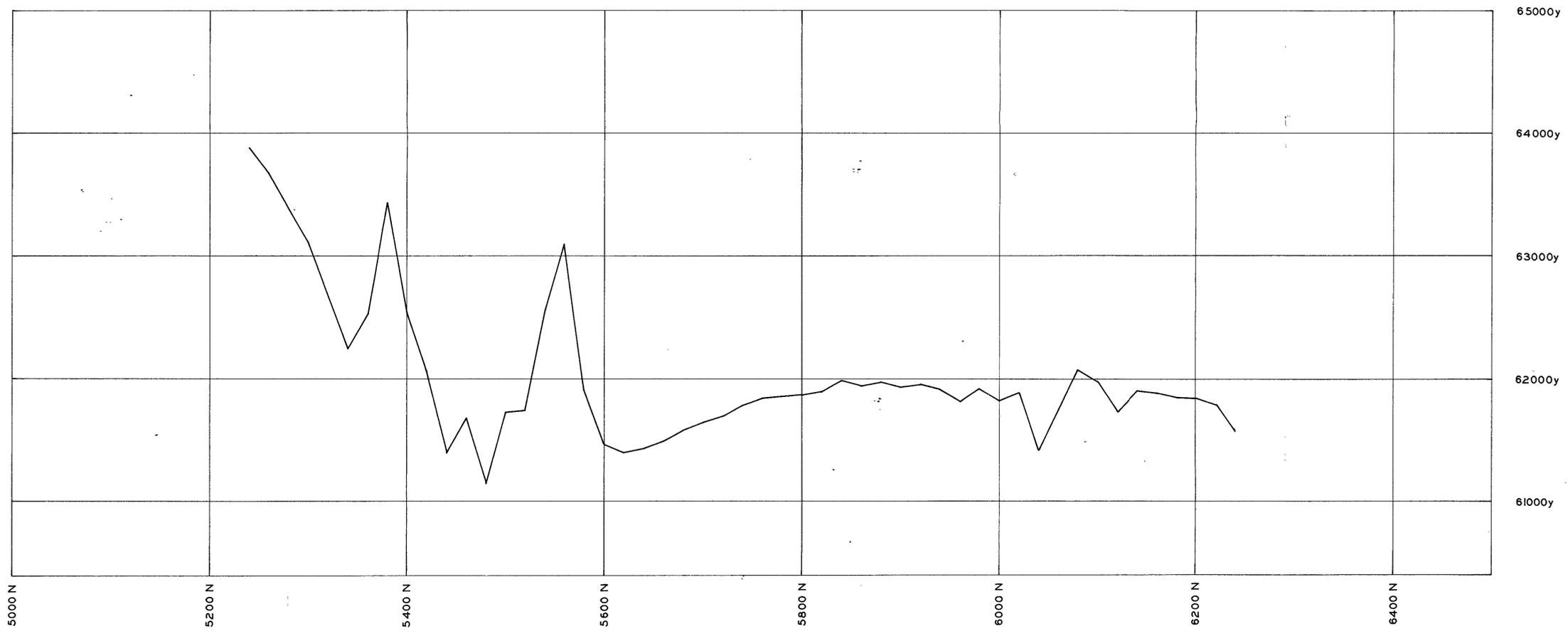
GROUND MAGNETICS

885080

		COMPILED D.M.C. & P.		Exploration Surveys International		COMSTAFF PROPRIETARY LIMITED		DWG No 3-11	
		DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03		HEAZLEWOOD EL 1/68 ANOMALY 18C GRID 3 SECTIONS: LINE 5120 E		REF No 1594M57-3	
CHECKED A.A.		FOR		DOUGLAS MCKENNA & PARTNERS		DATED APRIL 81 (SIGNED)		34	
No	AMENDMENTS	DATE	BY	SCALE					



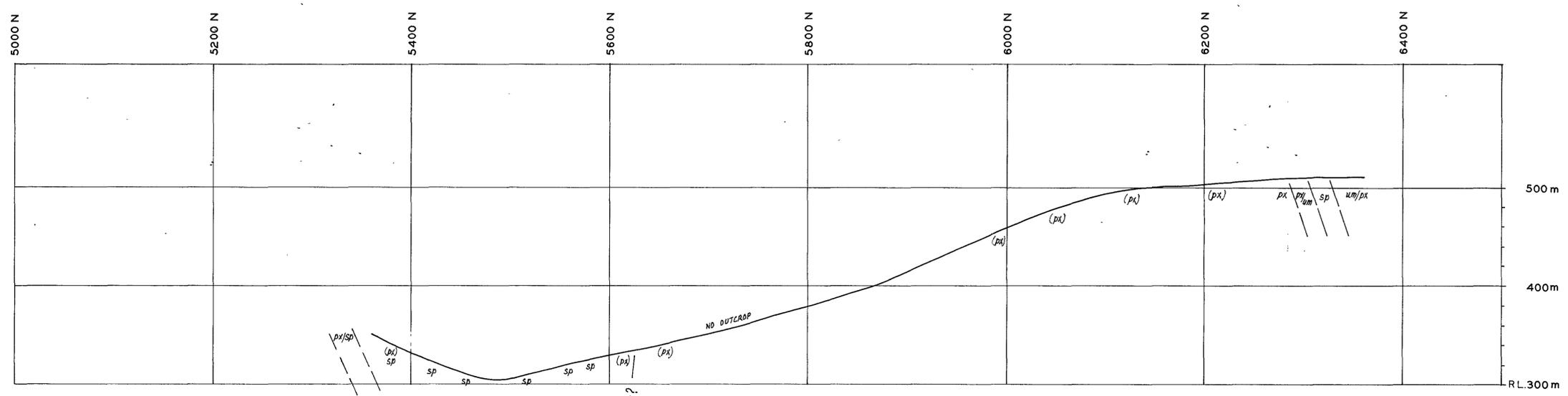
GEOLOGY



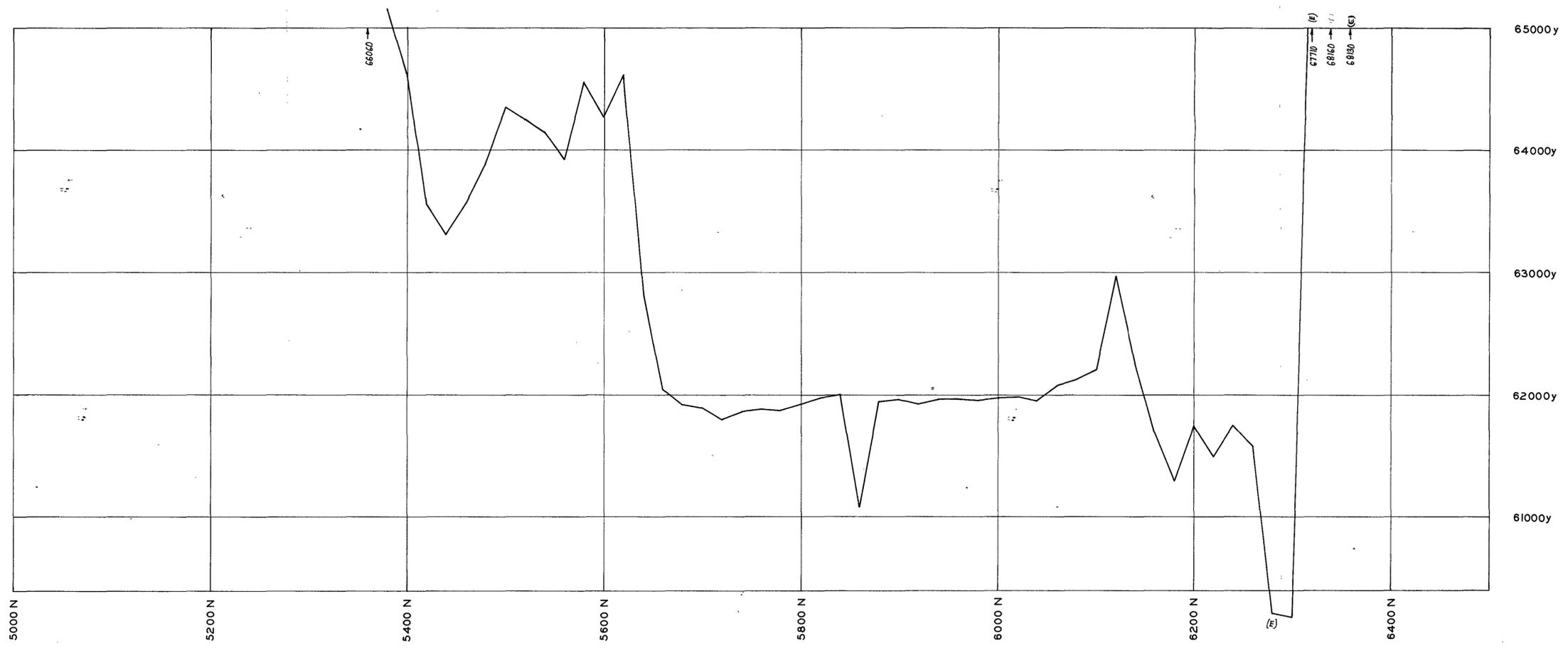
GROUND MAGNETICS

885081 3934

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		DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03		HEAZLEWOOD EL 1/68 ANOMALY 18C GRID 3 SECTIONS: LINE 5240 E		REF No 1594M57-3	
CHECKED A.A.		FOR		DATED APRIL 81				35	
No	AMENDMENTS	DATE	BY	SCALE	DOUGLAS MCKENNA & PARTNERS				



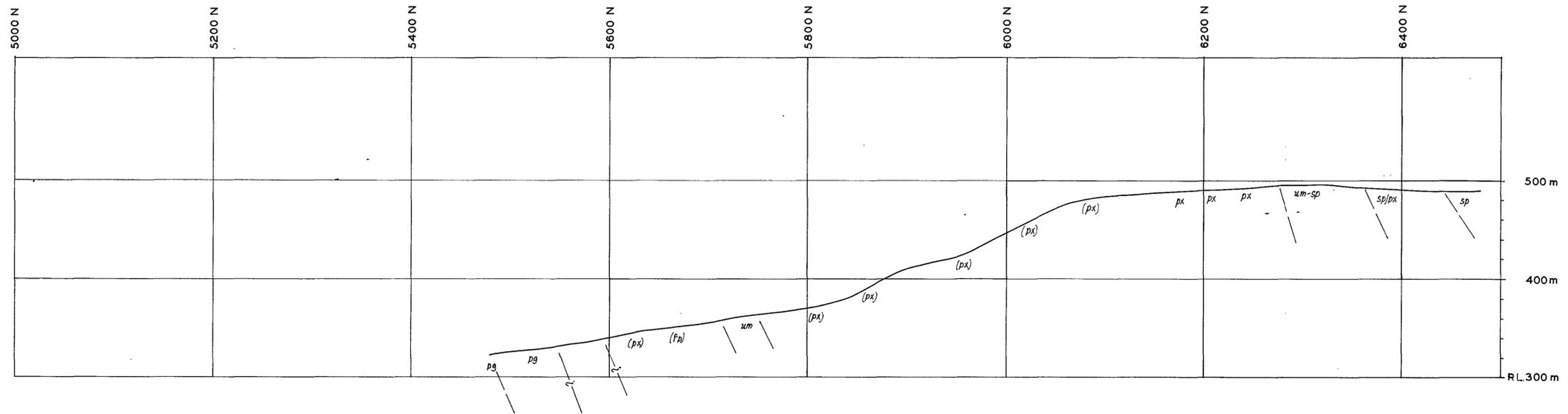
GEOLOGY



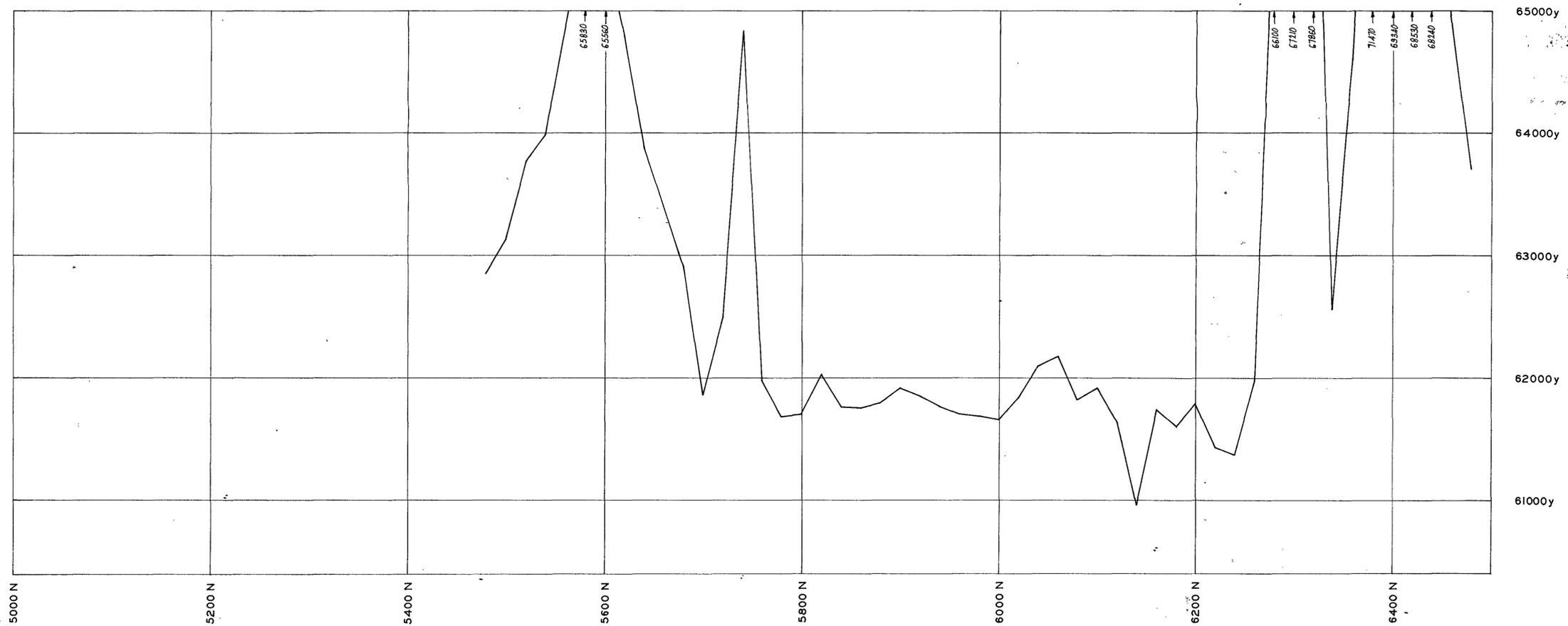
GROUND MAGNETICS

885082 3935

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		DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03		HEAZLEWOOD EL 1/68 ANOMALY 18C GRID 3 SECTIONS: LINE 5360 E		REF No 1594M57-3	
CHECKED A.A.		FOR		DOUGLAS MCKENNA & PARTNERS		DATED APRIL 81		36	
No	AMENDMENTS	DATE	BY	SCALE					



GEOLOGY



GROUND MAGNETICS

885083

3986

		COMPILED D.M.C. & P.		Exploration Surveys International	COMSTAFF PROPRIETARY LIMITED	DWG No 3-14
		DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000	HEAZLEWOOD EL 1/68	REF No 1594M57-3
CHECKED A.A.		FOR		Phone 62 1579 Code 03	ANOMALY 18C GRID 3	EX-1536 DATED APRIL 81
No	AMENDMENTS	DATE	BY	SCALE	DOUGLAS MCKENNA & PARTNERS	SECTIONS: LINE 5480 E
						37

SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1305) 12/3/81

GRID 3 LINE 1 (5000E)

ANOMALY 18C

222 Hz

888 Hz

1777 Hz

5000N

5200N

5400N

5600N

5800N

6000N

LEGEND

- IN-PHASE
- QUADRATURE

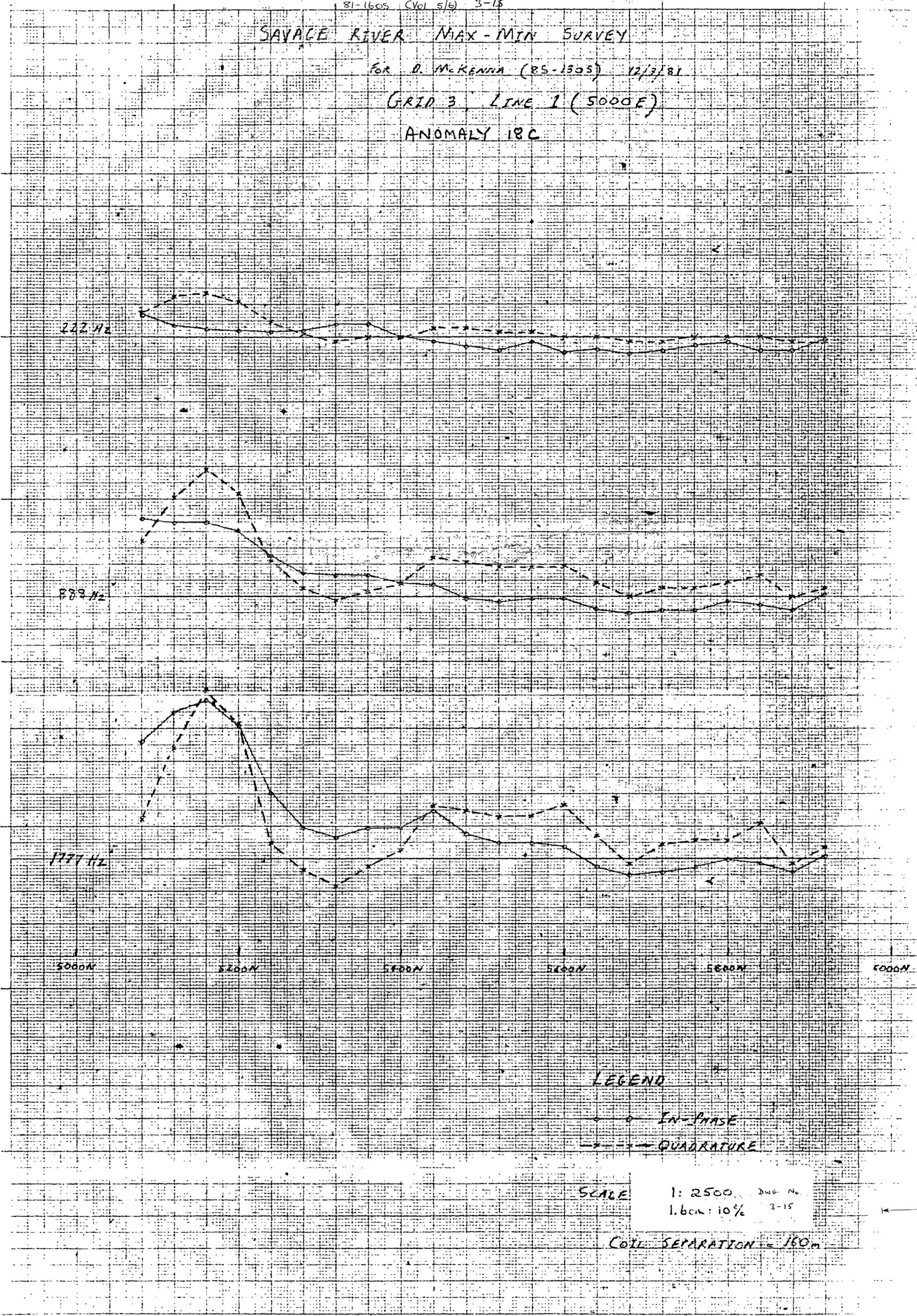
SCALE

1:2500 DWG No. 3-15

1.6cm: 10%

COIL SEPARATION = 160m

5 cm

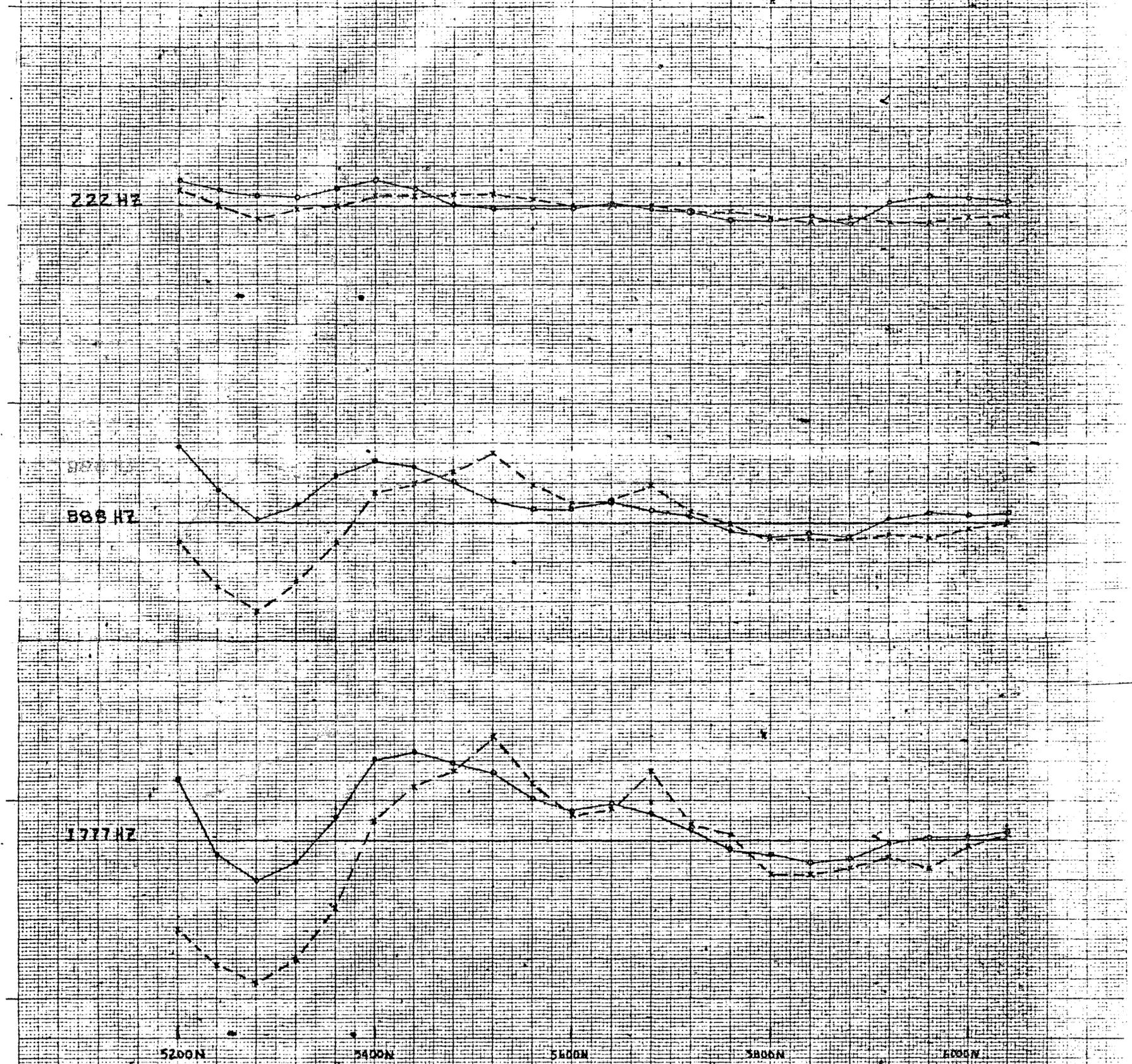


SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1305) 13/3/81

GRID 3, LINE 2 (5120E)

ANOMALY 180

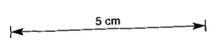


LEGEND

- IN-PHASE
- x- QUADRATURE

SCALE 1:2500 DWG No. 3-16
1.6cm = 10%

COIL SEPARATION = 160 m



SAVAGE RIVER MAX-MIN SURVEY

FOR D. McKENNA (85-1305) 13/3/81

GRID 3, LINE 3 (5240E)

ANOMALY 18C

222HZ

888HZ

1777HZ

5400N

5600N

5800N

6000N

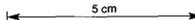
6200N

LEGEND

- IN-PHASE
- x-x- QUADRATURE

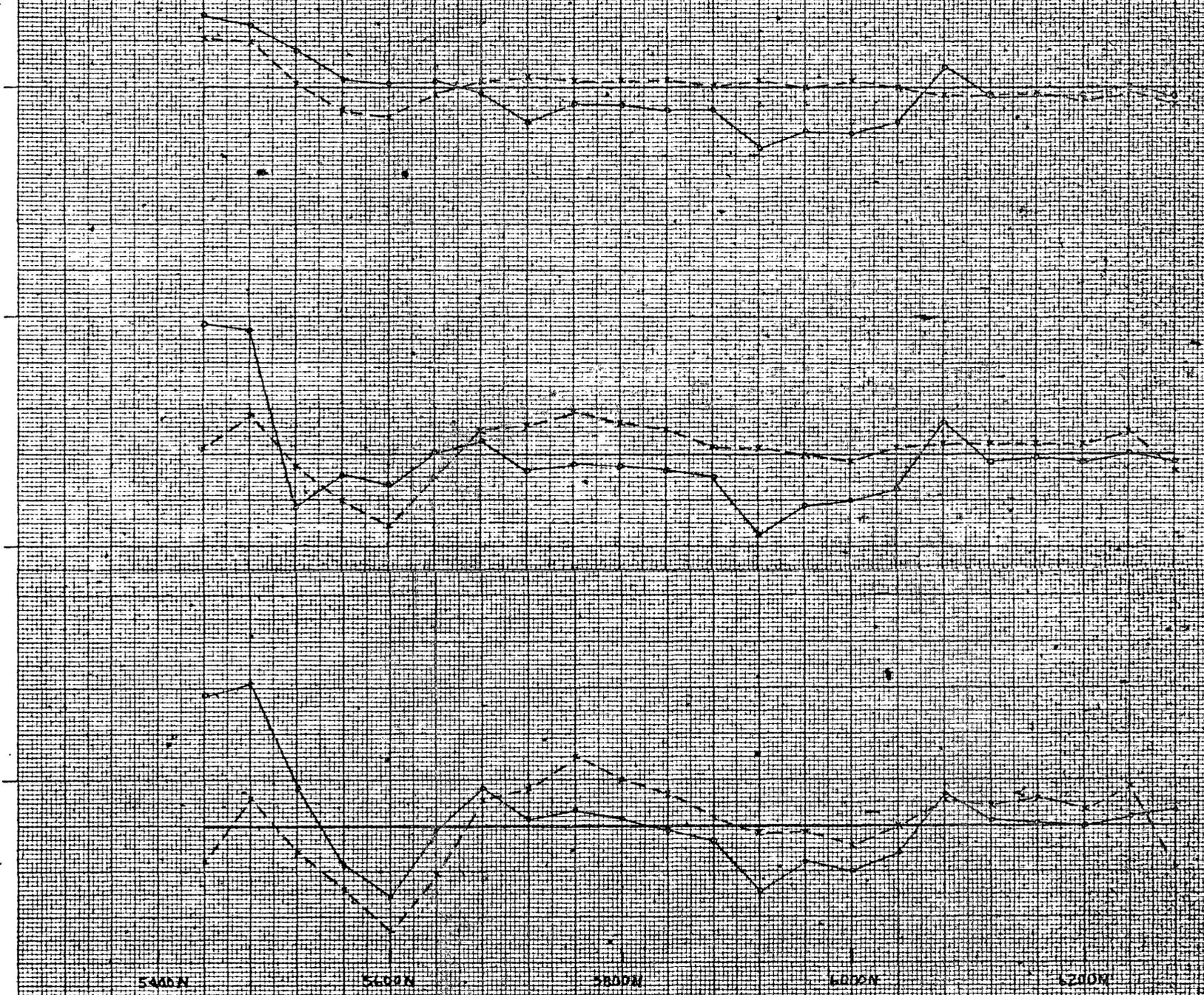
SCALE 1:2500 Dwg No. 3-17
 1.6cm : 10%

COIL SEPARATION = 160m



SAVAGE RIVER MAX-MIN SURVEY

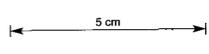
FOR D. MCKENNA (85-1305) 11/3/81
GRID 3, LINE 4 (5360E)
ANOMALY 18C



LEGEND:
—— IN-PHASE
- - - QUADRATURE

SCALE 1:2500 DWF No. 3-18
1.6cm = 10%

COIL SEPARATION = 160m

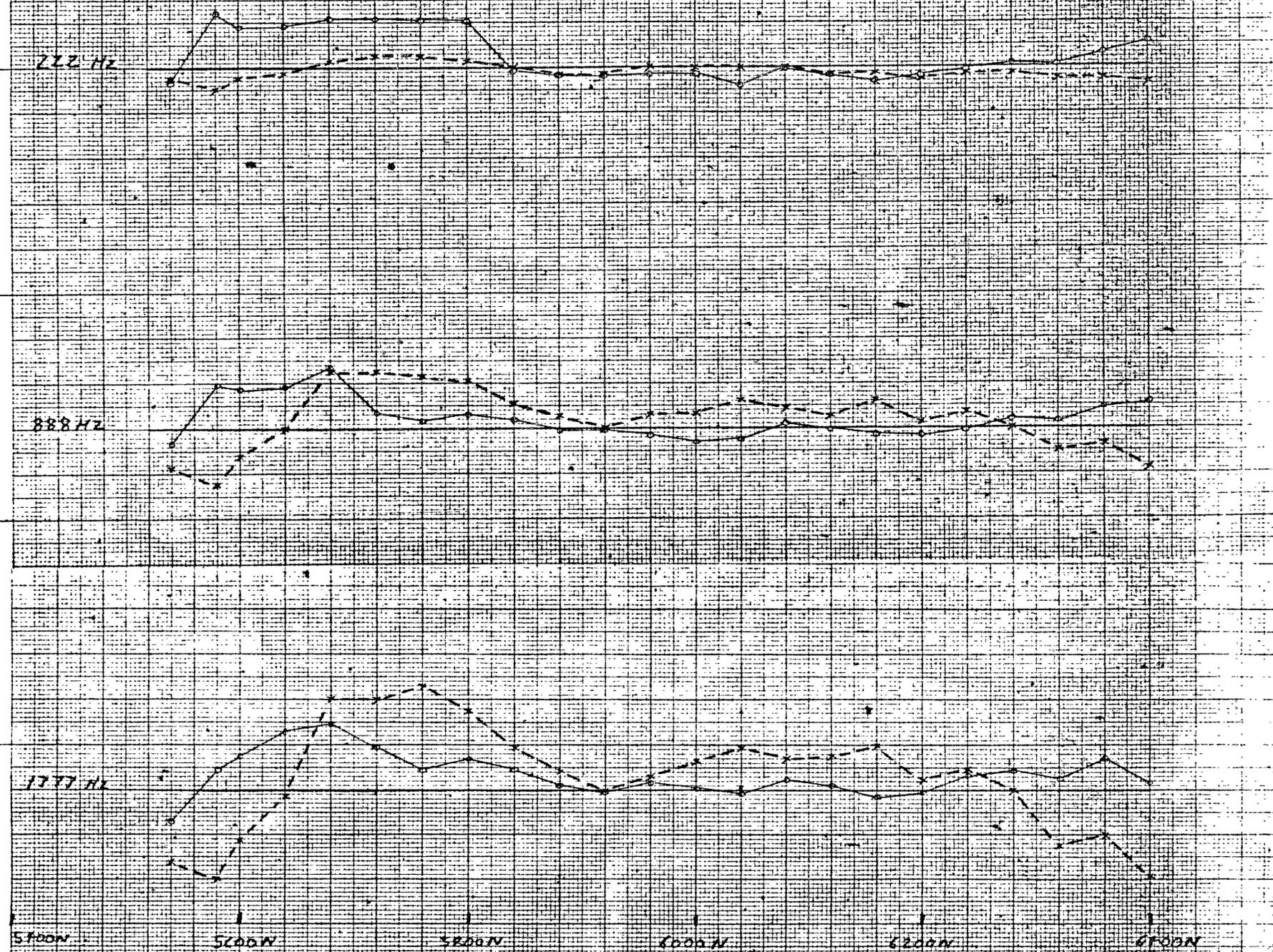


SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (88-1205) 15/3/81

GRID 3, LINE 5 (-5780 E)

ANOMALY 18C

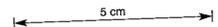


LEGEND

- IN-PHASE
- - - × - - QUADRATURE

SCALE - 1:2500 DWG No
 1.6cm : 10% 3-19

COIL SEPARATION = 160m



3942

of M*	A.G.	G.G.	E.O.	D.S.M.E.
Received = 1 JUN 1981				Registrar
DEPT. OF MINES				E & L.
REF. No: 4509181				

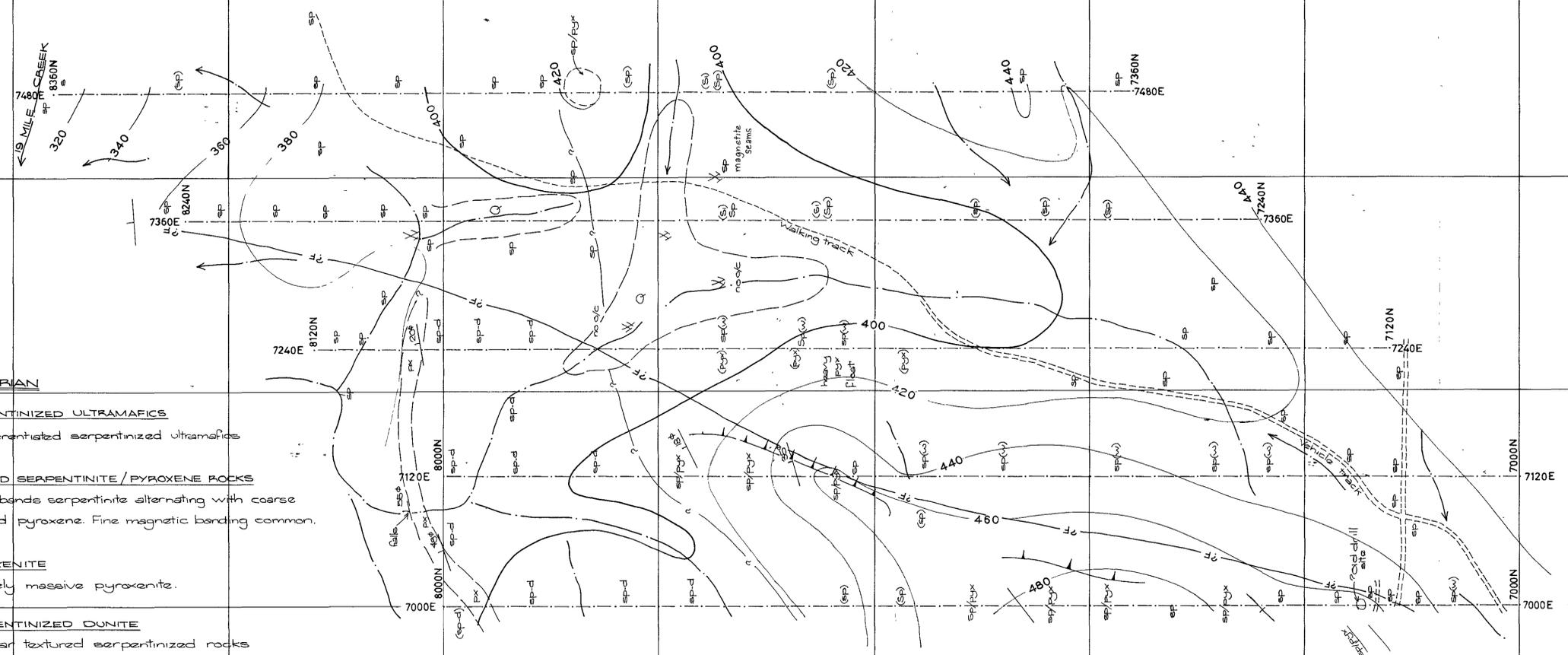
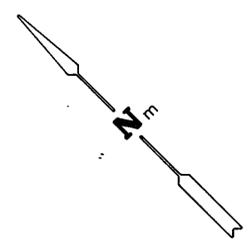
VOLUME 6

GRID 4 (ANOMALY 21G)

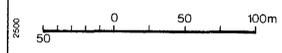
ACCOMPANYING DRAWINGS

Title	Drawing No.
Geology & Topography	4 - 01.
Ground Magnetic Readings	4 - 02.
Stream Sediment Samples	4 - 09.
Section 7000E	4 - 10.
" 7120E	4 - 11.
" 7240E	4 - 12.
" 7360E	4 - 13.
" 7480E	4 - 14.
" 7000E "Max-Min" Profiles	4 - 15.
" 7120E " " "	4 - 16.
" 7240E " " "	4 - 17.
" 7360E " " "	4 - 18.
" 7480E " " "	4 - 19.

OPEN FILE

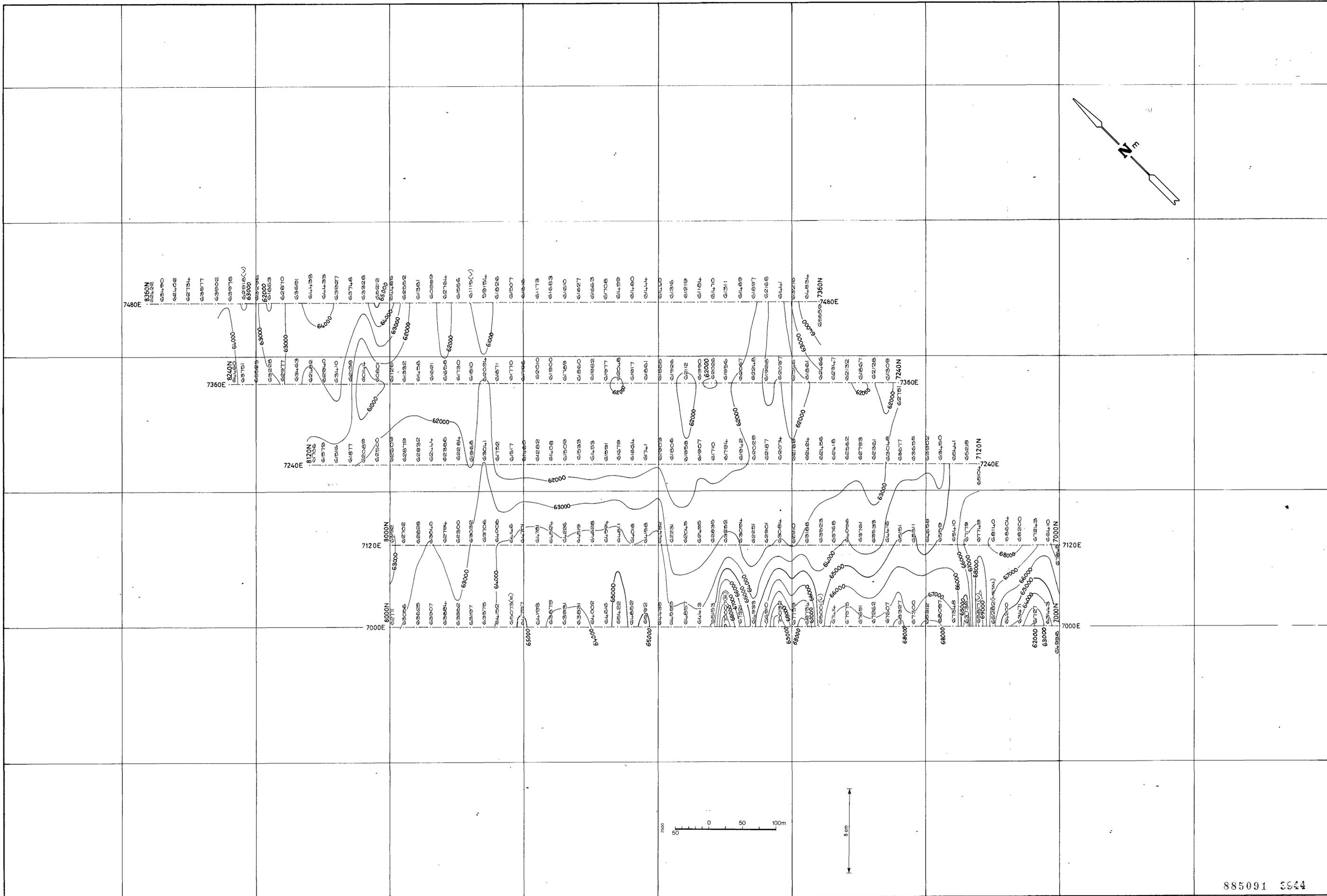


- ep SERPENTINIZED ULTRAMAFICS
Undifferentiated serpentinized ultramafics
- sp/px BANDED SERPENTINITE/PYROXENE ROCKS
meso bands serpentinite alternating with coarse grained pyroxene. Fine magnetic banding common.
- px PYROXENITE
relatively massive pyroxenite.
- ep-d SERPENTINIZED DUNITE
granular textured serpentinized rocks
- si Opaline Silica
- Rock types in parenthesis indicate float
- Approximate geological boundary
- Interpreted geological boundary
- Interpreted geological fault
- Approximate strike & dip of layering



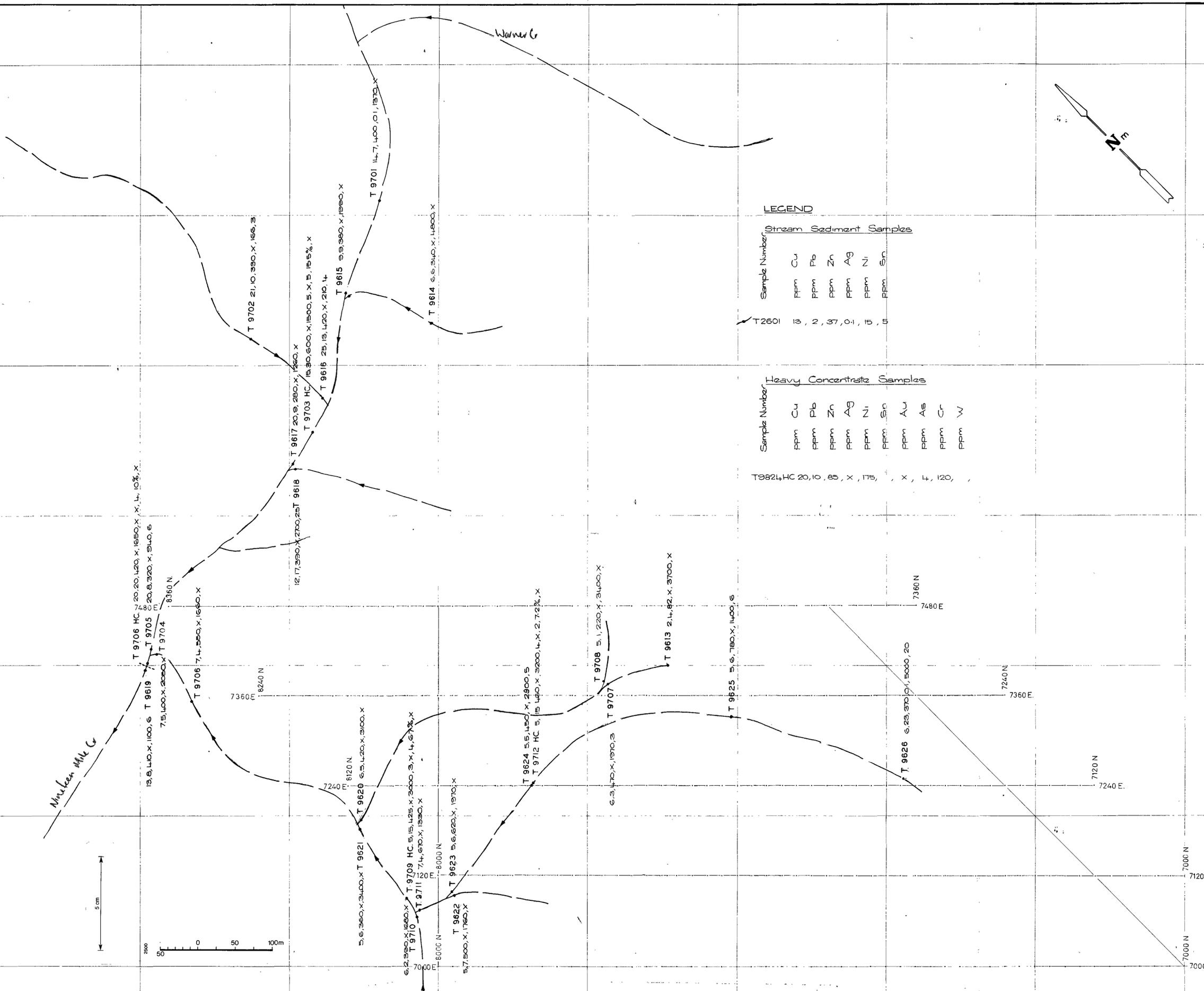
885090 3543

				COMPILED J.K.C. DRAWN E.S.I. CHECKED A.A. SCALE 1:2500	Exploration Surveys International 9 Queen Street Melbourne Victoria 3000 Phone 62 1579 Code 03 FOR DOUGLAS MCKENNA & PARTNERS	COMSTAFF PROPRIETARY LIMITED HEAZLEWOOD EL 1/68 ANOMALY 21G GRID 4 GEOLOGY AND TOPOGRAPHY	DWG No 4-01: REF No 1594M57-4 DATED APRIL 81 81-1623 (Vol 1/4)	
No	AMENDMENTS	DATE	BY					38



885091 3924

		COMPILED D.M.C. & P.		Exploration Surveys International		COMSTAFF PROPRIETARY LIMITED		DWG No 4-02	
		DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000		HEAZLEWOOD EL 1/68		REF No 1594M57-4	
		CHECKED A.A.		Phone 62 1579 Code 03		ANOMALY 21G GRID 4		DATED APRIL 81	
		SCALE 1:2500		DOUGLAS MCKENNA & PARTNERS		GROUND MAGNETIC READINGS		39	
No	AMENDMENTS	DATE	BY						



LEGEND

Stream Sediment Samples

Sample Number	Cu	Pb	Zn	Ag	Ni	Sn
	ppm	ppm	ppm	ppm	ppm	ppm

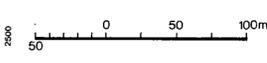
T2601 13, 2, 37, 0.1, 15, 5

Heavy Concentrate Samples

Sample Number	Cu	Pb	Zn	Ag	Ni	Sn	Au	As	Cr	W
	ppm									

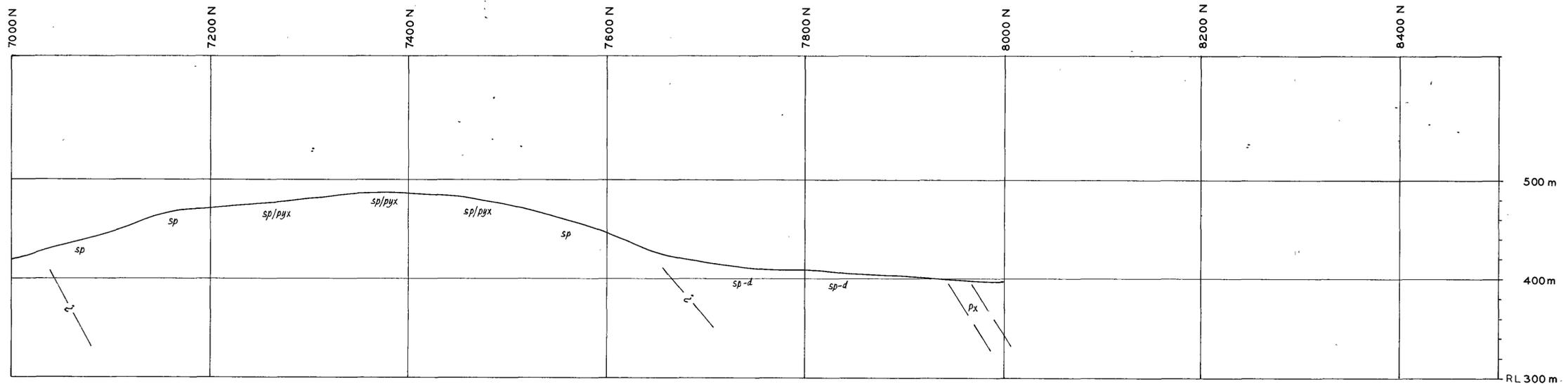
T9824 HC 20, 10, .85, X, 175, X, 4, 120, 5

5 cm

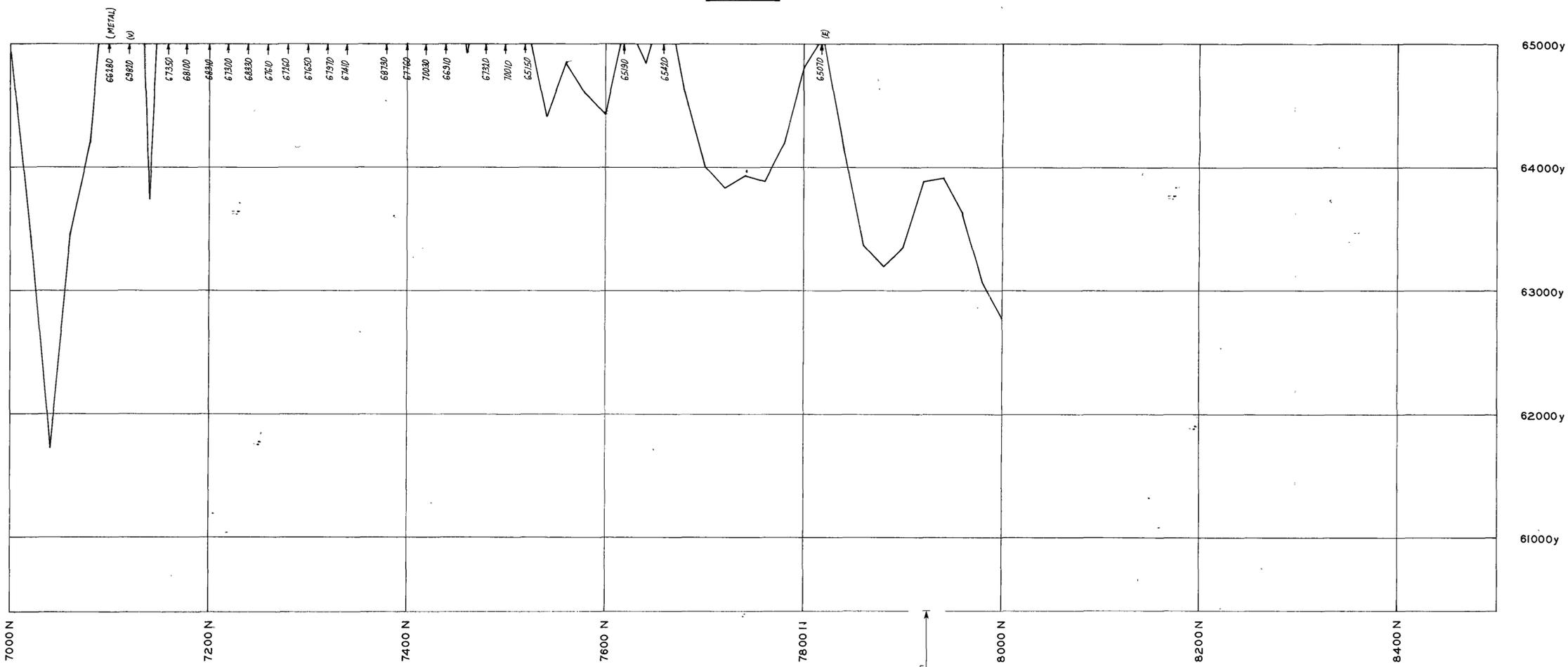


885092 3945

		COMPILED D.M.C. & P.		Exploration Surveys International		COMSTAFF PROPRIETARY LIMITED	
		DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000		HEAZLEWOOD EL 1/68	
		CHECKED A.A.		Phone 62 1579 Code 03		ANOMALY 21G GRID 4	
				FOR		STREAM SEDIMENT SAMPLES	
		DOUGLAS MCKENNA & PARTNERS				REF No 1594M57-4	
						DATED APRIL 81	
						31-1605 (1/16/81)	
						40	



GEOLOGY

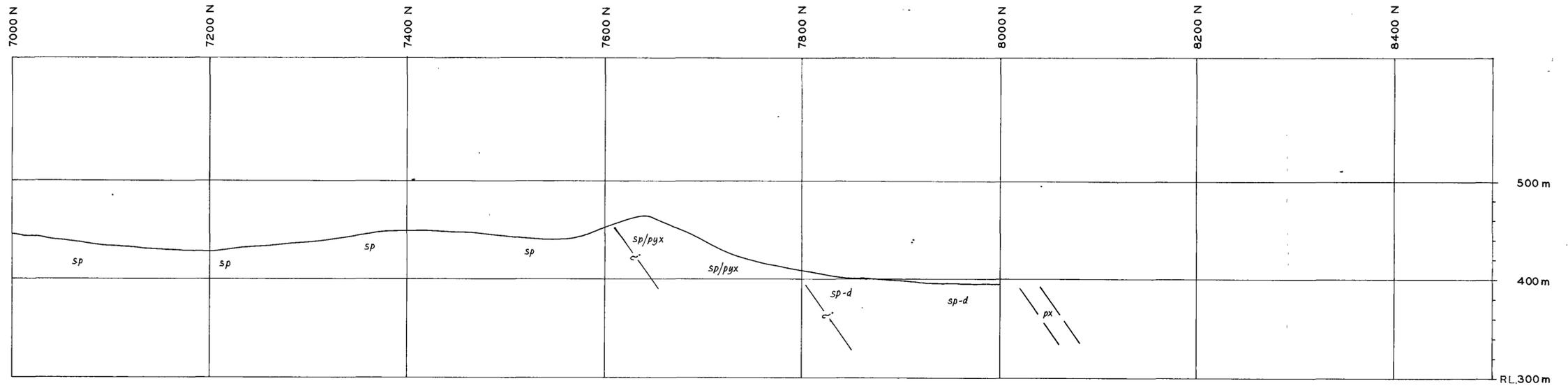


GROUND MAGNETICS

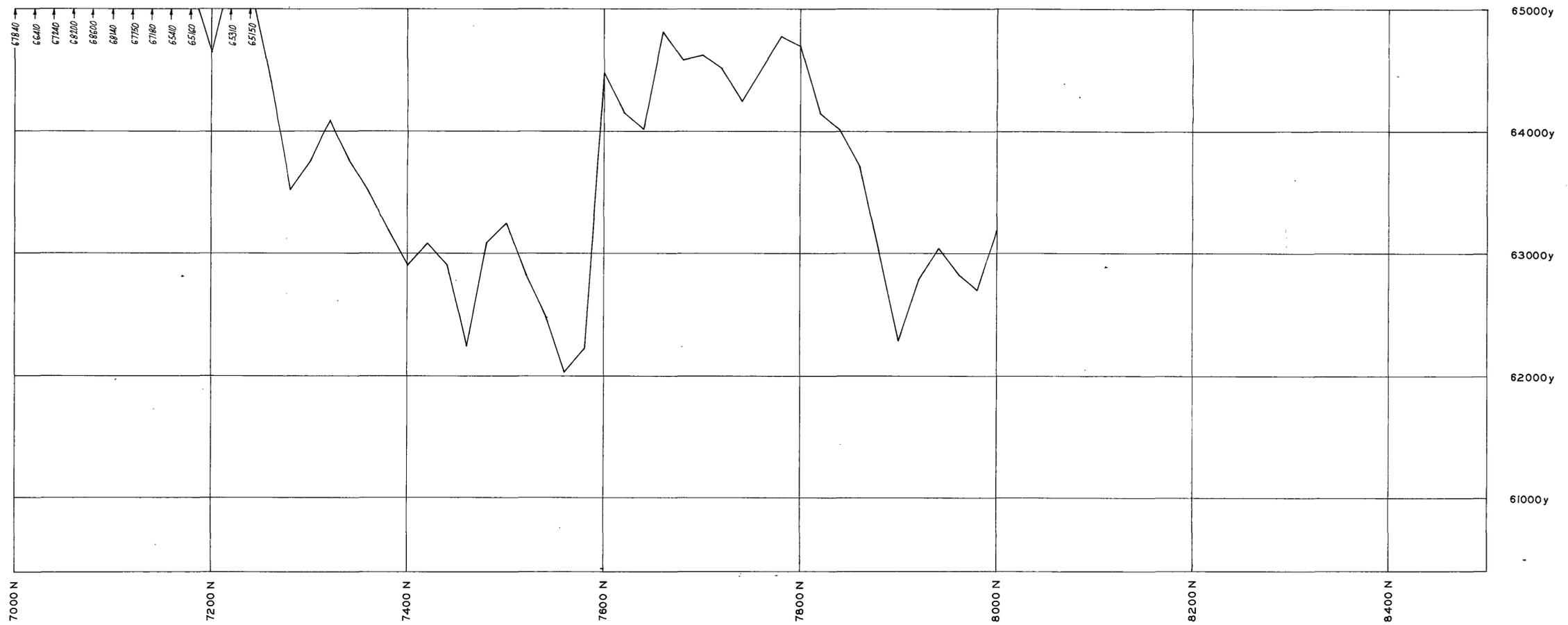
885093

3848

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		CHECKED A.A.		Phone 62 1579 Code 03		ANOMALY 21G GRID 4		DATED APRIL 81	
				FOR		SECTIONS: LINE 7000 E		SI-1005 (Vol 6/6)	
No	AMENDMENTS	DATE	BY	SCALE	DOUGLAS MCKENNA & PARTNERS				41



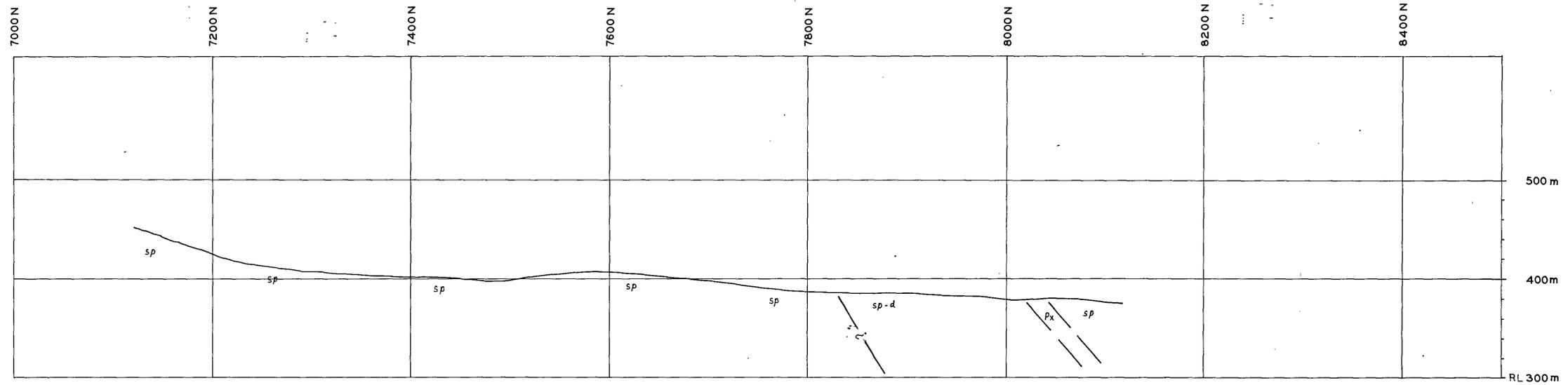
GEOLOGY



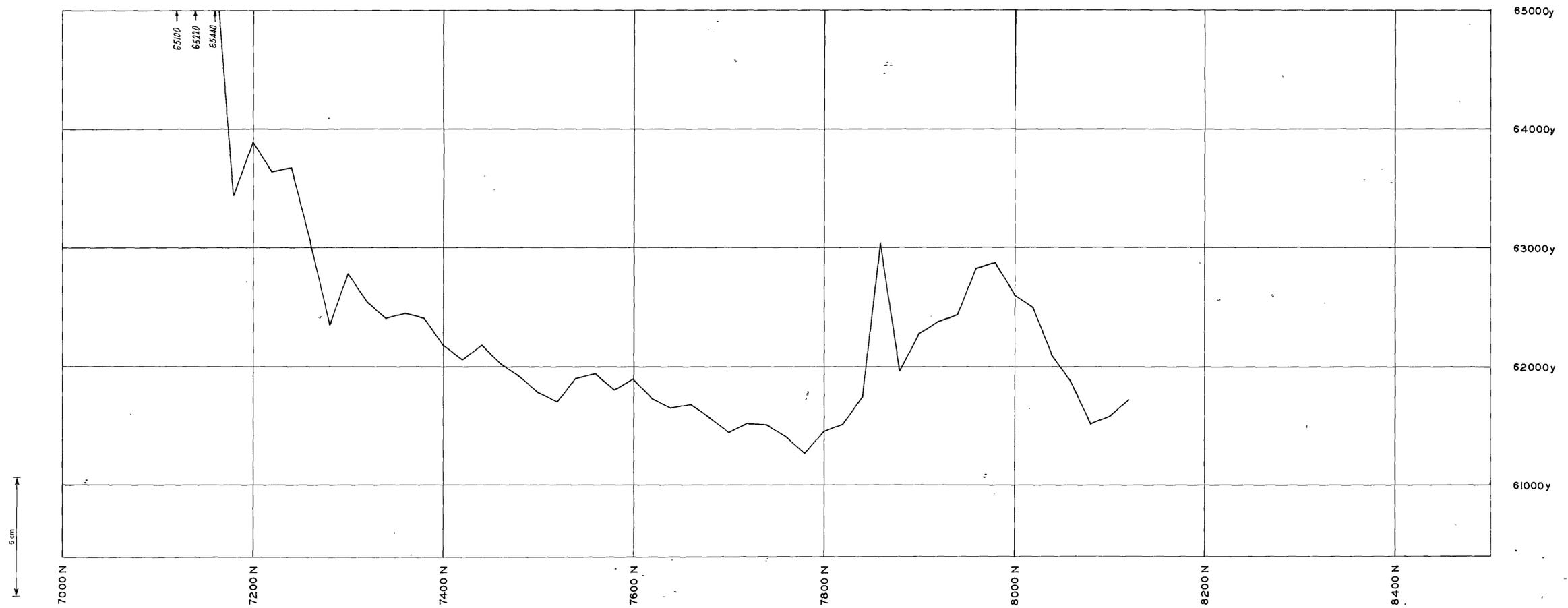
GROUND MAGNETICS

885094 3547

				COMPILED D.M.C.&P.	Exploration Surveys International	COMSTAFF PROPRIETARY LIMITED	DWG No 4-11
				DRAWN E.S.I.	9 Queen Street Melbourne Victoria 3000	HEAZLEWOOD EL 1/68 ANOMALY 21G GRID 4 SECTIONS: LINE 7120 E	REF No 1594M57-4
				CHECKED A.A.	Phone 62 1579 Code 03		DATED APRIL 81 81-11-05 (Vol 6/6)
No	AMENDMENTS	DATE	BY	SCALE	FOR DOUGLAS MCKENNA & PARTNERS		42



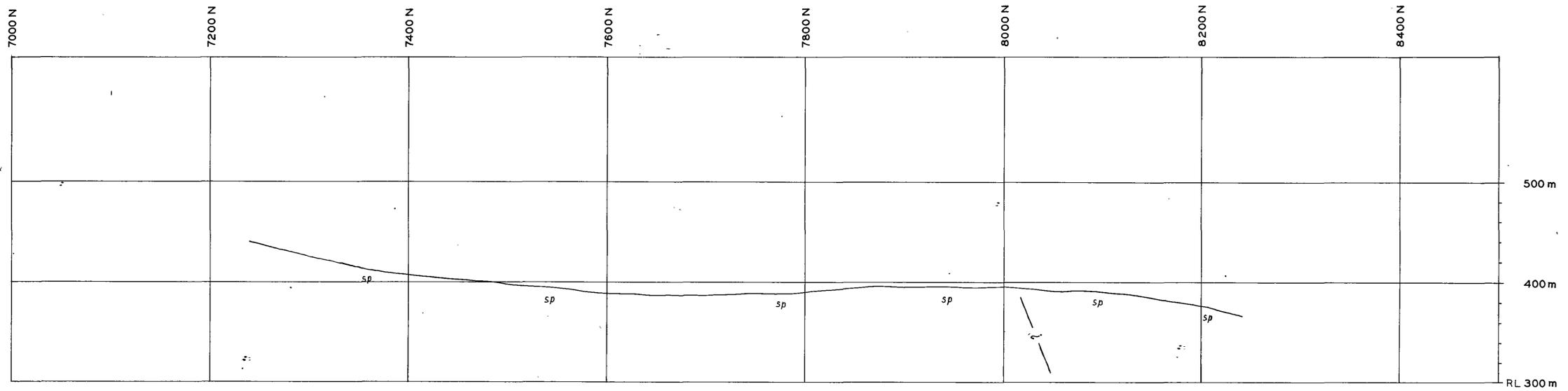
GEOLOGY



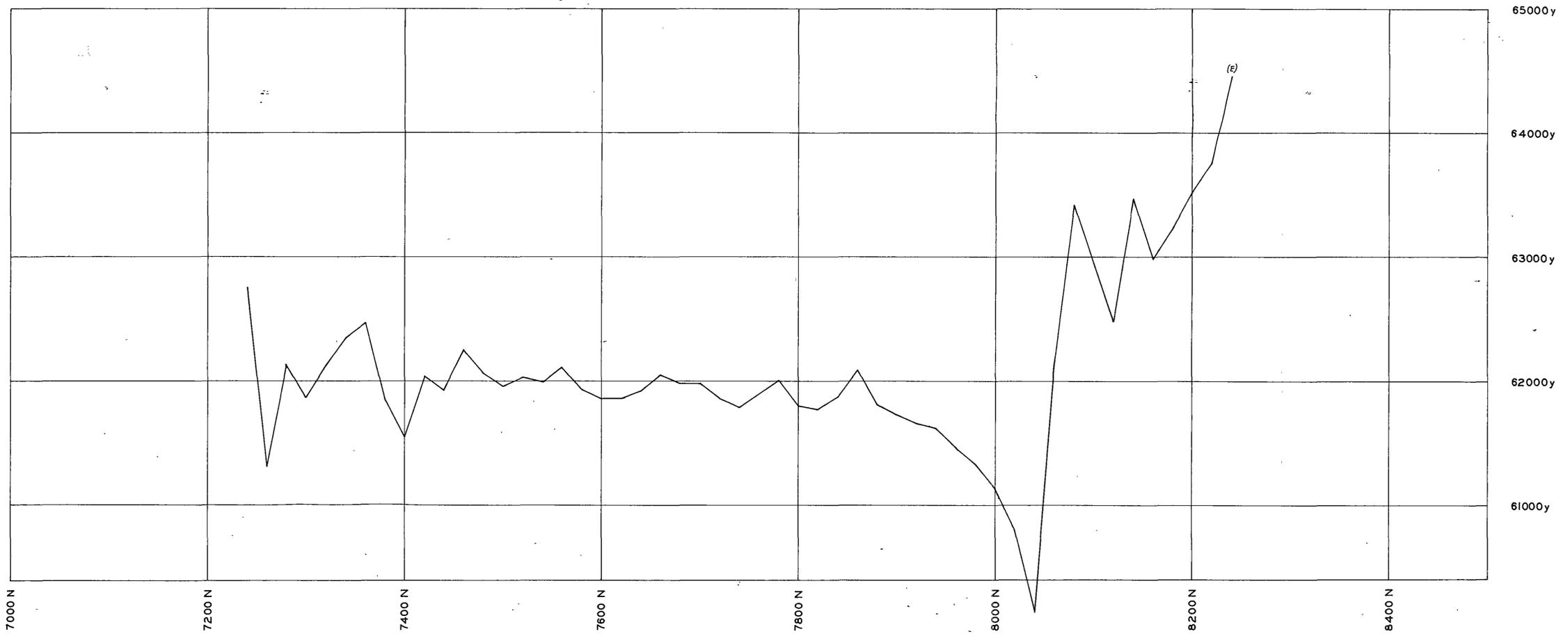
GROUND MAGNETICS

885095 3948

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				CHECKED A.A.		Phone 62 1579 Code 03		ANOMALY 21G GRID 4		DATED APRIL 81	
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No	AMENDMENTS	DATE	BY	DOUGLAS MCKENNA & PARTNERS						43	



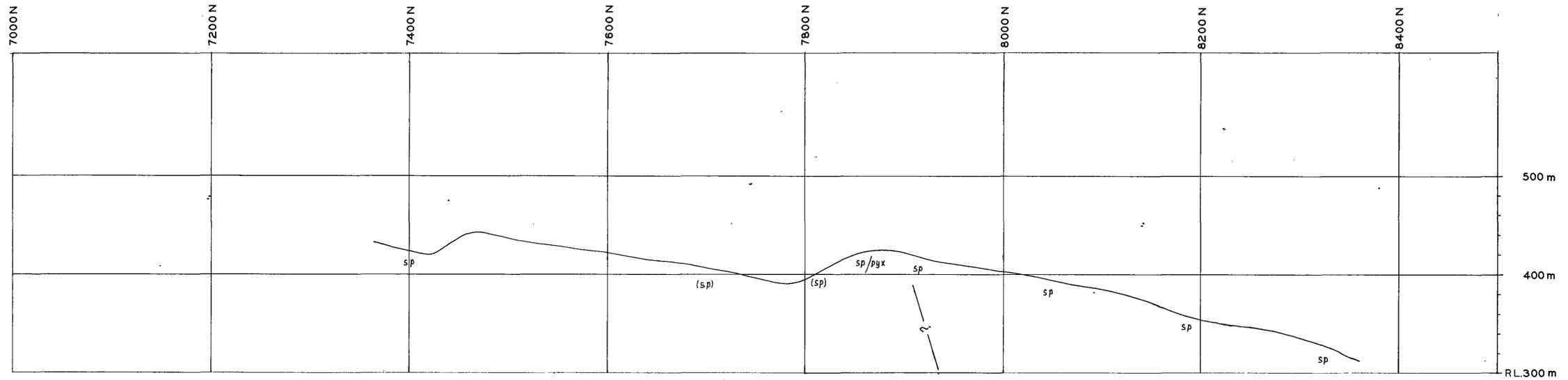
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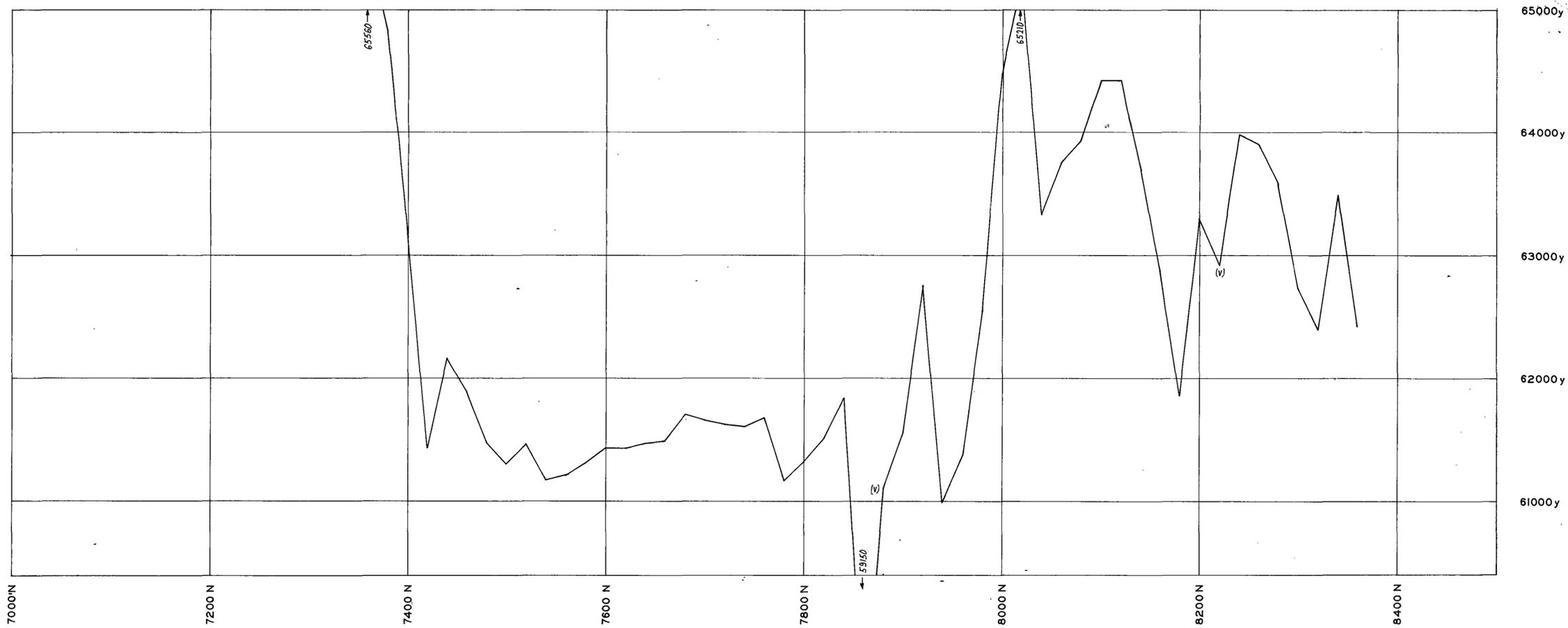
GROUND MAGNETICS

885096 3949

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				CHECKED A.A.		Phone 62 1579 Code 03		ANOMALY 21G GRID 4		SI-1603 (Vol 6/6)	
				FOR		DOUGLAS MCKENNA & PARTNERS		SECTIONS: LINE 7360E		DATED APRIL 81	
No	AMENDMENTS	DATE	BY	SCALE							44



GEOLOGY



GROUND MAGNETICS

885097 3950

				COMPILED D.M.C. & P.		Exploration Surveys International		COMSTAFF PROPRIETARY LIMITED		DWG No 4-14	
				DRAWN E.S.I.		9 Queen Street Melbourne Victoria 3000		HEAZLEWOOD EL 1/68 ANOMALY 21G GRID 4 SECTIONS: LINE 7480 E		REF No 1594M57-4	
				CHECKED A.A.		Phone 62 1579 Code 03				51-1605 (Vol 6/6) DATED APRIL 81	
No	AMENDMENTS	DATE	BY	SCALE	FOR DOUGLAS MCKENNA & PARTNERS						45

SAVAGE RIVER MAX-MIN SURVEY

FOR D. McKENNA (85-1305) 9/3/81

GRID 4, LINE 1 (7000E)

ANOMALY 21G

222HZ

888HZ

1777HZ

700N

720N

740N

760N

780N

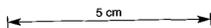
800N

LEGEND

- IN-PHASE
- x-x-x- QUADRATURE

SCALE 1:2500 DWG No
1.6cm = 10% 4-15

COIL SEPARATION = 160m



81-1605 CVol 6/6 4-16

For D. McKenna (85-1305) 8/3/81

GRID 4, LINE 2 (7120E)

ANOMALY 21G

222 Hz

888 Hz

1777 Hz

7000N

7200N

7400N

7600N

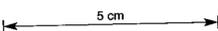
7800N

8000N

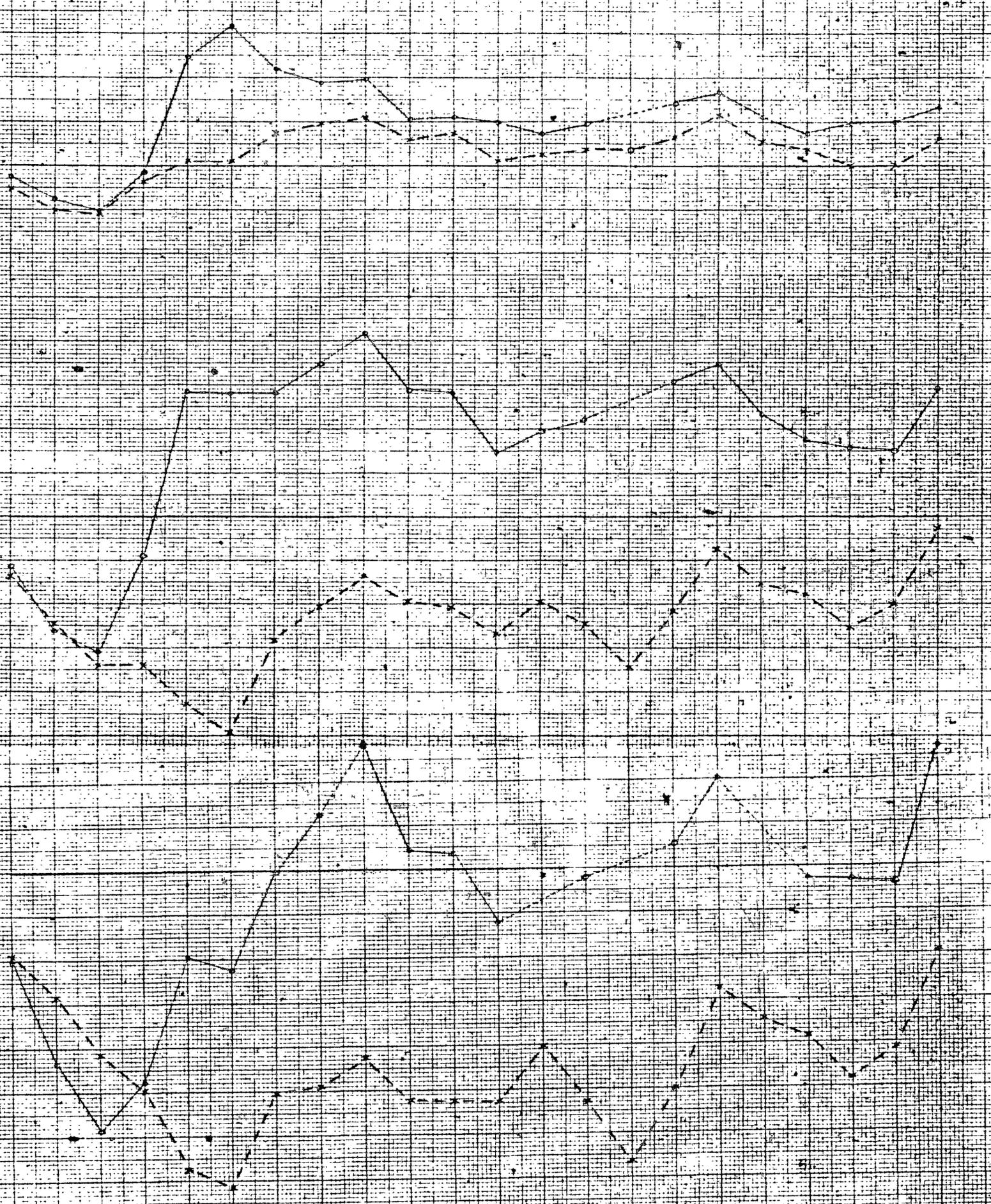
LEGEND

---o--- IN-PHASE
---x--- QUADRATURE

SCALE 1:2500 Dwg No
1.6cm : 10% 4-16



COIL SEPARATION = 100m

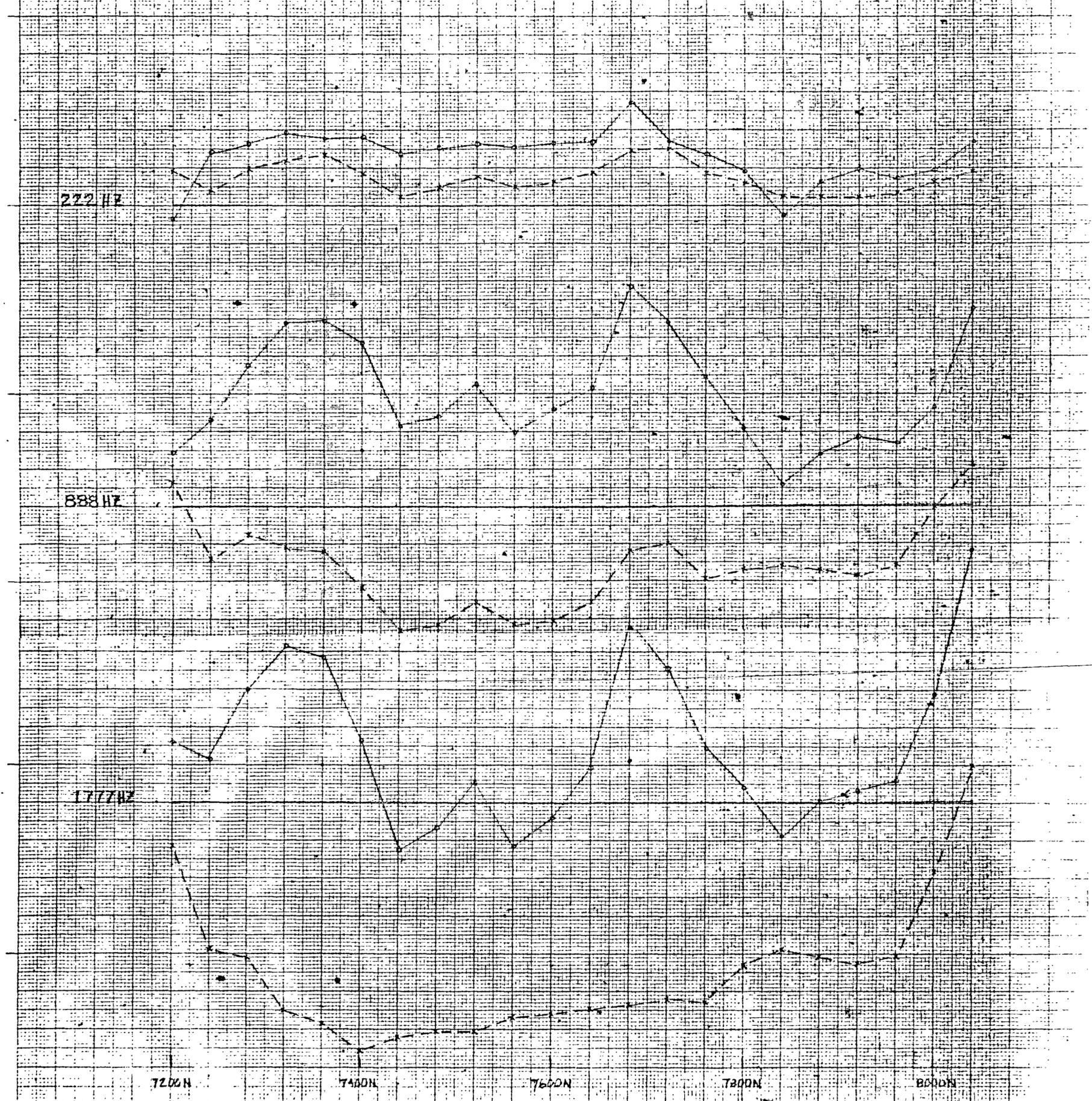


SAVAGE RIVER MAX-MIN SURVEY

FOR D. MCKENNA (85-1305) 12/3/81

GRID 4, LINE 3 (7240E)

ANOMALY 21 G

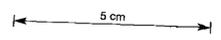


LEGEND

- IN-PHASE
- x-x- QUADRATURE

SCALE 1:2500 Dwg No
1.6cm: 10% 4-17

COIL SEPARATION = 160cm

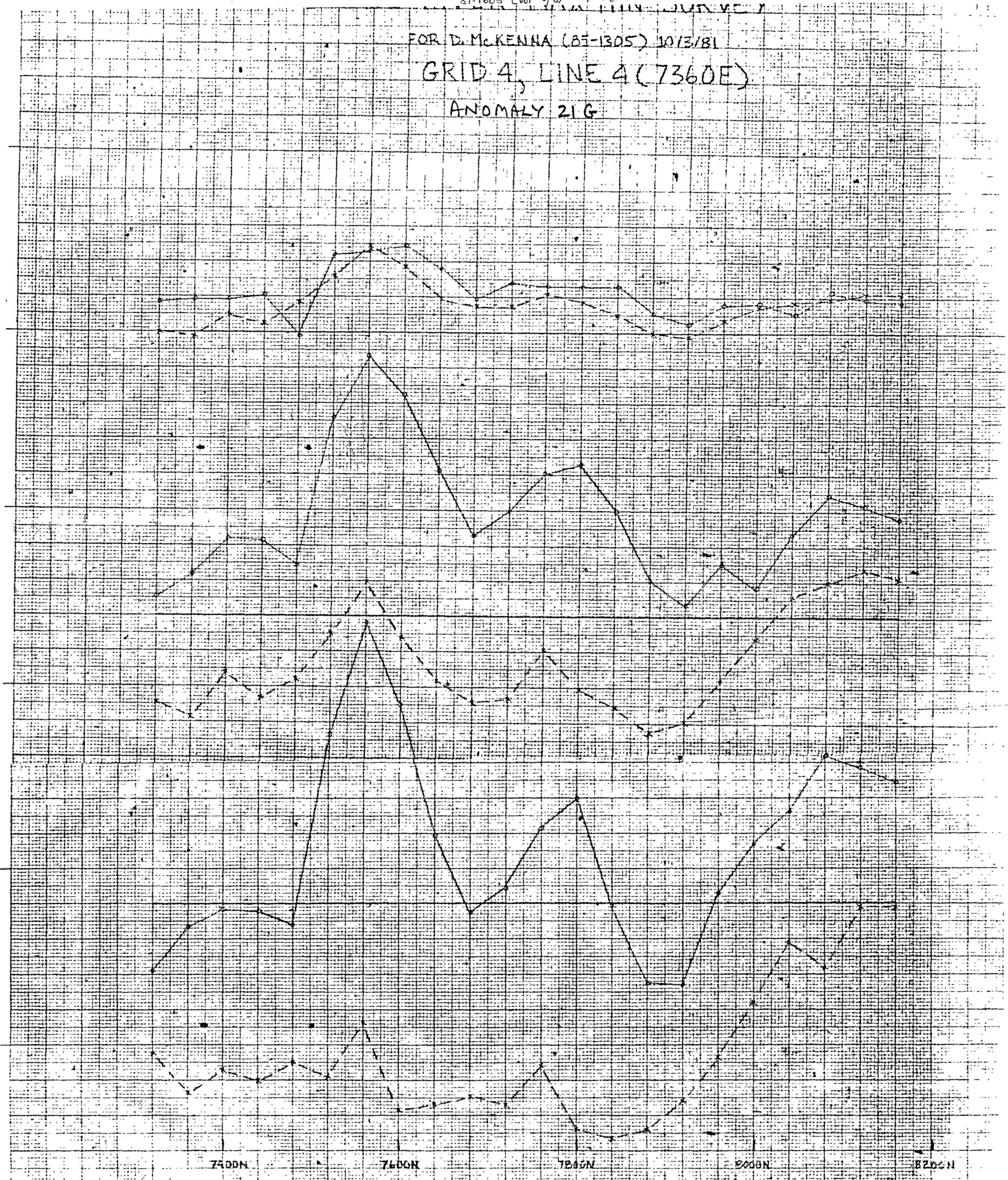


81-1605 (Vol 6/6) 4-18

FOR D. McKENNA (85-1305) 10/13/81

GRID 4, LINE 4 (7360E)

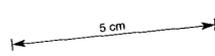
ANOMALY 21G



LEGEND

- IN-PHASE
- - - - QUADRATURE

SCALE 1:2500 Doc No 4-18
 1.6cm : 10%



SAVAGE RIVER MAX-MIN SURVEY

FOR D. McKENNA (85-1305) 8/3/81

GRID 4, LINE 5 (7480E)

ANOMALY 21G

222 Hz

888 Hz

1777 Hz

7400N

7600N

7800N

8000N

8200N

LEGEND

—○— IN-PHASE

—x—x— QUADRATURE

SCALE

1 : 2500

Dwg. No.

1.6cm : 10%

4-19

5 cm

COIL SEPARATION = 160m

