42A01SE2002 2.18095 OTTO

010

2.18095

42A01SE2002 2.18095 OTTO

010C

ASSESSMENT REPORT: EBY WEST & OTTO TP PROPERTIES

Douglas Robinson

A. INTRODUCTION 1

B. PROJECT LOCATION (Figure 1) 1
Eby West Property 1
Otto Township Property 1

C. PROPERTY 2
Eby West Property (Figure 2a) 2
Otto Township Property (Figure 2b) 2

D. ACCESS (Figure 1) 3
Eby West Property 3
Otto Township Property (Amikougami Creek) 3

E. REGIONAL GEOLOGY 3
Eby West Property (Figures 2a & 3a) 3
Otto Township Property (Figures 2b & 3b) 4

F. PROSPECTING TARGETS 4

G. SUMMARY OF PREVIOUS WORK 5
Eby West Property 5
Otto Township Property 5

H. TYPE AND AMOUNT OF PROSPECTING-EXPLORATION WORK 6
Eby West Property 6
Otto Township Property 6

I. LINE CUTTING 7
Eby West Property 7
Otto Township Property 7
Lines List: Eby West Grid and Otto Township Grid 7

J. MaxMin HORIZONTAL LOOP EM SURVEY 9
Eby West and Otto Township Properties 9
EM Traverse List: Eby West Property 10
EM Anomaly LIST: Eby West Property 11
Otto Township 17
EM Traverse List: Otto Township Property. 17
EM Anomaly List: Otto Township Property 18

K. MAGNETIC SURVEY 20
Magnetic Traverse List: Eby West Property 21
Magnetic Traverse List: Otto Township Property 22

L. GEOLOGICAL SURVEY 22
Eby West Property 22
Otto Township Property 23

M. RECOMMENDATIONS 25
Eby West Property 25
Otto Township Property 25

N. LIST OF REFERENCES 26
EBY TOWNSHIP 26
OTTO TOWNSHIP 27

FIGURES

Figure 1. General Location of Claim Group
Showing Major Breaks; 1:50 000

Figure 2a. Claim Map Eby Township; Scale 1:20000

Figure 2b. Claim Map Otto Township; Scale 1:20000

Figure 3a. Geology Eby Township; P.448; Scale 1:20000

Figure 3b. Geology Otto Township; P.501; Scale 1:20000

Figure 3c. General Geology; Legend
Eby Twp. Map P.448 & Otto Twp Map P.501

MAPS

GEOLOGY EBY WEST GROUP Scale 1:1000. (Lines 12-22W)

GEOLOGY EBY WEST GROUP Scale 1:1000. (Lines 22-32W)

GEOLOGY EBY WEST GROUP Scale 1:1000. (Lines 32-42W)

GEOLOGY EBY WEST GROUP Scale 1:1000. (Lines 24-31W north sheet)

COMPILATION EBY WEST PROPERTY (Magnetic and EM Anomalies)
Scale 1:5000

GEOLOGY AMIKOUGAMI CREEK PROERTY (Otto Tp. Scale 1:1000,
(Lines 21-31)

888 Hz. MaxMin EBY WEST GROUP Scale 1:2000. (Lines 14-28)
3555 Hz. MaxMin EBY WEST GROUP Scale 1:2000. (Lines 14-28)
888 Hz. MaxMin EBY WEST GROUP Scale 1:2000. (Lines 29-39)
3555 Hz. MaxMin EBY WEST GROUP Scale 1:2000. (Lines 29-39)

888 Hz. MaxMin AMIKOUGAMI CREEK PROPERTY Scale 1:2000.
3555 Hz. MaxMin AMIKOUGAMI CREEK PROPERTY Scale 1:2000.

APPENDICES.

Eby West Grid.

MaxMin II EM Profile Eby West 34+00W.
MaxMin II EM Profile Eby West 39+00W.
MaxMin II EM Profile Eby West 38+00W.
MaxMin II EM Profile Eby West 37+00W.
MaxMin II EM Profile Eby West 36+00W.
MaxMin II EM Profile Eby West 35+00W.
MaxMin II EM Profile Eby West 34+00W.
MaxMin II EM Profile Eby West 33+00W.
MaxMin II EM Profile Eby West 32+00W.
MaxMin II EM Profile Eby West 31+00W.
MaxMin II EM Profile Eby West 30+00W.
MaxMin II EM Profile Eby West 29+00W.
MaxMin II EM Profile Eby West 28+00W Part 1 of 2.
MaxMin II EM Profile Eby West 28+00W Part 2 of 2.
MaxMin II EM Profile Eby West 27+00W Part 1 of 2.
MaxMin II EM Profile Eby West 27+00W Part 2 of 2.

1996 Magnetic Surveys
Magnetic Total Field Strength Eby West: Line 39+00W.
Magnetic Total Field Strength Eby West: Line 38+00W.
Magnetic Total Field Strength Eby West: Line 37+00W.
Magnetic Total Field Strength Eby West: Line 36+00W.
Magnetic Total Field Strength Eby West: Line 35+00W.
Magnetic Total Field Strength Eby West: Line 34+00W.
Magnetic Total Field Strength Eby West: Line 33+00W.
Magnetic Total Field Strength Eby West: Line 32+00W.
Magnetic Total Field Strength Eby West: Line 31+00W.
Magnetic Total Field Strength Eby West: Line 30+00W.
Magnetic Total Field Strength Eby West: Line 29+00W. 1996

1995 Magnetic Surveys
Eby West Grid - Line 29+00W. Total FIELD STRENGTH,
57000-65000 Gammas
Eby West Grid - Line 29+00W. Total FIELD STRENGTH
Eby West Grid - Line 28+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 28+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 27+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 27+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 26+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 26+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 25+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 25+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 24+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 24+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 23+00W. Total FIELD STRENGTH
Eby West Grid - Line 22+00W. Total FIELD STRENGTH
Eby West Grid - Line 21+00W. Total FIELD STRENGTH
Eby West Grid - Line 20+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 20+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 19+00W. Total FIELD STRENGTH, 000N-1000N

Eby West Grid - Line 19+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 18+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 18+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 17+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 17+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 16+00W. Total FIELD STRENGTH, 000N-1000N
Eby West Grid - Line 16+00W. Total FIELD STRENGTH, 500S-500N
Eby West Grid - Line 15+00W. Total FIELD STRENGTH,
Eby West Grid - Line 14+00W. Total FIELD STRENGTH, 1200S-200S
Eby West Grid - Line 14+00W. Total FIELD STRENGTH, 500S-500N

1995 and 1996 Magnetic Surveys
Eby West Grid - Line 4+00S. Total FIELD STRENGTH
Eby West Grid - Base Line 0+00N. Total FIELD STRENGTH, 5600W-2800W
Eby West Grid - Base Line 0+00N. Total FIELD STRENGTH, 2900W-1400W
(57000-64000 Gammas)
Eby West Grid - Base Line 0+00N. Total FIELD STRENGTH, 2900W-1400W
Eby West Grid - Line 4+00N. Total FIELD STRENGTH
Eby West Grid - Line 7+50N. Total FIELD STRENGTH
Eby West Grid - Line 8+00N. Total FIELD STRENGTH

Otto Township Grid
MaxMin II EM Profile Otto Tp 47+85E.
MaxMin II EM Profile Otto Tp 49+00E.
MaxMin II EM Profile Otto Tp 50+00E.
MaxMin II EM Profile Otto Tp 51+00E.
MaxMin II EM Profile Otto Tp 52+00E.
MaxMin II EM Profile Otto Tp 53+30E.

Magnetic Total Field Strength Otto Tp. Line 47+85E.
Magnetic Total Field Strength Otto Tp. Line 48+50E.
Magnetic Total Field Strength Otto Tp. Line 49+00E.
Magnetic Total Field Strength Otto Tp. Line 49+50E.
Magnetic Total Field Strength Otto Tp. Line 50+00E.
Magnetic Total Field Strength Otto Tp. Line 50+50E.
Magnetic Total Field Strength Otto Tp. Line 51+00E.
Magnetic Total Field Strength Otto Tp. Line 52+00E.
Magnetic Total Field Strength Otto Tp. Line 53+30E.
Magnetic Total Field Strength Otto Tp. Line 54+00E.
Magnetic Total Field Strength Otto Tp. Line 55+00E.
Magnetic Total Field Strength Otto Tp. Line 56+00E.
Magnetic Total Field Strength Otto Tp. Line 0+00N Base Line.
Magnetic Total Field Strength Otto Tp. Line 4+00S Tie Line.
Magnetic Total Field Strength Otto Tp. Line 8+50S Tie Line.

Assay Certificates
MaxMin Specifications
Magnetometer specifications

A. INTRODUCTION

This program was funded by OPAP grants OP95-289 and OPG 96-227. Line-cutting, geological mapping, a magnetometer survey, a MaxMin EM survey and preparation of this technical report were performed on the Eby West property in Eby Tp. and the Amikougami Creek property in Otto Tp. Douglas Robinson, the author of this report, and David Robinson supervised the field work which was between May 4, 1995 and February 24, 1997.

The geophysics and geological mapping were conducted to define target areas for advanced gold exploration on both properties. EM conductors identified on the Eby West property represent potential structures that could host gold deposits. Several EM conductors associated with felsic volcanics of the Amikougami Creek property represents both potential volcanogenic base metal targets and gold targets.

B. PROJECT LOCATION (Figure 1)

Eby West Property

This property consists of 22 claims totalling 36 claim units in lots 6 to 11 in Concessions IV and V of Eby Township (Plan # M-345) of the Larder Lake Mining Division. This property is located at Latitude 48°04'00" and Longitude 80°14'00" (UTM Zone: 531824N, 574057E). "Figure 2a. Claim Map", and "Figure 3a. Geology Otto Township" provide additional information regarding location.

Otto Township Property

This property consists of 9 claims totalling 25 claim units in lots 6 to 11 in Concession V of Otto Township (Plan # M-379) of the Larder Lake Mining Division. This property is located at Latitude 48°05'00" and Longitude 80°08'00". "Figure 2b. Claim Map", and "Figure 3b. Geology Eby Township" provide additional information regarding location.

C. PROPERTY

Eby West Property (Figure 2a)
The Eby Township property includes the following 20 claims comprising 34 claim units.

1205781 - NW 1/4 of N 1/2 of Lot 6, Conc IV, Eby Tp (1 unit)
1205782 - NE 1/4 of N 1/2 of Lot 7, Conc IV, Eby Tp (1 unit)
1205783 - NW 1/4 of N 1/2 of Lot 7, Conc IV, Eby Tp &
- NE 1/4 of N 1/2 of Lot 8, Conc IV, Eby Tp (2 unit)
1205784 - NE 1/4 of S 1/2 of Lot 8, Conc V, Eby Tp (1 unit)
1205787 - NW 1/4 of N 1/2 of Lot 8, Conc IV, Eby Tp (1 unit)
1205788 - NW 1/2 of N 1/2 of Lot 9, Conc IV, Eby Tp (2 unit)
1205789 - S 1/2 of S 1/2 of Lot 9, Conc V, Eby Tp (2 unit)
1205790 - N 1/2 of N 1/2 of Lot10, Conc IV, Eby Tp (2 unit)
1205791 - N 1/2 of N 1/2 of Lot11, Conc IV, Eby Tp (2 unit)
1205792 - S 1/2 of N 1/2 of Lot11, Conc IV, Eby Tp (2 unit)
1205793 S 1/2 of N 1/2 of Lot10, Conc IV, Eby Tp (2 unit)
1205794 - S 1/2 of N 1/2 of Lot 9, Conc IV, Eby Tp (2 unit)
1205795 - S 1/2 of N 1/2 of Lot 8, Conc IV, Eby Tp (2 unit)
1205796 - S 1/2 of N 1/2 of Lot 7, Conc IV, Eby Tp (2 unit)
1205797 - S 1/2 of Lot 6, Conc IV, Eby Tp (4 unit)
1205798 - S 1/4 of N 1/2 of Lot 6, Conc IV, Eby Tp (2 unit)
1205799 - NW 1/4 of S 1/2 of Lot10, Conc IV, Eby Tp (1 unit)
1205800 - SW 1/4 of S 1/2 of Lot10, Conc IV, Eby Tp (1 unit)
1202474 - NW 1/4 of S 1/2 of Lot 7, Conc IV, Eby Tp (1 unit)
1202479 - SW 1/4 of S 1/2 of Lot 7, Conc IV, Eby Tp (1 unit)

The work was performed on claims 1205783, 1205784, 1205787, 1205788, 1205789, 1205790, 1205793 and 1205794, 125795 and 1205796 (Figure 2a).

Otto Township Property (Figure 2b)
The Otto Township property includes 9 claims comprising 25 claim units. The work was performed on the following two claims:
1206408 - N 1/2 of S 1/2 of Lot 11, Conc V, Otto Tp (2 unit)
1206295 - SW 1/4 of S 1/2 of Lot 11, Conc V, Otto Tp (1 unit)

Joseph Horne, co-holder of this property, extended the grid to the east and conducted similar OPAP funded exploration.

D. ACCESS (Figure 1)

Eby West Property

To access the Eby Township property, travel south 4.0 km along Highway 66 from the intersection with Highway 11. Turn right onto the West Road and proceed west. The best points of access are located 3.0 and 4.6 km west of Highway 66. At 3.0 km west of Highway 66 an old logging road accesses the east end of the grid. At 4.6 km west of Highway 66, a dry forest access road to the north gives excellent access across the west end of the property. This road was flagged to the 56+00E of the 0+00N base line. An old winter access road (wet) provides foot access to the central portion of the grid.

Otto Township Property (Amikougami Creek)

To access the Otto Township property, travel south 3.2 km along the Otto Township #1 Road. Park on the straight stretch of road beside a field on the east side of the road. This place is located in the east end of the proposed exploration area.

E. REGIONAL GEOLOGY

Eby West Property (Figures 2a & 3a)

Stratigraphically the project area falls within the Kinojevis Group which consists mainly of Mg-rich and Fe-rich tholeiitic basalt lavas with some tholeiitic dacite and rhyolite towards the top of the group.

Structurally the project falls within the projection of Larder Lake-Kirkland Lake Deformation Zone which consists of a series of east trending breaks with associated Fe-carbonate alteration. These breaks and associated alteration zones appear to extend from beneath Lake Kenogami to the linear swamp along the concession IV-V line. This area is along the projection of a strong break identified during 1994 OPAP mapping of the Reed and Robinson properties 1.6 to 4 km east of the junction of Highway 11 and Highway 66. At that location a series of east trending alteration zones and a series of crosscutting south east trending alteration zones are associated with a strong

deformation zone identified. These alteration and deformation zones appear to project from south of Vigrass Lake in Otto Township though the midpoint of Lot 2 Concession VI Eby Township to the swamp along the northern portion of this property.

Otto Township Property (Figures 2b & 3b)

Stratigraphically the project area falls within the Larder Lake Group volcanics and older Skead Group volcanics south of the Larder Lake Group. The Larder Lake Group is mainly ultramafic and basaltic komatiite and Mg-rich tholeiitic basalt with minor Fe-rich tholeiitic and calcalkalic basalt and andesite. Calcalkalic dacite and rhyolite tuff are near the base. Stratigraphically below and to the south is the Skead Group consisting of mainly coarse fragmental calcalkalic basalt, andesite, dacite and rhyolite. The younger Temiskaming Group volcanics and sediments are located north of the property. The Temiskaming group is comprised of mafic to felsic trachyte volcanics and wacke, arkose and siltstone sediments. South of the property is the Otto Stock syenite.

Structurally the north part of the grid falls at the south edge of the Larder Lake-Kirkland Lake deformation zone. This zone consists of a series of east trending breaks with associated Fe-carbonate alteration. These deformation zones extend from the Blanche River 2800 meters to the north, to the north edge of the grid were the associated alteration was identified during mapping in 1996.

F. PROSPECTING TARGETS

The expected gold targets could be hosted in wide alteration/deformation zones or narrow high grade vein deposits within narrow alteration zones. The deposits associated with the Larder Lake Main Break are commonly associated with alteration/deformation zones parallel to or splaying off the Larder Lake Break. For example, the high grade vein deposits at Kirkland Lake are associated with the Kirkland Lake Break to the north of the Larder Lake Break. Sulphide contents of expected deposits could range from minor disseminated pyrite to massive sulphides.

The Otto Tp. grid is also targeted for Base Metal exhalite deposits associated with felsic volcanics and volcano-clastic sediments.

G. SUMMARY OF PREVIOUS WORK

Eby West Property

Prior to 1985 very little assessment work was recorded on this property. A few test pits and possibly a drill hole are present on the east end of the property. The only systematic work done on the property was done in 1985 by Mary Ellen Resources. At this time a metric grid having a 100 m line spacing with pickets established at 25 m was cut. VLF and magnetometer surveys at 25 m station intervals and geological mapping were performed. The bulk of the detailed work was performed on the ground to the north along the then known deformation zone cutting the south east bay of Kenogami Lake.

This property lay dormant from 1985 to 1995 at which time the author staked the ground when it came open. In 1995 the author initiated mapping and geophysics over the central portion of the property.

Otto Township Property

KL-0235 is the only assessment file relating to this proposed area of exploration in Otto Township. This file documents trenching to the south and a single trench to the west of the claim group. No geological mapping or assays relating to this assessment work are recorded. This report made reference to a rhyolite outcrop at the extreme north west corner of the claim group. This rhyolite was identified 400 metres to the south at 4+55S of Line 47+85E. Work done by Minorex Ltd. was done far to the east of the area explored.

H. TYPE AND AMOUNT OF PROSPECTING-EXPLORATION WORK

Eby West Property

In 1995 23.964 line km of grid with line spacing of 100 m was cut to control detailed geological mapping and associated hand stripping, a magnetometer survey and a MaxMin EM survey. Lines were cut by Douglas Robinson, David Robinson and Graham Robinson. All mapping was performed by the author. A 23.900 km magnetometer survey was performed by Douglas Robinson, David Robinson and Graham Robinson December 18-22, 1995. David Robinson and Graham Robinson performed 16.250 km of MaxMin survey July 28-Aug 3, 1995.

In 1996 an additional 7.274 km of grid was cut prior to detailed geological mapping, a gradiometer magnetometer survey and an EM survey. A 7.025 km high density magnetometer survey was done with readings recorded at approximately 1 metre intervals. A 7.900 km MaxMin EM survey was performed using two frequencies to identify and to distinguish between shear related and sulphide/graphite related conductors. Detailed geology, and hand stripping were also conducted on the area covered by the cut grid.

Otto Township Property

In 1996 a metric grid totalling 9.932 km, detailed geological mapping, gradiometer magnetometer surveys and EM surveys were performed. 9.975 km of high density magnetometer surveying was done with readings recorded at approximately 1 metre intervals. 5.600 km of MaxMin EM surveying was performed using two frequencies to identify and to distinguish between shear related and sulphide/graphite related conductors. Geology, lithological sampling, gold sampling and hand stripping were also conducted on the area covered by the cut grid.

I. LINE CUTTING

Eby West Property

In 1995 a metric grid totalling 23.964 line km; with line spacing of 100 m and a 25 m picket interval, was cut to control detailed geological mapping hand stripping, a magnetometer survey and a MaxMin EM survey. Lines were cut by Timothy Fielding, David Robinson and Graham Robinson. In 1996 this grid was extended by 9.932 km with line spacing of 50 m and 25 m station interval was cut by David Robinson, Timothy Fielding, Graham Robinson, Barry Deibel-Gilmour and Canadian Gems and Minerals. This grid is the westward extension of a grid cut during 1995.

Otto Township Property

A 7.274 km of metric grid with line spacing of 50 m and 25 m station interval was cut by David Robinson, Timothy Fielding and Graham Robinson. The east coordinates of this grid were established to be roughly equivalent to the Allsopp grid directly to the north and the Reed-Robinson grid 800 meters to the north. The base line was spotted at a 1 inch square iron bar located at the northeast corner of claim 1206408. This base line ended 1.5 metres north of the square iron bar at the north west corner of the same claim. Lines 47+85E and line 52+00E both ended within two metres of 1 inch square iron bars located at the south corners of claim 1206295. The grid was extended north to the south tie line of the Allsopp grid. This was done with permission from Mr Allsopp for the mutual benefit of the author and Mr Allsopp. The intercept coordinates of the Allsopp grid are recorded along the north edge of the geology map.

Lines List: Eby West Grid and Otto Township Grid

Grid	Line	From	To	Length
1995				
Eby W	14+00W	1189S	425N	1614
Eby W	15+00W	400S	450N	850
Eby W	16+00W	425S	825N	1250
Eby W	17+00W	425S	825N	1500
Eby W	18+00W	425S	825N	1250

Eby W	19+00W	425S	825N	1250
Eby W	20+00W	425S	825N	1250
Eby W	21+00W	425S	450N	875
Eby W	22+00W	425S	450N	875
Eby W	23+00W	425S	450N	875
Eby W	24+00W	450S	850N	1300
Eby W	25+00W	450S	875N	1325
Eby W	26+00W	450S	875N	1325
Eby W	27+00W	475S	800N	1275
Eby W	28+00W	475S	750N	1225
Eby W	29+00W	000N	800N	800
Eby W	4+00S TL	1400W	2975W	1575
Eby W	0+00N BL	1400W	2900W	1500
Eby W	4+00N TL	1400W	2950W	1550
Eby W	7+50N BL	2400W	2900W	500
			Total	23964

1996

Eby W	3000W	800N	000N	800
Eby W	3100W	800N	000N	800
Eby W	3200W	400N	000N	400
Eby W	3300W	400N	000N	400
Eby W	3400W	380N	000N	380
Eby W	3500W	375N	000N	375
Eby W	3600W	375N	000N	375
Eby W	3700W	372N	000N	372
Eby W	3800W	372N	000N	372
Eby W	3900W	400N	000N	400
Eby W	0000N	4500W	3100W	1400
Eby W	0400N	3900W	2900W	1000
Eby W	0800N	3100W	2900W	200
Otto	4800E	089N	850S	939
Otto	4850E	089N	425S	514
Otto	4900E	093N	850S	943
Otto	4950E	090N	425S	515
Otto	5000E	087N	850S	937
Otto	5050E	088N	425S	513
Otto	5100E	050N	850S	900
Otto	5200E	050N	830S	880
Otto	5300E	000N	425S	425
Otto	5400E	000N	425S	425

Otto	5500E	000N	425S	425
Otto	5600E	000N	475S	475
Otto	000N	5600W	4785W	815
Otto	0400S	5600W	4775W	825
Otto	0800S	5201W	4800W	401
TOTAL				17206 Metres

Eby West Total 1995 23.964 Km.
Eby West Total 1996 7.274 Km.
(31.238)Km.

Otto Tp. Total 1996 9.932 Km.
Total 41.270 Km.

J. MaxMin HORIZONTAL LOOP EM SURVEY

Eby West and Otto Township Properties

Metric grids with a 100 metre line spacing and 25 m station interval were used for positional control during this survey. The MaxMin EM survey was directed to locating the surface trace and character of conductive formations within the grid area. Frequencies 3555 and 888 Hz were selected to identify structurally related and sulphide/graphite conductive sources.

Terrain corrections were performed by recording a running average slope of four station intervals. The coils were maintained coplanar using the average slopes determined in the field during the traverses.

A separate data profile sheet was plotted for each line. Each sheet records the terrain profile, In Phase response (IP), and Quadrature Phase (QP) response for both frequencies. This presentation was used to facilitate interpretation of the multi-frequency data and to allow easy reproduction using standard xerox machines. The profiles were plotted at 1:2500 scale and Xerox reduced for enclosure in this report. These data profile sheets can be reproduced at 1:2500 scale by xeroxing at 1.55 times.

EM Traverse List: Eby West Property

Line Number	Survey Limits		Traverse Length Metres
1995			
14+00W	1175S	475N	1650
15+00W	475S	500N	975
16+00W	450S	875N	1325
17+00W	450S	875N	1325
18+00W	450S	875N	1325
19+00W	450S	875N	1325
20+00W	450S	875N	1325
21+00W	450S	500N	950
22+00W	475S	500N	975
23+00W	450S	475N	925
24+00W	475S	875N	1350
25+00W	500S	925N	1425
26+00W	450S	925N	1375
13 lines		Total	16250 m
1996			
27+00W	450S-750N		1200
28+00W	450S-750N		1200
29+00W	000N-800N		800
30+00W	000N-800N		800
31+00W	000N-800N		800
32+00W	000N-400N		400
33+00W	000N-400N		400
34+00W	000N-375N		375
35+00W	000N-375N		375
36+00W	000N-375N		375
37+00W	000N-400N		400
38+00W	000N-375N		375
39+00W	000N-400N		400
13 Lines	Total		7900 m
Total 26 lines			24.150 km

The anomalies listed and described below were dominantly 3555 Hz responses with little or no 888 Hz response. This indicates these responses are caused by structural features, possibly including shears/breaks, and resistivity contrast at the contacts between resistive rocks and less resistive rocks.

These features may host non conductive disseminated sulphides that commonly host Au deposits in and near the Larder Lake-Kirkland Lake Break. Of particular interest are the possible contacts between resistive silicification/Fe-carbonate alteration and less resistive sometimes fractured rock adjacent to this alteration. Shears and breaks associated with this favourable alteration are also targeted as 3555 hz responses.

EM Anomaly LIST: Eby West Property

IP = In phase response
QP = Quadrature phase response.

Line Number	Anomaly Number	Anomaly Description
14+00W	1400W-1050S	3555 QP>IP. Probably broad structure with possible sulphides or graphite.
	1400W-882S	3555 & 888 IP. Response on the north edge of a strong magnetic high (possible short cable). Strong QP & IP responses between 1100S and 950S indicate lines should run 50 metres on either side of this line.
	1400W-345N	3555 QP. Probably a strong structure in mag low.
15+00W	1500W-365N	888 IP in mag low. Possible weak sulphides or graphite associated with structure at 385N. Good exploration target to drill from south.
	1500W-385N	3555 QP. Probable structure at south edge of a prominent mag high in deep overburden.
16+00W	1600W-175S	3555 QP from 100S to 175S in mag low in swamp, possible north trending structure.
	1600W-028S	3555 QP? at north edge of mag high in swamp, possible north

			trending structure.
	1600W-040N	3555	QP? in mag low in swamp, possible north trending structure.
	1600W-337N	888	IP>QP. Possible weak sulphides or graphite at the north edge of a mag high..
	1600W-400N	3555	QP (strong). Probable strong structure at south edge of mag high.
	1600W-687N	3555	QP? in narrow break in a mag high. Possible structure or contact.
17+00W	1700W-025S	3555	QP (very weak). Possible north contact of a magnetic flow.
	1700W-409N	3555	QP. 275-409N broad conductive zone with subdued mag probably in deep overburden.
	1700W-715N	3555	QP (very weak) in mag low (probably tuff or sediment)
18+00W	1800W-420N	3555	QP (strong & wide). Probable strong structure in mag low. Drill target.
19+00W	1900W-028S	888	QP (weak) in flat mag low. (possible wide weak sulphides).
	1900W-425N	3555	QP in flat mag low. Probable structure and alteration.
20+00W	2000W-062S	3555	QP?(very weak) in mag low.
	2000W-300N	3555	QP at south edge of deep conductive overburden and on north edge of mag high.
	2000W-465N	3555	QP. Probable strong structure in narrow mag low.
21+00W	2100W-335S	3555	QP>IP in flat mag low. Possible weak sulphides or weak structure.

	2100W-250N	3555 QP. Probable contact at south edge of mag high.
	2100W-300N	3555 QP. Strong. 888 IP. Possible sulphides from in structure in mag low. Possible drill target.
22+00W	2200W-214S	3555 QP? (Very weak) in mag low south of mag high.
	2200W-025S	3555 QP? (Very weak) in mag low south of mag high. Probable contact.
	2200W-375N	888 IP at edge between mag high to south and narrow mag low.
	2200W-416N	3555 QP at narrow break in mag high.
23+00W	2300W-282S	888 IP at south edge of mag high. Possible sulphides or graphite. Should be verified.
	2300W-215N	3555 QP (very weak) at north edge of a mag high.
	2300W-150N	888 IP? in narrow mag low north of a mag high. Probable tuff bed or sediment.
24+00W	2400W-192S	888 IP in low relief mag.
	2400W-050S	3555 QP in south portion of a broad mag high with moderately deep source.
	2400W-115N	888 IP in a break of a near surface mag high response. A possible weak sulphides or graphite source.
	2400W-160N	3555 QP in a break of a near surface mag high response.
	2400W-665N	3555 QP (strong). Probable strong structure in an area of flat mag (possible alteration).
	2400W-774N	3555 QP (strong). Probably a structure in a mag low (possible alteration).

25+00W	2500W-266S	3555	QP (weak) in a narrow mag low.
	2500W-050N	3555	& 888 IP? (weak, should be verified).
	2500W-502N	3555	& 888 IP? at south edge of mag high. Possible weak sulphides or graphite.
	2500W-616N	3555	QP>IP & weak 888 IP. Probable structure and alteration with possible minor sulphides or graphite.
	2500W-700N	3555	QP>IP & weak 888 IP. Probable structure and alteration with possible minor sulphides or graphite.
	2500W-786N	3555	QP>IP & weak 888 IP. Possible structure and possible minor sulphides or graphite.
26+00W	2600W-150S	3555	QP at break in mag high.
	2600W-000N	3555	QP (moderate) in 50 m wide mag low.
	2600W-343N	888	IP either in minor break of mag high or within mag high.
	2600W-410N	3555	QP. Possible strong structure in 25-30 m. wide mag low.
	2600W-475N	3555	QP. Possible strong structure in mag low.
	2600W-561N	3555	QP? in minor break in mag high.
	2600W-750N	888	IP=QP. Possible sulphides or graphite in alteration marked by mag low (exploration target).
	2600W-775N	3555	QP. Possible structure in alteration marked by flat mag.
	2600W-825N	3555	QP. Possible structure in alteration marked by flat mag.
27+00W	2700W-400S	3555	QP IP? Possible short cable affect at start of line). Possible deep overburden.
	2700W-175S	888	Very weak IP at south edge of mag low. Possible weak sulphides or graphite.

	2700W-150S	3555	QP at north edge of mag low. Possible contact of structure.
	2700W-350N	3555	IP at 40 m wide mag low.
		888	IP. This response should be verified by resurveying.
	2700W-410	3555	Broad QP at south edge of mag high. Possible south contact of magnetic body and possible response at north edge of same body.
28+00W	2800W-175S	3555	QP>IP in narrow mag low. Possible contact. Low priority target.
	2800W-012S	3555	IP >QP.
		888	IP>QP at a break in an extreme mag high. Possible topographical affect. Line should be resurveyed with and rechained in area of anomaly.
	2800W-385N	3555	IP=QP on south edge of mag high (in area of deep overburden).
		888	Very weak QP. Possible strong break. Exploration target.
	2800W-575N	3555	QP>IP in narrow mag low with broad mag low. MEDIUM PRIORITY TARGET.
29+00W	2900W-387N	3555	Broad QP at south edge of mag low.
	2900W-550N	3555	Broad QP in mag low. Possible southeast trending alteration zone or break. HIGH PRIORITY TARGET.
30+00W	3000W-050N	3555	QP at south edge of an extreme mag high. Profile incomplete.
	3000W-600N	3555	QP in mag low. Possible southeast trending alteration zone or break. PRIORITY TARGET.
31+00W	3100W-114N	3555	QP in extreme mag high response.
	3100W-275N	3555	IP=QP at north edge of mag low.
		888	Weak IP>QP. Possible alteration zone or break. Possible sulphides. HIGH PRIORITY TARGET.

	3100W-460N	3555	Possible IP in mag low Possible alteration.
	3100W-685N	3555	Strong QP>IP in mag low.
		888	Very weak QP. Possible southeast trending alteration zone or break. HIGH PRIORITY TARGET.
32+00W	3200W-237N	3555	Broad Qp>IP at south edge of mag high. Possible contact. Possible QP response at 385N at north contact of same body.
33+00W	3300W-150N	3555	Possible weak QP at south edge of mag high Possible contact.
34+00W	3400W-100N	3555	Very weak QP in mag low Possible alteration zone or break. LOW PRIORITY TARGET.
	3400W-350N	3555	Possible weak QP at south edge of mag low. Possible alteration zone or break.
35+00W	3500W-100N	3555	QP>IP in mag low.
		888	Weak QP. Possible alteration zone or break. MEDIUM PRIORITY TARGET.
	3500W-325N	3555	Strong QP>IP in mag low.
		888	Weak QP. Possible alteration zone or break. MEDIUM PRIORITY TARGET.
36+00W	3600W-150N	3555	Strong IP=QP in mag low. Possible alteration zone or break. MEDIUM PRIORITY TARGET.
	3600W-350	3555	Possible IP=QP on north edge of mag low. Profile not complete. Possible alteration zone or break. MEDIUM PRIORITY TARGET.
37+00W	3700W-263N	3555	IP on south edge of broad mag low. Possible alteration zone or break.

			MEDIUM PRIORITY TARGET.
38+00W	3800W-190N	3555	Strong IP=QP on north edge of mag low.
		888	Very weak IP Possible alteration zone or break. Possible weak sulphides or graphite. HIGH PRIORITY TARGET.
39+00W	3900W-190N	3555	Weak QP on south flank of mag high. Probable contact.
	3900W-350N	3555	IP=QP In mag low. Possible alteration zone or break. MEDIUM PRIORITY TARGET.

Otto Township

EM Traverse List: Otto Township Property.

Line Number	Survey Limits	Traverse Length Metres
47+85E	850S-075N	925
49+00E	850S-075N	925
50+00E	825S-075N	950
51+00E	825S-050N	875
52+00E	675S-050N	725
53+30E	400S-000N	1200
6 Lines	Total	5600 Metres

The anomalies listed and described below included anomalies that are dominantly 3555 Hz responses with little or no 888 Hz response. This indicates these responses are caused by structural features, possibly including shears/breaks, and resistivity contrast at the contacts between resistive rocks and less resistive rocks. These features may host non conductive disseminated sulphides that commonly host Au deposits in and near the Larder Lake-Kirkland Lake Break. Of particular interest are the possible contacts between resistive silicification/Fe-carbonate alteration and less resistive sometimes fractured rock adjacent to this alteration. Shears

and breaks associated with this favourable alteration are also targeted as 3555 hz responses.

Also encountered were several responses that were moderate to strong at 888 Hz in addition to at 3555 hz. These appear to be caused by strong sulphide mineralization and/or graphite. The high incidence of sulphides on the property suggests these are sulphide caused anomalies.

EM Anomaly List: Otto Township Property

IP = In phase response
QP = Quadrature phase response.

Line Number	Anomaly Number	Anomaly Description
47+85E	4785E-613S	3555 IP>QP. 888 IP=QP. Probably sulphides or graphite subcropping under clay overburden. Associated mag high indicates pyrrhotite may be part of the source.
49+00E	4900E-675S	3555 QP. Source probably structure on strike with anomaly 5000E-628S to the east.
	4900E-525S	3555 Strong IP=QP. 888 Weak QP. Source probably strong structure with possible sulphides.
	4900E-090S	3555 IP. 888 IP. Possible short cable affect. Lines 48+50E and 49+50 east should be surveyed and this line should be checked
50+00E	5000E-628S	3555 Strong IP>QP. 888 Strong IP>QP. Strong conductor, probably sulphides +/- graphite. Strong magnetic response indicates

			pyrrhotite probably part of the source. PRIORITY TARGET
	5000E-437S	3555 888	Moderate IP=QP. Moderate IP>QP. Probably structurally related to south contact of felsic unit 4r. The north contact of this unit may also have a weak response at 325-375S.
51+00E	5100E-616S	3555 888	Strong IP>QP. Moderate IP>QP. Moderately strong conductor, probably structure with minor and/or disseminated sulphides on strike with conductor 5000E-628S. Strong magnetic response indicates pyrrhotite probably part of the source.
	5100E-265S	3555 888	Strong QP. Weak QP. Probably structurally related to north contact of felsic unit 4r. Moderate magnetic response indicates pyrrhotite probably part of the source.
52+00E	5200E-300S	888	Very weak IP. Strong magnetic response indicates pyrrhotite or magnetite are probably part of the source.
	5200E-225S	3555	Strong QP>>IP. This is probably a structurally related response.
53+30E	5330E-175S	3555 888	Strong QP>>IP. Weak QP. This is probably related to a strong structure.

K. MAGNETIC SURVEY

Data was collected in the following format:

East	North	Nt	Noise	Time	Gradient Nt/M
3801	-875	57796.5	0.16	14.184167 0	3.9
3801	-873.214	57791.9	0.11	14.184722 0	3.4
3801	-871.429	57783.2	0.11	14.185556 0	2.8
3801	-869.643	57778.3	0.11	14.186111 0	3.8
3801	-867.857	57773.3	0.11	14.186667 0	3.7
3801	-866.071	57767.1	0.11	14.187222 0	2.6
3801	-864.286	57760.2	0.10	14.187778 0	2.7
3801	-862.5	57760.4	0.09	14.188333 0	3.7

During data collection the line number was keyed in as a true coordinate ie 3800. If problems occurred that interrupted data collection, the line was resumed adding a single unit to the line number ie 3801. Gradient data was collected but not plotted at this time.

Magnetic lows are targeted as targets for gold mineralization. The probable causes of magnetic lows are:

1. Alteration including pervasive Fe-carbonate replacement of silicate rocks and silicification, both being potential hosts for secondary Au mineralization.
2. Sediment/tuff horizons which are a favourable host for a primary Au deposits.
3. Non-magnetic flows and dikes.

These three potential sources of magnetic lows will have similar signatures. In this report, the magnetic lows with EM responses are considered favourable exploration targets. EM responses located at the boundary between magnetic highs and magnetic lows are favourable as they could represent the contact between unaltered rocks and magnetite destructive alteration that may host Au deposits. The EM response would support the interpretation as the EM would respond to the resistivity contrast giving a 3555 Hz response. EM responses within magnetic lows are also exploration targets as they could reflect conductive breaks associated with magnetite destructive alteration that may host Au deposits.

Magnetic Traverse List: Eby West Property

Line Number	Survey Limits	Traverse Length Metres
1995		
14+00W	1175S-375N	1550
15+00W	400S-450N	850
16+00W	450S-850N	1300
17+00W	450S-825N	1275
18+00W	450S-825N	1275
19+00W	450S-850N	1300
20+00W	450S-850N	1300
21+00W	450S-450N	900
22+00W	450S-500N	950
23+00W	450S-475N	925
24+00W	475S-875N	1350
25+00W	475S-875N	1350
26+00W	475S-875N	1350
27+00W	450S-800N	1250
28+00W	500S-825N	1325
29+00W	000N-825N	825
4+00S TL	1400W-2975W	1575
0+00N BL	1400W-2900W	1500
4+00N TL	1400W-2950W	1550
7+50N BL	2700W-2900W	200
20 lines	Total	23900 m
1996		
29+00W	000N-400N	400
30+00W	000N-800N	800
31+00W	000N-800N	800
32+00W	000N-400N	400
33+00W	000N-400N	400
34+00W	000N-375N	375
35+00W	000N-375N	375
36+00W	025S-375N	400
37+00W	000N-400N	400
38+00W	025S-400N	425
39+00W	000N-400N	400
0+00N BL	2800W-4400W	1600
4+00N TL	3150W-2900W	250
13 Lines	Total	7025 m
TOTAL		30.925 km

Eby west has a high background magnetic field with strong magnetic relief. The strong magnetic relief appears to be related primarily to background magnetite in the volcanics. Many favourable magnetic lows were identified and are discussed in the preceding EM section of this report.

Magnetic Traverse List: Otto Township Property

Line Number	Survey Limits	Traverse Length Metres
47+85E	850S-075N	925
48+50E	425S-075N	500
49+00E	850S-075N	925
49+50E	425S-075N	500
50+00E	850S-075N	925
50+50E	425S-075N	500
51+00E	850S-050N	875
52+00E	850S-050N	900
53+30E	425S-000N	425
54+00E	425S-000N	425
55+00E	475S-000N	475
56+00E	475S-000N	475
0+00N BL	4775E-5600E	825
4+00S TL	4775E-5675E	900
8+50S TL	4800E-5200E	400
15 Lines	Total	9975 METRES

Otto Tp grid has a relatively low background magnetic field with locally strong magnetic relief. The strong magnetic relief is in large part related to high background levels of pyrrhotite in the rocks. Possible sedimentary magnetite bearing horizons may also cause some of the magnetic relief. Some of the volcanics also appear to be magnetic due to magnetite concentrations. Magnetic lows were identified and are discussed in the preceding EM section of this report.

L. GEOLOGICAL SURVEY

Eby West Property

Tholeiitic volcanics and interflow tuffs and metasediments are the dominant rock type within the claim group (MNDM map "Map 2239"). It was not possible to differentiate any significant mappable units within the volcanic flows, however numerous very fine to coarse tuff beds and local pillows and flow tops indicate a consistent northwest strike. The volcanics range from very fine to 2 mm crystalline massive flows, with local flow texturing including a few pillowed flows. 0.5 cm quartz boudins are common in some of the tuff beds indicating

considerable shearing. Some of the flows are magnetic due to the presence of tiny magnetite crystals. The magnetometer survey confirms the northwest trend of the volcanic flows. A linear east-west swampy depression along the Concession IV-V line and a broad swampy area of claim 1205789 are areas of low total magnetic field with low magnetic relief. This disruptive magnetic signature appears to be related to destructive alteration controlled by deformation zones that host ore deposits in the Larder Lake-Kirkland Lake mining camp. No outcrops were observed in these areas. Strong EM conductors within these magnetic lows appear to be strong structures that control alteration. These potential structures and the inferred alteration are targets for gold hosted in quartz veins or disseminated sulphides.

1994 mapping by the Author within Lots 1 and 2 of Concession IV of Eby Township indicate previously unknown major deformation zones exist 1.2 km and 2.9 km south of the Blanche River. These deformation zones are hosted in Fe carbonate-albite-sericite alteration zones parallel to the Larder Lake Break. The author staked the Eby West Group to cover the west projection of these alteration zones.

Otto Township Property

A massive white weathered silicious unit through the centre of the property unit mapped as "4r" (rhyolite) marks the change between massive dark green mafic volcanics to the north and mafic to felsic pyroclastic sediments to the south. This unit is bounded to the north and south by a strongly chloritic, often schistose, fine to coarse pyroclastic. This pyroclastic consists of massive chlorite matrix with felsic clasts to 1-40 cm. At 4785E-613S, 4900E-525S, 5000E-437S and 5200E-300S this south chlorite unit is a MaxMin response that appears to have responded to a sulphide source. This is a target for advanced gold and base metal exploration. At 5100E-265S, 5200E-225E, and 5330E-175S a strong 3555 hz response indicates a strong structure may be located within the chlorite unit along the north contact of rhyolite unit "4r". This area is a target for advanced gold exploration to identify favourable alteration and Au mineralization.

Minor sections of red potassic alteration (K-feldspar) were

observed within the chloritic unit along the north edge of the rhyolite unit.

South of the rhyolite unit the rocks are interbanded mafic to felsic tuffs that have high background levels of pyrite and pyrrhotite. Located at 4900E-675S, 5000E-628S and 5100E-616S is a strong EM response that appears to have a sulphide source. A cherty horizon at this location on line 50+00E is sulphide rich with a box-work limonite gossan. This location is the strongest and widest portion of this conductor and is a target for advanced exploration for gold and base metals.

The rhyolite unit and related chlorite contact zones and the mafic-felsic pyroclastic sediments strike east northeast and appear to be of the Skead Group volcanics. To the north the rocks are massive dark green mafic volcanics that appear to be Larder Lake Group. The trend of these volcanics was not established.

The south edge of the map is the Otto syenite stock. This unit is coarsely porphyritic and has mafic xenoliths aligned parallel to its contact with the volcanics to the north. The volcanics near the stock appear to be hornfelsed.

Along line 47+85E at 0+50N strong silicification and Fe-carbonate alteration with associated quartz veining to 15 cm was identified.

Assay values for gold are entered directly on the geological map as PPB Au. The locations of whole rock samples, their sample numbers and $\%SiO_2$ are recorded on the geological map. The best gold value was 267 ppb Au in wall rock beside a 50 cm quartz vein located 7+10S east of line 49+00E. This sample had minor disseminated pyrite in potassic alteration. Several Fe-carbonate float were identified in the area near this vein, but their source was not identified. The best base metal value was 1320 ppm Zn, 96 ppm Cu and 75 ppb Au in cherty grey rock (91.4% SiO_2) along the transition between the rhyolite unit and chlorite unit to the north (Line 5 m east of 47+85E at 4+55S).

M. RECOMMENDATIONS

Eby West Property

The eby west grid should be extended with blanket grid, geology, magnetic, and EM coverage at a 100 m line spacing. North of the 0+00N base line this coverage should be expanded to 50 m spacing as the strike of many of the EM responses identified. East-west grid lines at 2+00S, 2+00N and 3+75N should be cut and surveyed by IP, EM and magnetometer. The IP coverage would define areas of high background disseminated sulphides that are not detected by EM surveys.

In advance of any diamond drilling the target areas should be surveyed by EM and magnetometer at a 50 m line spacing to 200 m from the target to define the probable strike of the target and establish the optimum hole location.

On the basis of the available information the following holes are recommended:

1. Line 1600W at 280N -60° to 300 m.
   (anomaly 1500W-365N & 1500W-385N is also an excellent target)
2. Line 2500W at 450N -60° to 500 m.
3. Line 2800W at 300N -60° to 250 m.
   (Line 2700W at 275N -60° to 350 m. alternate location).
4. Line 3500W at 175N -60° to 350 m. or
   225N -60° to 225 m after mag and EM surveys to the east and west. Note! The target anomaly may be at low angle to the line 3500W.

Otto Township Property

Otto township exploration recommendations are discussed under section "L Geological Survey".

N. LIST OF REFERENCES
EBY TOWNSHIP

MEMOIR 131 - Canada Department of Mines
Kenogami, Round, and Larder Lake Areas, Timiskaming District, Ontario, By H. C. Cooke, 1922.

Geological Report 99 - Ontario Department of Mines Preliminary Geology of the Eby and Otto Area, District of Temiskaming
By H. L. Lovell, 1972.

Mineral Resources Circular No. 39 - Mineral Resources and Mining Properties in the Kirkland Lake-Larder Lake area. By W. S. Savage, 1964.

Map P. 448 - Ontario Department of Mines Preliminary Geological Map No. P. 448; Eby Township.
Scale 1 inch = 1/2 mile

Map P. 903 - Preliminary Map P.903; Kirkland Lake Data Series; Eby Township.
Scale 1 : 15 840

Map P. 2268 - Ontario Geological Survey Preliminary Map P.2268 Kirkland Lake Area; Eby Township; Airborne Electromagnetic Survey.

Map P. 2268 - Ontario Geological Survey Preliminary Map P.2268; Kirkland Lake Area; Eby Township; Airborne Electromagnetic Survey; Total Field Magnetic Survey.
Scale 1 : 20 000

OTTO TOWNSHIP

Map P. 330 - Ontario Department of Mines Preliminary Geological Map No. P. 330; Otto Township (North Half)
Scale 1 inch = 1000 feet

Map No. 501 - Preliminary Map No. 501; Otto Township and Northern Part of Marquis Township.
Scale 1 inch = 1/4 mile.

Map P. 717 - Ontario Department of Mines and Northern Affairs; Preliminary Map P. 717; Geochemical Distribution of Acid Soluble Copper in Felsic Plutonic Rocks; Otto Township and Parts of Eby, Marquis and Boston Townships.
Scale 1 inch = 1/2 mile

Map P. 718 - Ontario Department of Mines and Northern Affairs; Preliminary Map P. 718; Geochemical Distribution of Acid Soluble Lead in Felsic Plutonic Rocks. Otto Township and Parts of Eby, Marquis and Boston Townships.
Scale 1 inch = 1/2 mile

Map P. 719 - Ontario Department of Mines and Northern Affairs; Preliminary Map P. 719; Geochemical Distribution of Acid Soluble Molybdenum in Felsic Plutonic Rocks. Otto Township and Parts of Eby, Marquis and Boston Townships.
Scale 1 inch = 1/2 mile

Map P. 2269 - Ontario Geological Survey Preliminary Map P.2269; Kirkland Lake Area; Otto Township; Airborne Electromagnetic Survey.

Map P. 2269 - Ontario Geological Survey Preliminary Map P.2269; Kirkland Lake Area; Otto Township; Airborne Electromagnetic Survey; Total Field Magnetic Survey.
Scale 1 : 20 000

Douglas Robinson, P. Eng
February 25, 1997.

CERTIFICATE OF QUALIFICATIONS

I, Douglas Robinson, of 24 Victoria Avenue, Swastika, Ontario hereby certify that:

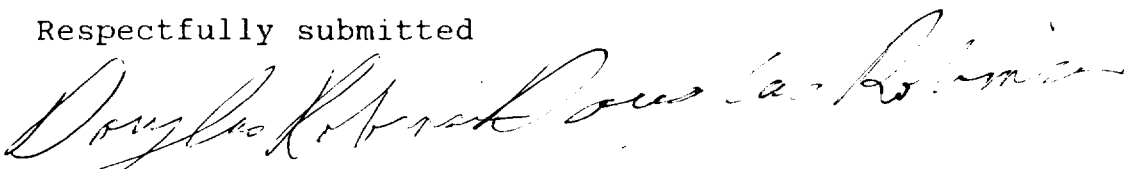
1. I am a registered professional Engineer of the province of Ontario, No. 39322011.

2. I am a graduate of Queen's University in Kingston Ontario with an Honours Bachelor of Science, Geological Engineering 1975, and Northern college, School of Mines in Haileybury, Ontario 1970.

3. I have been practising my profession since graduation.

4. The information contained in this report is the result of work done by myself or by persons under my supervision.

Respectfully submitted



Douglas Robinson, P. Eng.
February25, 1997

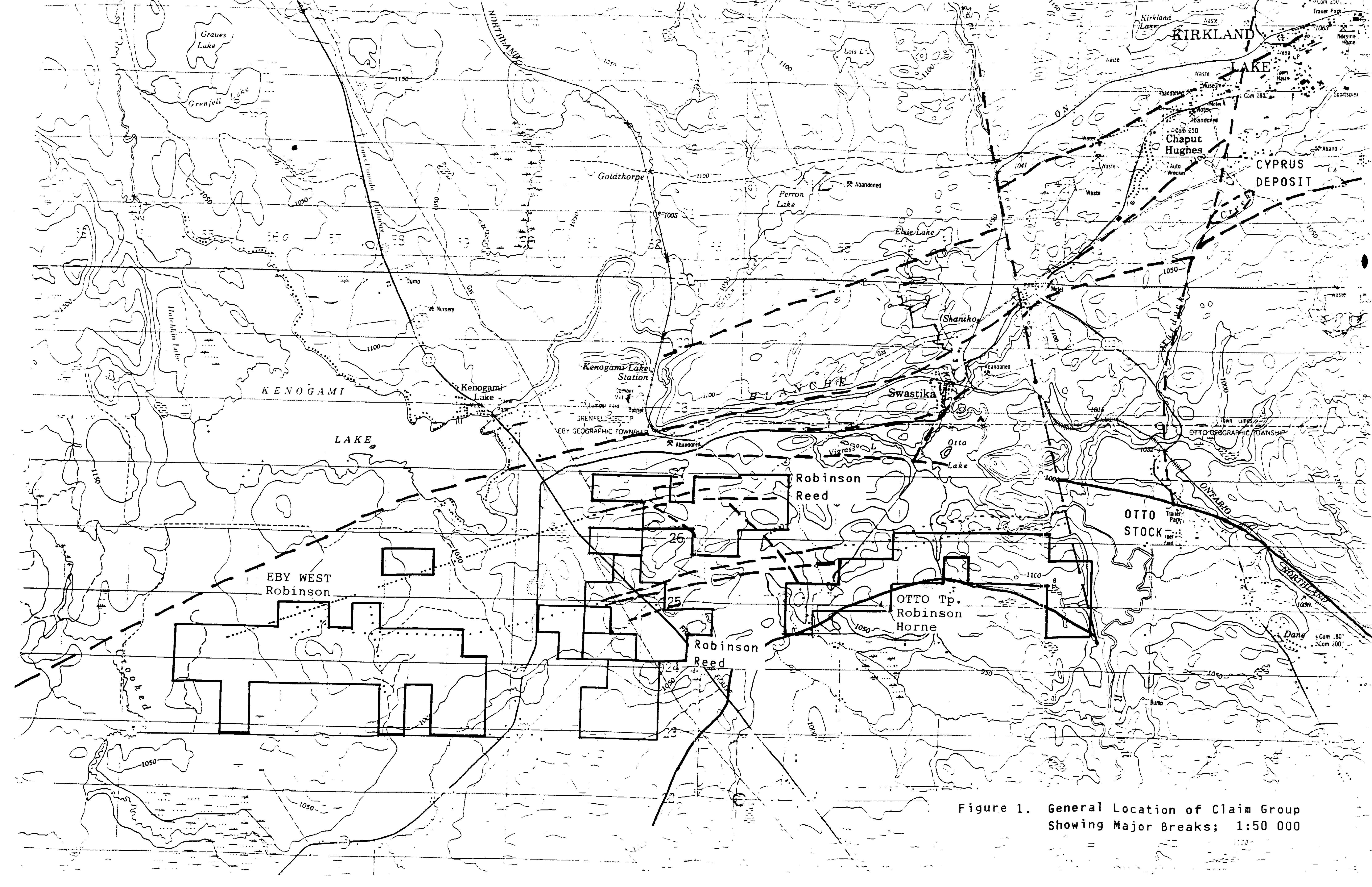


Figure 1. General Location of Claim Group
Showing Major Breaks; 1:50 000

VI

V

IV

1200610

1186394 Kenogami

1186393

1186326

1186327

1186329

1186601

1186396

1186395

1186392

1186391

1187142 Lake

1202820

1202847

1202833

1200632

1200631

935419

935418

935417

1205791 1205790 1205788 1205787 1205783 1205782 1205781

1205792 1205793 1205794 1205795 1205796 1205798

1205799

1205800

1205797

1205789

1205784

1205770

1206403

1206404

1202474

1202479

1206669

1200895

1202470

1202471

1202472

1202473

1206402

1206401

532930

532929

738868

738877

920

532

FILE 16864

MAY 15 1996

LATCHER LAKE MINING RECORDER'S OFFICE

TRANS CANADA PIPE LINE

M.R.O.

CL 8098

CL 7694 P.U.

Figure 2a. Claim Map Eby Township: Scale 1:20000

12 11 10 9 8 7 6 5 4

VI

V

IV

Figure 2b. Claim Map Otto Township: Scale 1:20000

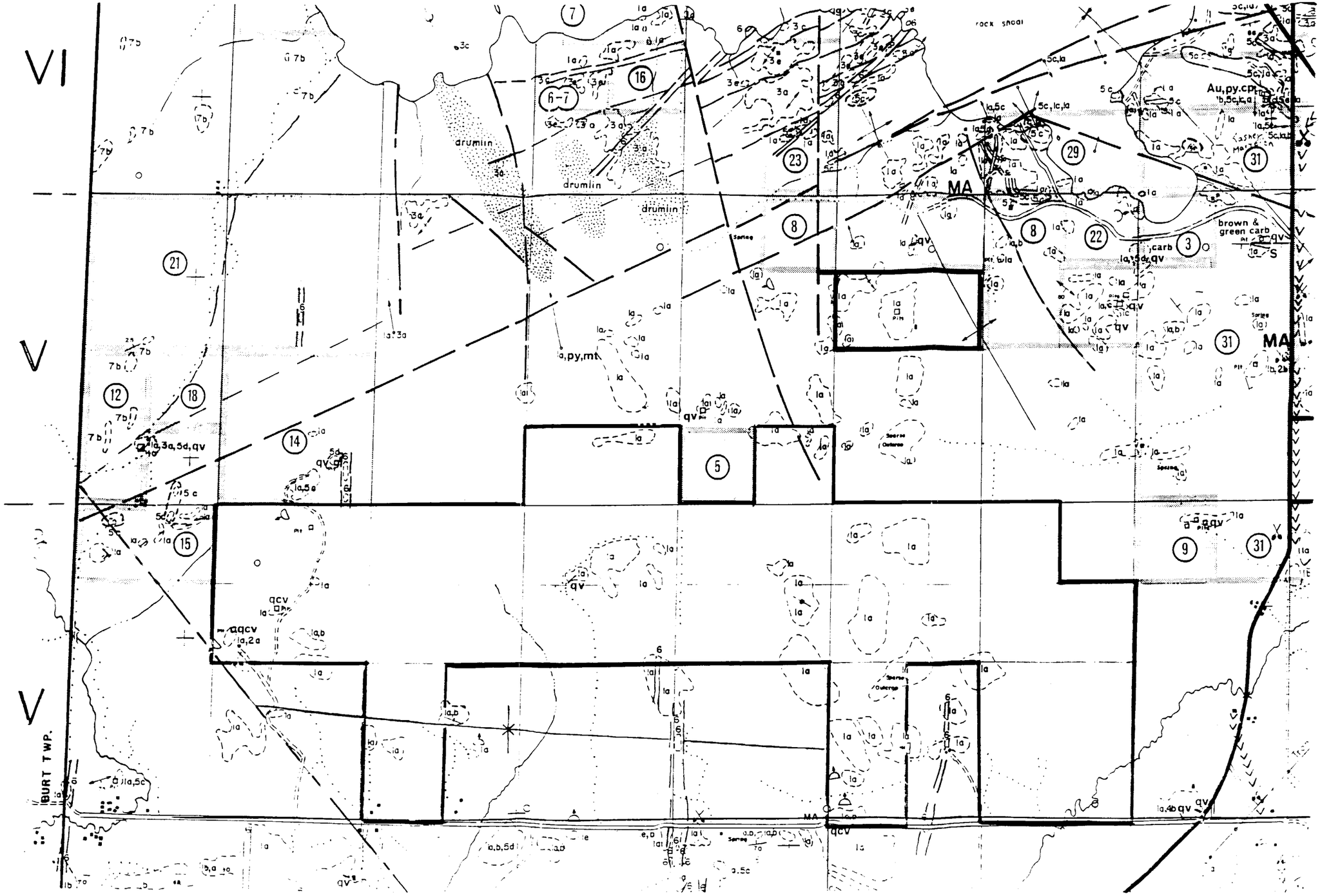


Figure 3a. Geology Eby Township P.448; Scale 1:20000

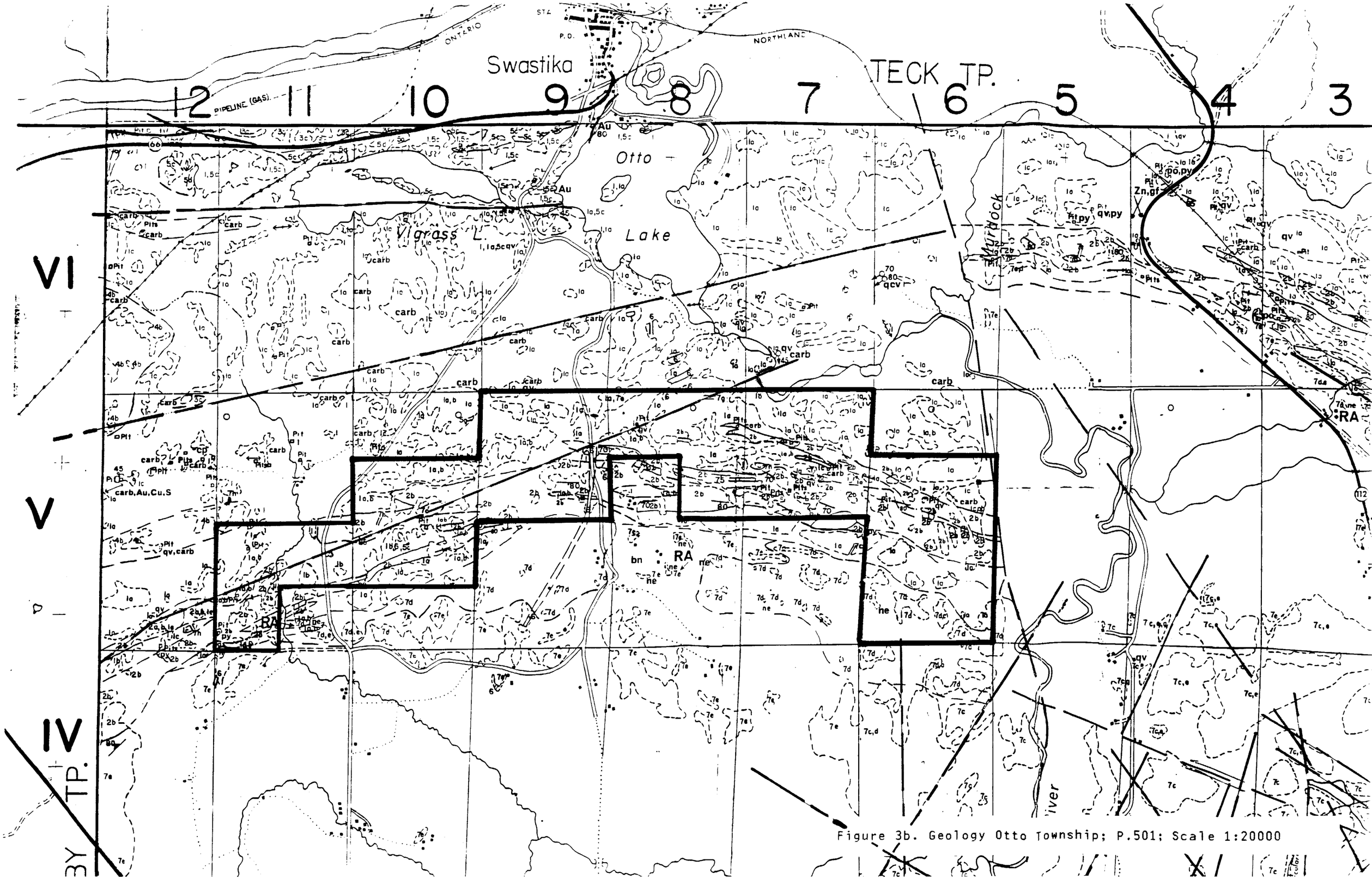


Figure 3b. Geology Otto Township; P.501; Scale 1:20000

Map P. 448 - Ontario Department of Mines
Preliminary Geological Maps of Eby & Otto Townships.
Scale 1:20000 (from 1 inch = 1/2 mile)

LEGEND

PRECAMBRIAN

PROTEROZOIC

8 MAFIC INTRUSIVE ROCKS

HURONIAN

COBALT GROUP

7 GOWGANDA FORMATION

ARCHEAN

MAFIC INTRUSIVE ROCKS

6 Diabase

FELSIC INTRUSIVE ROCKS (ALGOMAN)

5c Syenite and Syenite Porphyry

5d Mafic syenite, lamprophyre, and hybrid syenite and country rocks

MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS (HAILEYBURIAN, EARLY ALGOMAN, AND SOME KEEWATIN)

4b Gabbro and Diorite

METASEDIMENTS (TIMISKAMING OR KEEWATIN)

3

FELSIC VOLCANIC ROCKS (KEEWATIN)

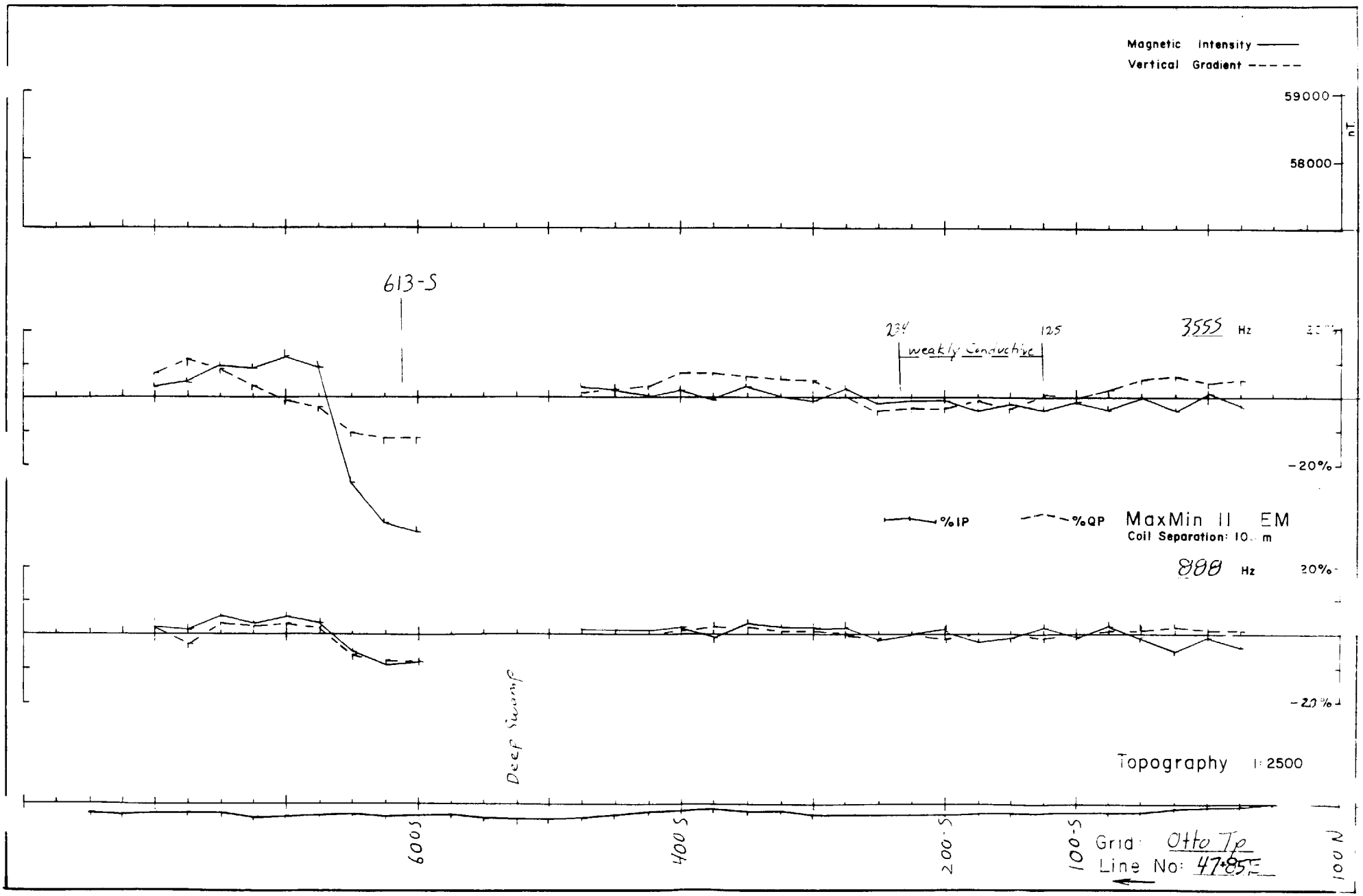
2a Rhyolite and dacite

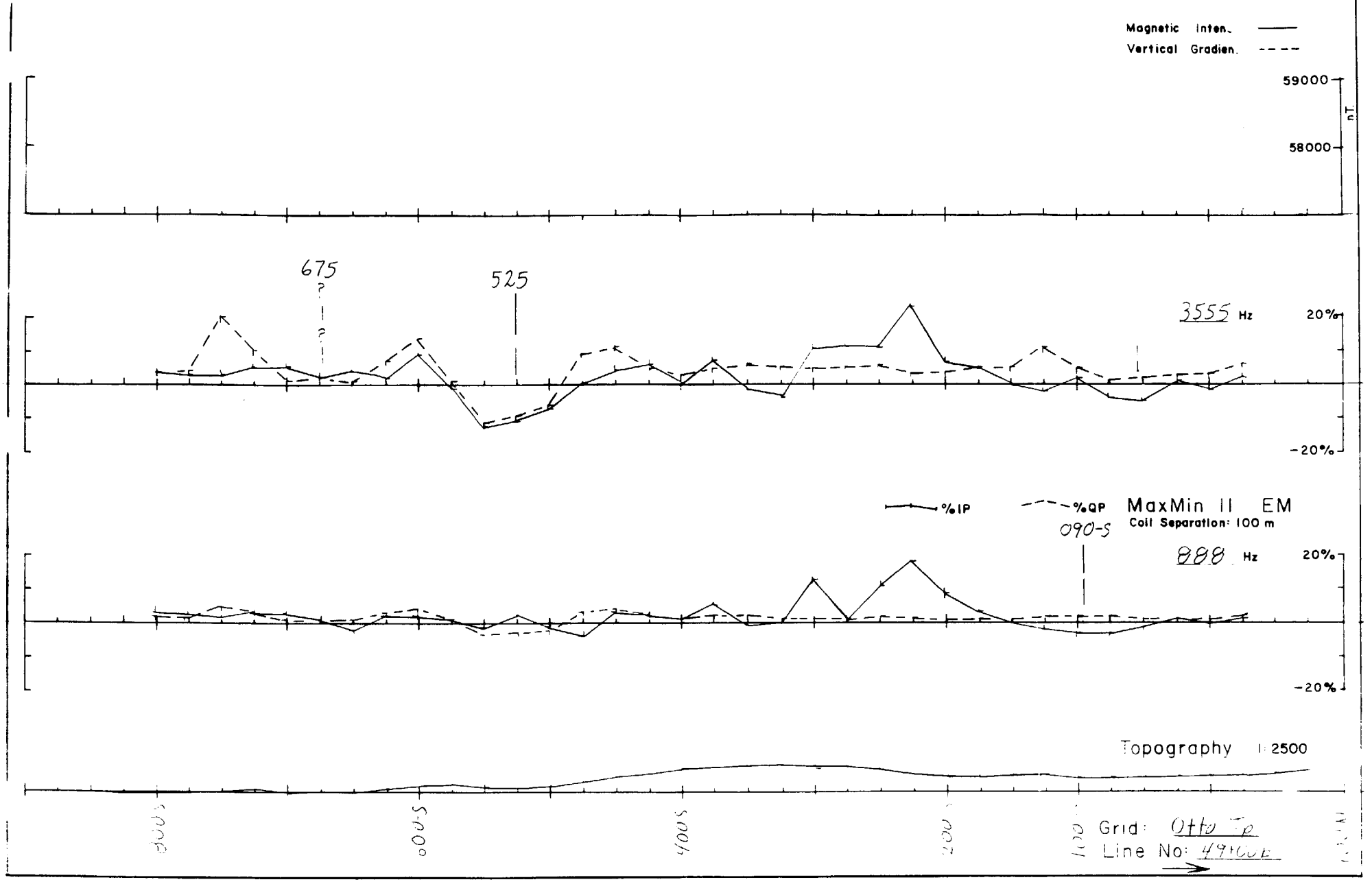
MAFIC VOLCANIC ROCKS (KEEWATIN)

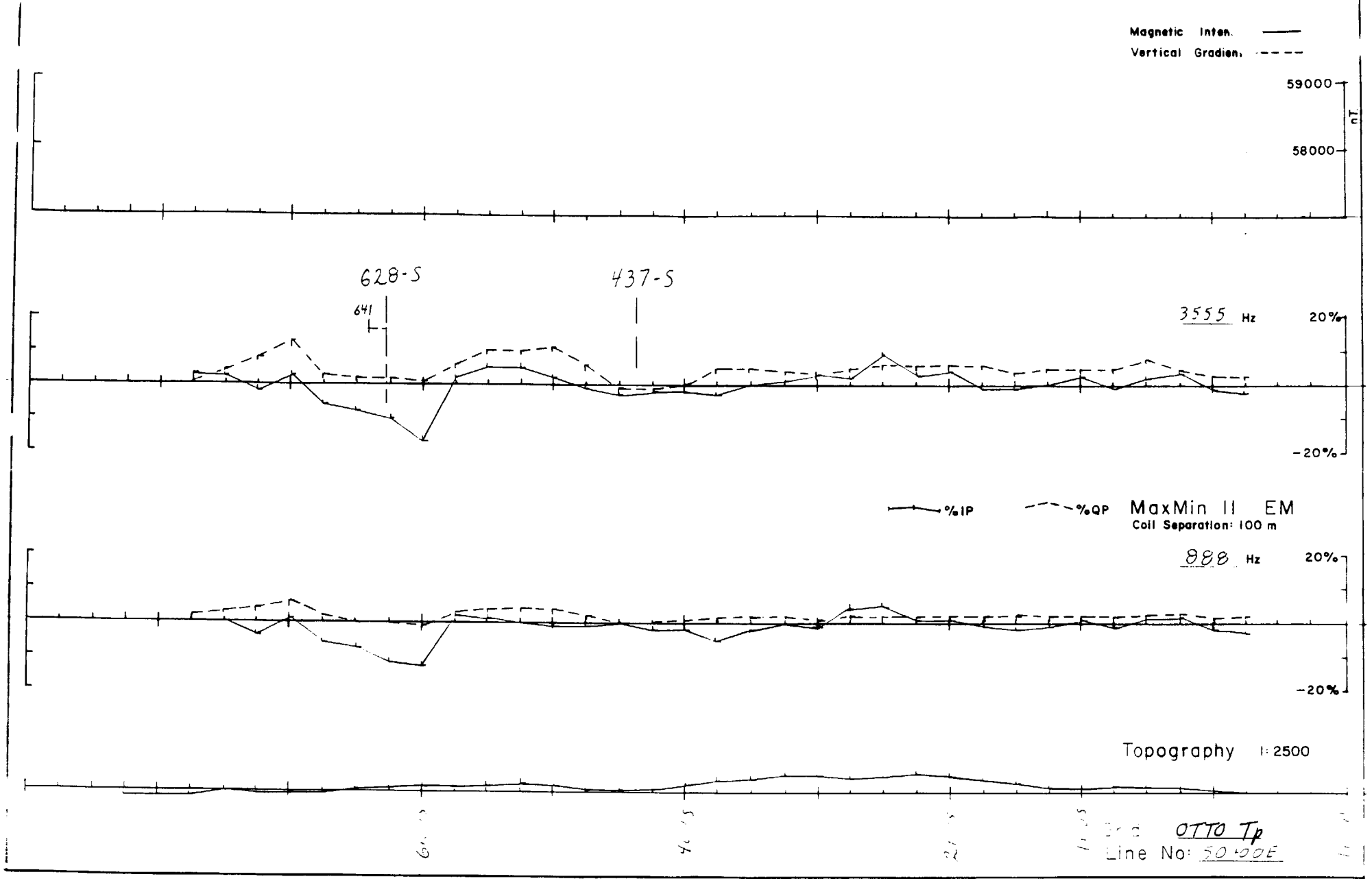
1a Basalt and andesite (pillowed and massive)

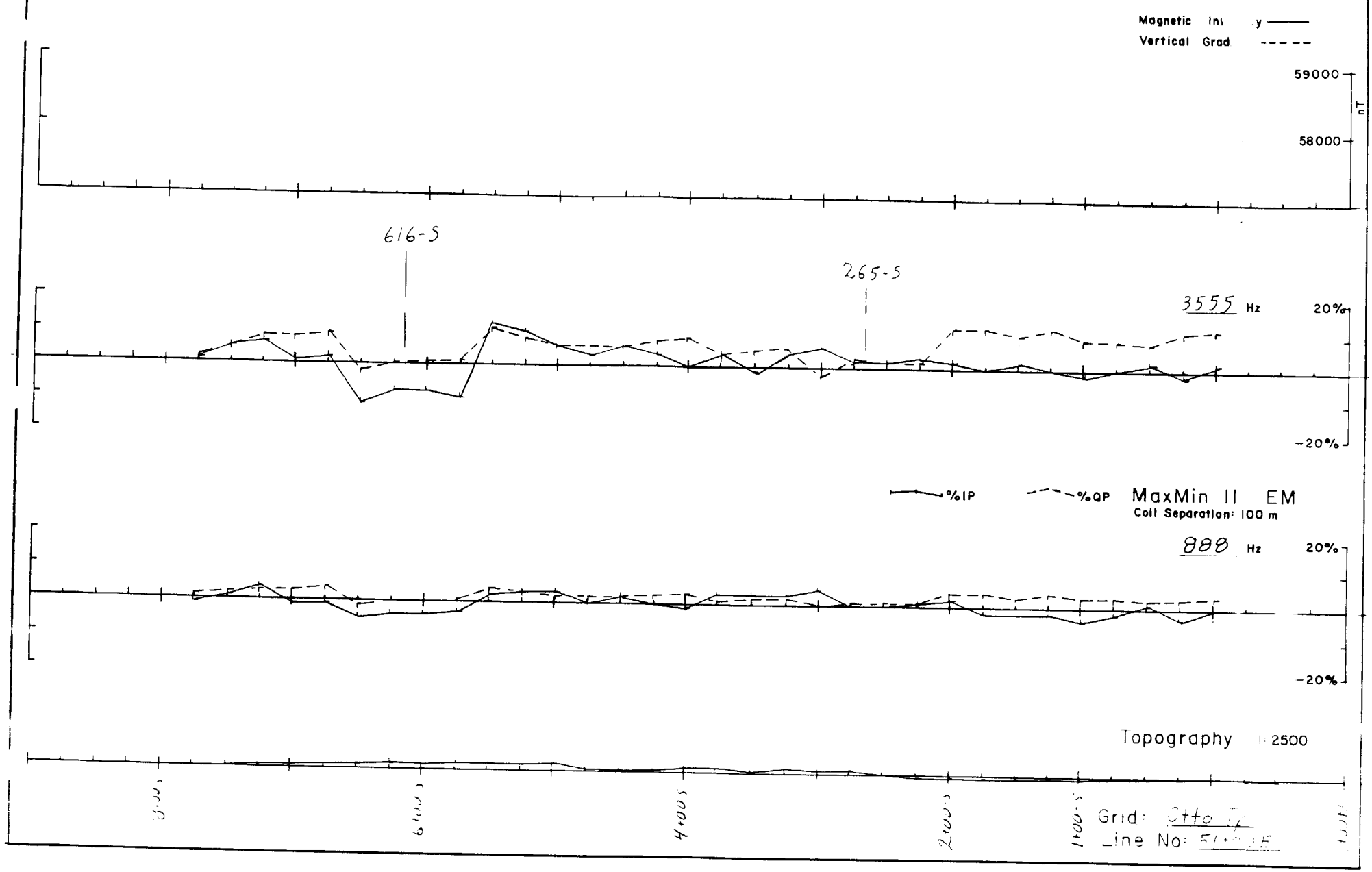
1b Mafic agglomerate and tuff

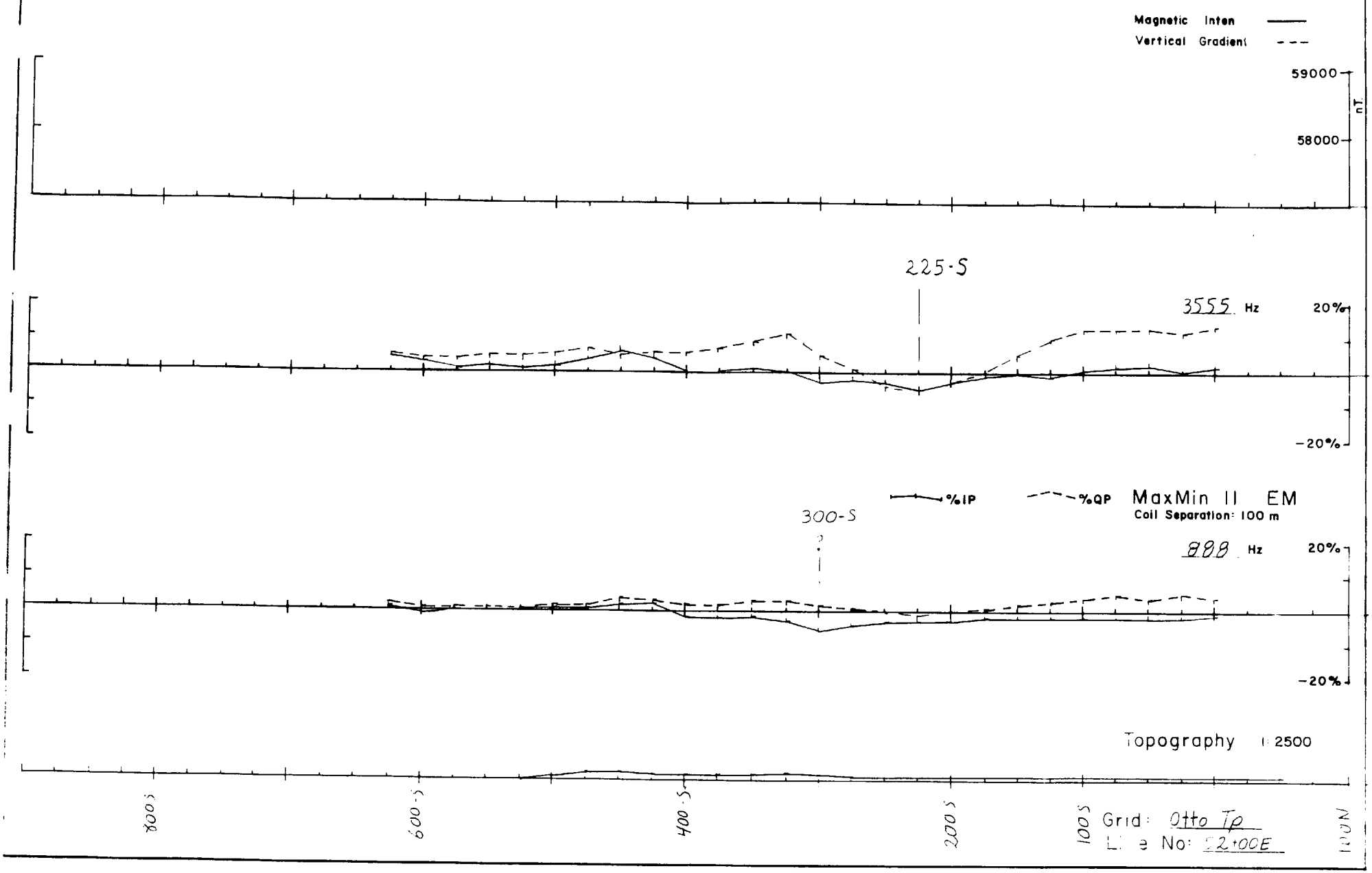
Figure 3c. General Geology; Legend
Eby Twp. Map P.448 & Otto Twp Map P.501

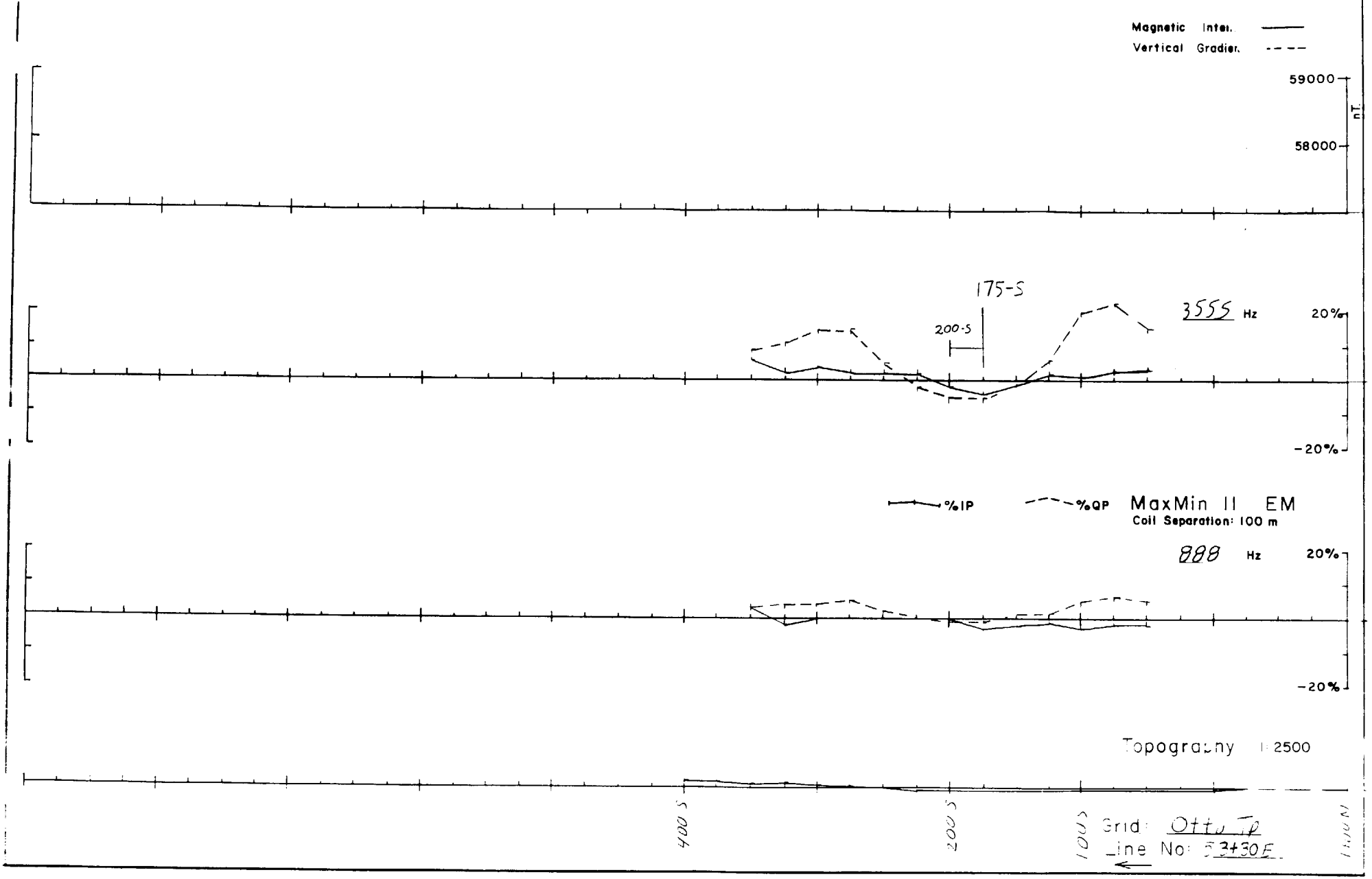

Magnetic Intensity
Vertical Gradient
59000
58000
nT
613-S
234
125
weakly Conductive
3555 Hz
-20%
%IP
%QP
MaxMin II EM
Coil Separation: 10 m
888 Hz
20%
-20%
Deep Swamp
Topography 1:2500
600 S
400 S
200 S
100 S
100 N
Grid: Otto Tp
Line No: 47+85E


Magnetic Inten.
Vertical Gradien.
59000
58000
nT
675
525
3555 Hz
20%
-20%
%IP
%QP
MaxMin II EM
Coil Separation: 100 m
090-S
888 Hz
20%
-20%
Topography 1:2500
Grid: Otto Tp
Line No: 4900E


Magnetic Inten.
Vertical Gradien.
59000
58000
nT
628-S
641
437-S
3555 Hz
20%
-20%
%IP
%QP
MaxMin II EM
Coil Separation: 100 m
888 Hz
20%
-20%
Topography 1:2500
OTTO Tp
Line No: 50+00E

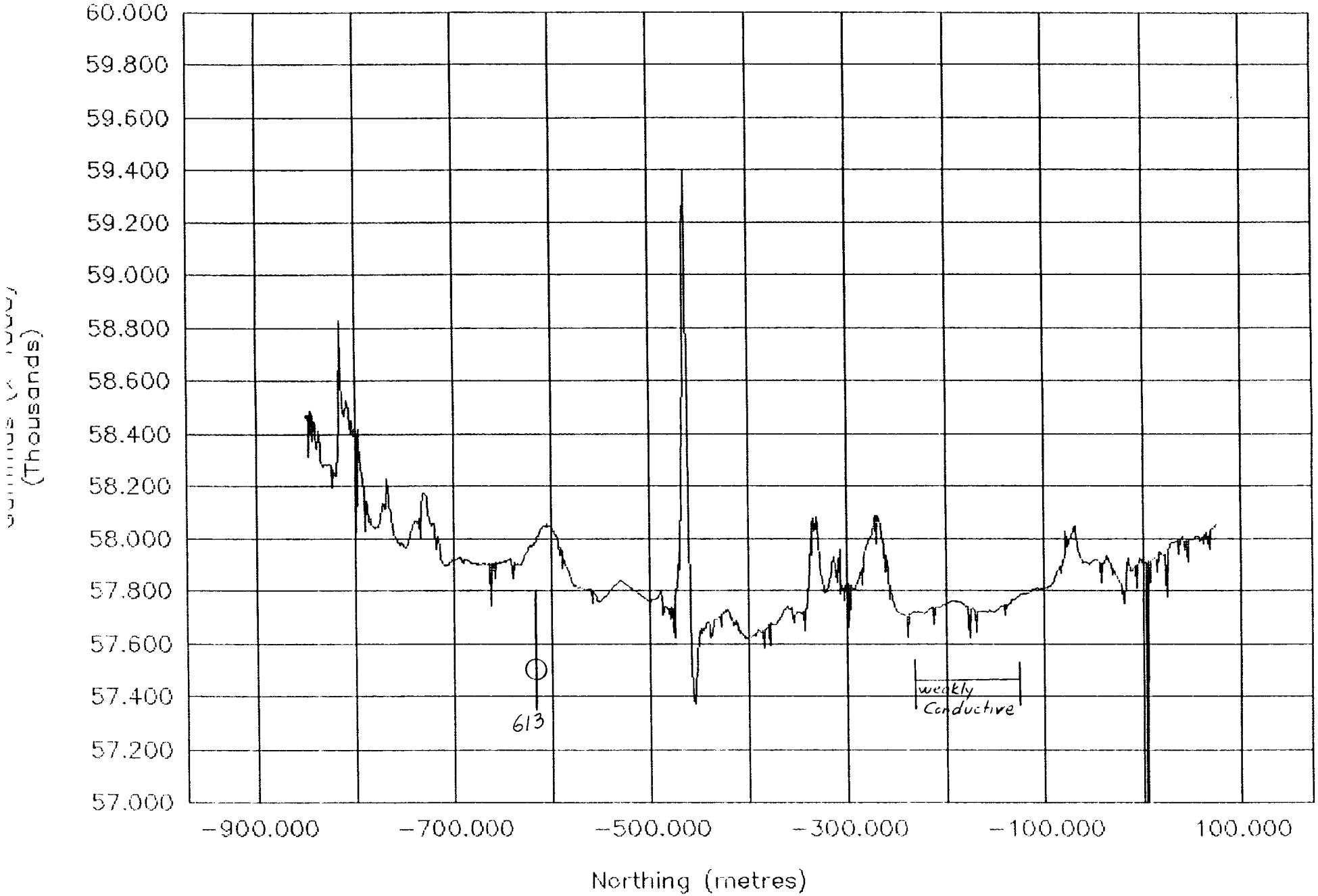

Magnetic Intensity
Vertical Grad
59000
58000
nT
616-S
265-S
3555 Hz
20%
-20%
%IP
%QP
MaxMin II EM
Coil Separation: 100 m
888 Hz
20%
-20%
Topography 1:2500
6+00S
4+00S
2+00S
1+00S
Grid: Otto Jr
Line No: 51+00S


Magnetic Inten
Vertical Gradient
59000
58000
nT
225-S
3555 Hz
20%
-20%
%IP
%QP
MaxMin II EM
Coil Separation: 100 m
300-S
888 Hz
20%
-20%
Topography 1:2500
800 S
600 S
400 S
200 S
100 S
100N
Grid: Otto Tp
Line No: 12+00E


Magnetic Intst.
Vertical Gradier.
59000
58000
nT
175-S
200-S
3555 Hz
20%
-20%
%IP
%QP
MaxMin II EM
Coil Separation: 100 m
888 Hz
20%
-20%
Topography 1:2500
400 S
200 S
100 S
Grid: Otto Tp
Line No: 53+30E

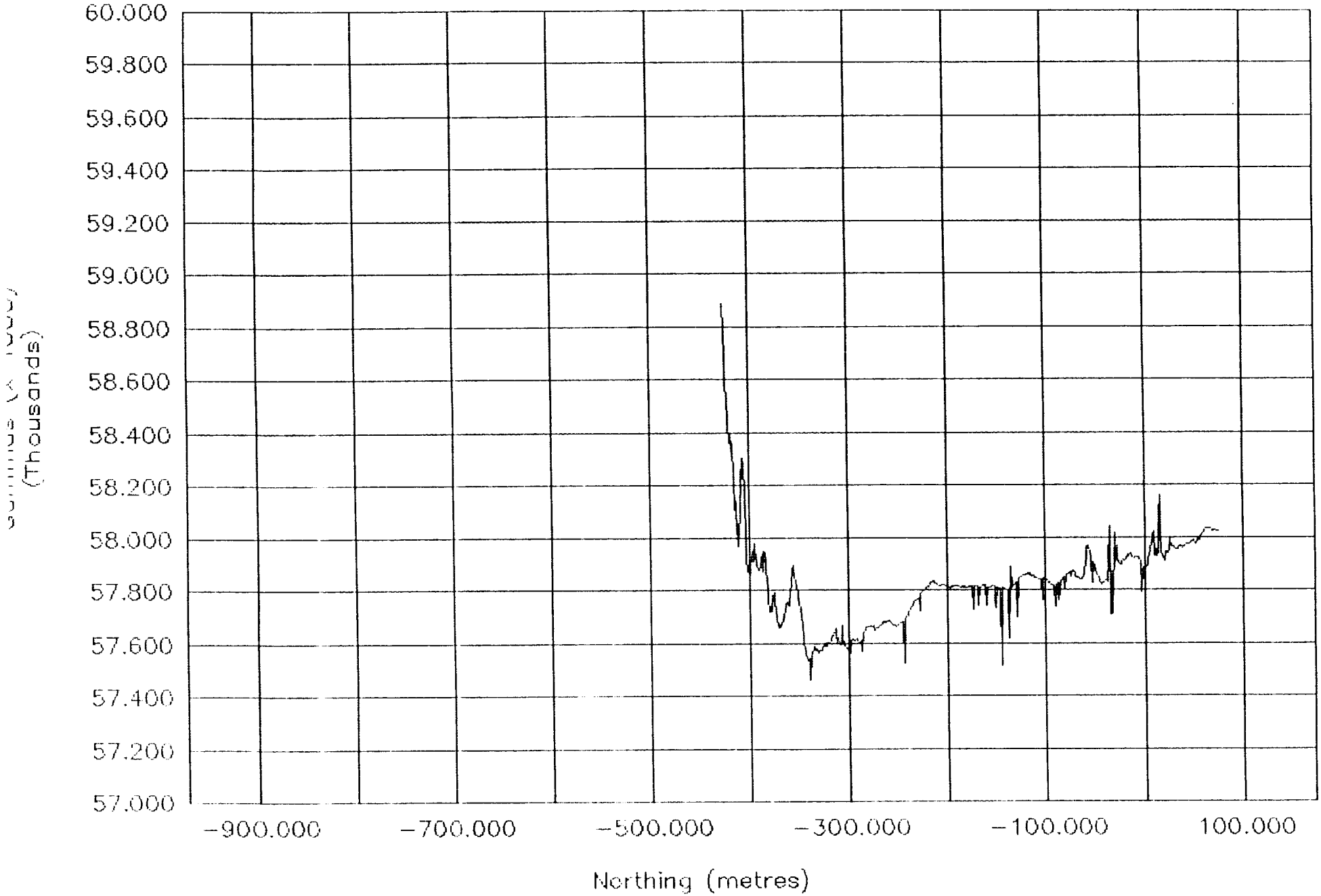
Total Field Strength

OTTO GRID:Line 47+85E



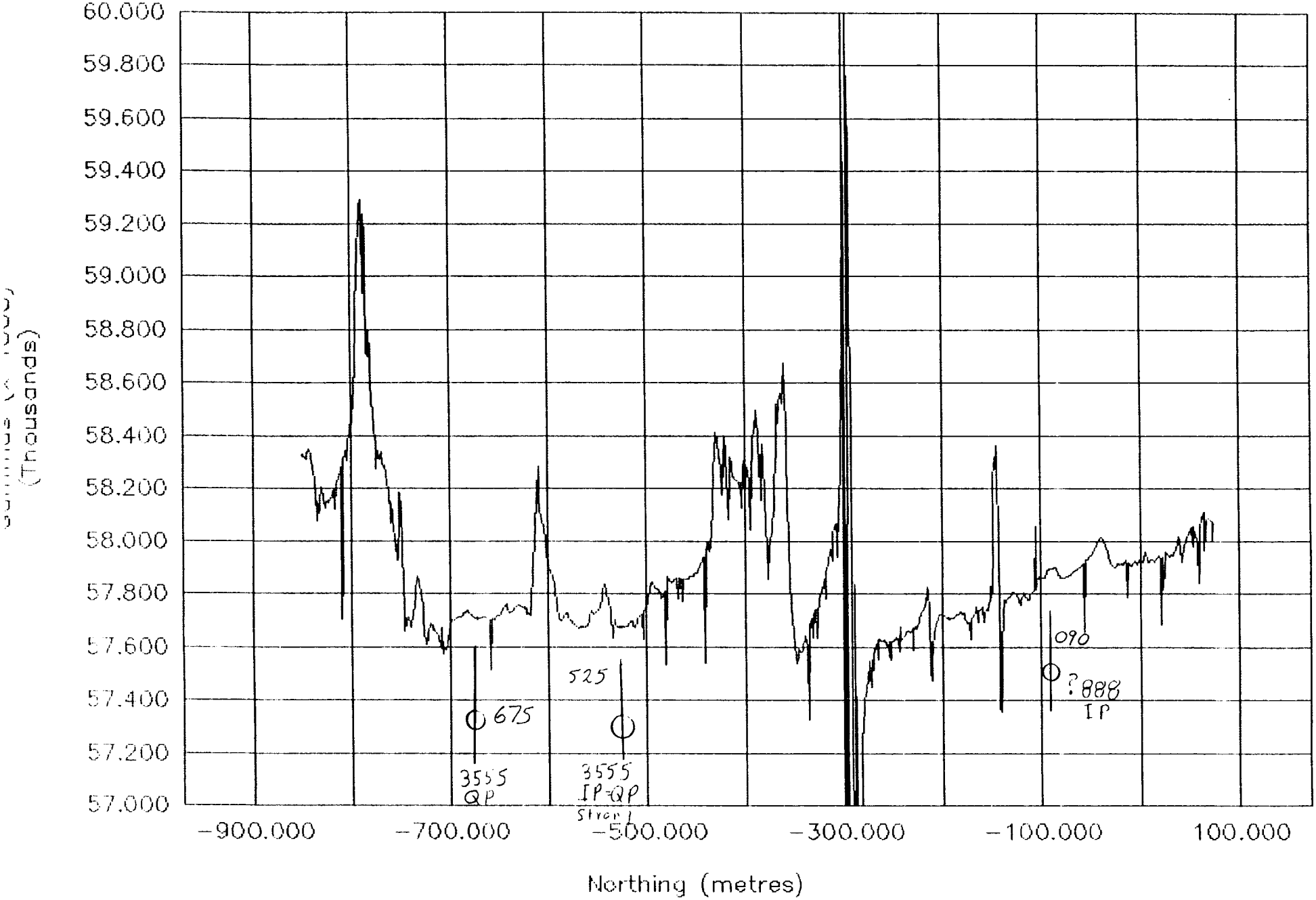
Total Field Strength

OTTO GRID:Line 48+50E



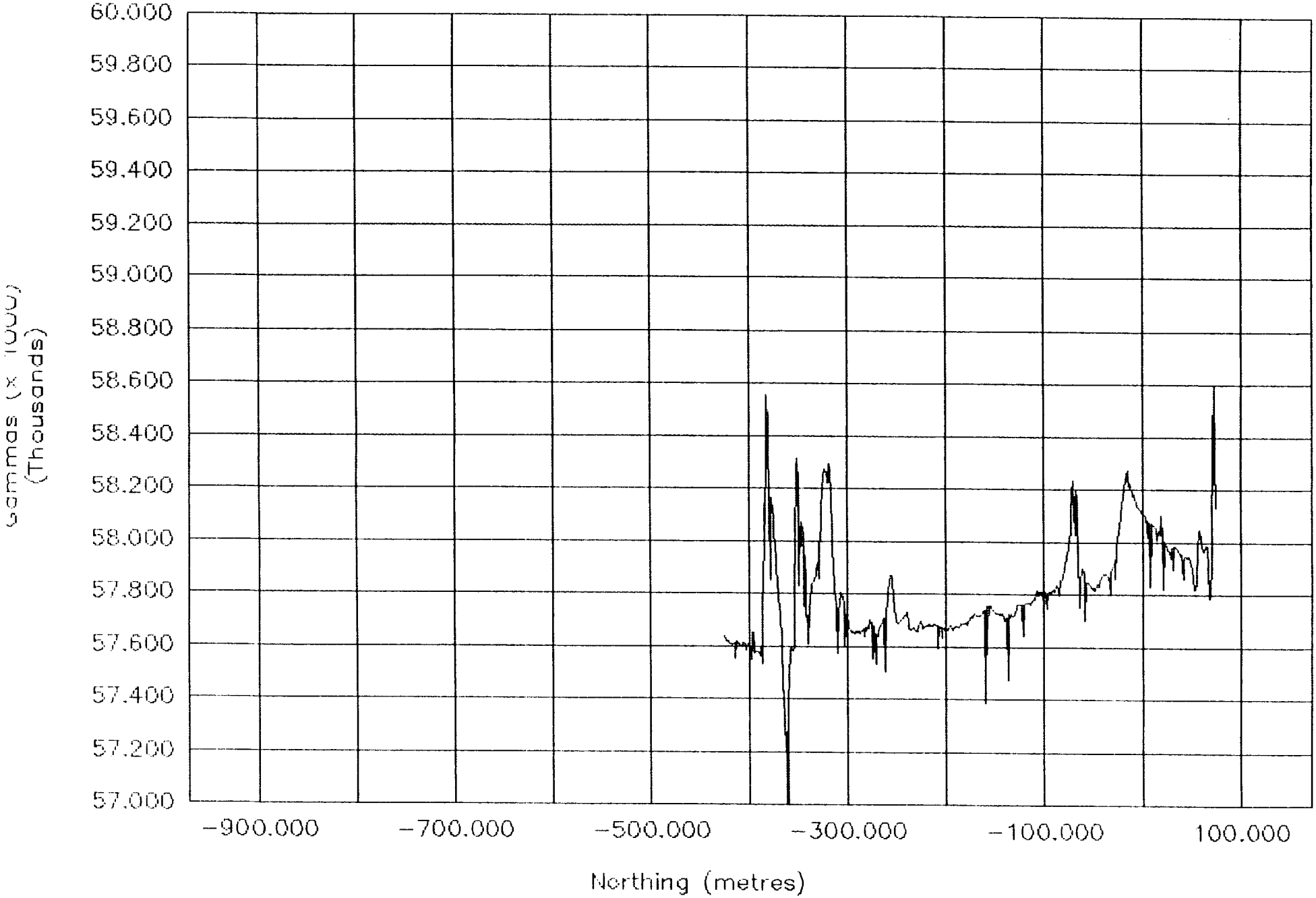
Total Field Strength

OTTO GRID:Line 49+00E



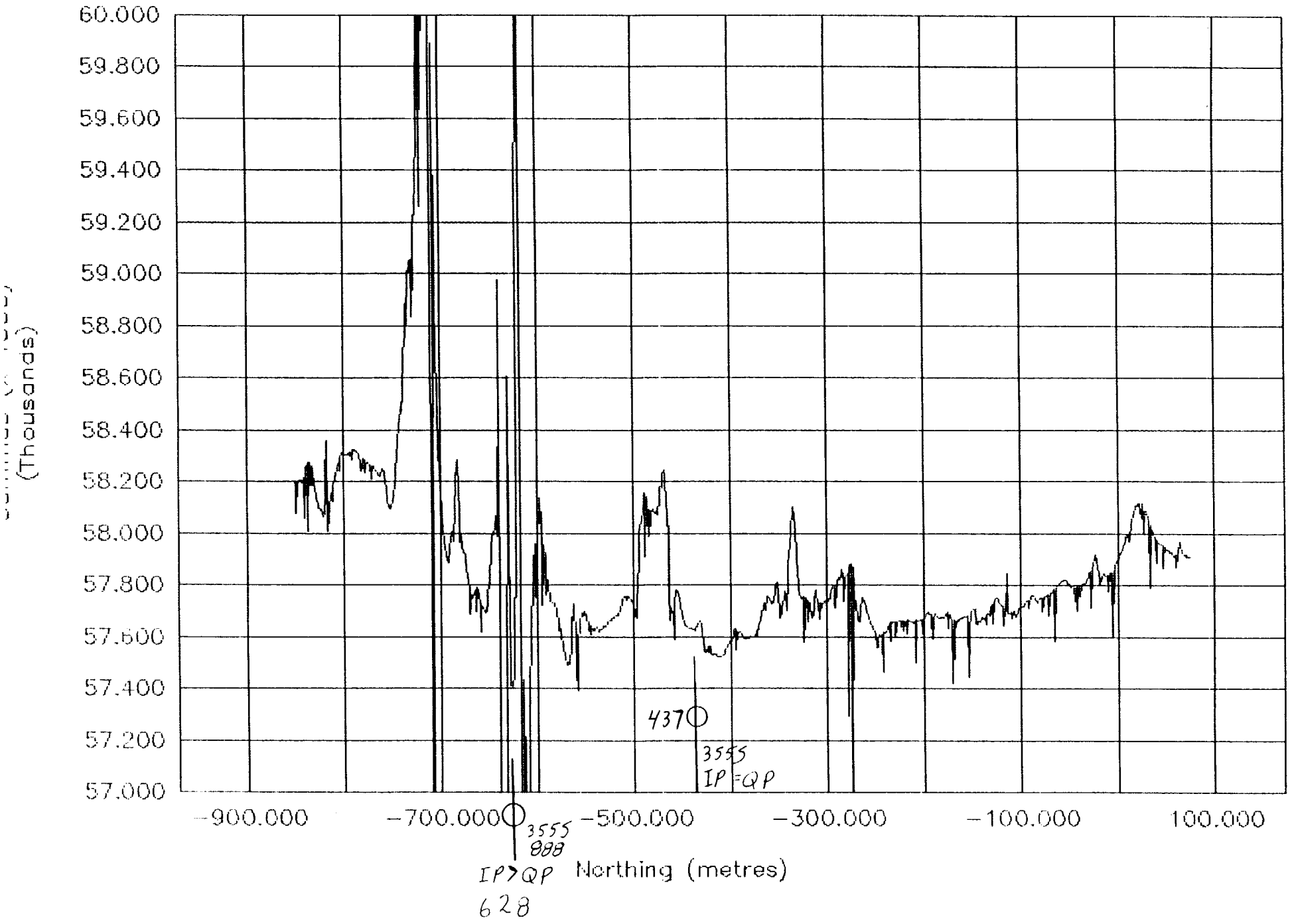
Total Field Strength

OTTO GRID:Line 49+50E



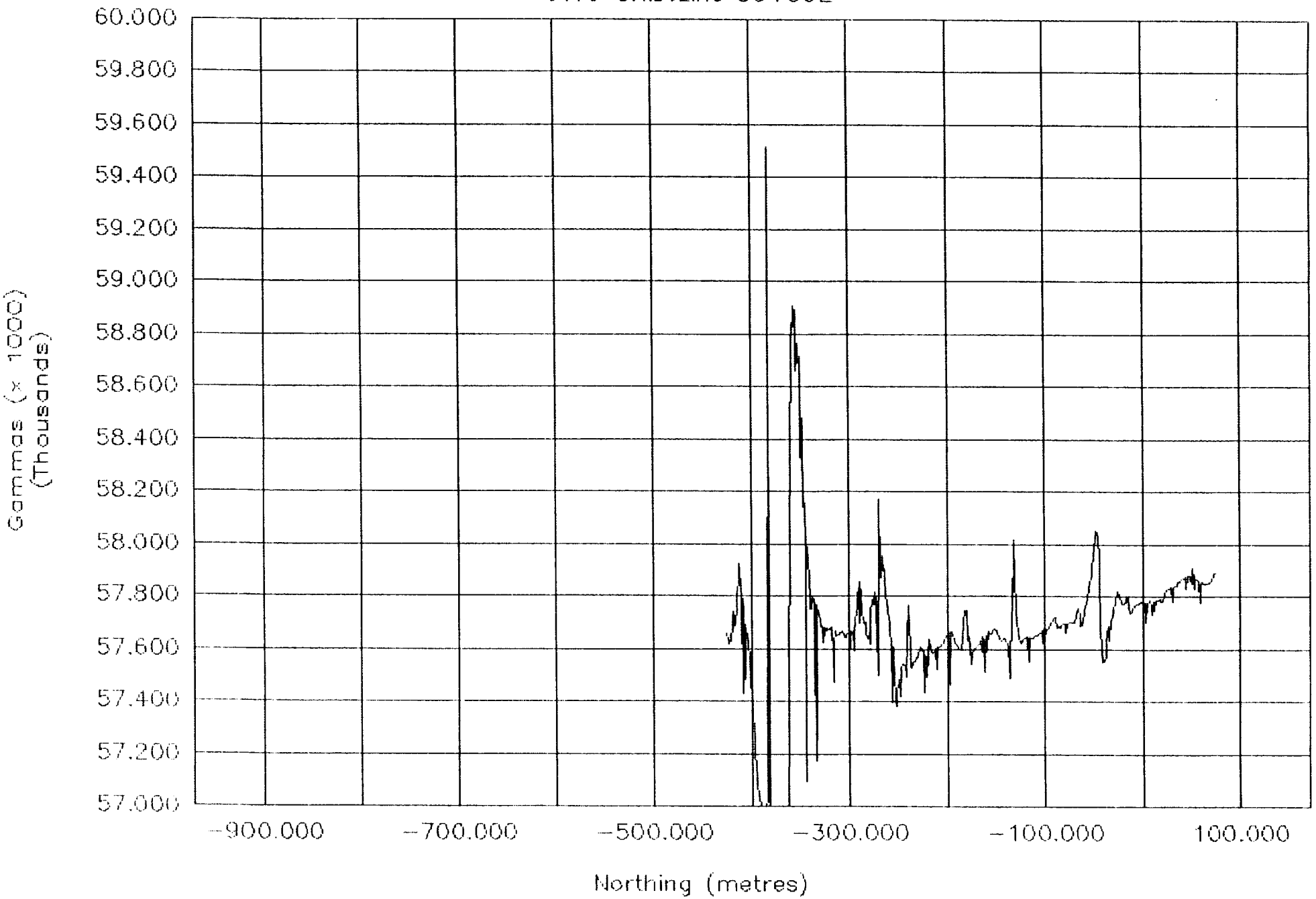
Total Field Strength

OTTO GRID:Line 50+00E



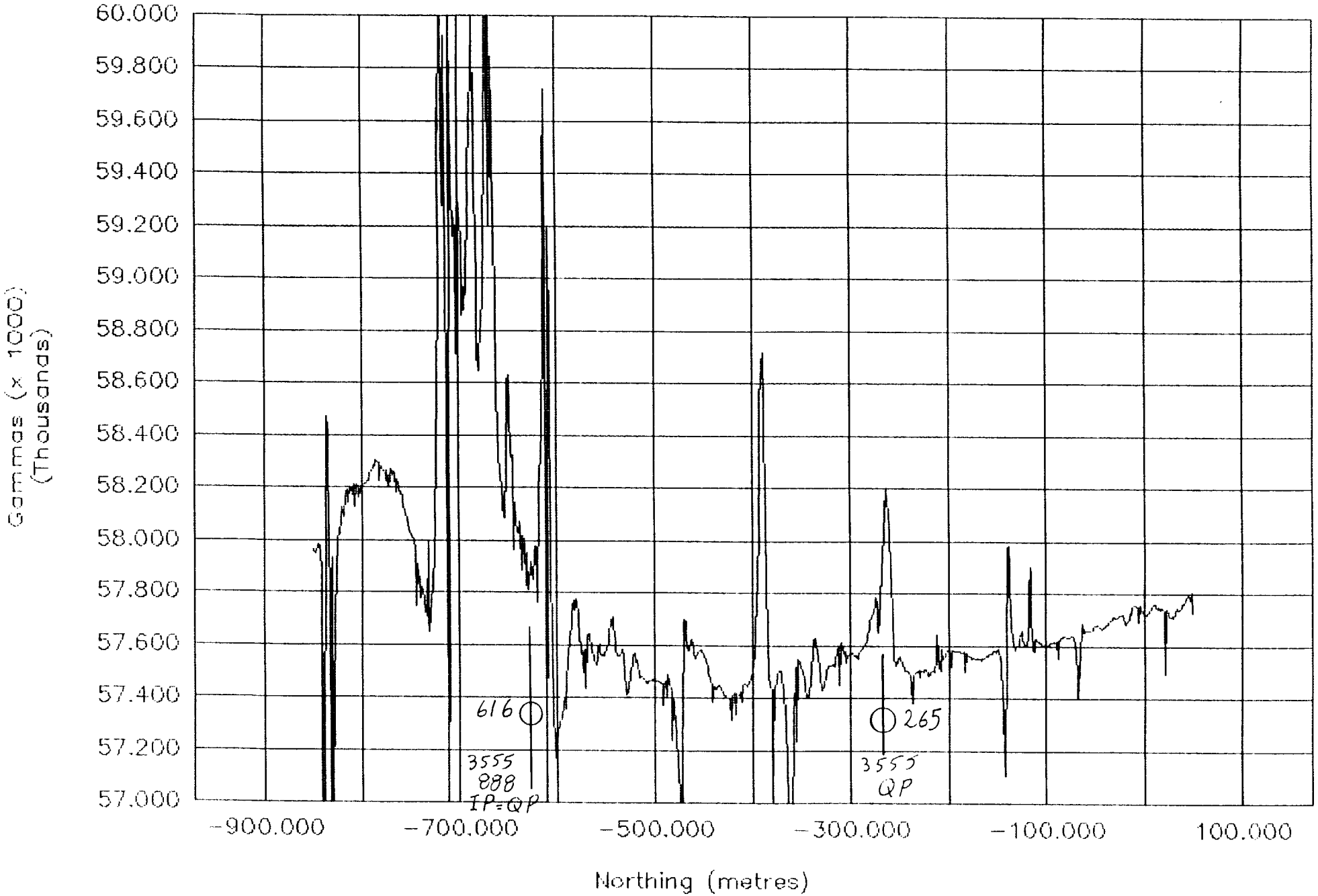
Total Field Strength

OTTO GRID:Line 50+50E



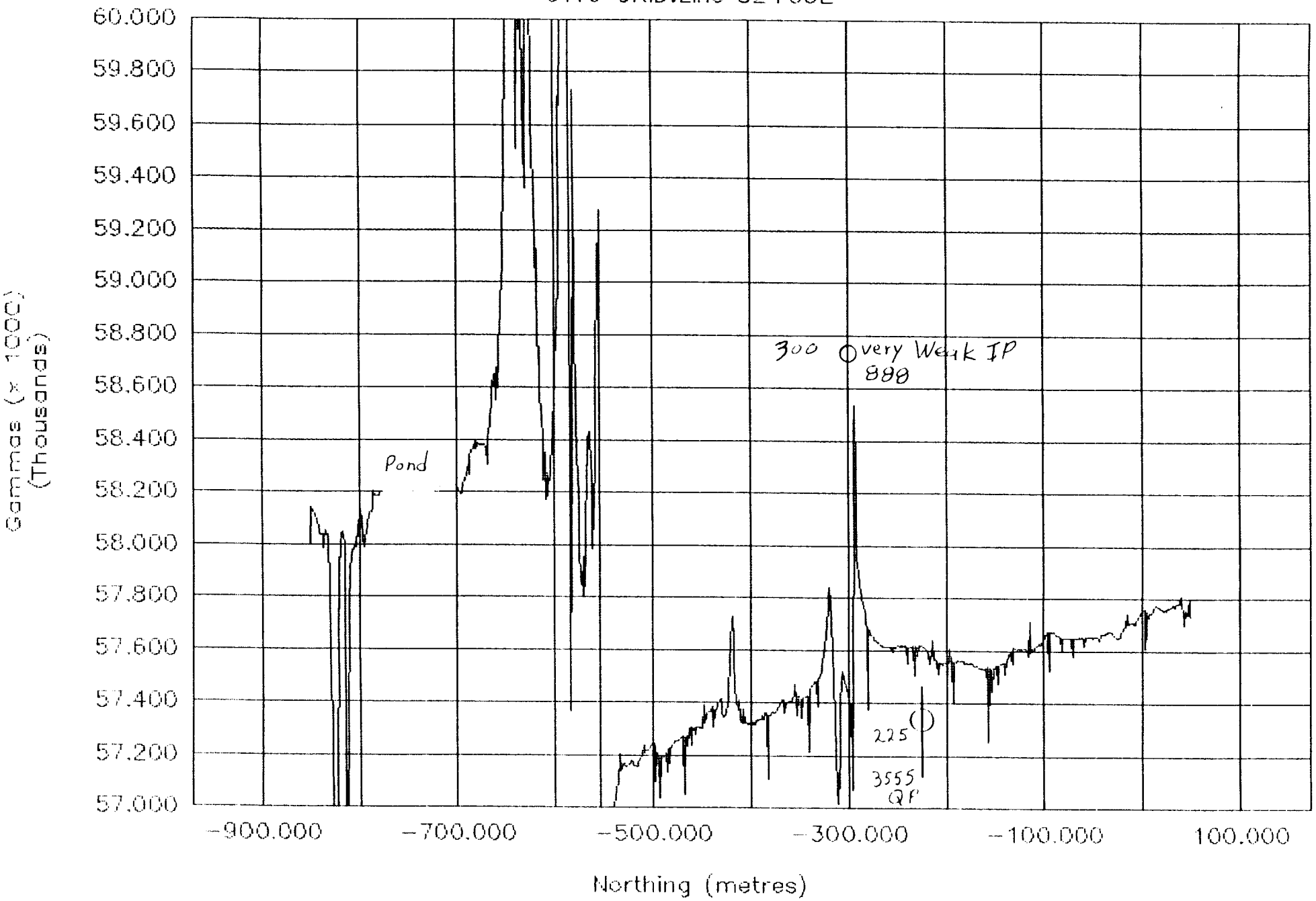
Total Field Strength

OTTO GRID:Line 51+00E



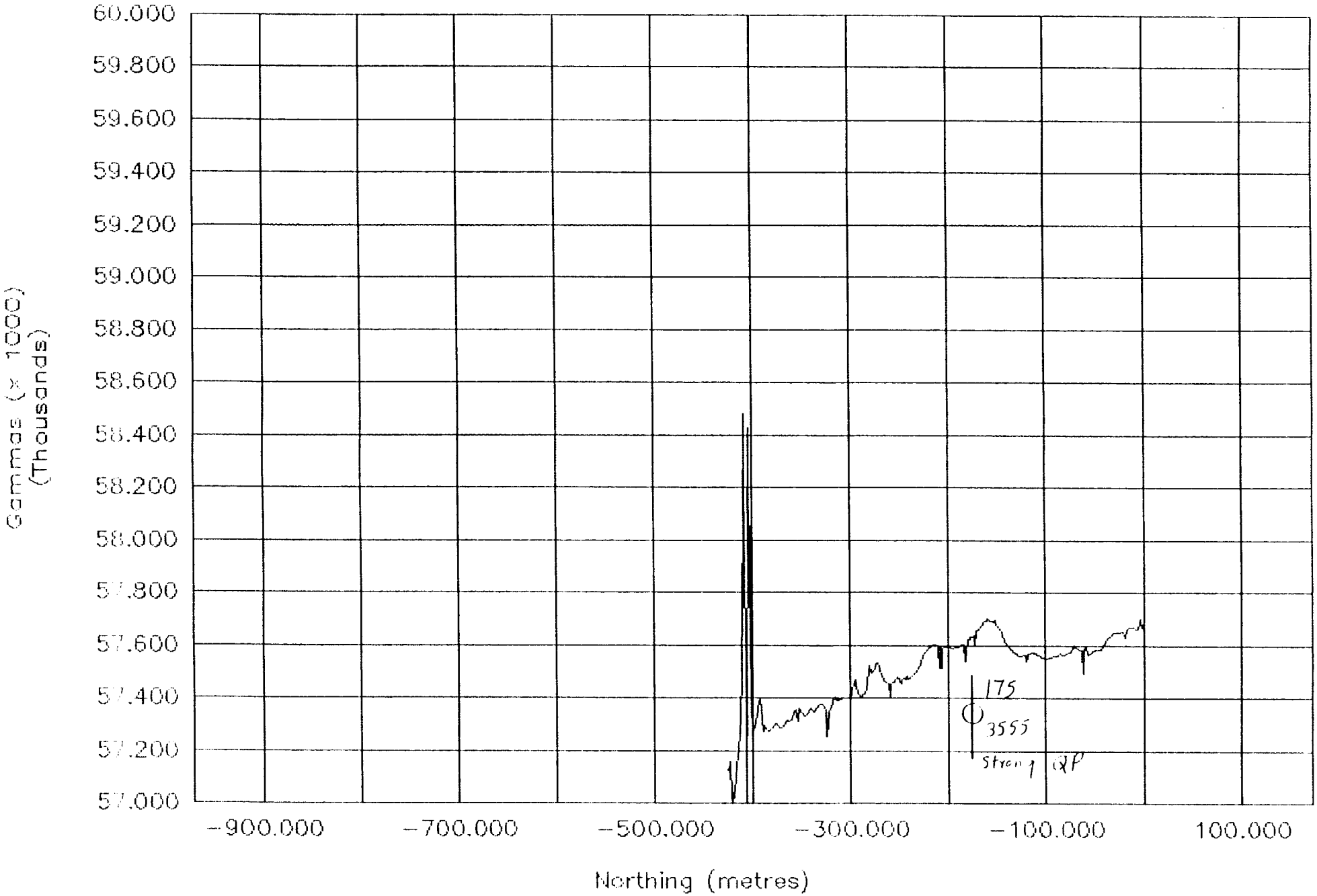
Total Field Strength

OTTO GRID:Line 52+00E



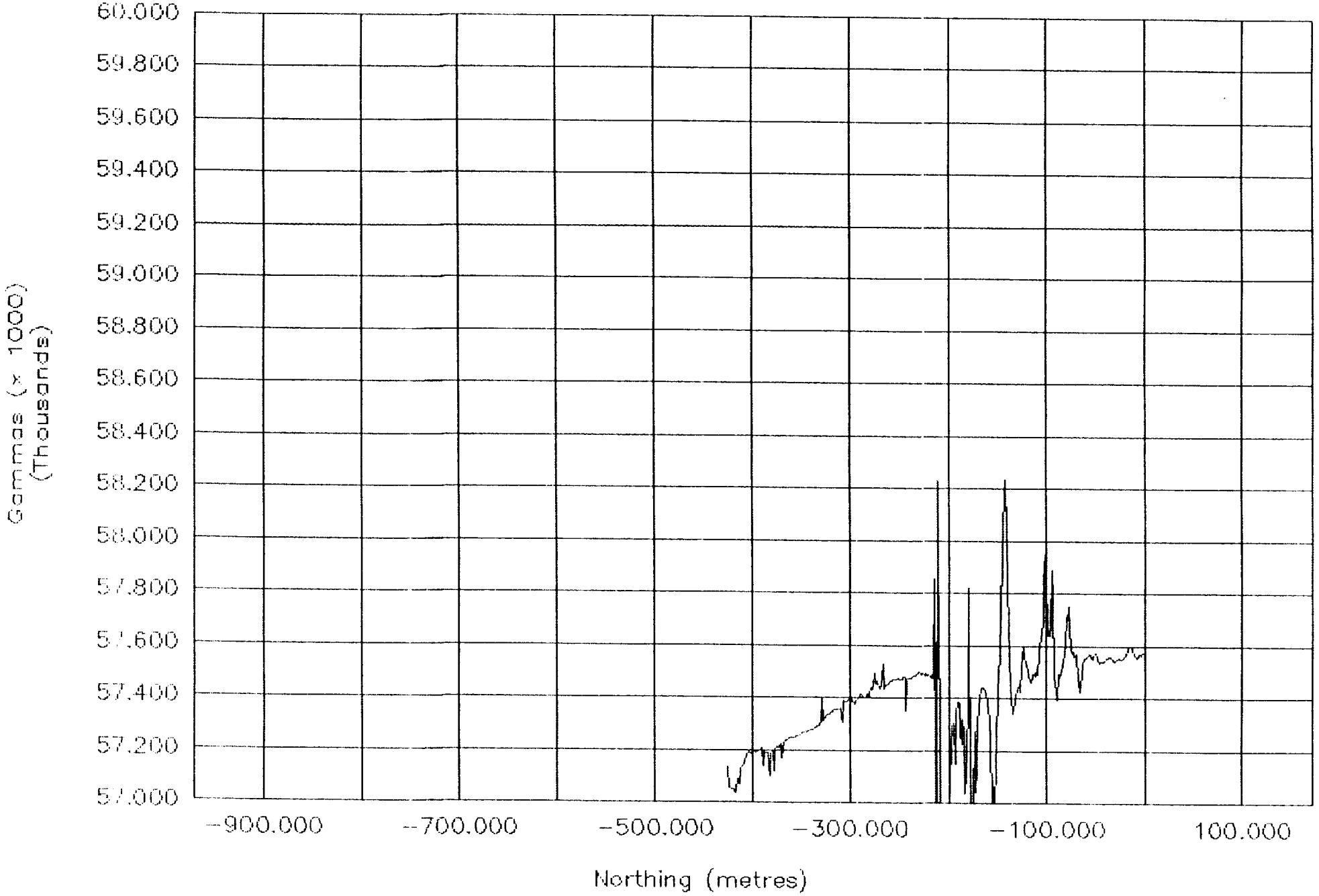
Total Field Strength

OTTO GRID:Line 53+30E



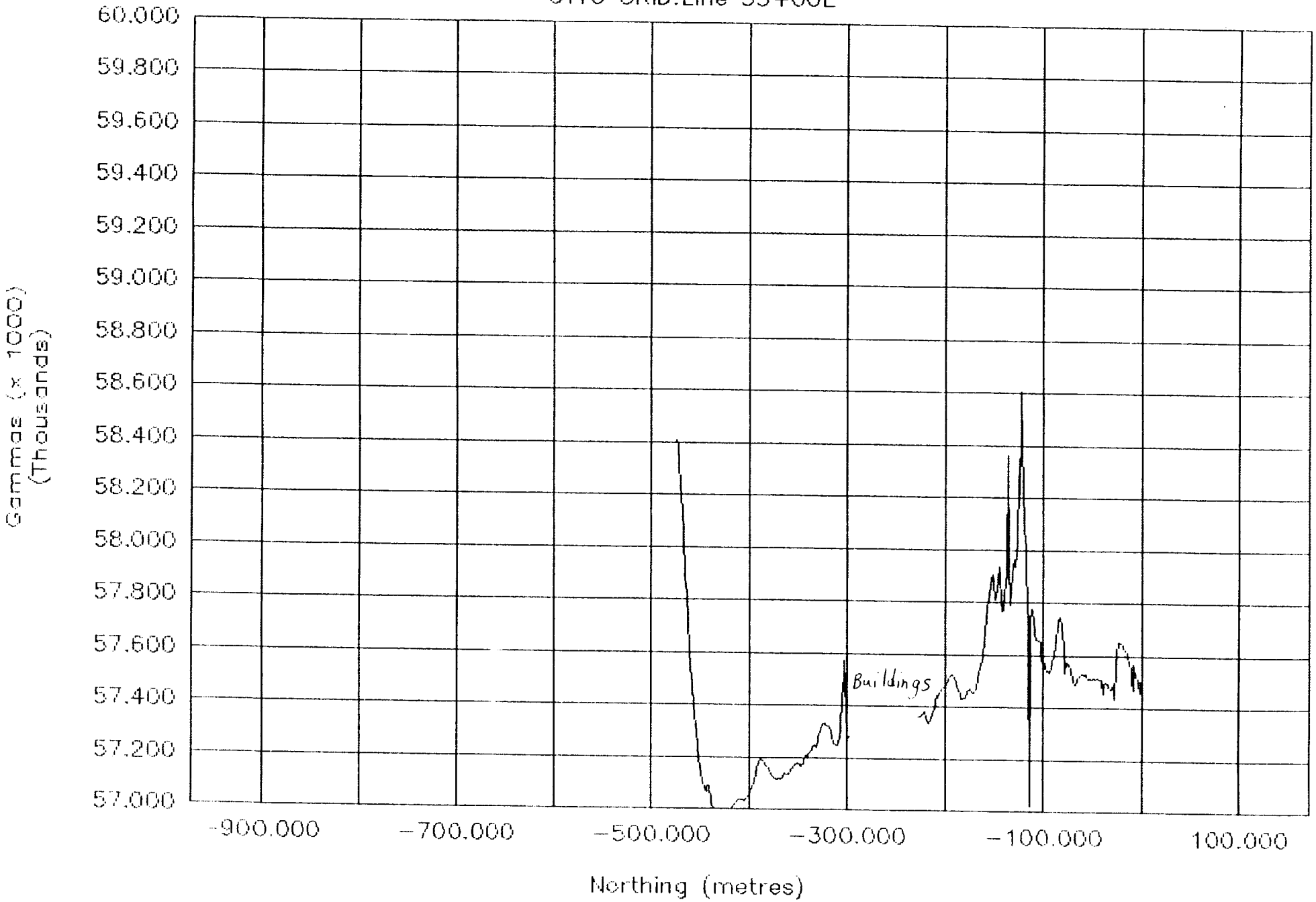
Total Field Strength

OTTO GRID:Line 54+00E



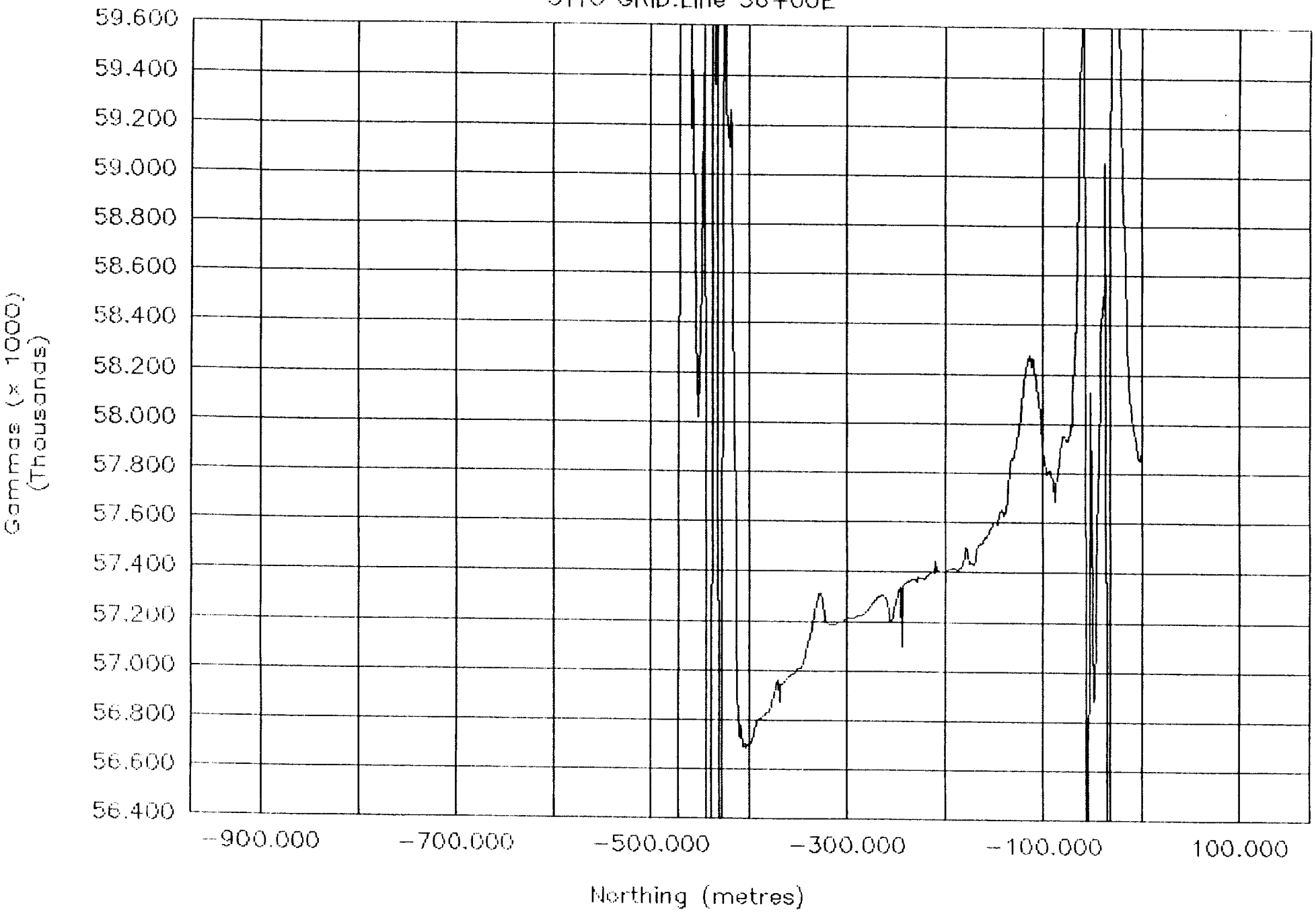
Total Field Strength

OTTO GRID:Line 55+00E



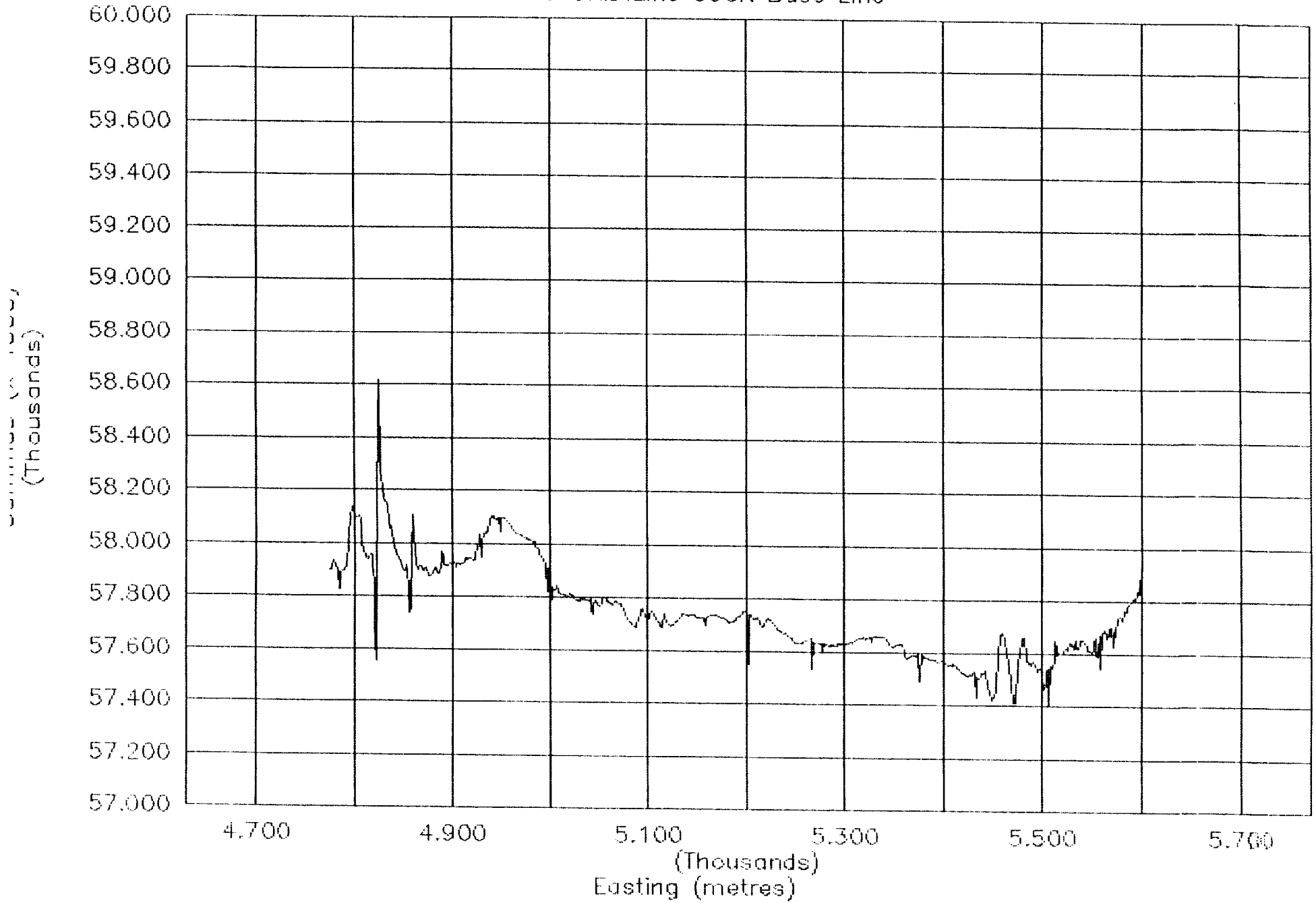
Total Field Strength

OTTO GRID:Line 56+00E



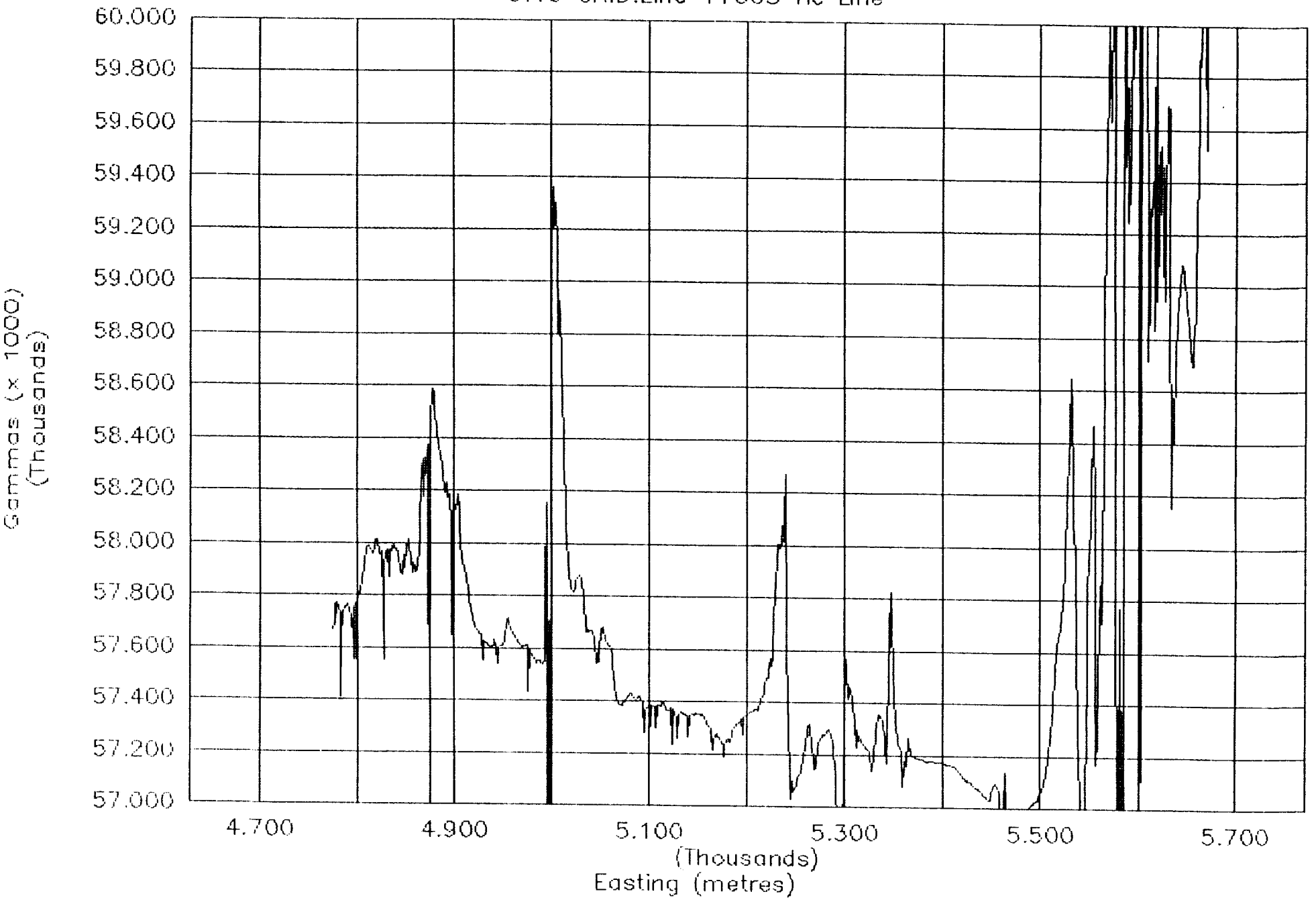
Total Field Strength

OTTO GRID:Line 000N Base Line



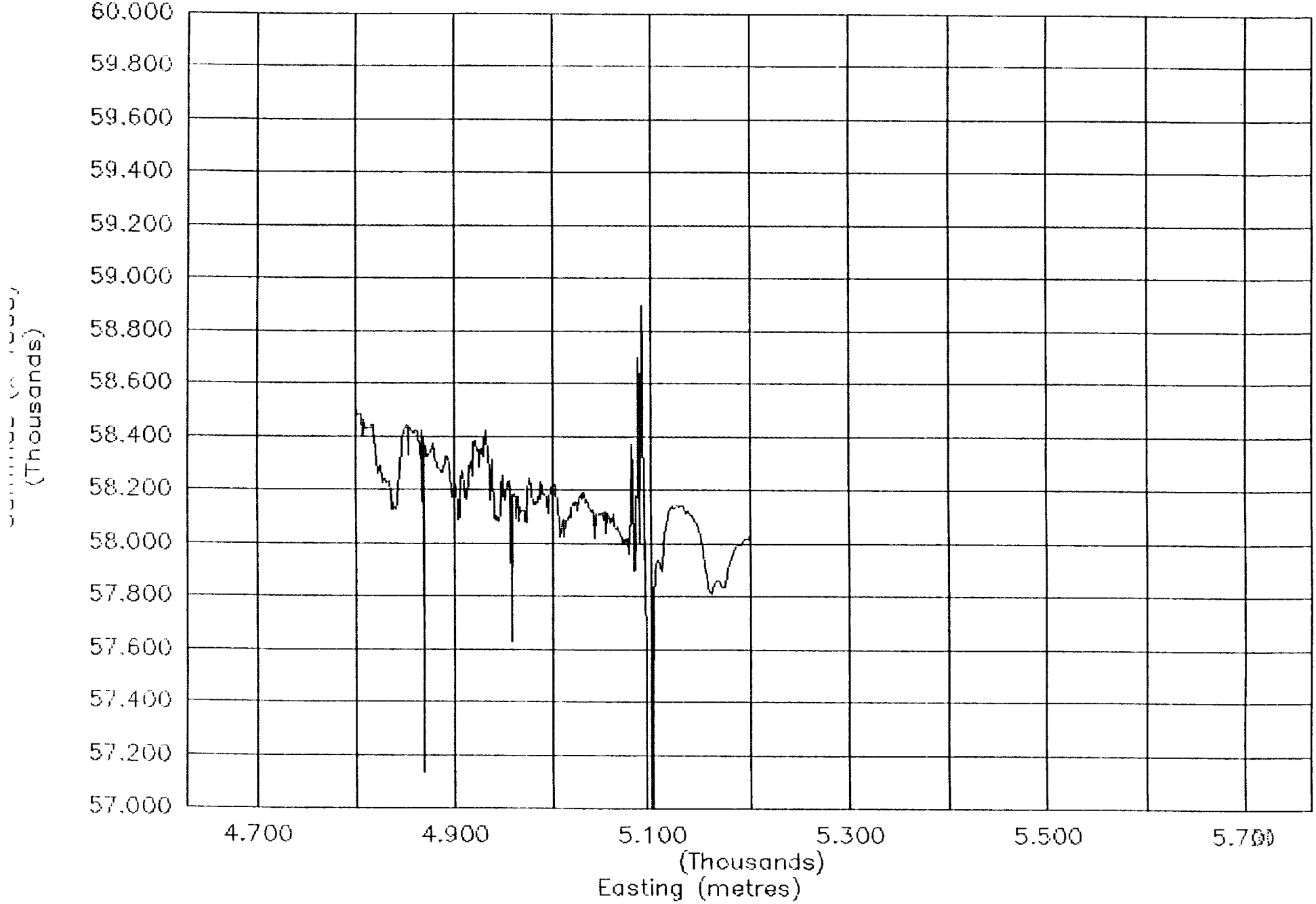
Total Field Strength

OTTO GRID:Line 4+00S Tie Line



Total Field Strength

OTTO GRID:Line 8+50S



MINING RECORDER
KIRKLAND LAKE ONT.
P0K 1P0 (705)568-2466

08-29-97 NO

10X 5.00 S
MISC.FEE 50.00
CHQ 50.00

ITEM 10
4CL 8936 11:55TN

Store: 0508

ID: 00
Expiry: 0299

Credit Card Purchase
VI 4557 [illegible] 0030018873

$50.00

Swiped

Approved Auth #: 484754
Transaction: 001-003-047

Date: 97/08/29

Time: 12:02:54

CHQ AUTH 484754

Cardholder will pay card issuer above amount pursuant to cardholder agreement

Signature: Betty Robinson

Process above amount to account shown

50.00

THANK YOU

4CL8936

assessment credits - white posts E64-0170

claim reporter

MINING RECORDER
KIRKLAND LAKE ONT.
P0K 1P0 (705)568-2466

08-29-97 NO

P1217450
1X 20.00
20.00

CANADIAN TIRE #052 KIRKLAND LAKE, ONT

13 CASH 9799 0052 0001

2217458 OIL,CHNSAW,2-CYC 1	6.79
9222452 FILLER PAPR 5005 1	2.49
SUBTOTAL	9.28
7% G.S.T.	.65
8% P.S.T.	.74
TOTAL	10.67
CASH TENDER	11.00
CHANGE	.33
TOTAL OF MONEY OUT	.33

PLEASE RETAIN RECEIPT
FOR RETURNS OR EXCHANGES.
THANK YOU FOR SHOPPING CANADIAN TIRE

full equipment

INVOICE

From David Robinson
Box 218
Swastika, Ontario
P0K 1T0

To Doug Robinson Consulting
Box 218
Swastika, Ontario
P0K 1T0

June 09, 1997-June 23, 1997.
Eby and Otto Townships.
Hand plotting MaxMin Profiles on mylar.

Date	Hours
June 9	8
10	6
11	2
12	1
13	4
14	3
15	5
16	4
17	5
18	4
19	5
23	2
TOTAL	49

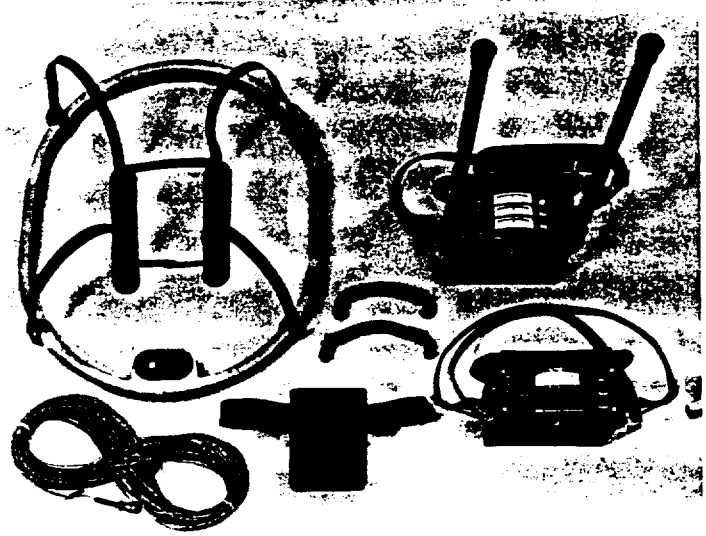
6.125 days @ 150/day $918.75

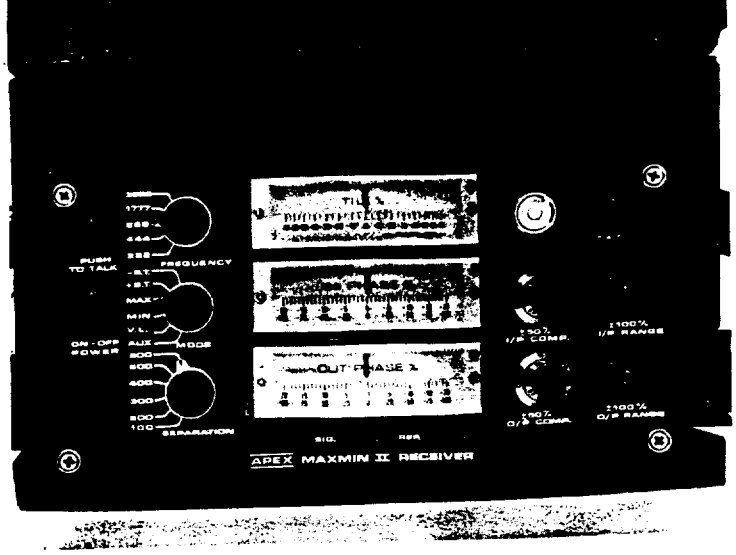
80% Amikougami Creek Project Otto Tp.
20% Eby West project Eby Tp.

Total Invoice $918.75

Sincerely

David Robinson
August 15, 1997





SPECIFICATIONS :

Frequencies: 222, 444, 888, 1777 and 3555 Hz.

Modes of Operation:
- MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with reference cable.
- MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.
- V.L. : Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil Separations: 25, 50, 100, 150, 200 & 250 m (MMII) or 100, 200, 300, 400, 600 and 800 ft. (MMIIF). Coil separations in V.L. mode not restricted to fixed values.

Parameters Read:
- In-Phase and Quadrature components of the secondary field in MAX and MIN modes.
- Tilt-angle of the total field in V.L. mode.

Readouts:
- Automatic, direct readout on 90 mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.
- Tilt angle and null in 90 mm edgewise meters in V.L. mode.

Scale Ranges:

	In-Phase:	±20%, ±100% by push-button switch.
	Quadrature:	±20%, ±100% by push-button switch.
...URE	Tilt:	±75% slope.
...LE	Null (V.L.):	Sensitivity adjustable by separation switch.

Readability: In-Phase and Quadrature: 0.25 % to 0.5 % ; Tilt: 1% .

Repeatability: ±0.25% to ±1% normally, depending on conditions, frequencies and coil separation used.

Transmitter Output:
- 222 Hz : 220 Atm^2
- 444 Hz : 200 Atm^2
- 888 Hz : 120 Atm^2
- 1777 Hz : 60 Atm^2
- 3555 Hz : 30 Atm^2

Receiver Batteries: 9V trans. radio type batteries (4). Life: approx. 35 hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather.

Transmitter Batteries: 12V 6 Ah Gel-type rechargeable battery. (Charger supplied).

Reference Cable: Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify.

Voice Link: Built-in intercom system for voice communication between receiver and transmitter operators in MAX and MIN modes, via reference cable.

Indicator Lights: Built-in signal and reference warning lights to indicate erroneous readings.

Temperature Range: -40°C to +60°C (-40°F to +140°F).

Receiver Weight: 6kg (13 lbs.)

Transmitter Weight: 13kg (29 lbs.)

Shipping Weight: Typically 60kg (135 lbs.), depending on quantities of reference cable and batteries included. Shipped in two field/shipping cases.

Specifications subject to change without notification.

APEX PARAMETRICS LIMITED
BOX 818, R.R. NO.1, UXBRIDGE, ONTARIO, CANADA L0C 1K0

Phone: (416) 640-6102 852-5875 Cables: APEXPARA TORONTO Telex: 06-966625 APEXPARA UXB

SCINTREX

ENVI-MAG Environmental Magnetometer/Gradiometer

Locating Buried Drums and Tanks?

The NEW ENVI-MAG is the solution to this environmental problem. ENVI-MAG is an inexpensive, lightweight, portable "WALKMAG" which enables you to survey large areas quickly and accurately.

ENVI-MAG is a portable, proton precession magnetometer and/or gradiometer, for geotechnical, archaeological and environmental applications where high production, fast count rate and high sensitivity are required. It may also be used for other applications, such as mineral exploration, and may be configured as a total-field magnetometer, a vertical gradiometer or as a base station.

The ENVI-MAG

- easily detects buried drums to depths of 10 feet or more
- more sensitive to the steel of a buried drum than EM or radar
- much less expensive than EM or radar
- survey productivity much higher than with EM or radar

Main features include:

- select sampling rates as fast as 2 times per second
- "WALKMAG" mode for rapid acquisition of data
- large internal memory, expandable to 200,000 readings
- easy to read, large LCD screen displays data both numerically and graphically
- ENVIMAP software for processing and mapping data

ENVI-MAG comprises several basic modules; a lightweight console with a large screen alphanumeric display and high capacity memory, a staff mounted sensor and sensor cable, rechargeable battery and battery charger, RS-232 cable and ENVIMAP processing and mapping software.

For gradiometry applications an upgrade kit is available, comprising an additional processor module for installation in the console, and a second sensor with a staff extender.



ENVI-MAG Proton Magnetometer in operation

For base station applications a Base Station Accessory Kit is available so that the sensor and staff may be converted into a base station sensor.

Features and Benefits

"WALKMAG" Magnetometer/Gradiometer

The "WALKMAG" mode of operation (sometimes known as "Walking Mag") is user-selectable from the keyboard. In this mode, data is acquired and recorded at the rate of 2 readings per second as the operator walks at a steady pace along a line. At desired intervals, the operator "triggers" an event marker by a single key stroke, assigning coordinates to the recorded data.

True Simultaneous Gradiometer

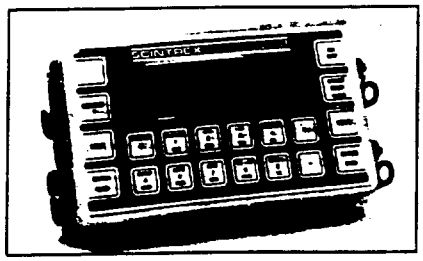
An optional upgrade kit is available to configure ENVI-MAG as a gradiometer to make true, simultaneous gradiometer measurements. Gradiometry is useful for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey.

Selectable Sampling Rates

0.5 second, 1 second and 2 second reading rates user selectable from the keyboard.

Large-Key Keypad

The large-key keypad allows easy access for gloved-hands in cold-weather operations. Each key has a multi-purpose function.



Front panel of ENVI-MAG showing a graphic profile of data and large-key keypad

Large Capacity Memory

ENVI-MAG with standard memory stores up to 28,000 readings of total field measurements, 21,000 readings of gradiometry data or 151,000 readings as a base station. An expanded memory option is available which increases this standard capacity by a factor of 5.

Easy Review of Data

For quality of data and for a rapid analysis of the magnetic characteristics of the survey line, several modes of review are possible. These include the measurements at the last three stations, the ability to scroll through any or all previous readings in memory, and a graphic display of the previous data as profiles, line by line. This feature is very useful for environmental and archaeological surveys.

Highly Productive

The "WALKMAG" mode of operation acquires data rapidly at close station intervals, ensuring high-definition results. This increases survey productivity by a factor of 5 when compared to a conventional magnetometer survey.

"Datacheck" Quality Control of Data

"Datacheck" provides a feature wherein at the end of each survey line, data may be reviewed as a profile on ENVI-MAG's screen. Datacheck confirms that the

instrument is functioning correctly and allows the user to note the magnetic relief (anomaly) on the line.

Large Screen Display

"Super-Twist" 64 x 240 dot (8 lines x 40 characters), LCD graphic screen provides good visibility in all light conditions. A display heater is optionally available for low-temperature operations below 0°C.



Close-up of the ENVI-MAG screen showing data presented after each reading

Interactive Menus

The set-up of ENVI-MAG is menu-driven, and minimizes the operator's learning time, and on-going tasks.



Cose-up of display of ENVI-MAG showing interactive set-up menu

Rechargeable Battery and Battery Charger

An "off-the-shelf" lead-acid battery and charger are provided as standard. The low-cost "Camcorder" type battery is available from electronic parts distributors everywhere.

HELP-Line Available

Purchasers of ENVI-MAG are provided with a HELP-Line telephone number to call in the event assistance is needed with an application or instrumentation problem.

ENVIMAP Processing and Mapping Software

Supplied with ENVI-MAG, and custom designed for this purpose, is easy-to-use, very user-friendly, menu driven data processing and mapping software called ENVIMAP. This unique software appears to the user to be a single program, but is in fact a sequence of separate programs, each performing a specific task. Under the menu system, there are separate programs to do the following:

a) read the ENVI-MAG data and reformat it into a standard compatible with the ENVIMAP software
b) grid the data into a standard grid format
c) create a vector file of posted values with line and baseline identification that allows the user to add some title information and build a suitable surround
d) contour the gridded data
e) autoscale the combined results of the posting/surround step and the contouring step to fit on a standard 8.5 ins. wide dot-matrix printer
f) rasterize and output the results of step e) to the printer

ENVIMAP is designed to be as simple as possible. The user is required to answer a few basic questions asked by ENVIMAP, and then simply toggles "GO" to let ENVIMAP provide default parameters for the making of the contour map. The user can modify certain characteristics of the output plot. ENVIMAP'S menu system is both keyboard and mouse operable. HELP screens are integrated with the menu system so that HELP is displayed whenever the user requests it.

Options Available

- True simultaneous gradiometer upgrade
- Base station upgrade
- Display heater for low temperature operations
- External battery pouch

Specifications

Total Field Operating Range
20,000 to 100,000 nT (gammas)

Total Field Absolute Accuracy
+/- 1nT

Tuning
Fully solid state. Manual or automatic, keyboard selectable

Cycling (Reading) Rates
0.5, 1 or 2 seconds, up to 9999 seconds for base station applications, keyboard selectable

Sensitivity
0.1 nT at 2 second sampling rate

Gradiometer Option
Includes a second sensor, 20 inch (½m) staff extender and processor module

"WALKMAG" Mode
0.5 second for walking surveys, variable rates for hilly terrain

Digital Display
LCD "Super Twist", 240 x 64 dots graphics, 8 line x 40 characters alphanumerics

Display Heater
Thermostatically controlled, for cold weather operations

Keyboard Input
17 keys, dual function, membrane type

Notebook Function
32 characters, 5 user-defined MACRO's for quick entry

Standard Memory

Total Field Measurements:	28,000 readings
Gradiometer Measurements:	21,000 readings
Base Station Measurements:	151,000 readings

Expanded Memory

Total Field Measurements:	140,000 readings
Gradiometer Measurements:	109,000 readings
Base Station Measurements:	750,000 readings

Real-Time Clock
Records full date, hours, minutes and seconds with 1 second resolution, +/- 1 second stability over 12 hours

Digital Data Output
RS-232C interface, 600 to 57,600 Baud, 7 or 8 data bits, 1 start, 1 stop bit, no parity format. Selectable carriage return delay (0-999 ms) to accommodate slow peripherals. Handshaking is done by X-on/X-off

Analog Output
0 - 999 mV full scale output voltage with keyboard selectable range of 1, 10, 100, 1,000 or 10,000 nT full scale

Power Supply
Rechargeable "Camcorder" type, 2.3 Ah, Lead-acid battery.

12 Volts at 0.65 Amp for magnetometer, 1.2 Amp for gradiometer,

External 12 Volt input for base station operations

Optional external battery pouch for cold weather operations

Battery Charger
110 Volt - 230 Volt, 50/60 Hz

Operating Temperature Range
Standard 0° to 60°C
Optional -40°C to 60°C

Dimensions
Console - 10 x 6 x 2.25 inches (250 mm x 152 mm x 55 mm)
T.F. sensor - 2.75 inches dia. x 7 inches (70 mm x 175 mm)
Grad. sensor and staff extender - 2.75 inches dia. x 26.5 inches (70 mm x 675 mm)
T.F. staff - 1 inch dia. x 76 inches (25 mm x 2 m)

Weight
Console - 5.4 lbs (2.45 kg) with rechargeable battery
T. F. sensor - 2.2 lbs (1.15 kg)
Grad. sensor - 2.5 lbs (1.15 kg)
Staff - 1.75 lbs (0.8 kg)

SCINTREX

Head Office
222 Snidercroft Road
Concord, Ontario, Canada L4K 1B5
Telephone: (905) 669-2280
Fax: (905) 669-6403 or 669-5132
Telex: 06-964570

In the USA:
Scintrex Inc.
85 River Rock Drive
Unit 202
Buffalo, New York 14207
Telephone: (716) 298-1219
Fax: (716) 298-1317

INVOICE

From David Robinson
Box 218
Swastika, Ontario
P0K 1T0

To Doug Robinson Consulting
Box 218
Swastika, Ontario
P0K 1T0

June 09, 1997-June 23, 1997.
Eby and Otto Townships.
Hand plotting MaxMin Profiles on mylar.

Date	Hours
June 9	8
10	6
11	2
12	1
13	4
14	3
15	5
16	4
17	5
18	4
19	5
23	2
TOTAL	49

6.125 days @ 150/day $918.75

20 ~~80~~% Amikougami Creek Project Otto Tp.
80 ~~20~~% Eby West project Eby Tp.

183.75 otto
735.00 Eby W.

Total Invoice $918.75

Sincerely

David Robinson
August 15, 1997

assessment
Credits
- white prints
E64-01K

paper prints of
EM mylars for
assessment report.

ottot/S
Ely W. 35

claim
registration

[illegible] Brio

[illegible] RECHRUED
[illegible] LAKE ONT.
[illegible]

[illegible]-77 [illegible]

10X 5.00 B
[illegible] FEE 50.00
[illegible] 50.00

[illegible] 10
[illegible] 8936 11:55TM

Store: 0006

ID: 01
Expiry: 0899

Credit Card Purchase
07 [illegible]0800018873

$50.00

Swiped

Approval Auth #: 484754
Transaction: 001-003-047

Time: 12:02:54

Date: 97/08/29

AUTH 484754

Cardholder will pay card issuer above amount pursuant to cardholder agreement

Signature: Betty Robinson

Process above amount to account shown

THANK YOU

$50.00

[illegible] TIRE [illegible] KIRKLAND LAKE, ONT

[illegible] 7777 0052 001

[illegible] OIL/CHAMPION [illegible]	6.77
[illegible] FILLER PAPER [illegible]	2.49
SUBTOTAL	[illegible]
7% G.S.T.	.65
[illegible] P.S.T.	.74
TOTAL	10.01
CASH TENDER	11.00
CHANGE	.99
TOTAL OF MONEY OUT	.99

fuel equipment

PLEASE RETAIN RECEIPT
FOR RETURNS OR EXCHANGES
[illegible] TIME

ott

Ontario — Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use): W9880.00044
Assessment Files Research Imaging

42A01SE2002 2.18095 OTTO

900

Personal information collected on this form is obtained under the authority of the Mining Act, the information is a public record. This information will be used to ... Questions about this collection should be directed to the Chief Mining ... 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Instructions: - For work performed on Crown Lands before **recording** a claim, use form 0240.
- Please type or print in ink.

2.18095

1. Recorded holder(s) (Attach a list if necessary)

Name (1) Douglas Robinson & (2) Be Hy Robinson	Client Number 222886 302217
Address	Telephone Number 705-642-9153 (both)
	Fax Number
Name Joseph Horne	Client Number
Address 302-1 Lakeshore Road Kirkland Lake Ontario	Telephone Number 705-568-6435
	Fax Number

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

☒ Geotechnical: prospecting, surveys, assays and work under section 18 (regs) ☐ Physical: drilling, stripping, trenching and associated assays ☐ Rehabilitation

		Office Use
Work Type	EM, Mag Terrain Measurement Report Supervision Drafting	Commodity
		Total $ Value of Work Claimed 3748
Dates Work Performed	From 19 (Day) Aug (Month) 1996 (Year) To 15 (Day) 08 (Month) 97 (Year)	NTS Reference
Global Positioning System Data (if available)	Township/Area Otto	Mining Division Larder Lake
	M or G-Plan Number M-379	Resident Geologist District Kirkland Lake.

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

RECEIVED
8:30 AM
JAN 23 1998
GEOSCIENCE ASSESSMENT OFFICE

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name Douglas Robinson	Telephone Number 705-642-9153
Address Box 218 Swastika, Ontario P0K1T0	Fax Number
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number

RECEIVED
LARDER LAKE
MINING DIVISION
JAN 22 1998
11:25 AM

4. Certification by Recorded Holder or Agent

I, Douglas Robinson (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent Douglas Robinson		Date Jan 22/98
Agent's Address Box 218 Swastika, Ontario P0K-1T0	Telephone Number 705-642-9153	Fax Number

Dammed Dmil. 22/98

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

	Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	**Number of Claim Units.** For other mining land, list hectares.	**Value of work performed** on this claim or other mining land.	**Value of work applied** to this claim.	**Value of work assigned** to other mining claims.	**Bank.** Value of work to be distributed at a future date.
eg	TB 7827	16 ha	$26, 825	N/A	$24,000	$2,825
eg	1234567	12	0	$24,000	0	0
eg	1234568	2	$ 8, 892	$ 4,000	0	$4,892
1	1206408	2	2448	800	C	1648
2						
3	1206295	1	1300	400		900
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
		Column Totals	3748.	1200		2548

RECEIVED
8:30 AM
JAN 23 1998
GEOSCIENCE ASSESSMENT OFFICE

I, Douglas Robinson (Print Full Name), do hereby certify that the above work credits are eligible under subsection 1 (1) of the Assessment Work Regulation 6/96 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder or Agent Authorized in Writing: Douglas Robinson — Date: January 22/1998

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- ☒ 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- ☐ 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- ☒ 3. Credits are to be cut back equally over all claims listed in this declaration; or
- ☐ 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

RECEIVED
LARDER LAKE
MINING DIVISION
JAN 22 1998
11:25 AM

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp	Deemed Approved Date	Date Notification Sent
	Date Approved	Total Value of Credit Approved
	Approved for Recording by Mining Recorder (Signature)	

0241 (02/96)

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use): W9880.00044

Personal information collected on this form is obtained under the authority of subsection 6(1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, the information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to the Chief Mining Recorder, Ministry of Northern Development and Mines, 6th Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

2.18095

Work Type	Units of Work Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
EM-2 Frequency	5.6 Km	200	1120
Mag	9.975 Km	80	798
Supervision & Logistics	1		300
Report	4	300	1200
			183.75
Draft EM Aug 15/97 Plan			~~795.00~~ DRR

Associated Costs (e.g. supplies, mobilization and demobilization).

Prints See Receipt	Sept 29/97 at MNDM.	15

Transportation Costs

Equipment Freight		~~75~~ DRR 131

Food and Lodging Costs

RECEIVED
LARDER LAKE
MINING DIVISION
JAN 22 1998
11:25 AM

RECEIVED
8:30AM
JAN 23 1998
GEOSCIENCE ASSESSMENT OFFICE

Total Value of Assessment Work ~~4299~~ DRR 3747.75

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK × 0.50 = Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, Douglas Robinson (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Douglas Robinson (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature: Douglas Robinson Date: Jan 22 1998

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9846
Fax: (705) 670-5881

April 17, 1998

BETTY (ELIZABETH) JOY ROBINSON
BOX 218
SWASTIKA, ONTARIO
P0K-1T0

Dear Sir or Madam:

Submission Number: 2.18095

Subject: Transaction Number(s):		**Status**
	W9880.00044	Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Steve Beneteau by e-mail at benetest@epo.gov.on.ca or by telephone at (705) 670-5855.

Yours sincerely,

ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 12131

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.18095

Date Correspondence Sent: April 17, 1998 **Assessor:** Steve Beneteau

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9880.00044	1206408	OTTO	Approval	April 17, 1998

Section:

14 Geophysical EM
14 Geophysical MAG

Correspondence to:

Resident Geologist
Kirkland Lake, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

BETTY (ELIZABETH) JOY ROBINSON
SWASTIKA, ONTARIO

DOUGLAS RAYMOND ROBINSON
SWASTIKA, ONTARIO

JOSEPH DANIEL HORNE
KIRKLAND LAKE, ONTARIO

Correspondence ID: 12131