



41113SE0034 2.10324 ULSTER

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**REPORT #1  
ON GROUND GEOPHYSICAL SURVEYS**

August 20, 1987.

on the:

**GERVAIS GROUP PROPERTY**

Location:

**ULSTER TOWNSHIP**

**North Central Ontario**

**RECEIVED**

SUBMITTED BY:

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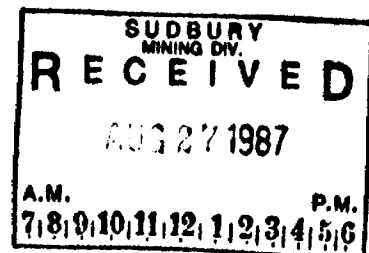
BY: Harold Joseph Tracanelli, GETN.  
Geological Engineering Technician.  
File # NTE.GER/87.

**MINING LANDS SECTION**

**C/O: New-Trails Explorations**

P.O. Box 167,  
Chelmsford, Ontario  
P0M 1L0  
PH: (705) 855-5356

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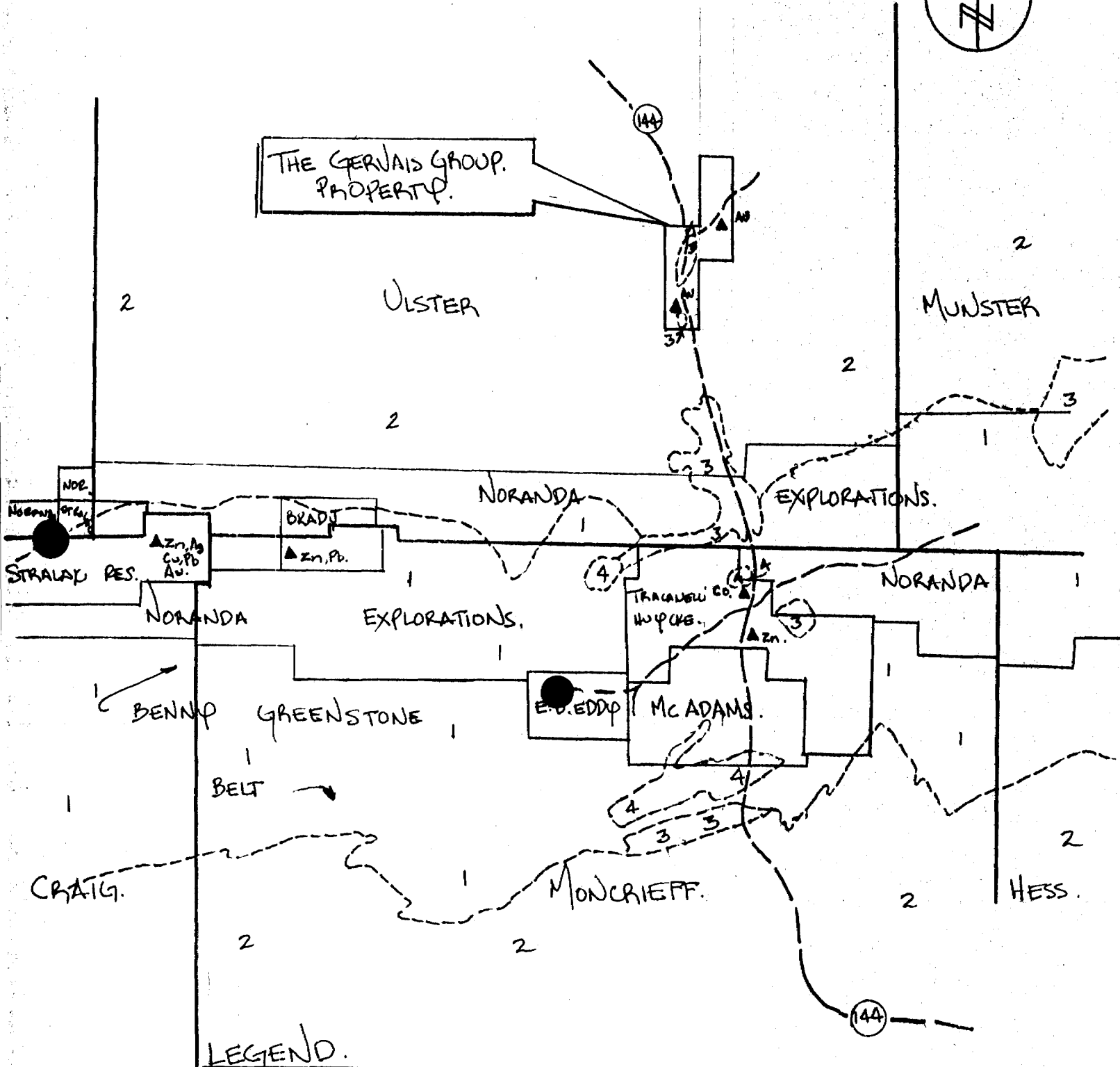
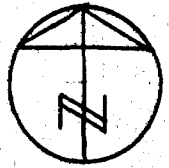
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REPORT  
A REPORT ON GROUND GEOPHYSICAL SURVEYS

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PROPERTY LOCATION MAP.  
SCALE: 1 INCH = 1 MILE.



LEGEND.

1. METAVOLCANIC AND METASEDIMENTARY ROCK "BENNY GREENSTONE BELT".
2. FELSIC PLUTONIC AND HIGHALCIC ROCKS.
3. HURONIAN SUPERGROUP OF METASEDIMENTARY ROCKS.
4. NIPISSING DIABASE DIKES AND SILLS.

DRAWN BY: HAROLD J. TRACANELLI, GETN  
C/O NEW-TRAILS EXPLORATIONS, CHELMSFORD, ONTARIO. POU-110  
DATE: Mon. Aug 16th 1987.

*Harold J. Tracanelli*; GETN.. NTS 87.

Certificate of Qualifications

I, Harold J. Tracanelli, of the Town of Rayside-Balfour, in the Province of Ontario, do hereby certify that:

I reside at 582 Vermillion Lake Road, Chelmsford, Ontario.

I am a Qualified Geological Engineering Technician, having received my academic training at Cambrian College of Applied Arts and Technology, in Sudbury, Ontario. I graduated with a diploma in Geological Engineering in January 1985.

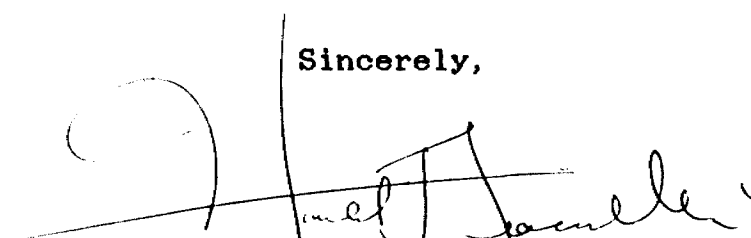
I have been continuously engaged in my profession for the last 2 years. I have participated in the field, supervising and conducting geophysical surveys, as well as the production of the geophysical maps and the report covering this subject property.

This report is based on my experience in exploration, and on a comprehensive study of geophysical data generated during the survey relating towards the detection of precious and/or base metal resources within the boundaries of the subject property.

I have disclosed in this report all relevant material which; to the best of my knowledge, might have a bearing on the viability of the project and the recommendations thereof.

Nothing in this report should be interpreted as a guarantee that any findings herein are totally error free, nor should any statement be construed as an assurance that any investment in this property will yield beneficial returns.

Sincerely,



Harold J. Tracanelli, GETN  
Director of Operations  
New-Trails Explorations

**NEW-TRAILS EXPLORATIONS**

P.O. Box 167,  
Chelmsford, Ontario  
CANADA P0M 1L0

PH: (705) 855-5356.

TO: John Claude Gervais & Charles Gervais,  
Box 831,  
Copper Cliff, Ontario  
P0M 1N0

(705) 682-0254.

August 20, 1987.

Dear Mr. Gervais:

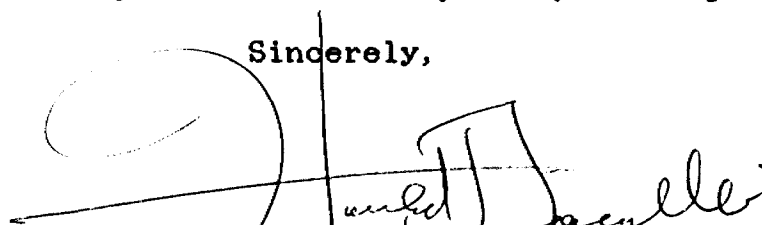
Contained herein is my report, stating in detail, my discoveries regarding Ground Geophysical Surveys, conducted on your Ulster Township Property, during May 1987.

The report findings are optimistic for this potential mineral property and my general conclusions and recommendations are stated in my report.

Thank you for your time and attention in this matter, I have enjoyed the opportunity to be of service to you.

Should you have any questions, or require any further information or enquiries in this matter, please feel free to write or call me at anytime. I am always at your disposal.

Sincerely,



Harold J. Tracagnalli  
Director of Operations.

## INTRODUCTION:

During the day of Saturday May 23rd 1987, systematic Ground Magnetometer, and Very Low Frequency (VLF) Electromagnetic surveys were carried out over a group of two (2) mining claims numbered S-943465 and S-943466, within East-Central Ulster Township.

The claims which are but a part of a larger group of claims are presently held by: J. Claude Gervais of Copper Cliff Ontario, and Charles Gervais of Sudbury Ontario.

The Gervais Group commissioned New-Trails Explorations of Chelmsford Ontario to plan and establish a North-South Grid System, and to perform a Standard Magnetometer and VLF-Electromagnetic Survey over this grid system.

The surveys were conducted with the intention of attempting to more clearly define magnetic and/or conductive below-surface sources in search of placer and/or hardrock mineral resources.

This report shall summarize the interesting results of the two surveys completed over the grid.

## LOCATION AND ACCESS:

The two (2) claims covered in this report are as follows: S-943465 and S-943466.

They are located in the East-Central portion of Ulster Township, about 75 KM Northwest of Sudbury Ontario.

Excellent road access is afforded by way of Highway No. 144 North, going North from Sudbury, then East via the Onaping Lake Lodge Road, which traverses the two (2) claims.

## **SURVEY SPECIFICATIONS:**

The Ground Magnetometer and Very Low Frequency Electromagnetic Survey were performed along an approximately North/South oriented cut, using chained and picketed grid lines, which were spaced at 330 feet <100.58 meters> apart, perpendicular to an East/West base line 1320 feet <402.33 meters> long.

On site manufactured stations were spaced at 50 foot <15.24 meter> intervals.

The lines upon which the two surveys were carried out were known as: lines 0+00 E, 3+30 E, 6+60 E, 9+90 E, and 13+20 E. The lines were established on the days of Tuesday May 12th, Wednesday May 13th, and Thursday May 14th 1987. The lines are for a distance of 12960 feet <3950.20 meters> which includes the base line.

A scheduled 233 stations were located on the 5 cross lines.

Line cutting was conducted by: Thomas Blackburn and Norman Lafortune, former sub-contractors of New-Trails Explorations.

A Scintrex MP-2 Proton Precession Magnetometer was systematically employed along the cross lines to measure the Earth's total magnetic field, with a built in accuracy of 1 nT (1 Gamma = 100-9 Tesla).

Base station values and times were established at each base line/cross line intercept. The diurnal variations of the magnetic field were monitored with formed loops at each station at the base line during the course of the survey.

Successive readings at each station, without any movement were carried out, in order to clearly establish if the magnetometer was providing valid readings. By performing this procedure over each station on the grid, we found that the magnetometer generally provided valid readings.

Clean and valid data obtained along the grid lines and the moderately close closure of the nT (Gammas) has led me to believe that diurnal variation corrections would not be necessary for this small survey. For larger more exacting surveys, corrections are applied to the readings as a function of the time of reading.

The magnetometer survey was conducted by: Harold J. Tracanelli GETN, owner of New-Trails Explorations, on Saturday May 23 1987.

**SURVEY SPECIFICATIONS: Cont.**

A Geonics Limited EM-16 Unit; used to measure the in-phase and quadrature components of the secondary field with polarities indicated; was systematically utilized over the above mentioned grid system.

This particular EM-16 unit used Seattle Washington USA as it's VLF primary field generating transmitting station. The EM-16 has an operating frequency rate of from about 15-25 Hz, and measures in phase to 150%±; and quadrature to 40%±, with a readability of the two measured units to 1%±. All readings recorded were taken in the northward facing orientation.

All of the EM-16 data generated field readings were input into a "Frazer Filtering Program", using a 'Commodore 64 type' computer. All data is in storage at Levack Ontario.

The EM-16 survey and the Frazer Filtering were conducted on Saturday May 23rd 1987, by: Marcel A. Violette GETN, a current sub-contractor for New-Trails Explorations.

Please refer to Pages 00-00, APPENDIX I: GENERAL INTERPRETIVE CONSIDERATIONS, and: The EM-16 Unit Case Histories Report, Reproduced from:

[ "Report on Combined Helicopter-Borne Magnetic and VLF-EM Survey Geneva Lake Area Ontario"; for: Noranda Exploration Company Ltd., by: Aerodat Ltd., dated: June 1985. Extracts from: Appendix I, Pages 1-5. ]

AND:

[ The Report: "Exploration Geophysics: VLF-EM Methods", by: The Civil, Mining and Geology Department, of: Cambrian College of Applied Arts and Technology, Sudbury Ontario, dated: Spring 1982. Extracts from: Pages 2-4, and 12-21. ]

The above two sources are to be considered as background references to this Gervais Group Property Report.



## DATA PRESENTATION:

The magnetometer data has been presented in hand-drafted, inked contour plan and profile maps, at a selected horizontal scale of 1"=100' (1/20" = 5'-0"). A contour interval of 50 nT (50 Gammas) has been selected in the presentation of the generated field data. The magnetometer data was profiled at a selected scale of 1:50 (1/50" = 10 nT <Gammas>).

The VLF-electromagnetic data has been presented in hand-drafted, inked contour plan and profile maps, at a selected horizontal scale of 1"=100' (1/20" = 5'-0"). The Frazer Filtered data has been contoured at 10 Degree  $\pm$  intervals. The raw VLF-EM data was profiled at a selected scale of 1:40 (1/40" = 1 Degree  $\pm$ ).

All maps have been presented with location(s) of the base line, cross lines, and stations shown; and with the approximate locations of magnetic and VLF anomalies, claim posts, roads, gravel pits, and major lakes and/or water courses noted.

## DISCUSSION OF RESULTS:

### The Magnetometer Survey Results:

The magnetometer data was mildly dominated by Southern and North-Eastern magnetic plateaus upon which a number of short isolated magnetic highs were found to be located.

The magnetometer instrument was set for an assumed magnetic background of 58,000 nT (Gammas), after which magnetic high readings ranging from: 1238, 1120, 1060, 1037, and 902 nT (Gammas) above background. Throughout other areas of the grid system values below the value of 902 nT (Gammas) may be considered anomalous, depending on the particular magnetic source, geometry, etc. Values as low as 40, 121, 134, 160, and 432 nT (Gammas) have formed magnetic depressions. We found one magnetic East/West Peak adjacent to an East/West magnetic depression with with a range from 40 nT to 1120 nT, <a range of 1080 nT (Gammas)>, suggesting a rather significant but thin concentration of magnetic elements. ~~The magnetic anomalies will be discussed in order of decreasing magnetic intensity.~~ Therefore this does not mean that ANOMALY A-MAG will prove to be more significant than say, ANOMALY E-MAG.

## DISCUSSION OF RESULTS: Cont.

### The Magnetometer Survey Results: Cont.

#### ANOMALY A-MAG

This anomaly is located on line 9+90 E, at 20+50 N (2050 feet <624.84 meters>), North from the base line station 0+00.

The recorded nT (Gamma) value for this anomaly was the highest of the entire survey at 1238 nT (Gammas). The anomaly trends N 75 Degrees E, and has an apparent strike length of 330 feet <100.58 meters>, with a width of some 140 feet <42.67 meters>.

The character and orientation of the anomaly, in combination with careful field observations, would possibly suggest the cause of ANOMALY A-MAG as being thin, near vertical magnetite rich quartz vein concentrations, within an iron rich granodiorite or possibly diorite. The source of the anomaly may be close to the surface.

#### ANOMALY B-MAG

This anomaly is located on line 6+60 E, at 4+00 N (400 feet <121.92 meters>), North from base line station 0+00, where it has a detected nT (Gamma) value of 861. Also, on line 9+90 E at 5+50 N (550 feet <167.64 meters>) it has a detected nT (Gamma) value of 1120.

The anomaly was found to be mildly bow shaped, trending from N 74 Degrees E, to N 88 Degrees E. It has an apparent strike length of 580 feet <176.78 meters>, with a fairly thin across strike width of only 75 feet <22.86 meters>.

This anomaly is believed to be caused by thin, near vertical to vertical, discontinuous magnetite-rich quartz veins. Careful field observations have shown that the thin magnetite-rich veins from the vertical to near horizontal orientations occur at or near station 5+50 N on line 9+90 E.

A magnetic low on the same line, but centered 75 feet <22.86 meters> North of the 1120 nT (Gammas) reading, is currently unexplained, but it may represent a silicious enriched granite.

## DISCUSSION OF RESULTS: Cont.

### The Magnetometer Survey Results: Cont.

#### ANOMALY C-MAG

This anomaly is located on line 3+30 E at 6+00 N (600 feet <182.88 meters>), North of 0+00 N. It has a detected nT (Gamma) value of 1060; and also, located on line 6+60 E at 6+30 N (630 feet <192.02 meters>), North of 0+00 N, and a detected value of 760 nT (Gammas).

The anomaly ranges from 525 nT (Gammas) to a maximum of 1060 nT (Gammas) above background. It is very mildly bow shaped, and is trending from N 85 Degrees E, to N 80 Degrees E, with an apparent strike length of 650 feet <198.12 meters>, and a strike width of from 80 feet <24.38 meters>, to a maximum of 110 feet <33.52 meters>.

It is thought to be caused by, once again, thin magnetite rich quartz veins, but this has not yet been proven in the field.

#### ANOMALY D-MAG

This anomaly is located on line 0+00 E, at 2+00 N (200 feet <60.96 meters>), North from 0+00 N, having a detected nT (Gamma) value of 452, and also a detected nT (Gamma) value of 1036 on line 3+30 E, at 3+00 N (300 feet <91.44 meters> North of 0+00 N.

The anomaly magnitude ranges from 452 nT (Gammas) to a maximum of 1036 nT (Gammas) above the mean background.

This anomaly is the most significantly bow shaped of all of the magnetic anomalies detected during the present survey. It trends from N 76 Degrees E to S 79 Degrees E, with an apparent strike length of some 600 feet <182.88 meters>. The width of the anomaly is thought to range from 30 feet <9.14 meters> to an apparent maximum of 70 feet <21.33 meters>.

It is thought to be caused by many thin magnetite rich quartz veins within an apparent field observed mega-brecciated granatoid gneiss.

## DISCUSSION OF RESULTS: Cont.

### The Magnetometer Survey Results: Cont.

#### ANOMALY E-MAG

The anomaly is located on line 9+90 E, at 8+00 N (800 feet <243.84 meters>), North of 0+00 N; with a detected nT (Gamma) reading of 902. The magnitudes range from 650 to a recorded maximum of 902 nT (Gammas).

It was found to be rather straight, striking at N 67 Degrees E; with an apparent strike length of 425 feet <129.54 meters> and an apparent cross strike width ranging from 100 feet <30.48 meters> to a maximum of 150 feet <45.72 meters>.

It may well be associated with a geological contact (fault zone) between granodiorite gneiss to the North and granodiorite to trondhjemite gneiss to the South. The anomaly follows roughly along the contact between the two rock types. A magnetic low from 90 nT (Gammas), to 137 nT (Gammas) may suggest a few isolated magnetite rich veins, below the 902 value.

#### ANOMALY E-MAG

The anomaly is located on line 0+00 E, at 18+50 N (1850 feet <563.88 meters>), North of 0+00, and could be considered incomplete, since no additional survey lines to the East were established. The anomaly magnitude ranges from 500 to a maximum of 707 nT (Gammas).

Its strike appears to be N 75 Degrees E, with an apparent strike length of at least 200 feet <60.96 meters>; and an apparent across strike width of 330 feet <100.58 meters>.

It may have a rather questionable identification, and since it is buried below very thick unconsolidated glacial sands and gravels, it is that much more difficult to interpret this anomaly.

This anomaly may be explained in one of three fashions:

- A) A shallow subcrop of granitic gneiss may be pushing upwards, through the thick sand/gravel deposit.
- B) A placer magnetite deposit (being a magnetite-rich sand horizon, which may have once been an old stream bed), could exist there. If proven correct, a rich magnetite horizon rich in placer gold grains and/or dust may exist.
- C) There may conceivably be some deeply buried magnetite-rich quartz veins in the area. ANOMALIES E-MAG & A-MAG are directly along strike from each other, and therefore may prove to be of interest.

## DISCUSSION OF RESULTS: Cont.

### The Magnetometer Survey Results: Cont.

#### ANOMALY G-MAG

This anomaly is located on line 3+30 E, at 14+40 N (1440 feet <438.91 meters>), North of 0+00. It has a detected nT (Gamma) value of 529. It is thought that any remaining portion of this anomaly may be located on line 6+60 E, at 15+10 N (1510 feet <460.24 meters>) North of 0+00N.

This rather weak, but still distinguishable anomaly has a magnitude ranging from 520 to a maximum of about 575 nT (Gammas). The anomaly appears to be made up of a series of mid to high 500 nT (Gammas), sitting upon a rather flat magnetic plateau of 300 to mid to a few high 400 nT (Gamma) values.

The anomaly is very mildly bow shaped, and strikes basically N 81 Degrees E, with an apparent strike length of 670 feet <204.21 meters>. It is uncertain what the strike width is at this time.

It may be caused by either of the following:

- A) A shallow subcrop of granite gneiss may be pushing upwards, through the thick gravel deposit.
- B) A placer magnetite deposit (being a magnetite-rich sand horizon, which at present has a water tributary flowing through slowly into Moncrieff Creek), may exist there. If proven correct, a magnetite-rich horizon may be very rich in placer gold and/or dust.

#### ANOMALY H-MAG

This anomaly is located on line 13+20 E, at 16+00 N (1600 feet <487.68 meters>), North of 0+00 N, with a detected reading of 559 nT (Gammas). It has a magnitude ranging from 350 to a maximum of 559 nT (Gammas).

The apparent strike is N 64 Degrees E, with a length of 200 feet <60.96 meters>, and an apparent across strike width of approximately 50 feet <15.24 meters>; and is believed to be caused by thin isolated magnetite-rich quartz veins.

## DISCUSSION OF RESULTS: Cont.

### The Magnetometer Survey Results: Cont.

#### ANOMALY I-MAG

This anomaly is located on line 13+20 E, at 6+50 N (650 feet <198.12 meters>), North of 0+00 N, with a detected reading of 751 nT (Gammas).

The anomaly may be a horizontally separated extension of ANOMALY B-MAG. The separation is thought to have occurred along an apparent field observed linament, which may be a strike sub-fault or a diabase dike, or both.

### The VLF-Electromagnetic Survey Results:

The electromagnetic instrument used in this survey was set to receive a preset primary VLF radio signal frequency from an American naval base at Seattle Washington USA. During the survey a number of conductive materials were detected in the earth within the survey area. Some of these, with further, more detailed investigation, may prove to be of some interest.

The Very Low Frequency (VLF) Electromagnetic (EM) survey data was dominated by 5 weak North/Easterly trending EM conductors, and 2 weak South/Easterly trending conductors.

The electromagnetic data obtained during this particular survey do not appear as interesting as the magnetometer data. This of course does not mean that something of significance could not be found using the VFM-EM data in some future investigation.

#### ANOMALY I-VLF

This anomaly has been detected on line 0+00 E, at 15+50 N (1550 Feet <472.44 meters>), North of 0+00 N; and on line 3+30 E, at 14+25 N (1425 feet <434.34 Meters>), North of 0+00 N; and on line 6+60 E, at 15+75 N (1575 feet <480.06 meters>), North of 0+00 N.

The apparent strike of the anomaly is basically S 69 Degrees E, and has an apparent strike length of 1000 feet <304.80 meters>. ANOMALY I-VLF may roughly correspond with magnetic ANOMALIES F & G-MAG, but this has not been proven.

Both in-phase and out-phase cross overs have been detected over a road creek and culvert on the east end of the anomaly, and a thick glacial sand and gravel layer to the West extent. It is believed that the anomaly is probably caused by overburden, IE: wet clay and muskeg, in combination with the metal culvert.

**DISCUSSION OF RESULTS: Cont.**

**The VLF-Electromagnetic Survey Results: Cont.**

**ANOMALY II-VLF**

This anomaly has been detected on line 0+00 E, at 6+50 N (650 feet <198.12 meters>), North of 0+00 N.

The apparent strike of the anomaly is N 54 Degrees E, and has an apparent strike length of 300 feet <91.44 meters>.

This anomaly is believed to correspond with an apparent wet geological contact between a fine grained granodiorite to the North, and a granodiorite and/or trondhjemite gneiss to the South.

**ANOMALY III-VLF**

This anomaly has been detected on line 3+30 E, at 6+00 N (600 feet <182.88 meters>), North of 0+00 N.

The apparent strike of the anomaly is N 54 Degrees E, and has an apparent strike length of 325 feet <99.06 meters>, and was found to correspond with the west portion of the East/West magnetic

**ANOMALY C-MAG.**

The center of this VLF-EM anomaly corresponds with a magnetic peak of 1060 nT (Gammas) above background.

It is believed to be caused by a possible concentration of sulphide mineralization within magnetite-rich quartz veins, which may have been subject to gneisstocity plane controls, etc.

Magnetite rich quartz carbonate with disseminated pyrite, calcopyrite, and bornite vein systems; which are located 1500 feet <457.20 meters> to the South/West; returned gold values as high as 0.21 ounces per ton. These gold bearing veins are believed to strike across the Gervais Group Claim Block, and this mineralization therefore, could be of great significance.

DISCUSSION OF RESULTS: Cont.

The VLF-Electromagnetic Survey Results: Cont.

ANOMALY IV-VLF

This anomaly has been detected on line 3+30 E, at 2+25 N (225 feet <68.58 meters>), North of 0+00 N; and also on line 6+60 E, at 4+75 N (475 feet <144.78 meters>), North of 0+00 N.

The apparent strike of the anomaly is N 48 Degrees E, and it has an apparent strike length to 750 feet <228.60 meters>.

The ANOMALY IV-VLF roughly corresponds with the magnetic ANOMALIES B & D-MAG, which may have characteristics similar to those discussed above for ANOMALY III-VLF.

ANOMALY V-VLF

This anomaly has been detected on line 13+20 E, at 9+25 N (925 feet <281.94 meters>), North of 0+00 N.

The apparent strike of this anomaly is N 80 Degrees E, and it has a short apparent strike length of 250 feet <76.20 meters>.

ANOMALY V-VLF may correspond along strike to the East end of the magnetic ANOMALY E-MAG; but it is believed to be related to an apparent wet geological contact between a fine-grained granodiorite and/or trondhjemite gneiss to the South.

ANOMALY VI-VLF

This anomaly has been detected on line 9+90 E, at 17+75 N (1775 feet <541.02 meters>), North of 0+00 N.

The apparent strike of this anomaly is S 65 Degrees E, and has an apparent strike length of 325 feet <99.06 meters>.

This anomaly is located on the detected magnetic plateau of which magnetic ANOMALY A-MAG was detected. But so far ANOMALY VI-VLF remains unexplained.



**DISCUSSION OF RESULTS: Cont.**

**The VLF-Electromagnetic Survey Results: Cont.**

**ANOMALY VII-VLF**

This anomaly was detected on line 13+20 E, at 22+25 N (2225 feet <678.18 meters>), North of 0+00 N.

The apparent strike of this anomaly is N 52 Degrees E, and has an apparent strike length of 225 feet <68.58 meters>.

The anomaly is located on a detected magnetic plateau, of which magnetic ANOMALY A-MAG is located 75 feet <22.86 meters> to the South/West. But, ANOMALY VII-VLF at this time remains unexplained.

**CONCLUSIONS:**

On Saturday May 23rd 1987, a magnetometer and VLF-electromagnetic survey was conducted over two mining claims of the Gervais Group Property, overlying interesting prospective geological formations for placer and hard rock gold, some 46.57 miles <75.0 Km.> North of Sudbury Ontario, in Ulster Township.

A total of 10 magnetometer and 7 VLF-electromagnetic anomalies have been detected over a cut grid-line (survey) system, in an approximately North/South orientation. Some of these anomalies have shown themselves to be very interesting, and in turn they may be very valuable.

The surveys were conducted with the intention of attempting to more clearly define below surface sources of magnetic and/or conductive activity, in a search for placer and/or hardrock mineral resources.

It is believed that a portion of the detection goals have been met; and therefore, further work will have to be carried out in order to determine the future validity of any valuable mineral resources below the surface of the Gervais Group Property.

## RECOMMENDATIONS:

In consideration of the metal values recently obtained within the local sands and gravels, and the significant value of 0.21 ounces per ton of gold in a magnetite-rich quartz/carbonate sulphide vein system just to the West, I must recommend the following:

A systematic program of test pits to a minimum depth of 3 feet <0.91 meter> or deeper should be established on a grid pattern of 50 feet <15.24 meters> by 100 feet <30.48 meters>, over the magnetic ANOMALIES F & G-MAG to evaluate the placer gold potential of this known gold bearing sand and gravel area.

Each test pit sample should begin at the 3 foot <0.91 meter> depth in the pit, and should consist of a minimum amount of 200 liters <43.8 gallons> of material. The samples should not be screened or compressed before running them through a sluice box. (A 200 liter sample = ten 20-litre plastic hydraulic oil cans).

Each sample should be sluiced separately, and subsequently sent to a reputable assay laboratory for a Fire Assay (F.A.) for gold and silver.

It is possible that other elements such as chromium, copper, nickel, palladium, platinum, rhodium, tin, titanium, tungsten, vanadium, and zirconium might (with proper assay methods) also be detectable. Further exploration, sample taking, and assaying may be needed to obtain a reliable idea of their possible potential amounts within the limits of the Gervais Group Properties area. Any further actions to be taken would have to be determined after taking into consideration the results of the initial assay tests.

The magnetic ANOMALIES A,B,C,D,E,H & I-MAG should be carefully prospected by means of: In some cases, blasting test pits, and/or taking grab & chip samples of any interesting looking vein systems with or without mineralization. The samples should be sent to a reputable assay laboratory to be assayed for gold and silver by the Fire Assay (F.A.) and Neutron Activation (N.A.) methods.

A few soil and or vegetation samples, if carefully selected, may be of value over the magnetic ANOMALIES E & I-MAG. They might then be tested by standard methods for such samples.

The VLF-electromagnetic ANOMALIES III,IV,VI & VII-VLF should be carefully prospected in the manner described above for the magnetic ANOMALIES A,B,C,D,E,H & I-MAG.

Diamond drilling, or reverse circulation drilling, of various anomalous areas may be warranted, pending the results of a careful well planned preliminary exploration program.

In my opinion, a proper systematic evaluation of this property could result in a potential mineral producer in the future.

## APPENDIX I - General Interpretive Considerations

### Magnetics

The total field magnetic map shows contours of the total magnetic field, uncorrected for regional variation. This data can be quite useful for geological mapping, as it reflects the varying magnetic properties of the underlying rocks. In general, the magnetic response increases in intensity as the rock type goes from felsic to intermediate to mafic. The amplitude, shape and size of the anomaly can be used to determine the geometry, position and depth of the causative body.

When correlated with electromagnetic data, the magnetics are a useful tool for outlining potential exploration targets. An apparent coincidence between a VLF-EM and a magnetic anomaly may be caused by a conductor which is also magnetic (such as sulphides containing pyrrhotite and/or magnetite), or by a conductor which lies in close association with a magnetic body (such as graphites and magnetites). It is often very difficult to distinguish between these cases.

More indirectly, varying intensities and pattern shifts on the magnetic contours can be interpreted as certain rock types, stratigraphic horizons, faults or folds which might be geologically favourable to a specific type of mineralization.

VLF Electromagnetics

The VLF-EM method employs the radiation from powerful military radio transmitters as the primary signals. The magnetic field associated with the primary field is elliptically polarized in the vicinity of electrical conductors. The Herz Totem uses three coils in the X, Y, Z configuration to measure the total field and vertical quadrature component of the polarization ellipse.

The relatively high frequency of VLF 15-25 kHz provides high response factors for bodies of low conductance. Relatively "disconnected" sulphide ores have been found to produce measurable VLF signals. For the same reason, poor conductors such as sheared contacts, breccia zones, narrow faults, alteration zones and porous flow tops normally produce VLF anomalies. The method can therefore be used effectively for geological mapping. The only relative disadvantage of the method lies in its sensitivity to conductive overburden. In conductive ground the depth of exploration is severely limited.

The effect of strike direction is important in the sense of the relation of the conductor axis relative to the energizing electromagnetic field. A conductor aligned along a radius drawn from a transmitting station will be

in a maximum coupled orientation and thereby produce a stronger response than a similar conductor at a different strike angle. Theoretically it would be possible for a conductor, oriented tangentially to the transmitter to produce no signal. The most obvious effect of the strike angle consideration is that conductors favourably oriented with respect to the transmitter location and also near perpendicular to the flight direction are most clearly rendered and usually dominate the map presentation.

The total field response is an indicator of the existence and position of a conductivity anomaly. The response will be a maximum over the conductor, without any special filtering, and strongly favour the upper edge of the conductor even in the case of a relatively shallow dip.

The vertical quadrature component over steeply dipping sheet like conductor will be a cross-over type response with the cross-over closely associated with the upper edge of the conductor.

The response is a cross-over type due to the fact that it is the vertical rather than total field quadrature component that is measured. The response shape is due largely to geometrical rather than conductivity considerations and the distance between the maximum and minimum on either side of the cross-over is related to target depth. For a given target geometry, the larger this distance the greater the

depth.

The amplitude of the quadrature response, as opposed to shape is function of target conductance and depth as well as the conductivity of the overburden and host rock. As the primary field travels down to the conductor through conductive material it is both attenuated and phase shifted in a negative sense. The secondary field produced by this altered field at the target also has an associated phase shift. This phase shift is positive and is larger for relatively poor conductors. This secondary field is attenuated and phase shifted in a negative sense during return travel to the surface. The net effect of these 3 phase shifts determine the phase of the secondary field sensed at the receiver.

A relatively poor conductor in resistive ground will yield a net positive phase shift. A relatively good conductor in more conductive ground will yield a net negative phase shift. A combination is possible whereby the net phase shift is zero and the response is purely in-phase with no quadrature component.

A net positive phase shift combined with the geometrical cross-over shape will lead to a positive quadrature response on the side of approach and a negative on the side of departure. A net negative phase shift would produce the reverse. A further sign reversal occurs with a 180 degree

change in instrument orientation as occurs on reciprocal line headings. During digital processing of the quadrature data for map presentation this is corrected for by normalizing the sign to one of the flight line headings.

The most highly variable of all the physical properties of minerals and rocks is their ability to conduct electricity. The electrical conductivities in naturally occurring minerals run through a range of magnitudes whose extreme values differ by a factor approaching  $10^{20}$ . For the purpose of exploration geophysics, conductors are usually classified as metallic minerals, electrolytic conductors, and structural conductors.

#### METALLIC MINERALS

PYRITE, the most ubiquitous of the metallic sulfides, has the most variable conductivity. Except for remarking that it is nearly always a better conductor than unmineralized, porous rocks, There are few general statements that can safely be made about it. Even in its usual forms, the mineral conductivity of pyrite ranges over several orders of magnitude centred on or about  $10^2$  mhos/m.

PYRRHOTITE is an extremely good conductor both in pure mineral form and as ore accessory ( and almost always magnetic ). Moreover, its conductivity seems to be comparatively constant, the variations covering only about one order of magnitude in the vicinity of  $10^4$  mhos/m. This is confirmed by experience in the field, which indicates that bodies which contain any substantial amount of pyrrhotite are nearly always extremely good conductors.

CHALCOPYRITE is a mineral that seems to be comparable to pyrrhotite, but it has a mean conductivity of only  $2 \times 10^3$  mhos/m. The scatter of values is intermediate between pyrite and pyrrhotite, covering about two decades. The same remarks apply also to ARSENOPYRITE.

GALENA in small, pure specimens is apparently an excellent conductor, having a conductivity of  $10^4$  mhos/m. However, its cubic habit seems to make it a poor conductor in polycrystalline specimens even in fairly concentrated ores, since the grains are apparently unlikely to be interconnected. It appears that galena mineralization by itself is a poor conductor, but when mixed with other metallic minerals which tend to connect the grains, it may possibly conduct quite well.



MAGNETITE is somewhat similar to galena in that its crystal conductivity is high, but in polycrystalline or even massive form, it is not a good conductor. Again this is probably due to the tendency to form in discrete, euhedral crystals.

GRAPHITE in pure crystalline form is an excellent conductor, having a conductivity of  $10^6$  mhos/m in the basal plane and  $10^2$  mhos/m across it. Polycrystalline graphite appears to be intermediate between these two values at  $5 \times 10^4$  mhos/m. Its most remarkable feature is the amazing way in which it remains connected even when present in amounts of only a few percent. While 2 percent pyrite will have virtually no effect upon the conductivity of a rock, 2 percent graphite will give it a very noticeable conductivity increase.

HEMATITE is not normally a conductor. However, it appears that the presence of impurities can induce an appreciable conductivity, at least in the specular form of this mineral - up to the range 1 to  $10^2$  mhos/m. Because of the large size of some hematite bodies this may have important consequences in electrical surveys.

SPHALERITE in the pure form  $ZnS$  is an insulator, and in iron containing varieties is probably also non-conductive.

Other minerals which have been found to be appreciably conductive but which have not been so well studied are BORNITE, CHALCOCITE, and COVELLITE, which seem to have conductivities comparable to that of chalcopyrite, ILMENITE, MOLYBDENITE, and the manganese minerals HOLLANDITE and PYROLUSITE, which seem to have conductivities that are at least as great as 1 mho/m. In addition, the native metals are excellent conductors - metallic silver has a conductivity of about  $6 \times 10^7$  mhos/m; copper,  $5.8 \times 10^7$  mhos/m; and iron, approximately  $5 \times 10^6$  mhos/m.

#### ELECTROLYTIC CONDUCTORS

Even the tightest igneous and metamorphic rocks contain sufficient amounts of moisture in minute cracks and along grain boundaries to conduct electricity by electrolytic transport.

As a result of this effect, the conductivity exhibited by many rocks has really very little to do with their mineral composition. It depends rather upon their permeability and porosity and upon the conductivity of the fluid which they contain.

The presence of clay in the pores of a rock has a considerable effect upon its conductivity. The clay minerals and other hydrous substances such as serpentine are generally found to be rather good conductors. Although a dry clay mineral is not itself an unusually good conductor, a small amount of excess water can make it so through the action of ion exchange. In sandstones, at low water saturations, a small quantity of clay tends to make the rock much more conductive. In general, however, the determining factor in the electrical properties of all these materials is the conductivity of the electrolyte which permeates the rock. In dilute solutions, this can be closely correlated with the total ion content, although the relationship between conductivity and composition is more complicated for higher solute concentrations. Saline waters are strong natural electrolytes.

#### STRUCTURAL CONDUCTORS

These have little to do with rock type, porosity, or metallic mineral content but occur as a result of certain geological structures superimposed on the rocks. Chiefly, these structures are of the linear type, such as faults, shear zones, or contact fracture zones, where fracturing has increased the space available to ground water. Features such as these are of considerable importance to electrical surveys because they may be very well connected over great areas - a property which often compensates for their moderate bulk conductivity. In addition, they are often found to be the locus of alteration and weathering which has produced clay and other hydrous minerals. These minerals in turn can increase the effective conductivity of the water in the zones. Such structures are often difficult to observe, except perhaps in mines. Because they are essentially zones of weakness, they weather easily and thus are seldom visible in outcrop.

# EM16

## VLF Electromagnetic Unit

# 12

Pioneered and patented exclusively by Geonics Limited, the VLF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

Since the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for a simple, light and effective exploration tool for mining geophysics.

The VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. This allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, good response from deeper targets is obtained.

The EM16 system provides the *in-phase* and *quadrature* components of the secondary field with the polarities indicated.

Interpretation technique has been highly developed particularly to differentiate deeper targets from the many surface indications.

### Principle of Operation

The VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter location.



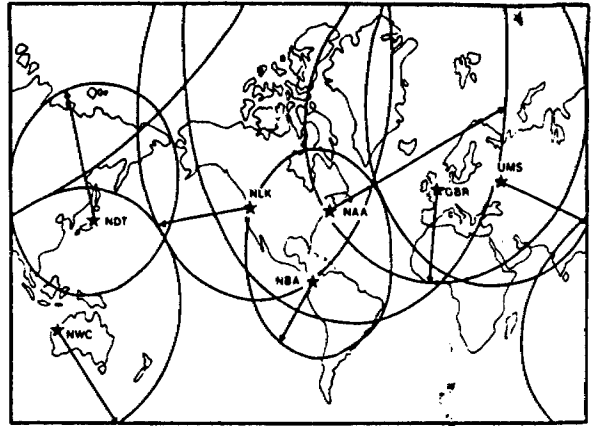
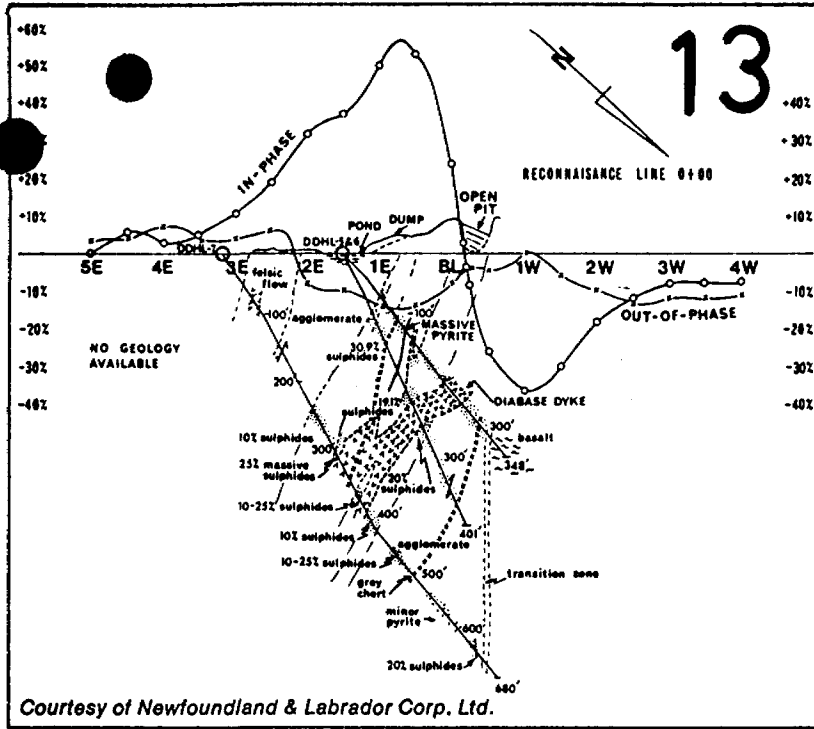
## Specifications

<b>Source of primary field</b>	VLF transmitting stations.	<b>Reading time</b>	10-40 seconds depending on signal strength.
<b>Transmitting stations used</b>	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.	<b>Operating temperature range</b>	-40 to 50° C.
<b>Operating frequency range</b>	About 15-25 kHz.	<b>Operating controls</b>	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial $\pm 40\%$ , inclinometer dial $\pm 150\%$ .
<b>Parameters measured</b>	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).	<b>Power Supply</b>	6 size AA (penlight) alkaline cells. Life about 200 hours.
<b>Method of reading</b>	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.	<b>Dimensions</b>	42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)
<b>Scale range</b>	In-phase $\pm 150\%$ ; quadrature $\pm 40\%$ .	<b>Weight</b>	1.6 kg (3.5 lbs.)
<b>Readability</b>	$\pm 1\%$ .	<b>Instrument supplied with</b>	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries.
		<b>Shipping weight</b>	4.5 kg (10 lbs.)

**GEONICS LIMITED**

Designers & manufacturers  
of geophysical instruments

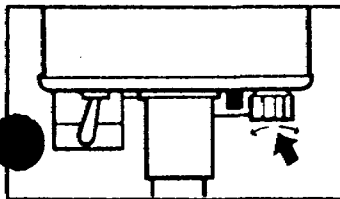
2 Thorncliffe Park Drive  
Toronto/Ontario/Canada  
M4H 1H2  
Tel: (416) 425-1821  
Cables: Geonic's



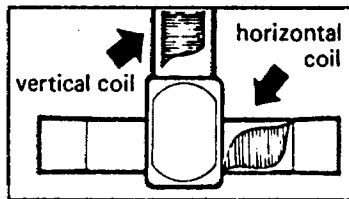
**Areas of VLF Signals**  
 Coverage shown only for well-known stations. Other reliable, fully operational stations exist. For full information regarding VLF signals in your area consult Geonics Limited. Extensive field experience has proved that the circles of coverage shown are very conservative and are actually much larger in extent.

**EM 16 Profile over Lockport Mine Property, Newfoundland**

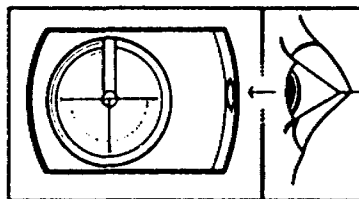
Additional case histories on request.



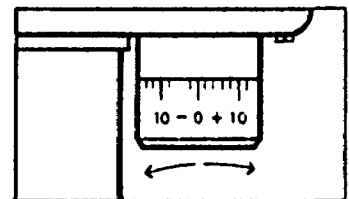
**Station Selector**  
 Two tuning units can be plugged in at one time. A switch selects either station.



**Receiving Coils**  
 Vertical receiving coil circuit in instrument picks up any vertical signal present. Horizontal receiving coil circuit, after automatic 90° signal phase shift, feeds signal into quadrature dial in series with the receiving coil.



**In-Phase Dial**  
 shows the tilt-angle of the instrument for minimum signal. This angle is the measure of the vertical in-phase signal expressed in percentage when compared to the horizontal field.



**Quadrature Dial**  
 is calibrated in percentage markings and nulls the vertical quadrature signal in the vertical coil circuit.

By selecting a suitable transmitter station as a source, the EM 16 user can survey with the most suitable primary field azimuth.

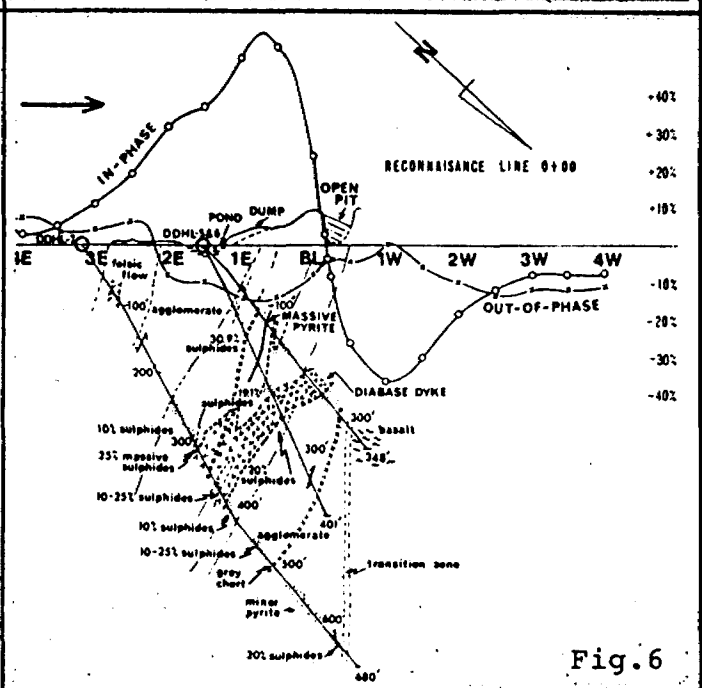
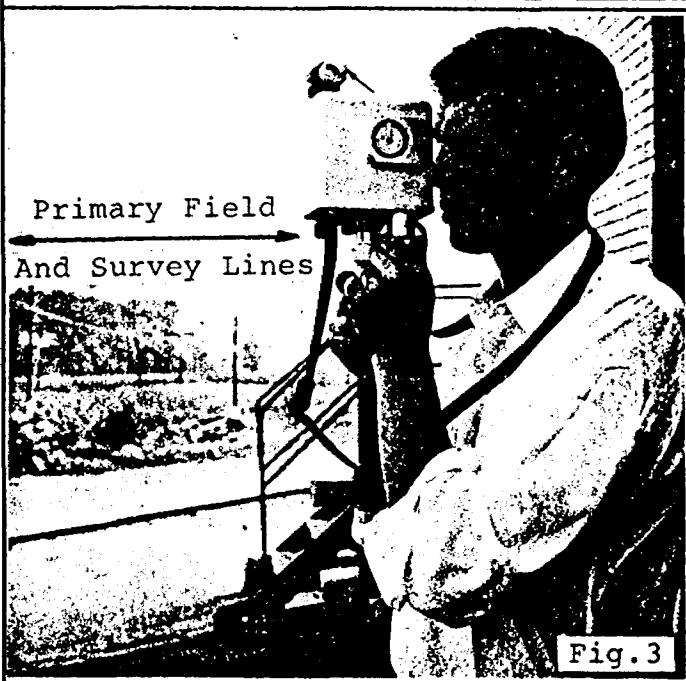
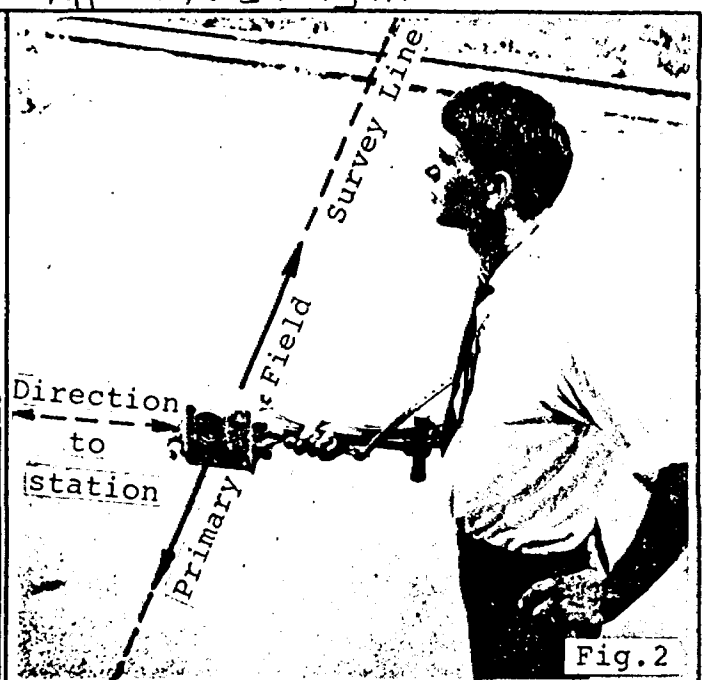
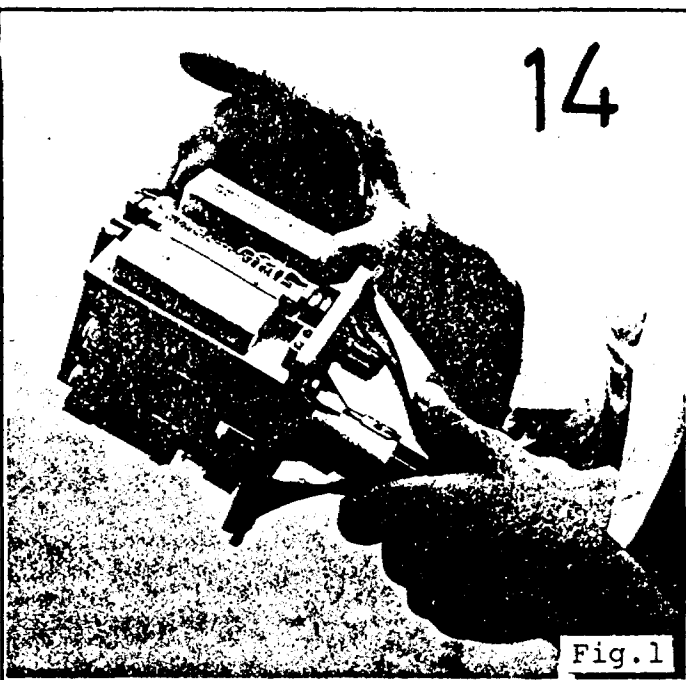
The EM 16 has two receiving coils, one for the pick-up of the horizontal (primary) field and the other for detecting any anomalous vertical secondary field. The coils are thus orthogonal, and are mounted inside the instrument "handle".

The actual measurement is done by first tilting the coil assembly to minimize the signal in the vertical (signal) coil and then further sharpening the null by using the reference signal to buck out the remaining signal. This is done by a calibrated "quadrature" dial.

The tangent of the tilt angle is the measure of the vertical in-phase component and the quadrature reading is the signal at right angles to the total field. All readings are obtained in per centages and do not depend on the absolute amplitude of the primary signals present.

The "null" condition of the measurement is detected by the drop in the audio signal emitted from the patented resonance loudspeaker. A jack is provided for those preferring the use of an earphone instead.

The power for the instrument is from 6 penlight cells. A battery tester is provided.





## GEONICS LIMITED

2 Thorncliffe Park Drive, Toronto 17, Ontario, Canada. Telephone: 425-1821 Area Code 416

### EM16 CASE HISTORIES

The attached case histories are examples of the capability of the VLF electromagnetic system in various conditions.

The direction in which the readings have been taken are indicated by an arrow. All VLF survey maps should be so marked as an aid to interpretation.

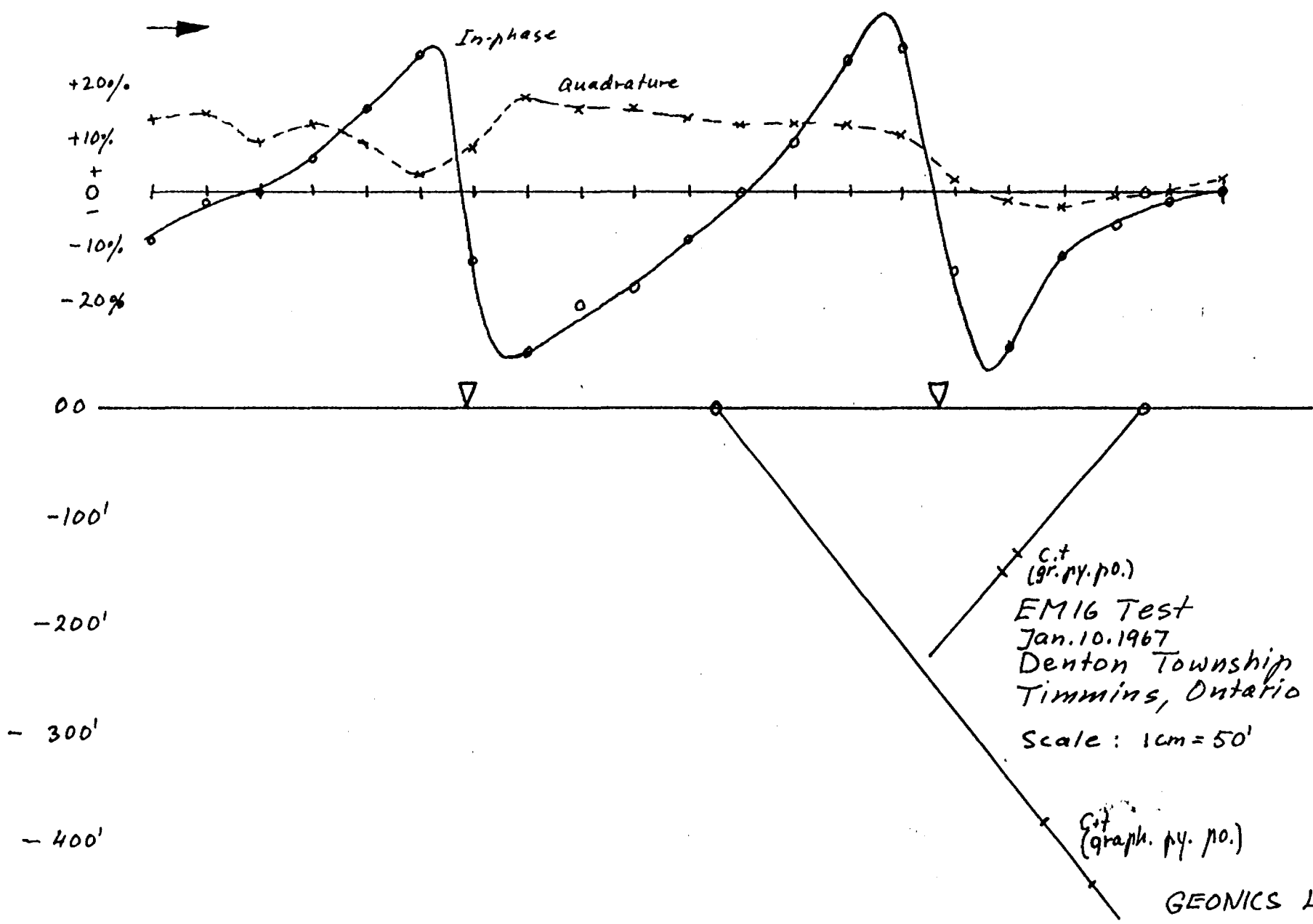
Figure 1 - This profile shows two conductive zones. The anomaly at the left shows a reverse quadrature slope thus also indicating the presence of conductive overburden covering the bedrock conductor. The indicated depth to the conductor is calculated at one-half the distance between the positive and negative maximums. The anomaly at the right shows some positive quadrature slope, indicating a medium conductor.

Figure 2 - This profile shows a medium conductor. The right hand positive in-phase component has a long "tail" indicating the dip direction of the conductive zone.

Figure 3 - This anomaly is caused by a vertical zone of graphitic slate covered by approximately 85 feet of conductive clay. The in-phase anomaly is considerably reduced in amplitude. The quadrature shows a typically strong reverse slope.

Figure 4 - This anomaly is the result of a weak conductor. The location of the conductor is at the center of the slope, not at the actual zero-crossing.

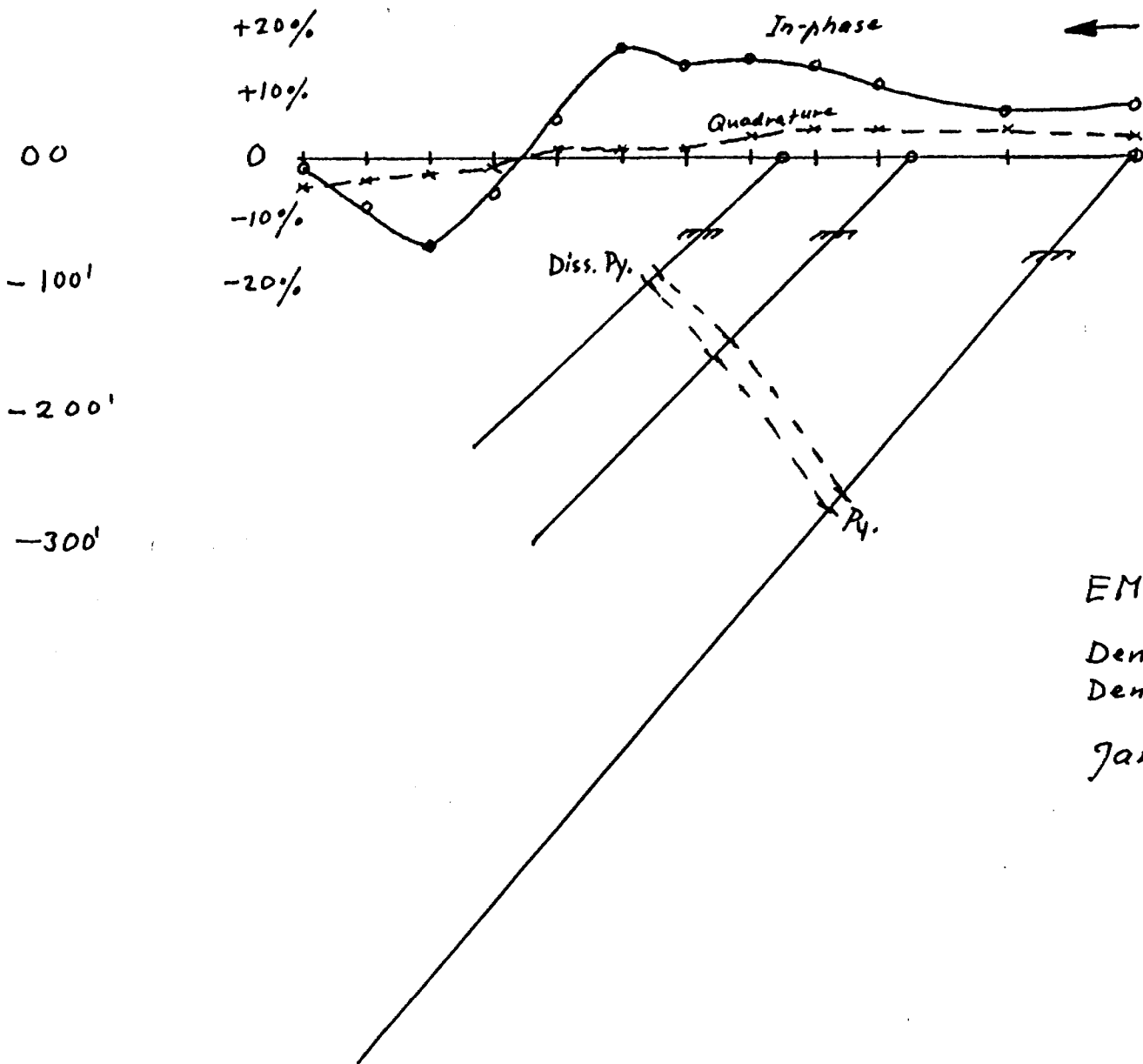
Figure 5 - This shows a simplified example of EM16 used underground. By taking readings in two directions, using different primary field sources, one can locate ore pockets precisely. Only the in-phase profiles are shown in this figure.



16

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Fig. 1



EM16 Test

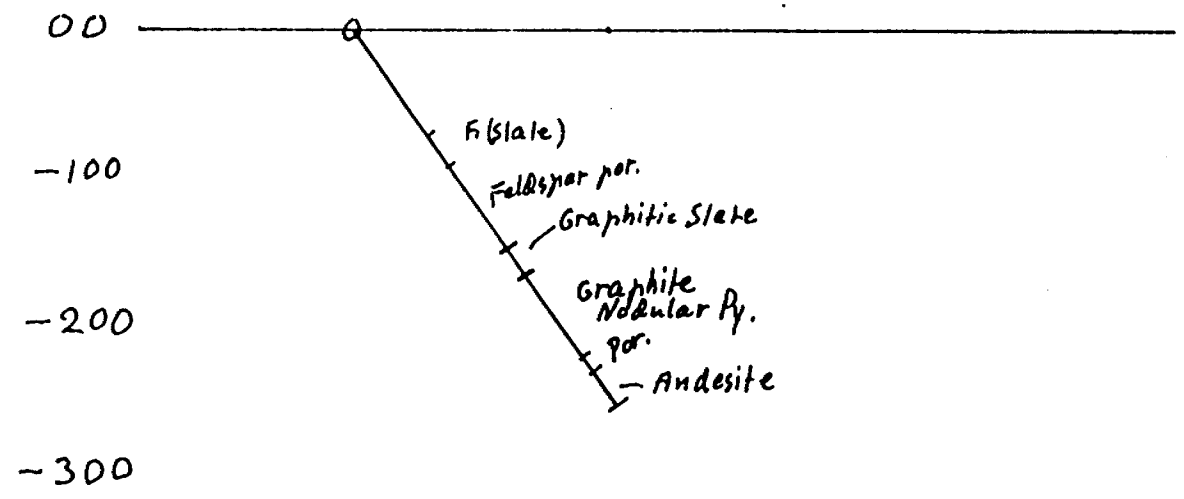
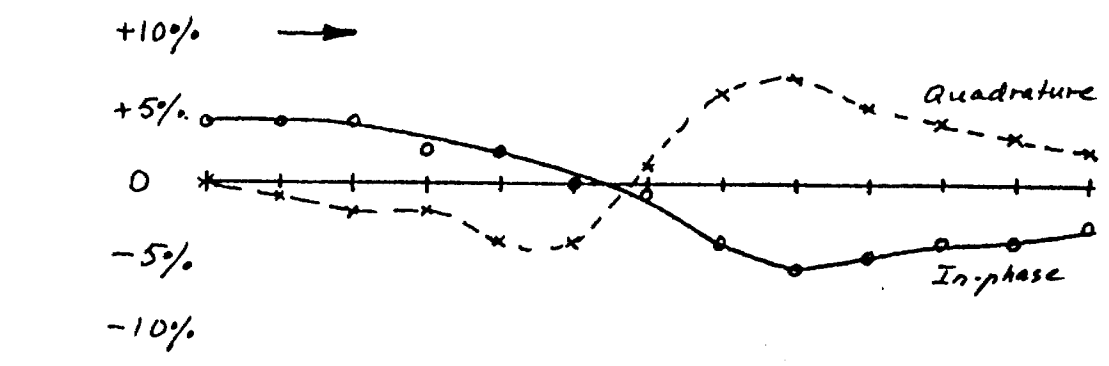
Denton Township, Timmins  
Denton-Thorneloe Property

Jan. 10. 1967

GEONICS LTD

Fig. 2

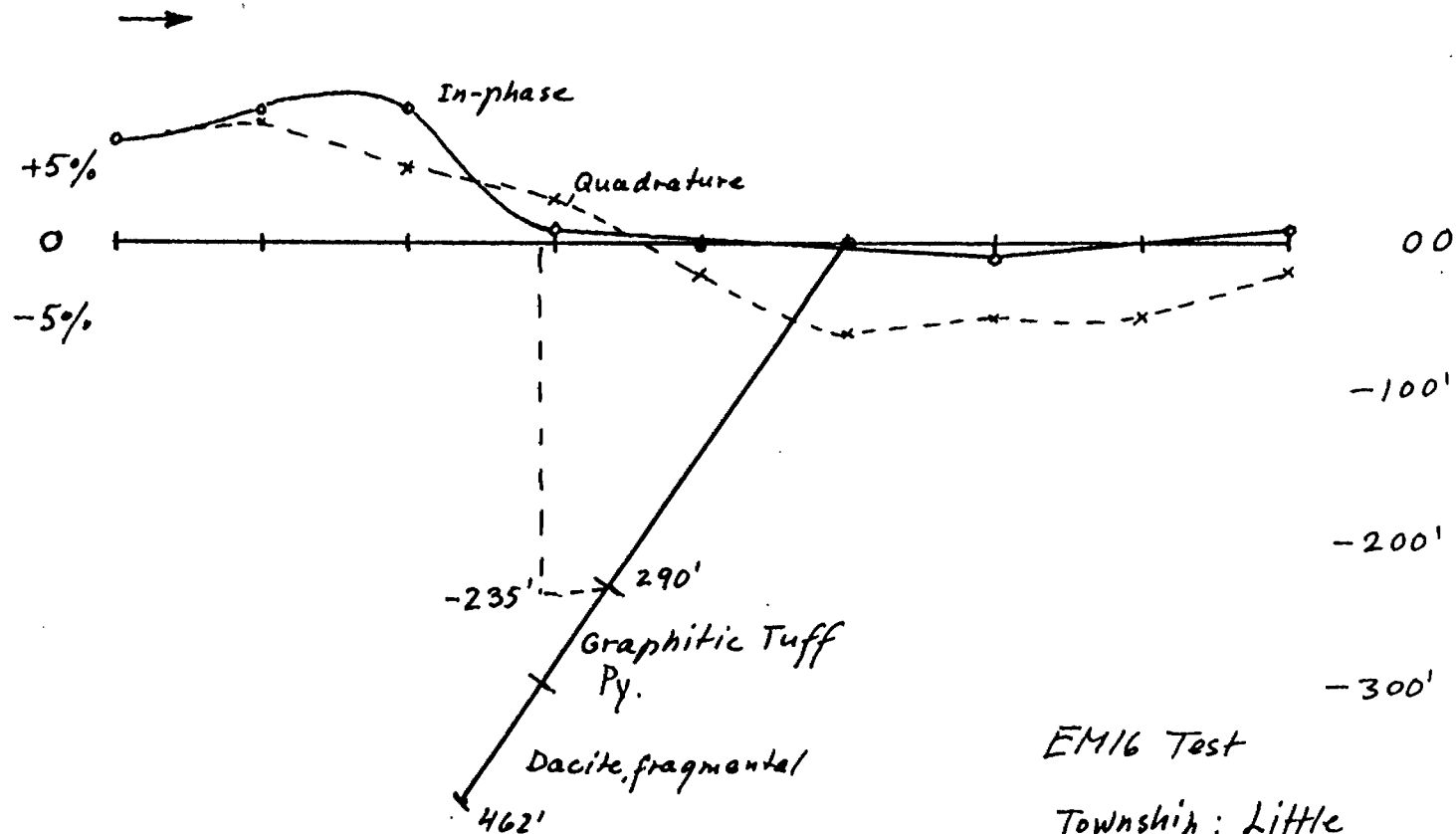




EM16 Test  
Timmins Area  
Jan. 10. 1967

GEONICS LTD.

Fig. 3



EM16 Test

Township: Little  
 Timmins Area, Ontario  
 Date: Jan. 10, 1967

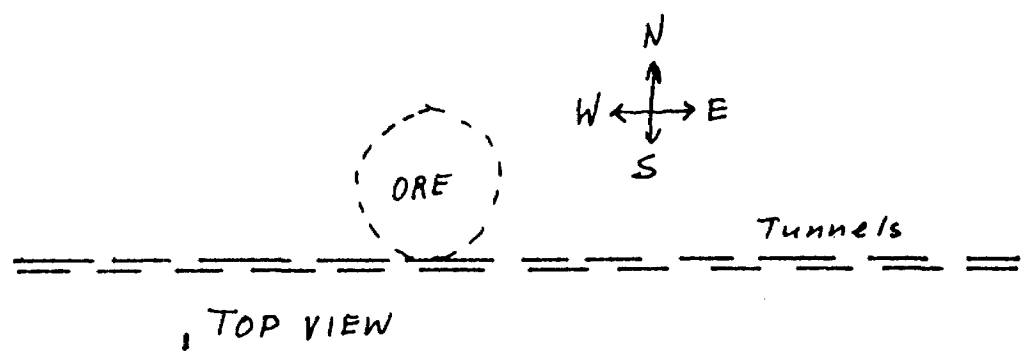
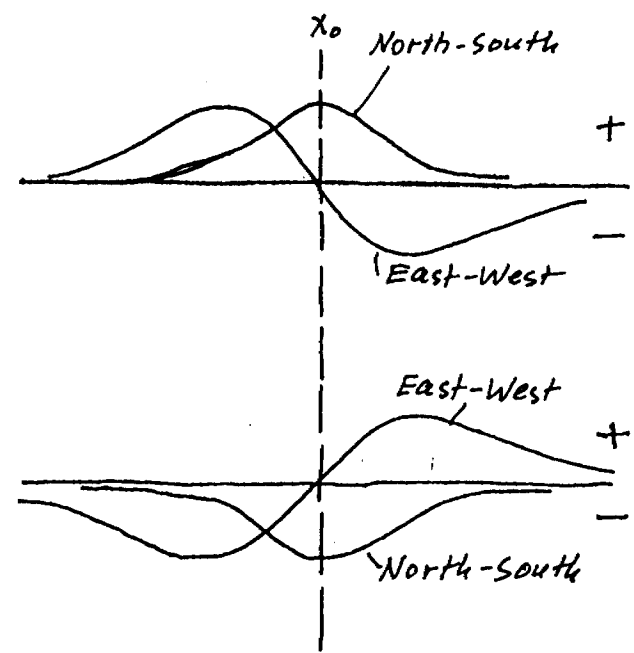
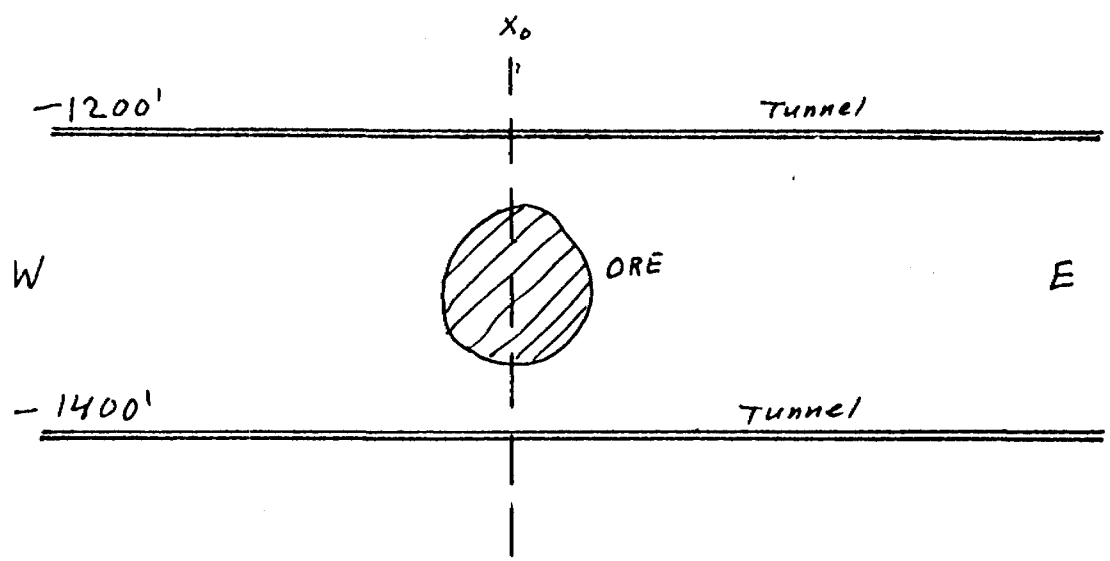
Scale: 1 cm = 50'

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19

APPENDIX I 1910.

Fig. 4



EM16 in Underground Surveys.

Readings facing East or North  
Scale 1cm = 25 ft.  
GEONICS LTD.

Fig. 5

Job <u>Nickel Offsets</u> <u>RADEM</u>						
Date <u>81-04-03</u> Page <u>1</u>						
Tx - CM						
STN	L94 W	O/P	Dip	FS Rdy	Corr	REMARKS
6S	32	16S	115			0930 h
	32	16S	115			
8S	32	17S	120			
	32	15S	120			Creek
10S	30	14S	125			Road
	30	16S	125			
12S	28	18S	130			
	28	20S	130			Cl. Post # 448
14S	26	18S	135			
	26	12S	135			
16S	24	14N	140			
	26	16N	135			MUSKEG
18S	26	18N	130			
	26	20N	125			
20S	28	22N	120			
	30	30N	115			MUSKEG
22S	32	31N	110			
	32	32N	105			
24S	32	29N	105			
	34	27N	100			
26S	32	25N	95			
	32	20N	85			
28S	30	19N	95			1015 h
Party Chief <u>S. Bink</u>						
Weather <u>CAVU, Winds light</u>						

RADEM

Job <u>Garson Rim</u> <u>EM16</u>						
Date <u>81-04-05</u> Page <u>2</u>						
STN	L78W	i/p	o/p			REMARKS
6S	35	+8				
	38	+7				
8S	40	16				
	42	-4				
10S	44	-2				40' HILL
	46	+1				
12S	38	-2				
	40	-3				
14S	41	-4				R.R. Tracks
	20	-6				
16S	3	-2				
	-14	-2				
18S	-12	-1				
	-10	-3				Old P.D.H.
20S	-9	-4				
	-5	+1				
22S	-2	+2				
	0	+3				Swamp
24S	4	+2				↓
	6	0				Swamp
26S	10	-1				
	12	-2				Last Rdy to-day
Party Chief <u>S. Hill</u>						
Weather <u>Overcast, Wind 10kph</u>						

EM16

EXAMPLES OF FIELD NOTES

21 APPENDIX I 15 18.



41113SE0034 2.10324 ULSTER

900



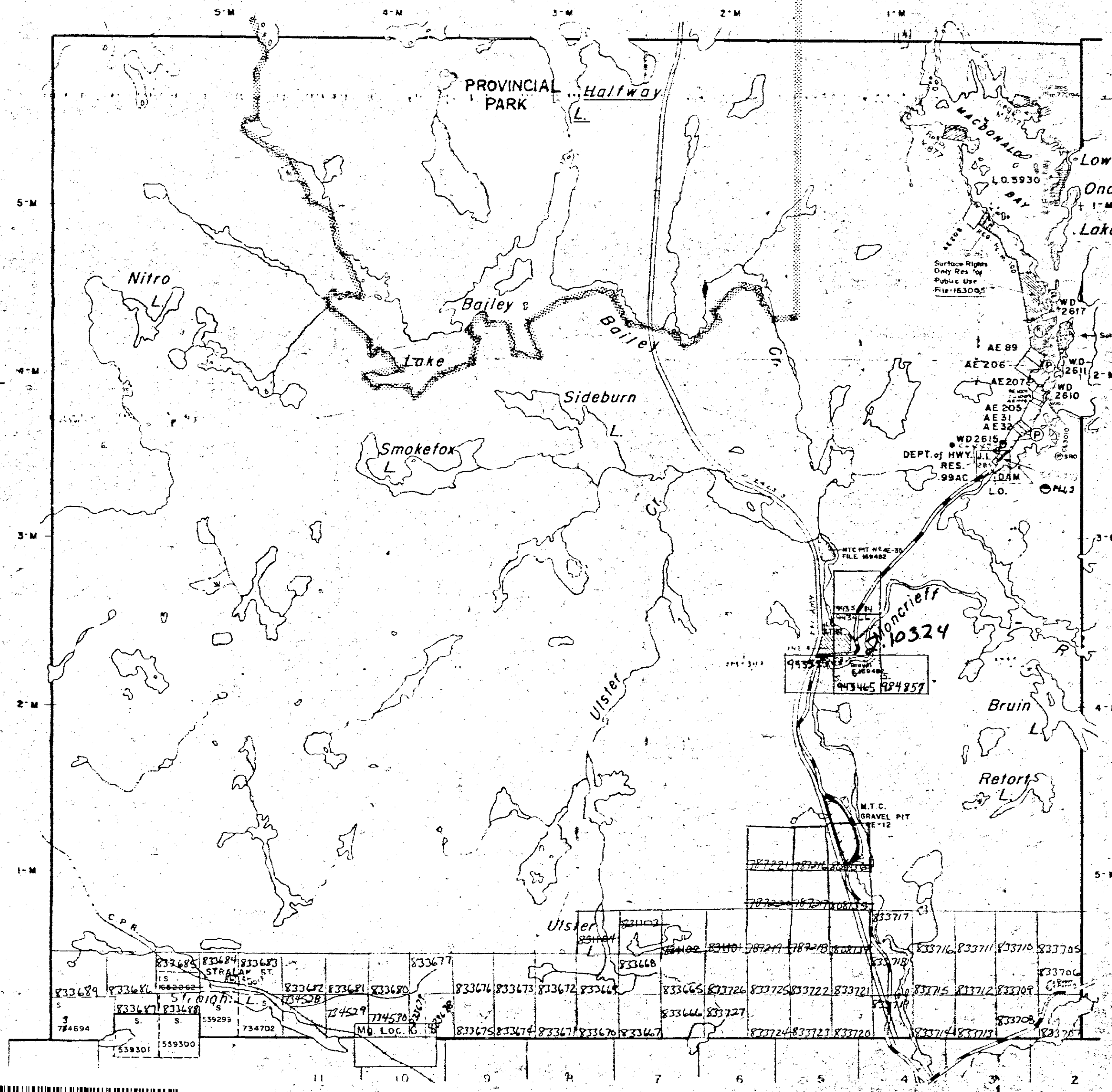
Antrim Twp.

THE TOWNSHIP  
OF 2.10324  
**ULSTER**

DISTRICT OF  
SUDBURY  
SUDBURY  
MINING DIVISION  
SCALE: 1-INCH=40 CHAINS

Stralak Twp.

Munster Twp.



LEGEND

- PATENTED LAND Ⓟ
  - CROWN LAND SALE C.S.
  - LEASES Ⓛ
  - LOCATED LAND Loc.
  - LICENSE OF OCCUPATION L.O.
  - ROADS
  - IMPROVED ROADS
  - KING'S HIGHWAY
  - RAILWAYS
  - POWER LINES
  - MARSH OR MUSKEG
  - MINES
- CL4017  
- 0-21/85-NER

NOTES

400' Surface Rights Reservation around all lakes & rivers

Mg. Locs on this plan which have been cancelled, are removed under instructions of Surveyor General.

Flooding to contour 111' (L.O. 9113) shown thus:

Areas withdrawn from staking under Section 63 of the Mining Act, R.S.O. 1970.

Order No.	File	Date	Disposition
①	W. 63/75	127351	5/11/75 S.R.O.

Ontario Regulation 821 Schedule 125  
Halfway Lake Provincial Park  
Boundary - Pages 670-71  
Appendix B R.R.O. 1983

**ULSTER**  
PLAN NO. - M.1168

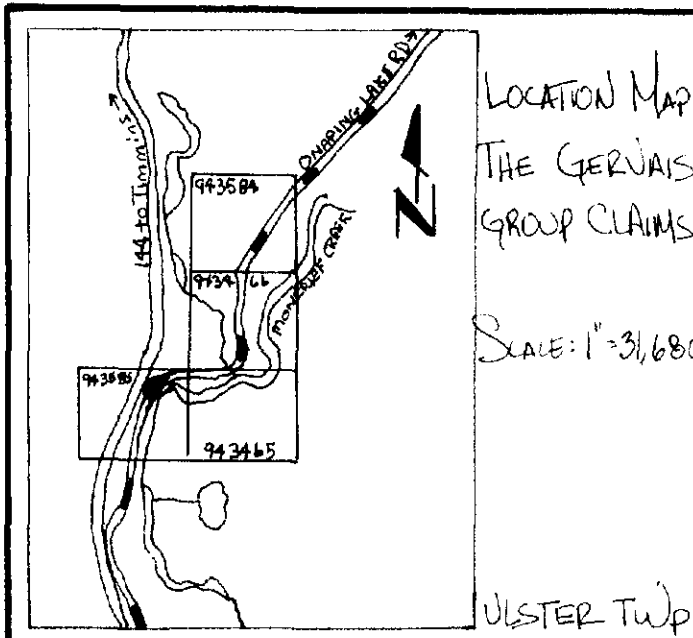
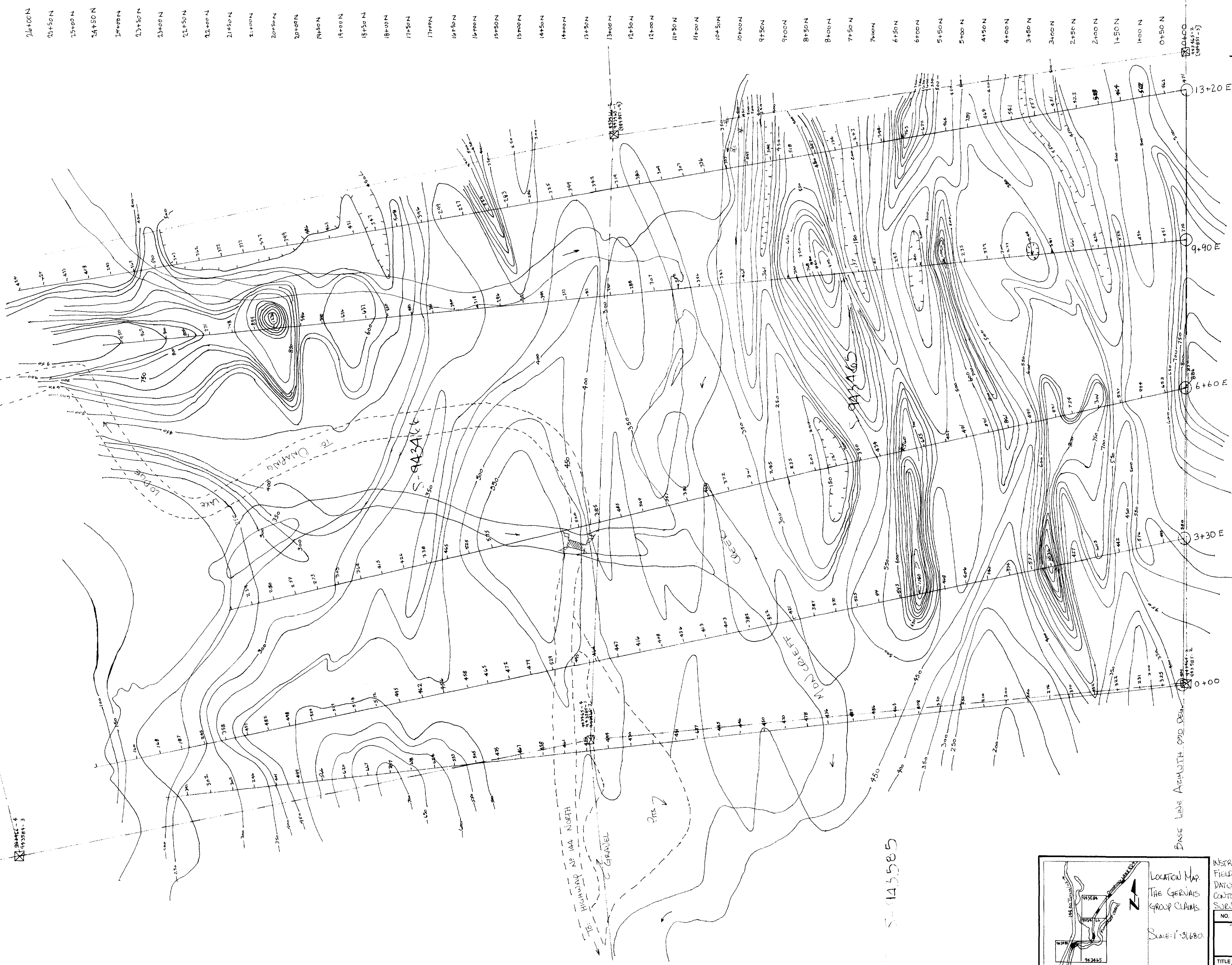
ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH



411135E0034 2.10324 ULSTER

Moncrieff Twp.

S-945584



INSTRUMENT: SCINTREX MP-2 PROTON MAGNETOMETER.  
 FIELD: TETPL  
 DATUM (B.G.): 88,000 FT. (GAMMAS).  
 CONTOUR INTERVAL: 50 FT. (GAMMAS).  
 SURVED BY: NEW-TRAILS EXPLORATIONS, CHESTER, ONT.

NO.	REVISION	BY	DATE

TITLE: THE GERVAIS GROUP PROPERTY, ULSSTER, TOWNSHIP, ONTARIO.  
 GROUND MAGNETOMETER DATA CONTOUR MAP.

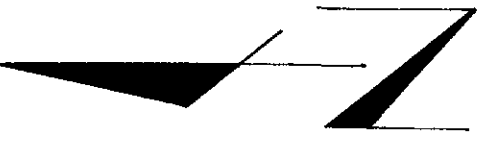
DRW: MAJ/HJT	DATE: AUG 14th/87	DRAWING NO:
CHECKED: HJT	DATE: AUG 16th/87	MAP NO: 1
APPRD: HJT	SCALE: 1" = 100 FT	SHT NO: 1



S-943584

24000N  
23000N  
22000N  
21000N  
20000N  
19000N  
18000N  
17000N  
16000N  
15000N  
14000N  
13000N  
12000N  
11000N  
10000N  
9000N  
8000N  
7000N  
6000N  
5000N  
4000N  
3000N  
2000N  
1000N  
0000N

43445-3  
43445-3  
43445-3



13+20 E

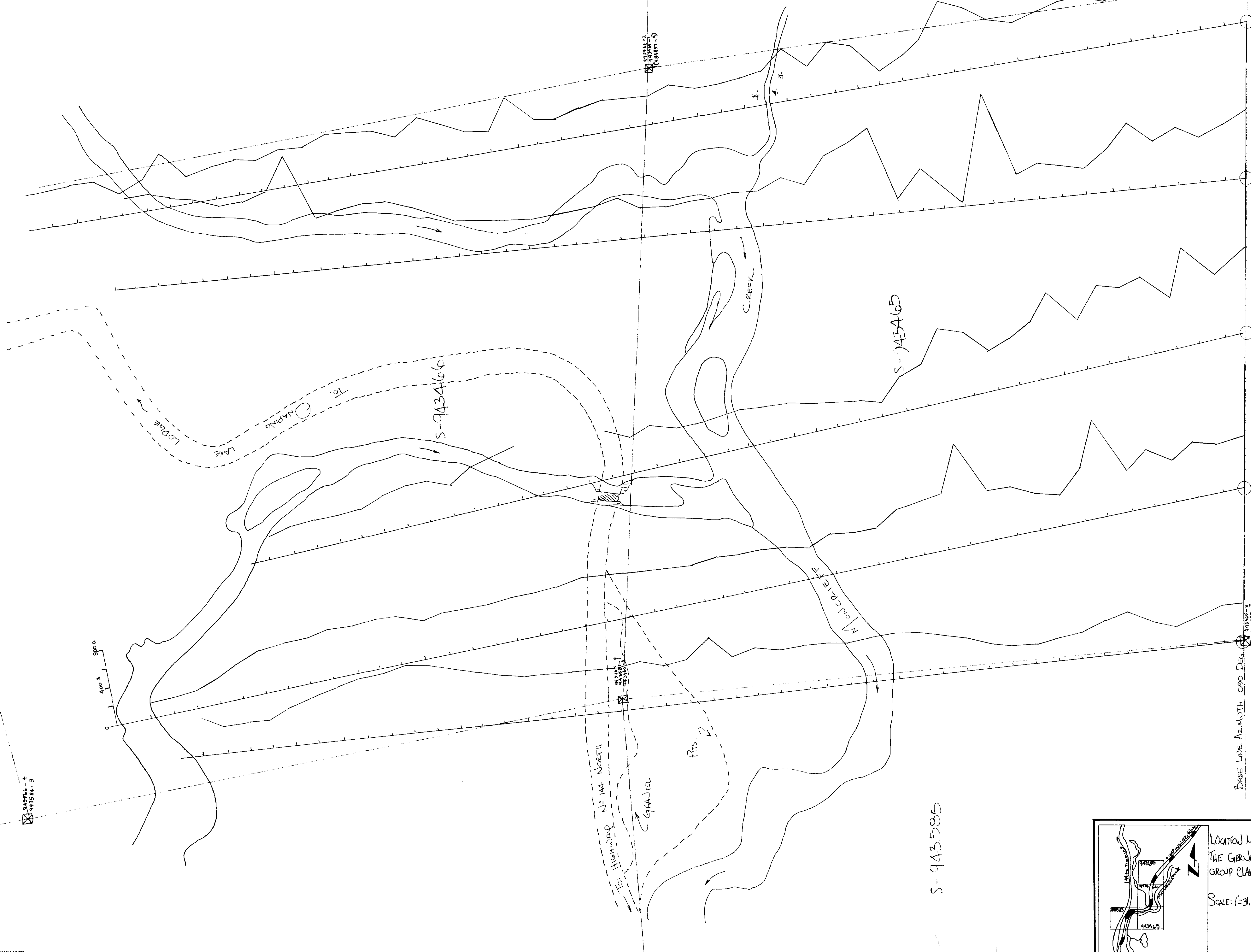
9+90 E

6+60 E

3+30 E

0+00

BASE LINE AZIMUTH OPD DEL. 43445-3



4000  
8000

SATTELITE  
943584-3

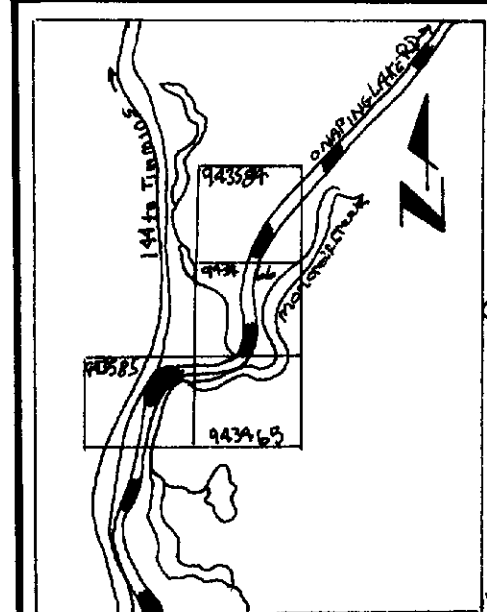
TO HIGHWAY N. W. NORTH

CHANEL

Pts. 2

S-943585

210324



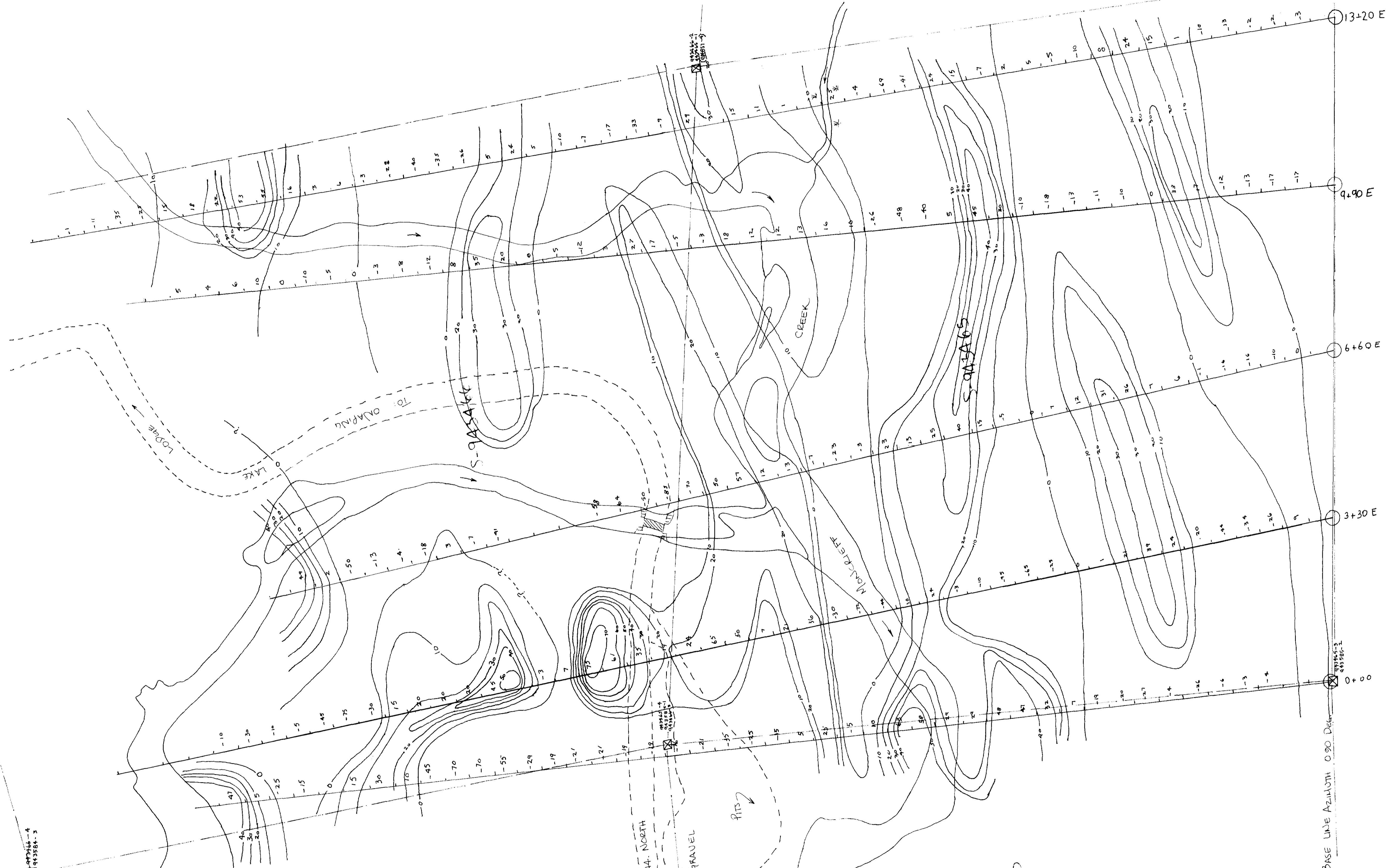
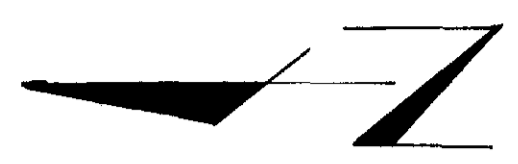
LOCATION MAP  
THE GERVAIS GROUP CLAIM  
SCALE: 1"=31680'  
ULSTER Twp.

INSTRUMENT: SCINTREX HP-2 PROTON MAGNETOMETER	
FIELD TOTAL	
DIPOM. (B.G.) 58,000 nT (GAMMAS)	
PROFILE SCALE: 1/50th" = 10 nT (GAMMAS)	
BY NEW-TRAILS EXPLORATION, CHELMSFORD, ONTARIO	
NO.	REVISION
THE GERVAIS GROUP PROPERTY ULSTER TOWNSHIP, ONTARIO	
TITLE: GROUND MAGNETOMETER DATA PROFILES MAP	
DRW: MAN/HIT	DATE: AUG 14/97
CHECKED: HIT	DATE: AUG 16/97
APPRD: HIT	SCALE: 1"=100 FT.
DRAWING NO:	SHT. NO. 2
MAP. N° 2	



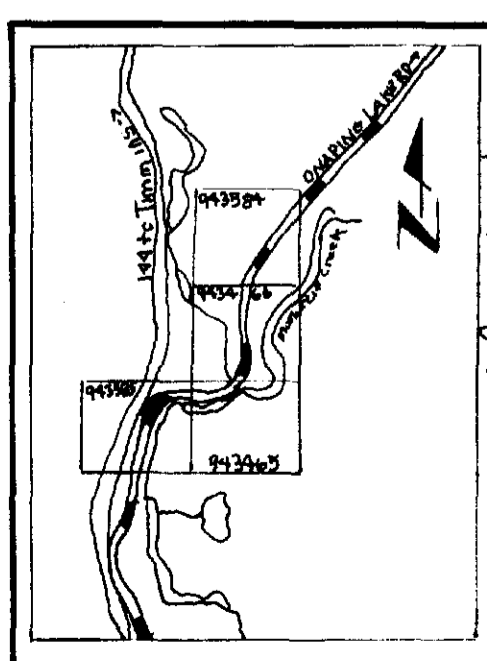
S-943584

26+00 N  
25+50 N  
25+00 N  
24+50 N  
24+00 N  
23+50 N  
23+00 N  
22+50 N  
22+00 N  
21+50 N  
21+00 N  
20+50 N  
20+00 N  
19+50 N  
19+00 N  
18+50 N  
18+00 N  
17+50 N  
17+00 N  
16+50 N  
16+00 N  
15+50 N  
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4+50 N  
4+00 N  
3+50 N  
3+00 N  
2+50 N  
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0+00



210324

S-943585

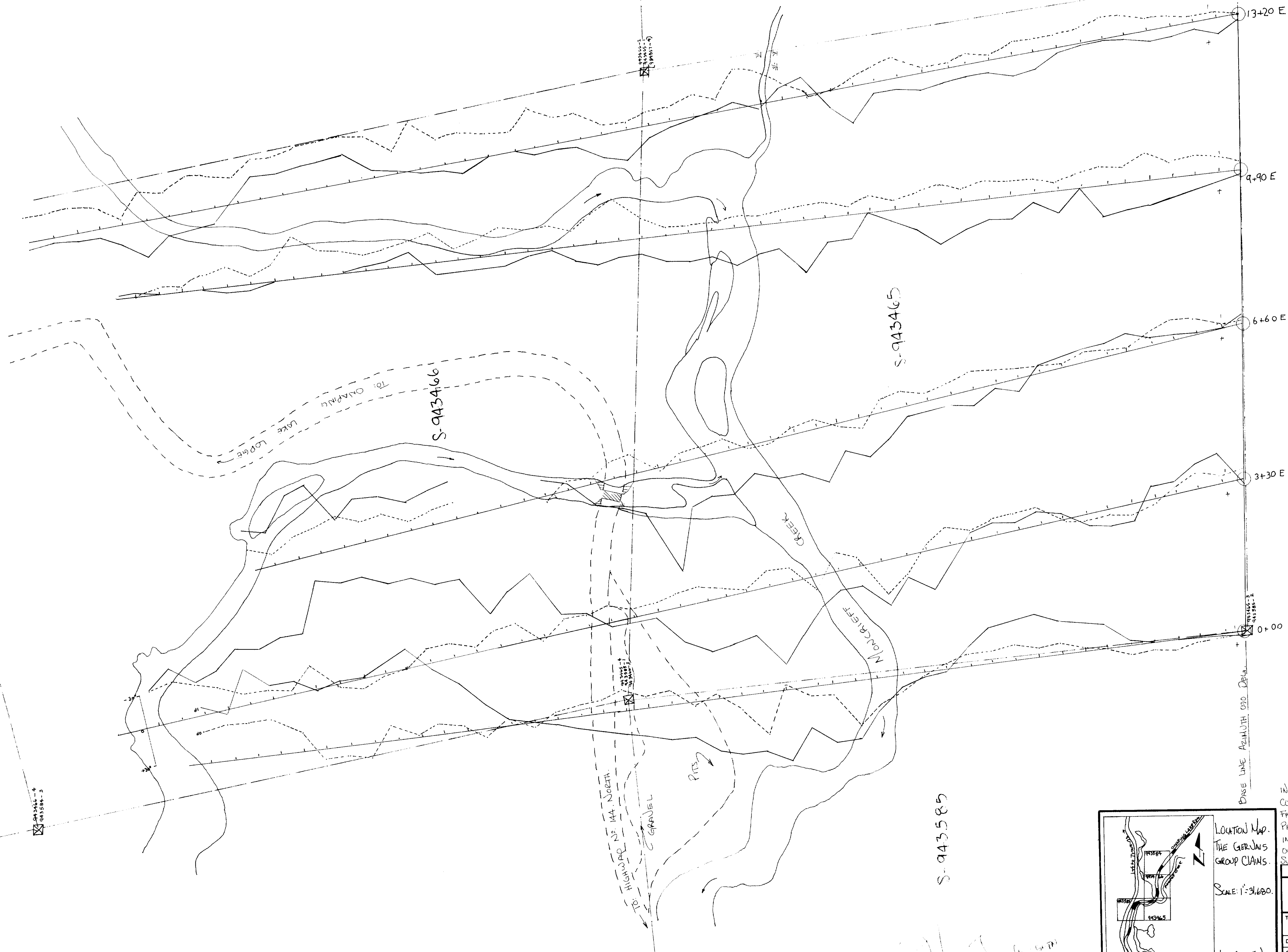


LOCATION MAP  
THE GERVAIS GROUP CLAIMS  
SCALE: 1" = 3/1680  
ULSTER TWP.

INSTRUMENT: GEONICS LTD. EM-16.  
COIL CONFIG: VERTICAL AND HORIZONTAL REC. COILS.  
FREQUENCY: 15-25 Hz. (FT) SEATTLE, WASHINGTON.  
CONTOUR INTERVAL: 10' / 1".  
SURVEYOR: NEW-TRAILS EXPLORATION, CHELMSFORD, ONT.

NO.	REVISION	BY	DATE
THE GERVAIS GROUP PROPERTY ULSTER TOWNSHIP, ONTARIO.			
TITLE: GROUND VLF - ELECTROMAGNETIC FRAZER FILTERED DATA CONTOUR MAP.			
DRW: MAJ/HJT	DATE: AUG. 15th/87	DRAWING NO:	Map N° 3.
CHECK: HJT	DATE: AUG. 16th/87	APPR: HJT	SCALE: 1" = 100 FT.
		SHT. NO:	3

26700N  
25750N  
25700N  
24750N  
24700N  
23750N  
23700N  
22750N  
22700N  
21750N  
21700N  
20750N  
20700N  
19750N  
19700N  
18750N  
18700N  
17750N  
17700N  
16750N  
16700N  
15750N  
15700N  
14750N  
14700N  
13750N  
13700N  
12750N  
12700N  
11750N  
11700N  
10750N  
10700N  
9750N  
9700N  
8750N  
8700N  
7750N  
7700N  
6750N  
6700N  
5750N  
5700N  
4750N  
4700N  
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0750N  
0700N  
0650N  
0600N



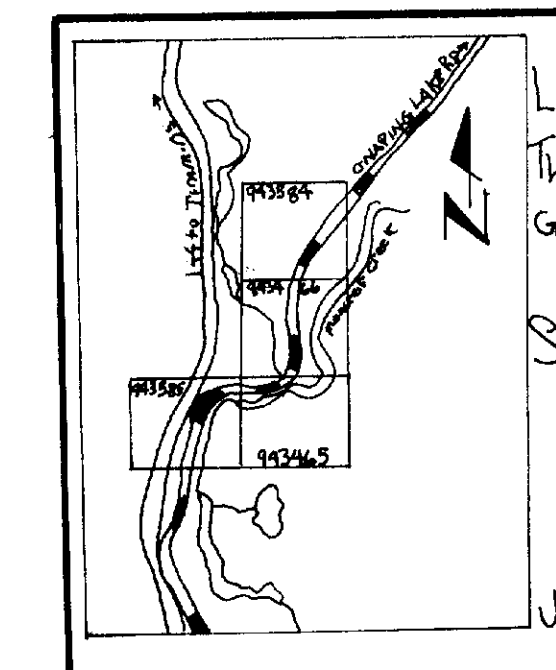
S-943584

S-943466

S-943465

S-943585

13+20 E  
9+90 E  
6+60 E  
3+30 E  
0+00



LOCATION MAP  
THE GERVAIS GROUP CLAIMS.  
SCALE: 1"=3/1600.  
ULSTER TWP.

210324

INSTRUMENT: GEONICS LTD. EM-16.  
COIL CONFIG: VERTICAL AND HORIZONTAL REC. COILS.  
FREQUENCY: 15-25 Hz. (FT.) → SEATTLE, WASHINGTON.  
PROFILE SCALE: 1/40" = 1' 7".  
IN-PHASE: ————  
OUT-PHASE: - - - - -  
SURVEY BY: NEW-TRAILS EXPLORATIONS CHELSEAFORD, ONT.

NO.	REVISION	BY	DATE
THE GERVAIS GROUP PROPERTY. ULSTER TOWNSHIP, ONTARIO.			
TITLE: GROUND VLF-ELECTROMAGNETIC, IN-PHASE/ OUT-PHASE (UNFILTERED); PROFILE MAP.			
DRW: MAN/HIT	DATE: AUG 15TH/87	DRAWING NO:	
CHECK'D: HIT	DATE: AUG 16TH/87	MAP. N: 4.	
APPR'D: HIT	SCALE: 1" = 100 FT.	SHT. NO:	4.

