



41015NE0007 2.8952 ROLLO

010

REPORT ON AN
AIRBORNE MAGNETIC AND VLF-EM SURVEY
ROLLO TOWNSHIP
PORCUPINE MINING DIVISION, ONTARIO

for

ROLLO RESOURCES PROSPECTING SYNDICATE
ROLLOVER RESOURCES PROSPECTING SYNDICATE
HANSON LAKE PROSPECTING SYNDICATE
KENTY OPTIMISTS SYNDICATE

RECEIVED

MAR 10 1986

MINING LANDS SECTION

by

TERRAQUEST LTD.
Toronto, Canada

February, 1985

TERRAQUEST LTD.





41015NE0007 2.8952 ROLLO

010C

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2nd Street West, Toronto, Canada, M5H 2K1, Telephone (416) 869-0010



1. INTRODUCTION

This report describes the specifications and results of a geophysical survey carried out for Rollo Resources Prospecting Syndicate, Rollover Resources Prospecting Syndicate, Hanson Lake Prospecting Syndicate and Kenty Optimists Syndicate all of Toronto, Ontario by Terraquest Ltd., 905 - 121 Richmond St. W., Toronto, Canada. The field work was performed variously from November 25, 1985 to January 30, 1986 and the data processing, interpretation and reporting continued until February 28, 1986.

The purpose of a survey of this type is two-fold. One is to prospect directly for anomalously conductive and magnetic areas in the earth's crust which may be caused by, or at least related to, mineral deposits. A second is to use the magnetic and conductivity patterns derived from the survey results to assist in mapping geology, and to indicate the presence of faults, shear zones, folding, alteration zones and other structures potentially favourable to the presence of gold and base-metal concentration. To achieve this purpose the survey area was systematically traversed by an aircraft carrying geophysical instruments along parallel flight lines spaced at even intervals, 100 meters above the terrain surface, and aligned so as to intersect the regional geology in a way to provide the optimum contour patterns of geophysical data.

2. THE PROPERTY

The property is located in Rollo township, in the Porcupine Mining Division of Ontario about 60 kilometers east of the town of Chapleau. The property lies in the southeastern part of the township and can be reached by logging roads connected to highway 101.

The latitude and longitude are 47 degrees 52 min., and 82 degrees 37 min. respectively, and the N.T.S. reference is 41 O/15.

The claim numbers are shown in figure 2. There are a total of 185 claims.

Rollo Resources Prospecting Syndicate

| | | |
|-----------------|------|-----------------|
| P.755324-755329 | (7) | |
| P.755332 | (1) | |
| P.755334-755378 | (45) | |
| P.755417-755425 | (9) | |
| P.755427-755435 | (9) | total 71 claims |

Rollover Resources Prospecting Syndicate

| | |
|-----------------|-----|
| P.755330-755331 | (2) |
| P.755333 | (1) |

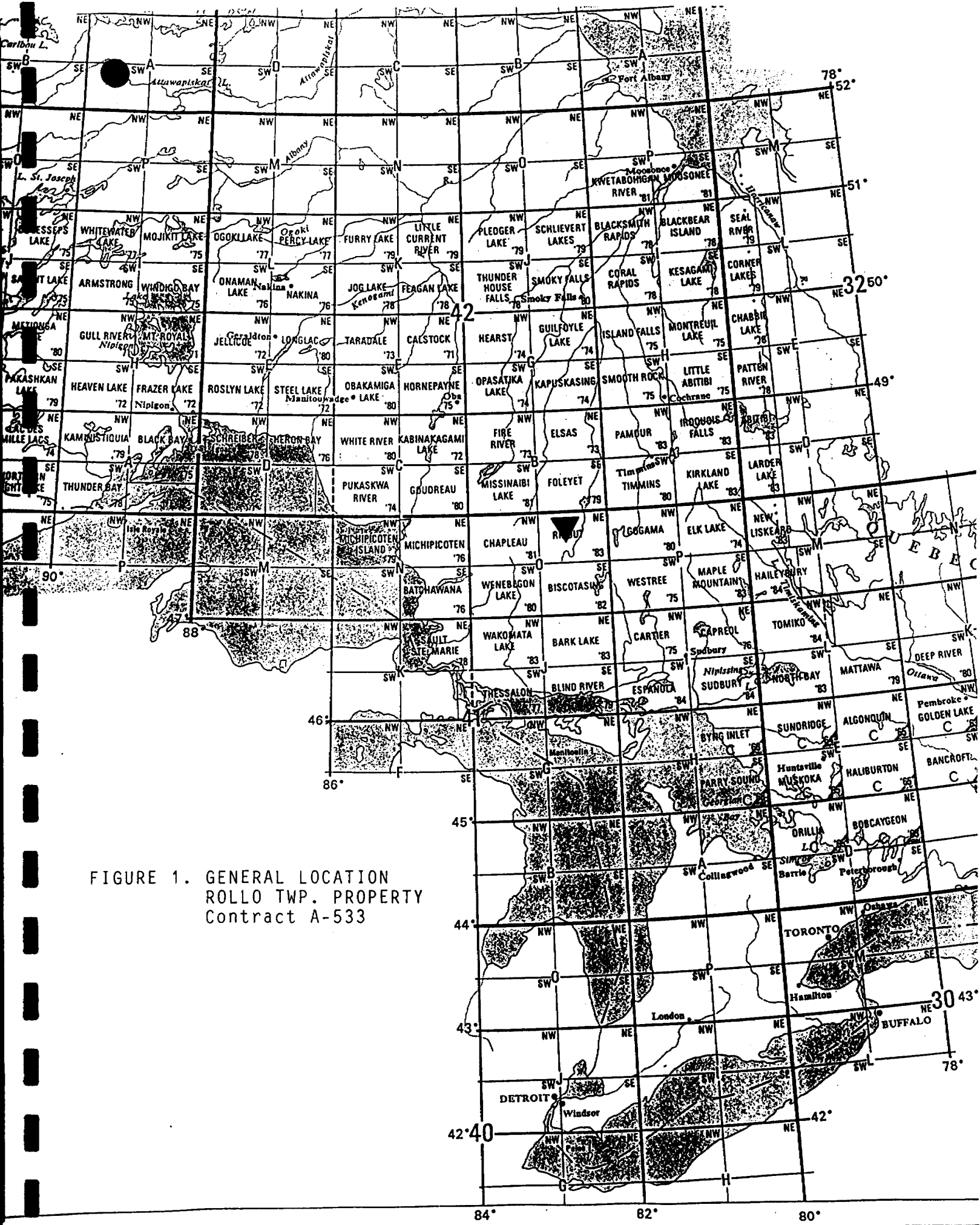
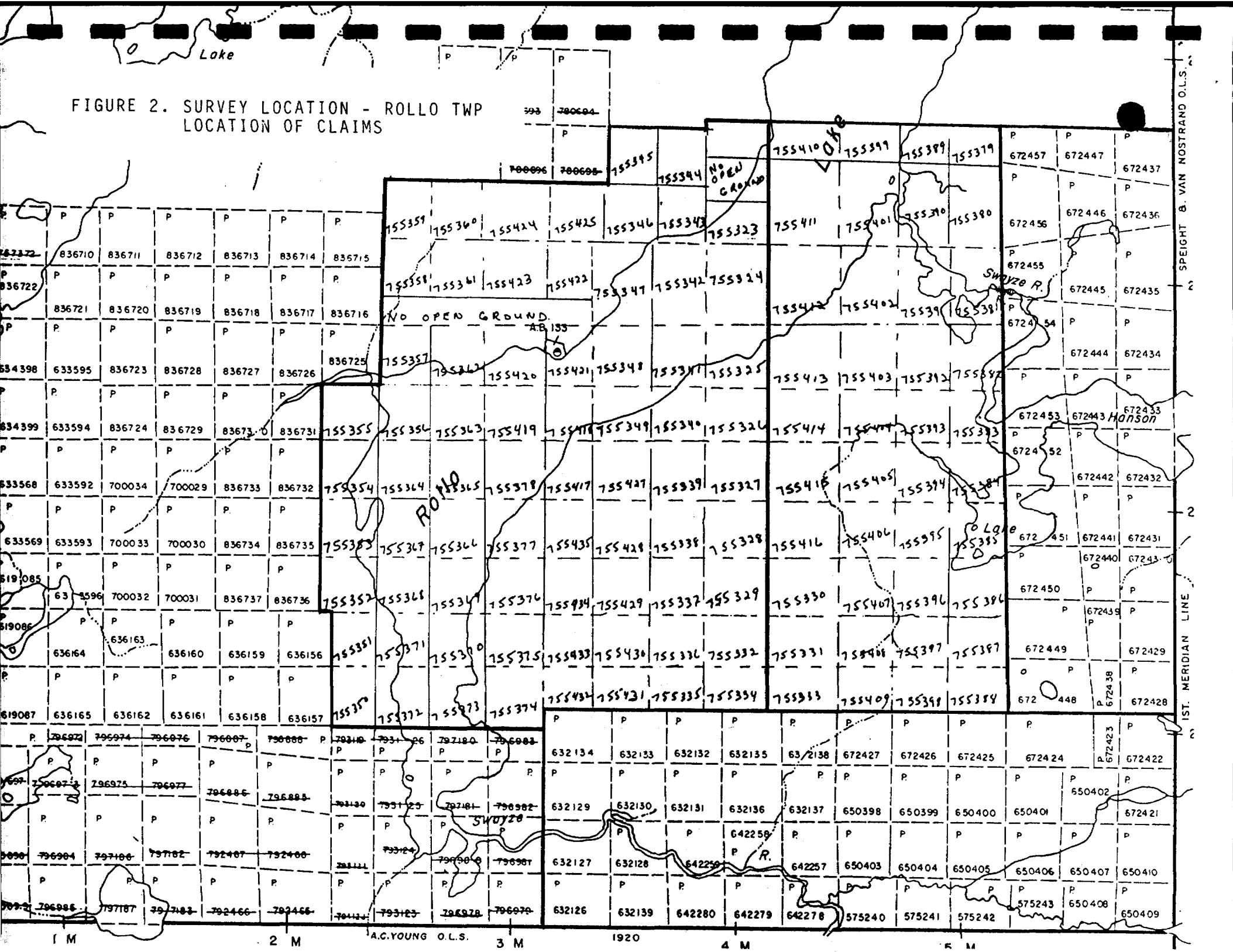


FIGURE 1. GENERAL LOCATION
 ROLLO TWP. PROPERTY
 Contract A-533

FIGURE 2. SURVEY LOCATION - ROLLO TWP
LOCATION OF CLAIMS



SPEIGHT & VAN NOSTRAND O.L.S.

| | | |
|-----------------|------|-----------------|
| P.755339 | (1) | |
| P.755379-755398 | (20) | |
| P.755401-755416 | (16) | total 40 claims |

| | | |
|-----------------------------------|------|-----------------|
| Hanson Lake Prospecting Syndicate | | |
| P.672428-672457 | (30) | total 30 claims |

| | | |
|---------------------------|------|-----------------|
| Kenty Optimists Syndicate | | |
| P.575240-575243 | (4) | |
| P.632126-632139 | (14) | |
| P.642257-642259 | (3) | |
| P.642278-642280 | (3) | |
| P.650398-650410 | (13) | |
| P.672421-672427 | (7) | total 43 claims |

3. GEOLOGY

Map References

1. Map 43b: Swayze Gold Area. scale 1:63,360, O.D.M. 1934
2. Map 2221: Chapleau - Foleyet, Geological Compilation Series. scale 1:253,440, O.D.M. 1976
3. Map 2352: Chapleau. scale 1:250,000, O.D.M. 1976
4. Corporate Map: Kenty Resources Ltd. Property, Geological Mapping, Rollo Twp., scale 1:2,500, R.J.Graham P.Eng., Oct. 1983

The survey area is underlain primarily by mafic to intermediate metavolcanics with minor intercalated beds of felsic metavolcanics and metasediments. A 500 metre wide belt of sediments crosses the area parallel to the Swayze River. A complex of foliated biotite and hornblende-biotite quartz monzonite occurs along the northwestern shore of Rollo Lake.

The notheast trending Destor-Porcupine Break bisects the area and is characterized by diabasic material. Other diabase dykes occur with northerly and northwesterly trends.

4. SURVEY SPECIFICATIONS

4.1 Instruments

The survey was carried out using a Cessna 182 aircraft, registration C-FAKK, which carries a magnetometer and a VLF electromagnetic detector.

The magnetometer is a proton precession type with the sensor element mounted in an extension of the right wing tip. It's



specifications are as follows:

Resolution: 0.5 gamma
Accuracy: One gamma
Cycle time: One second
Range: 20000-100000 gammas in 23 overlapping steps
Gradient tolerance: Up to 5000 gammas per meter
Model: GSM-8BA
Manufacturer: GEM Systems Inc., 105 Scarsdale Rd.,
Don Mills, Ontario, M3B 2R5

The VLF-EM unit uses three orthogonal detector coils to measure (a) the total field strength of the time-varying EM field and (b) the phase relationship between the vertical coil and both the "along line" coil (LINE) and the "cross-line" coil (ORTHO). The LINE coil is tuned to a transmitter station that is ideally positioned at right angles to the flight lines, while the ORTHO coil transmitter should be in line with the flight lines. It's specifications are:

Accuracy: 1%
Reading interval: 1/2 second
Model: TOTEM 2A
Manufacturer: Herz Industries, Toronto

The VLF sensor is mounted in the left wing tip extension.

Other instruments are:

- . King KRA-10A Radar altimeter
- . UDAS-100 data processor with Digidata nine track tape recorder, manufactured by Urtec Ltd., Markham, Ontario.
- . Geocam video camera and recorder for flight path recovery, manufactured by Geotech Ltd., Markham, Ontario.

4.2 Lines and Data

- a) Line spacing: 100 meters
- b) Line direction: 360 degrees
- c) Terrain clearance: 100 meters
- d) Average ground speed: 156 km/hr.
- e) Data point interval: Magnetic: 42 meters
VLF-EM: 21 meters
- f) Tie Line interval: 2 kilometers
- g) Channel 1 (LINE): NAA Cutler, Me., 24.0 kHz
- h) Channel 2 (ORTHO): NSS Annapolis. 21.4 kHz
- i) Line km over total survey area: 357
- j) Line km over claim groups: 333



TERRAQUEST
 OTE 09 01 85 TH 12 28 20: BY: M.M.
 ACFT C-FAKK PH B437 FLTH 051

PROG. VER. 220104-GRAD.
 SURALT 100M

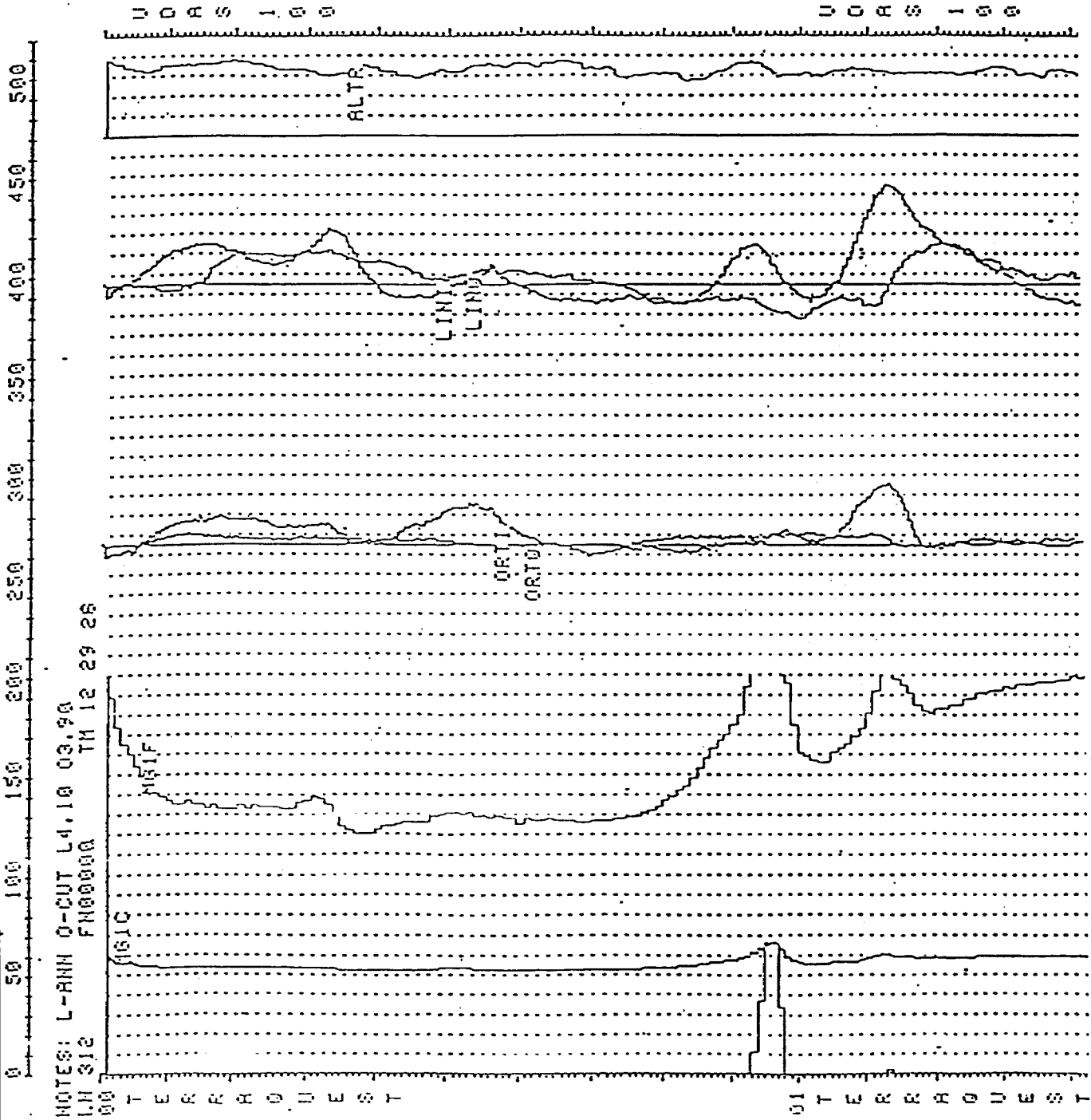


FIGURE 3. SAMPLE OF ANALOGUE DATA

4.3 Tolerances

- a) Line spacing: Any gaps wider than twice the line spacing and longer than 10 times the line spacing were filled in by a new line.
- b) Terrain clearance: Portions of line which were flown above 125 meters for more than one km were reflown if safety considerations were acceptable.
- c) Diurnal magnetic variation: Less than twenty gammas deviation from a smooth background over a period of two minutes or less as seen on the base station analogue record.
- d) Manoeuvre noise: Approximately +/-5 gammas.

4.4 Photomosaics

For navigating the aircraft and recovering the flight path, mosaics of aerial photographs were made from existing air photos. In order to provide a semi-controlled base the photos were laid down on a topographic map which had been photographically adjusted to the photo scale. The laydown was then photographed and printed at the final map scale.

5. DATA PROCESSING

Flight path recovery was carried out in the field using a video tape viewer to observe the flight path as recorded by the Geocam video camera system. The flight path recovery was completed daily to enable reflights to be selected where needed for the following day.

The magnetic data was levelled in the standard manner by tying survey lines to the tie lines. The IGRF was not been removed. The total field was contoured by computer using a program provided by Dataplotting Services Inc. To do this the final levelled data set is gridded at a grid cell spacing of 1/4 the flight line spacing.

The vertical magnetic gradient is computed from the total field data using a method of transforming the data set into the frequency domain, applying a transfer function to calculate the gradient, and then transforming back into the spatial domain. The method is described by a number of authors including Grant, 1972 and Spector, 1968.

- Grant, F.S. and Spector A.; 1970; Statistical Models for Interpreting Aeromagnetic Data; Geophysics, Vol 35
- Grant, F.S.; Review of Data Processing and Interpretation Methods in Gravity and Magnetism; Geophysics, August 1972.
- Spector, A.; Spectral Analysis of Aeromagnetic maps; unpublished thesis; University of Toronto, 1961.



The VLF data was treated automatically so as to normalize the non conductive background areas to 100 (total field strength) and zero (quadrature). The algorithms to do this were developed by Terraquest and will be provided to anyone interested by application to the company.

All of these dataprocessing calculations and map contouring were carried out by Dataplotting Services Inc. of Toronto.

INTERPRETATION

6.1 General Approach

To satisfy the purpose of the survey as stated in the introduction, the interpretation procedure was carried out on both the magnetic and VLF data. On a local scale the magnetic gradient contour patterns were used to outline geological units which have different magnetic intensity and patterns or "signatures". Where possible these are related to existing geology to provide a geological identity to the units. On a regional scale the total field contour patterns were used in the same way.

Faults and shear zones are interpreted mainly from lateral displacements of otherwise linear magnetic anomalies but also from long narrow "lows". The direction of regional faulting in the general area is taken into account when selecting faults. Folding is usually seen as curved regional patterns. Alteration zones can show up as anomalously quiet areas, often adjacent to strong, circular anomalies that represent intrusives. Magnetic anomalies that are caused by iron deposits of ore quality are usually obvious owing to their high amplitude, often in tens of thousands of gammas.

VLF anomalies are categorized according to whether the phase response is normal, reverse, or no phase at all. The significance of the differing phase responses is not completely understood although in general reverse phase indicates either overburden as the source or a conductor with considerable depth extent, or both. Normal phase response is theoretically caused by surface conductors with limited depth extent.

Areas showing a smooth response somewhat above background (ie. 110 or so) are likely caused by overburden which is thick enough and conductive enough to saturate at these frequencies. In this case no response from bedrock is seen.

6.2 Interpretation

The total field magnetic data has a relief of approximately 750 gammas, a substantial relief for the size of the survey area. The major stratigraphic units and diabase dykes are readily discernable. The more detailed stratigraphy and structure can be resolved from the vertical gradient maps which were used as the basis for magnetic mapping.

The most uniform and weakest magnetic response coincides with the metasedimentary belt along the Swayze River valley. The sediments are essentially magnetically invisible and can be mapped as a lack of magnetic response. The detailed property geological map in this area indicates minor felsic volcanics within this belt. This suggests that any minor magnetic perturbations may be related to volcanic intercalations.

The strongest magnetic activity correlates with the mafic volcanics and minor mafic intrusives along the southern edge of the survey area. The mafic intrusives possess a northerly trend whereas the mafic volcanics trend to the west northwest. The mafic volcanics along this belt and across the rest of the survey area are characterized by moderate (Unit 1) to very strong (Unit 1m) magnetic responses. The increased magnetic activity may be related to the more mafic components including hypabyssal volcanics or sulphides, particularly pyrrhotite.

The felsic volcanics only occur in several outcrops, hence correlation with magnetic units is very difficult. Both moderate (Unit 2) and strong (Unit 2m) magnetic responses occur for much the same reasons as for the mafic rocks. The strongly magnetic felsic unit 2m in the southeastern corner coincides with an exposure of pyrite rich rhyolite. The westward continuation of this trend may represent any combination of felsic to mafic metavolcanics with disseminated sulphides.

The monzonite complex to the north coincides with weak (Unit 6) to moderate (Unit 6m) magnetic activity, the magnetic zones representing the more basic or iron rich components. The northerly trend of the magnetic zones in this area suggest a diabase dyke origin, although they could be part of the intrusive complex. The contact of the complex is magnetically gradational but can be best resolved from the total field magnetic data.

The diabasic material of the Destor-Porcupine Break is well delineated by a very strong magnetic response. Smaller diabase dykes trend to the north and northwest.

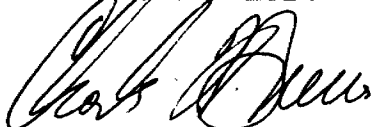
Numerous faults trend to the northwest, possessing minor variances in azimuth that suggest several stages of activity. Northerly, easterly and northeasterly trending faults are present but are difficult to detect due to the fact that they parallel magnetic stratigraphy.

There are numerous very strong and well defined VLF-EM conductor axes. The two that coincide with the sedimentary belt are formational type conductors and are probably related to graphitic horizons. The six northwest trending conductor axes are most likely related to faulting either as disseminated mineralization, water saturation or fault gouge. The remaining conductor axes may be related to northeast trending faults, conductive overburden such as lakebottom clayey sediments, or bedrock origins such as graphite or sulphides. Those parallel to magnetic stratigraphy or those that have been displaced by or truncated against faults possess the greatest potential for bedrock origins. These should be investigated by detailed mapping and ground EM or I.P.

7. SUMMARY

A combined magnetic and VLF-EM survey has been done on the survey area at a data density of approximately 1.6 km. per mineral claim. The magnetic data has been used to modify and update the existing geology and has shown a number of new contacts and faults. A number of VLF-EM conductor axes were found of which some are believed to have potential sulphide origin and have been recommended for additional investigation.

TERRAQUEST LTD.



Charles Q. Barrie, M.Sc.
Geologist

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TERRAQUEST LTD.





41015NE0007 2.8952 ROLLO

900

Mining Lands Section

File No 2.8952

Control Sheet

TYPE OF SURVEY

- GEOPHYSICAL
- GEOLOGICAL
- GEOCHEMICAL
- EXPENDITURE

MINING LANDS COMMENTS:

J. Hurst

Signature of Assessor

April 2/86

Date

CD
Lop



Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

Terraquest's
A-533
W.R. # 078/86

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

The Mining Act

| | |
|---|--|
| Type of Survey(s) Airborne Geophysical - MAG & VLF | Township or Area Swayze Property |
| Claim Holder(s) KENTY RESOURCES LTD. | Prospector's Licence No. T. 1364 |
| Address 508--100 Adelaide St. W., Toronto, Ont. M5H. 1S3. | |
| Survey Company Terraquest Ltd., | Date of Survey (from & to) 25 11 85 25 11 85 Day Mo. Yr. Day Mo. Yr. |
| Name and Address of Author (of Geo-Technical report) C.Q. Barrie, 905 - 121 Richmond St. W., Toronto, Ont. M5H 2K1 | |

Total Miles of line ~~crossed~~ ^{traversed}
44 flight-miles at
100-meter line intervals.

Credits Requested per Each Claim in Columns at right Mining Claims Traversed (List in numerical sequence)

| Special Provisions | Geophysical | Days per Claim |
|---|-------------------|----------------|
| For first survey: Enter 40 days. (This includes line cutting) | - Electromagnetic | |
| | - Magnetometer | |
| For each additional survey: using the same grid: Enter 20 days (for each) | - Radiometric | |
| | - Other | |
| | Geological | |
| | Geochemical | |
| Man Days Complete reverse side and enter total(s) here | Geophysical | Days per Claim |
| | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| | - Other | |
| Airborne Credits | Electromagnetic | Days per Claim |
| Note: Special provisions credits do not apply to Airborne Surveys. | Magnetometer | 40 |
| | Radiometric | 40 |

| Mining Claim | | | Mining Claim | | |
|--------------|--------|------------------|--------------|--------|------------------|
| Prefix | Number | Expend. Days Cr. | Prefix | Number | Expend. Days Cr. |
| P | 575240 | 80 | P | 642280 | 80 |
| | 575241 | 80 | | 650398 | 80 |
| | 575242 | 80 | | -399 | 80 |
| | 575243 | 80 | | -400 | 80 |
| | 632126 | 80 | | -401 | 80 |
| | -127 | 80 | | -402 | 80 |
| | -128 | 80 | | -403 | 80 |
| | -129 | 80 | | -404 | 80 |
| | -130 | 80 | | -405 | 80 |
| | -131 | 80 | | -406 | 80 |
| | -132 | 80 | | -407 | 80 |
| | -133 | 80 | | -408 | 80 |
| | -134 | 80 | | -409 | 80 |
| | -135 | 80 | | -410 | 80 |
| | -136 | 80 | | 672421 | 80 |
| | -137 | 80 | | -422 | 80 |
| | -138 | 80 | | -423 | 80 |
| | -139 | 80 | | -424 | 80 |
| | 642257 | 80 | | -425 | 80 |
| | 642258 | 80 | | -426 | 80 |
| | 642259 | 80 | | -427 | 80 |
| | 642278 | 80 | | | |
| | 642279 | 80 | | | |

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim

Calculation of Expenditure Days Credits

Total Expenditures \$ + 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date 28 Feb. '86. Recorded Holder or Agent (Signature) Albert Hopkins.

For Office Use Only

Total Days Cr. Recorded 2800 Date Recorded Mar. 6/86 Mining Record

Date Approved as Recorded 26.4.7

Certification Verifying Report of Work
I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true. Report + Maps in Duplicate to follow

Name and Postal Address of Person Certifying
ALBERT HOPKINS, 810 Duplex Av., Toronto, Ont. M4R. 1W7,
Director of Kenty Resources Ltd.

Date Certified 28 Feb. '86. Certified by (Signature) Albert Hopkins

Mining Lands, Toronto

RECORDED
MAR 06 1986

RECEIVED
MAR 06 1986



Ministry of Northern Development and Mines
Ontario

Report of Work W.R. # 079/86

(Geophysical, Geological, Geochemical and Expenditures)

Terraquest's # A.533

Instructions: - Please type or print.

- If number of mining claims traversed exceeds space on this form, attach a list.
- Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

Mining Act

| | |
|--|--|
| Type of Survey(s) Airborne Mag & VLF-EM Survey | Township or Area Rollo Township |
| Claim Holder(s) HANSON LAKE RESOURCES LTD. | Inspector's Licence No. T.1640. |
| Address 9 BRYNSTON Rd., ISLINGTON, Ont. M9B 3C5. flown | |
| Survey Company Terraquest Limited | Date of Survey (from & to) 25 11 85 27 11 85 Day Mo. Yr. Day Mo. Yr. |
| Name and Address of Author (of Geo-Technical report) Charles Q. Barrie, Terraquest Ltd., 121 Richmond St. W., Ste. 905, Toronto, ON M2H 2K1 | |
| Total Miles of line at 100-meter intervals: 30 flight-line miles | |

| Special Provisions | Geophysical | Days per Claim |
|---|-------------------|----------------|
| For first survey: Enter 40 days. (This includes line cutting) | - Electromagnetic | |
| | - Magnetometer | |
| For each additional survey: using the same grid: Enter 20 days (for each) | - Radiometric | |
| | - Other | |
| | Geological | |
| | Geochemical | |
| Man Days Complete reverse side and enter total(s) here | Geophysical | Days per Claim |
| | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| | - Other | |
| | Geological | |
| | Geochemical | |
| Airborne Credits | | Days per Claim |
| Note: Special provisions credits do not apply to Airborne Surveys. | Electromagnetic - | 40 |
| | Magnetometer - | 40 |
| | Radiometric | |

| Mining Claims Traversed (List in numerical sequence) | | | Mining Claims Traversed (List in numerical sequence) | | |
|--|---------------------|------------------|--|---------------------|------------------|
| Prefix | Mining Claim Number | Expend. Days Cr. | Prefix | Mining Claim Number | Expend. Days Cr. |
| P. | 672428 | 80 | P. | 672451 | 80 |
| | 29 | 80 | | 52 | 80 |
| | 30 | 80 | | 53 | 80 |
| | 31 | 80 | | 54 | 80 |
| | 32 | 80 | | 55 | 80 |
| | 33 | 80 | | 56 | 80 |
| | 34 | 80 | P. | 672457 | 80 |
| | 35 | 80 | | | |
| | 36 | 80 | | | |
| | 37 | 80 | | | |
| | 38 | 80 | | | |
| | 39 | 80 | | | |
| | 40 | 80 | | | |
| | 41 | 80 | | | |
| | 42 | 80 | | | |
| | 43 | 80 | | | |
| | 44 | 80 | | | |
| | 45 | 80 | | | |
| | 46 | 80 | | | |
| | 47 | 80 | | | |
| | 48 | 80 | | | |
| | 49 | 80 | | | |
| | 50 | 80 | | | |

| | |
|--|--------------------|
| Expenditures (excludes power, stripping) | |
| Type of Work Performed | RECEIVED |
| Performed on Claim(s) | MAR 06 1986 |
| Calculation of Expenditure Days Credits | |
| Total Expenditures | Total Days Credits |
| \$ | ÷ 15 = |

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

| | |
|------------|--------------------------------------|
| Date | Recorded Holder or Agent (Signature) |
| 28 Feb '86 | Albert Hopkins |

| | | |
|-------------------------|---------------------------|------------------|
| For Office Use Only | | |
| Total Days Cr. Recorded | Date Recorded | Mining Inspector |
| 2400 | Mar. 6/86 | Stanley |
| | Date Approved as Recorded | Inspector |
| | 86. 4. 7 | Albert Hopkins |

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true. Report & Maps in Duplicate to Follow

| | | |
|---|----------------|--------------------------|
| Name and Postal Address of Person Certifying | Date Certified | Certified by (Signature) |
| ALBERT HOPKINS, 810 Duplex Av., TORONTO, Ont. MAR. 1W7, | 28 Feb. 86 | Albert Hopkins |
| Geologist & Prospector for claims Holder. | | |

Mining Lands, TORONTO



Ministry of
Natural
Resources
Ontario

Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

Terraquest's
A-533

W.R. # 080/86895

Instructions: - Please type or print.
- If number of mining claims traversed
exceeds space on this form, attach a list.
Note: - Only days credits calculated in the
"Expenditures" section may be entered
in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

The Mining Act

Type of Survey(s) Airborne Geophysical - Mag & VLF Gerald Faucher M-217 Township or Area Rollo Township

Claim Holder(s) Lusien St Laurent, M-21922 Prospector's Licence No. various

Address 385-A Spadina Rd, Toronto, Ont, M5P, 2W1.

Survey Company Terraquest Ltd. Date of Survey (from & to) 08 11 85 25 11 85 Total Miles of line flown 71 flight-line miles
Day | Mo. | Yr. | Day | Mo. | Yr. at 100 meter line spacing.

Name and Address of Author (of Geo-Technical report)
C. Q. Barrie, 905 - 121 Richmond St. West, Toronto, Ontario. M5H 2K1

Credits Requested per Each Claim in Columns at right

| Special Provisions | Geophysical | Days per Claim |
|---|-------------------|----------------|
| For first survey: Enter 40 days. (This includes line cutting) | - Electromagnetic | |
| | - Magnetometer | |
| For each additional survey: using the same grid: Enter 20 days (for each) | - Radiometric | |
| | - Other | |
| | Geological | |
| | Geochemical | |

| Man Days | Geophysical | Days per Claim |
|---|-------------------|----------------|
| Complete reverse side and enter totals here | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| | Other | |
| | Geological | |
| | Geochemical | |

| Airborne Credits | Days per Claim |
|--|----------------|
| Note: Special provisions credits do not apply to Airborne Surveys. | |
| Electromagnetic | 40 |
| Magnetometer | 40 |
| Radiometric | |

Mining Claims Traversed (List in numerical sequence)

| Mining Claim Prefix | Number | Expend. Days Cr. | Mining Claim Prefix | Number | Expend. Days Cr. |
|---------------------|--------|------------------|---------------------|--------|------------------|
| P | 755323 | 80 | P | 755374 | 80 |
| | 24 | 80 | | 75 | 80 |
| | 25 | 80 | | 76 | 80 |
| | 26 | 80 | | 77 | 80 |
| | 27 | 80 | | 78 | 80 |
| | 28 | 80 | | 79 | 80 |
| | 29 | 80 | | 80 | 80 |
| | 30 | 80 | | 81 | 80 |
| | 31 | 80 | | 82 | 80 |
| | 32 | 80 | | 83 | 80 |
| | 33 | 80 | | 84 | 80 |
| | 34 | 80 | | 85 | 80 |
| | 35 | 80 | | 86 | 80 |
| | 36 | 80 | | 87 | 80 |
| | 37 | 80 | | 88 | 80 |
| | 38 | 80 | | 89 | 80 |
| | 39 | 80 | | 90 | 80 |
| | 40 | 80 | | 91 | 80 |
| | 41 | 80 | | 92 | 80 |
| | 42 | 80 | | 93 | 80 |
| | 43 | 80 | | 94 | 80 |
| | 44 | 80 | | 95 | 80 |
| | 45 | 80 | | 96 | 80 |
| | 46 | 80 | | 97 | 80 |
| | 47 | 80 | | 98 | 80 |
| | 48 | 80 | | 99 | 80 |
| | 49 | 80 | | 100 | 80 |
| | 50 | 80 | | 101 | 80 |
| | 51 | 80 | | 102 | 80 |
| | 52 | 80 | | 103 | 80 |
| | 53 | 80 | | 104 | 80 |
| | 54 | 80 | | 105 | 80 |
| | 55 | 80 | | 106 | 80 |
| | 56 | 80 | | 107 | 80 |
| | 57 | 80 | | 108 | 80 |
| | 58 | 80 | | 109 | 80 |
| | 59 | 80 | | 110 | 80 |
| | 60 | 80 | | 111 | 80 |
| | 61 | 80 | | 112 | 80 |
| | 62 | 80 | | 113 | 80 |
| | 63 | 80 | | 114 | 80 |
| | 64 | 80 | | 115 | 80 |
| | 65 | 80 | | 116 | 80 |
| | 66 | 80 | | 117 | 80 |
| | 67 | 80 | | 118 | 80 |
| | 68 | 80 | | 119 | 80 |
| | 69 | 80 | | 120 | 80 |
| | 70 | 80 | | 121 | 80 |
| | 71 | 80 | | 122 | 80 |
| | 72 | 80 | | 123 | 80 |
| P | 755373 | 80 | | 124 | 80 |

Total number of mining claims covered by this report of work. **71**

Expenditures (excludes power stripping)

Type of Work Performed RECEIVED

Performed on Claim(s) MAR 06 1985

Calculation of Expenditure Days Credits

Total Expenditures \$ 15 = Total Days Credits 15

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date 28 Feb. '86 Recorded Holder or Agent (Signature) Albert Hopkins

For Office Use Only

Total Days Cr. 5680 Date Recorded Mar. 6/86 Mining Recorder [Signature]

Date Reported 26.4.7 Date Certified 28 Feb. '86 Certified by (Signature) Albert Hopkins

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true. Report + Maps in duplicate to follow

Name and Postal Address of Person Certifying
ALBERT HOPKINS, 810 Duplex Av., Toronto, Ont. MAR. 1W7

Geologist & Prospector for Claim Holder. Date Certified 28 Feb. '86 Certified by (Signature) Albert Hopkins

to Mining Lands, Toronto.



Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

Terraquest's
A-533

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
Do not use shaded areas below.

W.R. #081/86 28952

Mining Act

Type of Survey(s) **Airborne Geophysical - Mag. & VLF.-E.M.** Township or Area **Rollo Township.**
 Beneficial Claim Holder(s) **Lucien St-Laurent M-21922 & Yvon Gaudy M-21921** Prospector's Licence No. **Various**
ROLLOVER RESOURCES PROSPECTING SYND.
 Address **385A Spadina Rd., Toronto, Ont, M5P.2W1.** flown
 Survey Company **TERRAQUEST Ltd. of TORONTO, Ont.** Date of Survey (from & to) **08 11 85 | 25 11 85** Total Miles of line **40 flight line-miles**
 Name and Address of Author (of Geo-Technical report) **C.Q. Barrie, 905 - 121 Richmond St. W., TORONTO, Ont. M5H 2K1.** at **100 meter line spacing.**

Credits Requested per Each Claim in Columns at right

| Special Provisions | Geophysical | Days per Claim |
|---|-------------------|----------------|
| For first survey: Enter 40 days. (This includes line costing) | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| | - Other | |
| For each additional survey: using the same grid: Enter 20 days (for each) | Geological | |
| | Geochemical | |
| Max Days | Geophysical | Days per Claim |
| Complete reverse side and enter total(s) here | - Electromagnetic | |
| | - Magnetometer | |
| | - Radiometric | |
| | - Other | |
| | Geological | |
| | Geochemical | |
| Airborn Credits | | Days per Claim |
| Note: Special provisions credits do not apply to Airborne Surveys. | Electromagnetic | 40 |
| | Magnetometer | 40 |
| | Radiometric | |

Mining Claims Traversed (List in numerical sequence)

| Prefix | Mining Claim Number | Expend. Days Cr. | Prefix | Mining Claim Number | Expend. Days Cr. |
|--------|---------------------|------------------|--------|---------------------|------------------|
| P. | 755330 | 80 | P. | 755401 | 80 |
| | 755331 | 80 | | 2 | 80 |
| | 755333 | 80 | | 3 | 80 |
| | 755379 | 80 | | 4 | 80 |
| | 80 | 80 | | 5 | 80 |
| | 81 | 80 | | 6 | 80 |
| | 82 | 80 | | 7 | 80 |
| | 83 | 80 | | 8 | 80 |
| | 84 | 80 | | 9 | 80 |
| | 85 | 80 | | 10 | 80 |
| | 86 | 80 | | 11 | 80 |
| | 87 | 80 | | 12 | 80 |
| | 88 | 80 | | 13 | 80 |
| | 89 | 80 | | 14 | 80 |
| | 90 | 80 | | 15 | 80 |
| | 91 | 80 | P. | 755416 | 80 |
| | 92 | 80 | | | |
| | 93 | 80 | | | |
| | 94 | 80 | | | |
| | 95 | 80 | | | |
| | 96 | 80 | | | |
| | 97 | 80 | | | |
| | 98 | 80 | | | |
| P. | 755399 | 80 | | | |

Total number of mining claims covered by this report of work. **40**

RECORDED
MAR 06 1986

RECEIVED
MAR 06 1986

Expenditures (excludes power stripping provision)

Type of Work Performed

Performed on Claim

Calculation of Expenditure Days Credits

Total Expenditures \$ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded **3200** Date Recorded **Mar. 6/86** Mining Recorder **[Signature]**

Date Approved as Recorded **6.4.7** Branch **[Signature]**

Date **28 Feb '86** Recorded Holder or Agent (Signature) **Albert Hopkins**

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true. **Report + Maps in duplicate to follow**

Name and Postal Address of Person Certifying **ALBERT HOPKINS, 810 Duplex Av. TORONTO, Ont. M4R.1W7.**

Geologist & Prospector for Claim Holder. Date Certified **28 Feb. '86.** Certified by (Signature) **Albert Hopkins**

to Mining Lands, Toronto.

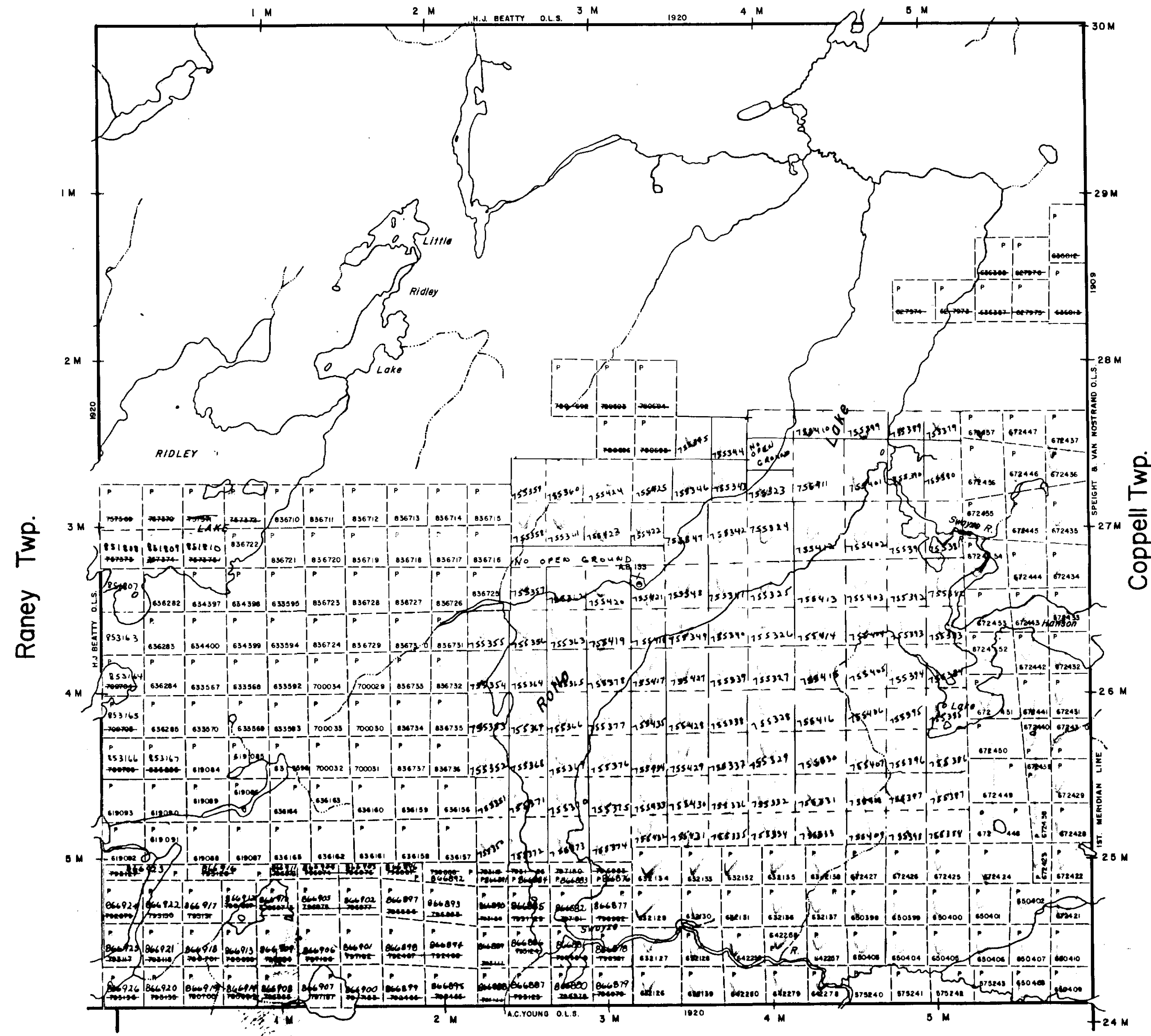
REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M.+S. - MINING AND SURFACE RIGHTS

Description Order No. Date Disposition File

Biggs Twp.



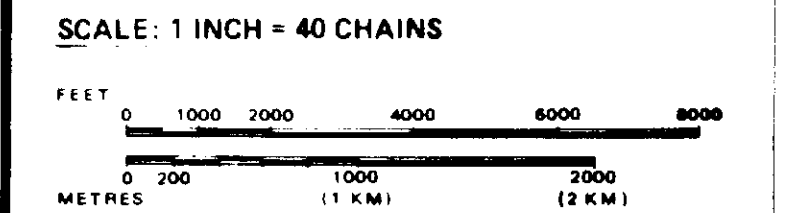
LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
 - TOWNSHIPS, BASE LINES, ETC.
 - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
 - LOT LINES
 - PARCEL BOUNDARY
 - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

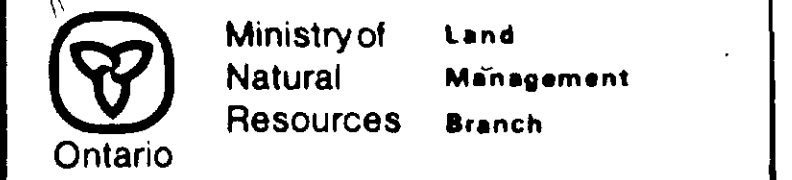
| TYPE OF DOCUMENT | SYMBOL |
|---------------------------------|--------|
| PATENT, SURFACE & MINING RIGHTS | ● |
| " SURFACE RIGHTS ONLY | ○ |
| " MINING RIGHTS ONLY | ◐ |
| LEASE, SURFACE & MINING RIGHTS | ■ |
| " SURFACE RIGHTS ONLY | ◼ |
| " MINING RIGHTS ONLY | ◻ |
| LICENCE OF OCCUPATION | ▼ |
| ORDER-IN-COUNCIL | OC |
| RESERVATION | ⊙ |
| CANCELLED | ⊘ |
| SAND & GRAVEL | ⊙ |

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.



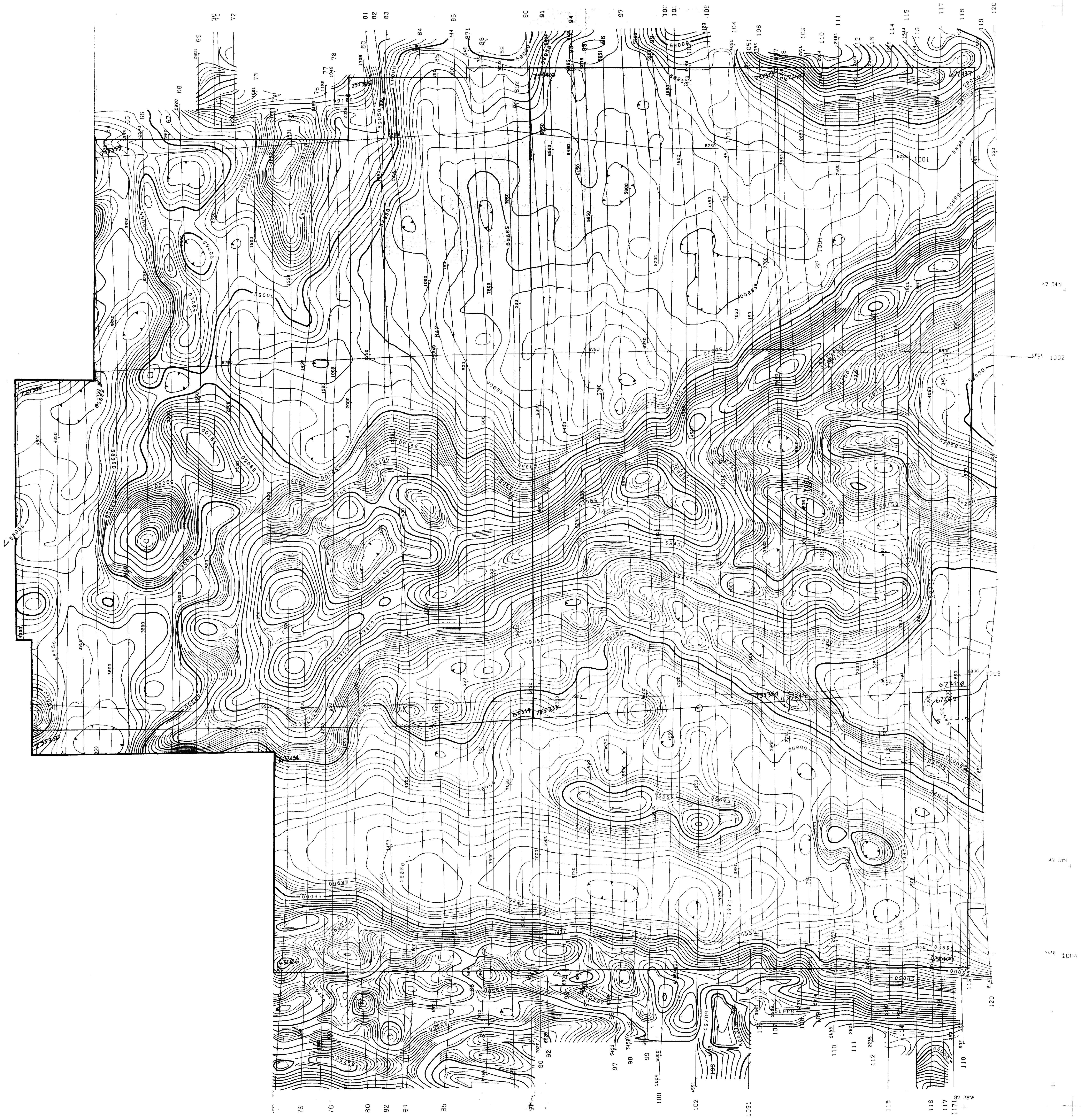
Up to date as of:
Dec 19/85

TOWNSHIP
ROLLO
M.N.R. ADMINISTRATIVE DISTRICT
CHAPLEAU
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
SUDBURY



Date: MARCH, 1985
Number: **G-3246**





47 54N
1002
47 51N
1014



LEGEND

- Terrain Clearance 100 meters
- Line Spacing 100 meters
- 1000 gammas
- 250 gammas
- 50 gammas
- 10 gammas

ROLLOVER RESOURCES PROSPECTING SYNDICATE
 ROLLO RESOURCES PROSPECTING SYNDICATE
 HANSON LAKE PROSPECTING SYNDICATE
 KENTY OPTIMISTS SYNDICATE

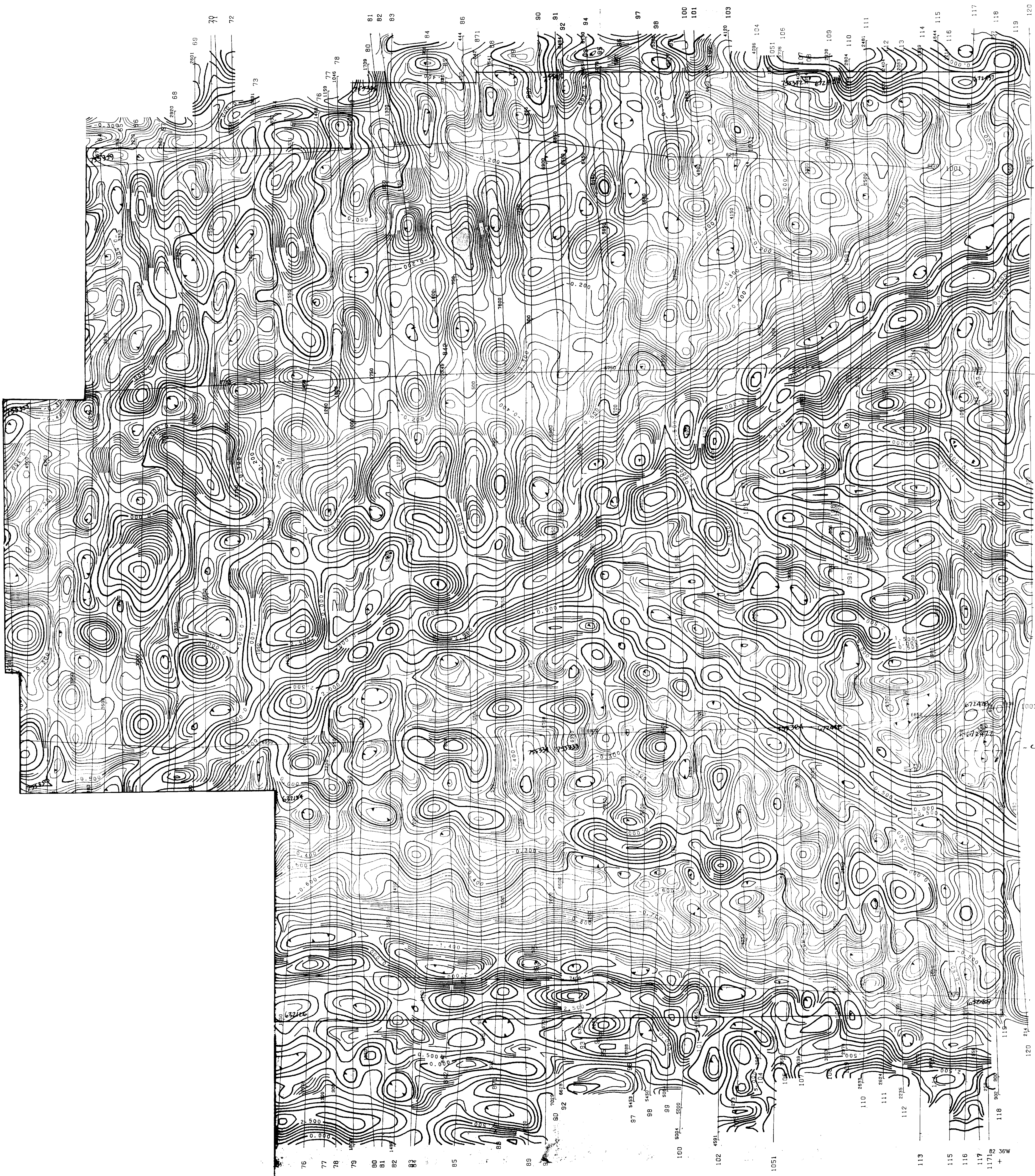
**AIRBORNE MAGNETIC SURVEY
 TOTAL MAGNETIC FIELD**

ROLLO TOWNSHIP - ONTARIO

N.T.S. NO: 41 0/15 DRAWING NO. A-533-1
 SCALE 1:10,000 DATE: February 1986

TERRAQUEST LTD.
 TORONTO, CANADA





LEGEND

Terrain Clearance 100 meters
 Line Spacing 100 meters
 2.500 gammas / meter
 .500 gammas / meter
 .100 gammas / meter
 .025 gammas / meter

ROLLOVER RESOURCES PROSPECTING SYNDICATE
 ROLLO RESOURCES PROSPECTING SYNDICATE
 HANSON LAKE PROSPECTING SYNDICATE
 KENTY OPTIMISTS SYNDICATE

AIRBORNE MAGNETIC SURVEY
 VERTICAL MAGNETIC GRADIENT
 Calculated From Total Field

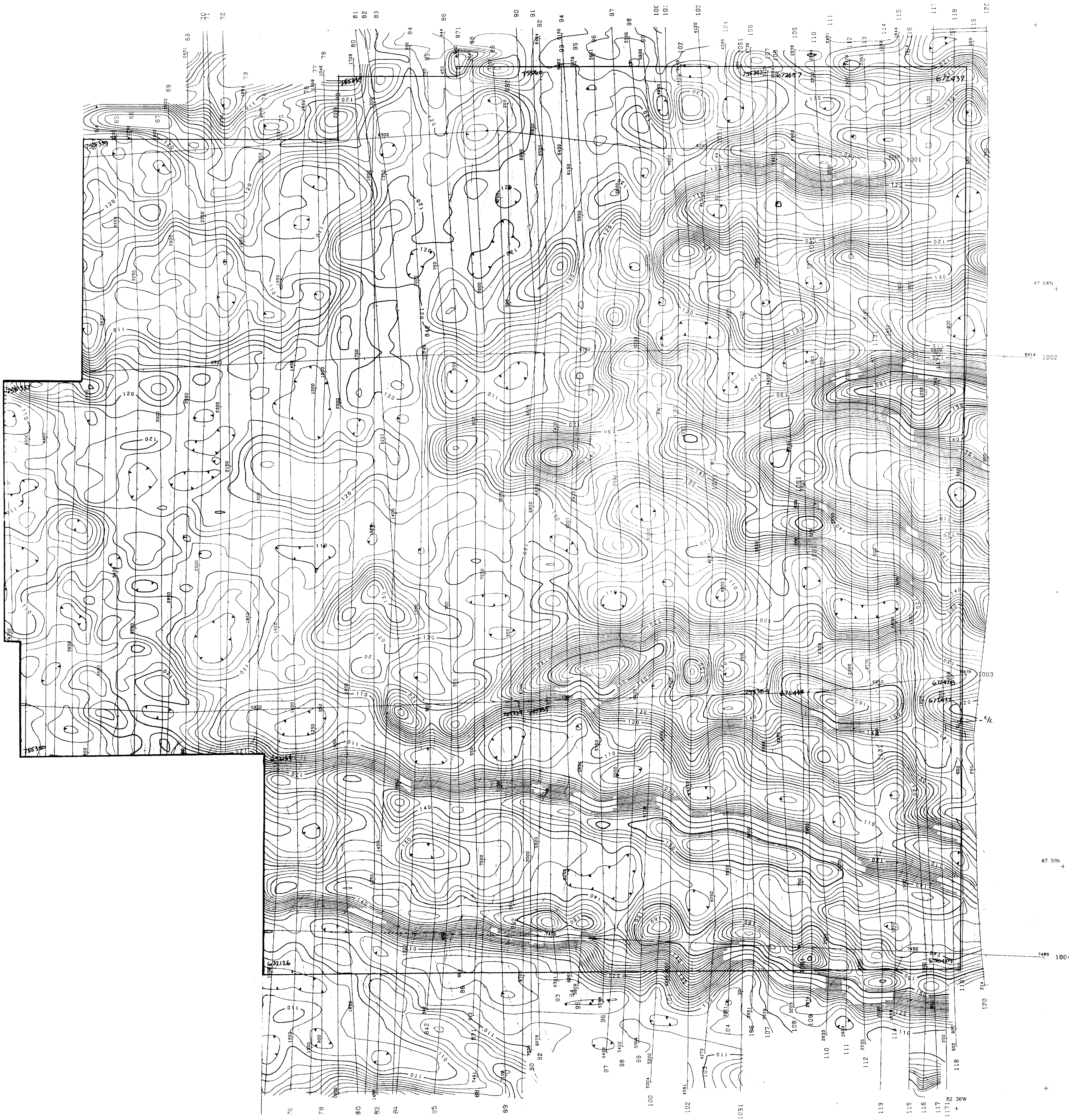
ROLLO TOWNSHIP - ONTARIO

N.T.S. NO: 41 0/15 DRAWING NO. A-533-2

SCALE 1:10,000 DATE: February 1986

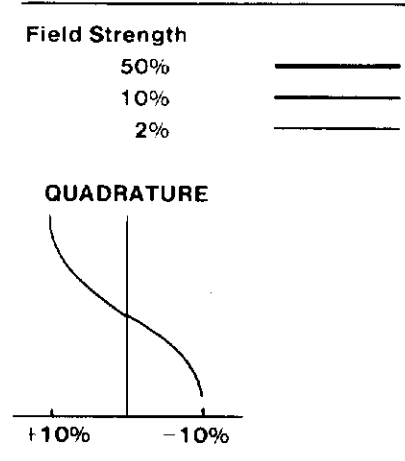
TERRAQUEST LTD.
 TORONTO, CANADA





VLF TRANSMITTER
NAA CUTLER 24.0kHz
Az: 101.2°

LEGEND



ROLLOVER RESOURCES PROSPECTING SYNDICATE
ROLLO RESOURCES PROSPECTING SYNDICATE
HANSON LAKE PROSPECTING SYNDICATE
KENTY OPTIMISTS SYNDICATE

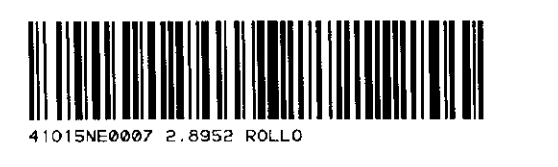
**AIRBORNE VLF-EM SURVEY
CONTOURS OF TOTAL FIELD STRENGTH
PROFILES OF QUADRATURE**

ROLLO TOWNSHIP - ONTARIO

N.T.S. NO: 41 0/15 DRAWING NO. A-533-3

SCALE 1:10,000 DATE: February 1986

TERRAQUEST LTD.
TORONTO, CANADA

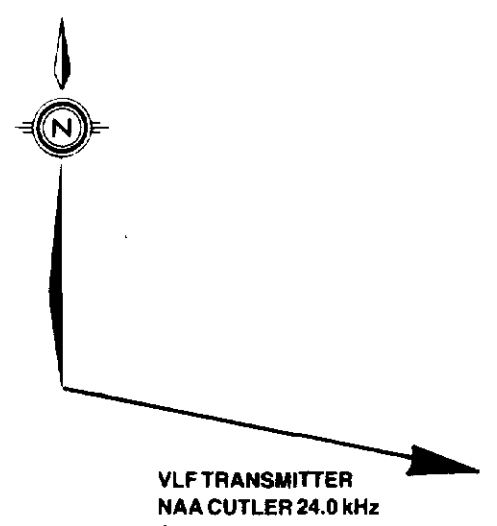




47 54N
47 51N
82 36W

LEGEND

| INTERPRETATION | | LITHOLOGY | |
|----------------|-------------------------------|-----------|---|
| | Contact | | Diabase dykes |
| | Fault | | Biotite and Hornblende-Biotite quartz monzonite |
| | Property Boundary | | Mafic intrusives |
| | VLF-EM Conductor Axes | | Metasediments: greywacke, quartzite, slate |
| | normal quadrature | | Magnetic units within 2 |
| | reverse quadrature | | Felsic to intermediate metavolcanics |
| | in phase only (no quadrature) | | Magnetic units within 1 |
| | | | Mafic to intermediate metavolcanics |
| | | SYMBOLS | |
| | | | Mineralization |



ROLLOVER RESOURCES PROSPECTING SYNDICATE
ROLLO RESOURCES PROSPECTING SYNDICATE
HANSON LAKE PROSPECTING SYNDICATE
KENTY OPTIMISTS SYNDICATE

INTERPRETATION

ROLLO TOWNSHIP - ONTARIO

N.T.S. NO: 41 0/15 DRAWING NO. A-533-4

SCALE 1:10,000 DATE: February 1986

TERRAQUEST LTD.
TORONTO, CANADA

