

42A11SW0216 2.4174 TISDALE

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**OCT 2 - 1981**

**MINING LANDS SECTION**

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REPORT ON THE TISDALE PROJECT,  
TIMMINS AREA

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f o r

INGEX HOLDING & DEVELOPMENT LTD.

CONNAUGHT, ONTARIO, CANADA  
SEPTEMBER, 1981

T.N.J. HUGHES B.Sc. (DUNDEE)

L.D.

## 1. INTRODUCTION

This report presents the results of V.L.F. electromagnetic and magnetometer surveys carried out on the property during August, 1981, by Ingamar Explorations Ltd., of Connaught.

The results of this work, and previous prospecting on the property will be discussed with recommendations made for further gold prospecting.

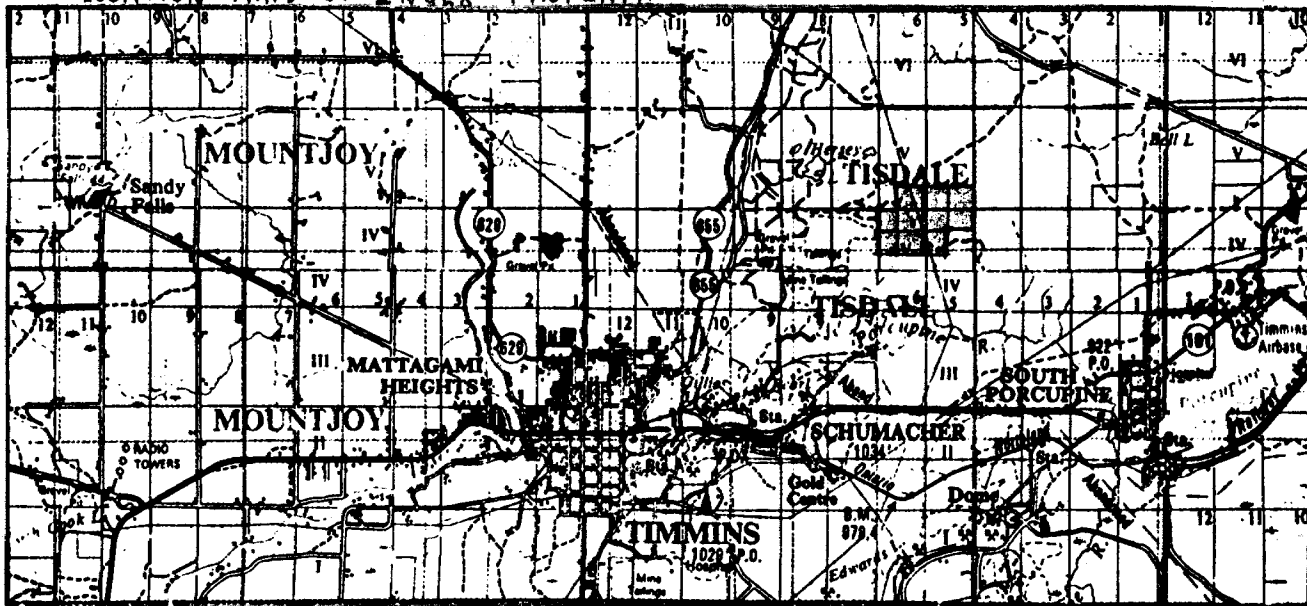
## 2. LOCATION & ACCESS

The property, formerly known as the "Porcupine Prime Property", consists of ten mining claims in the North Central Tisdale Township, Porcupine Mining District, N.T.S. Reference Sheet No.'s 42A/6, 42A/11. The claims are numbered P.530746 - P.530755 inclusive and lie within Lots 5 and 6, Concessions IV and V.

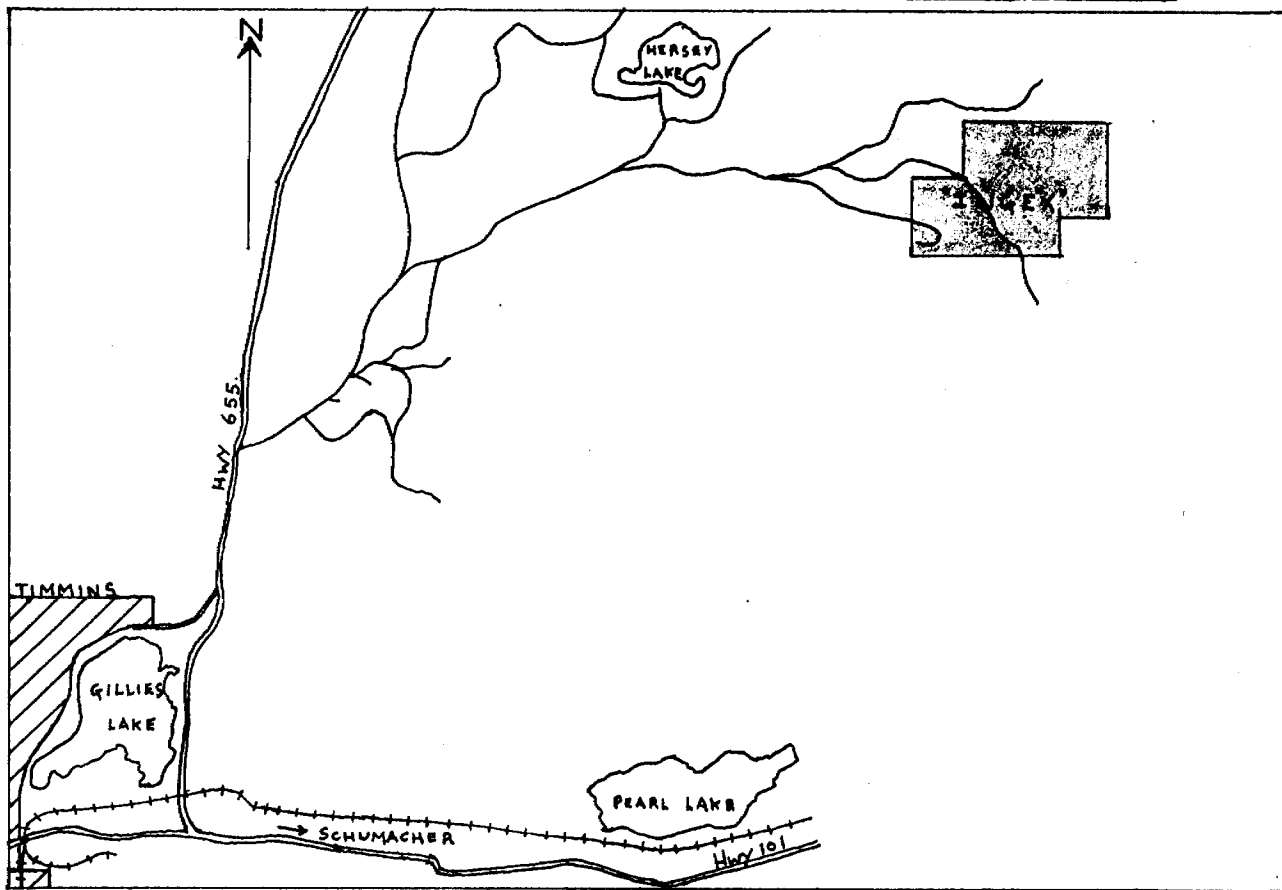
Eastern Timmins lies within Tisdale Township, with the property located approximately 3 miles N.E. of the city.

Access is by road, along a route off highway 655 (Texas Gulf Highway), one and a half miles N. of Timmins. (see location map).

LOCATION MAPS OF 'INGEX' PROPERTY



Scale. 1 inch = 2 miles



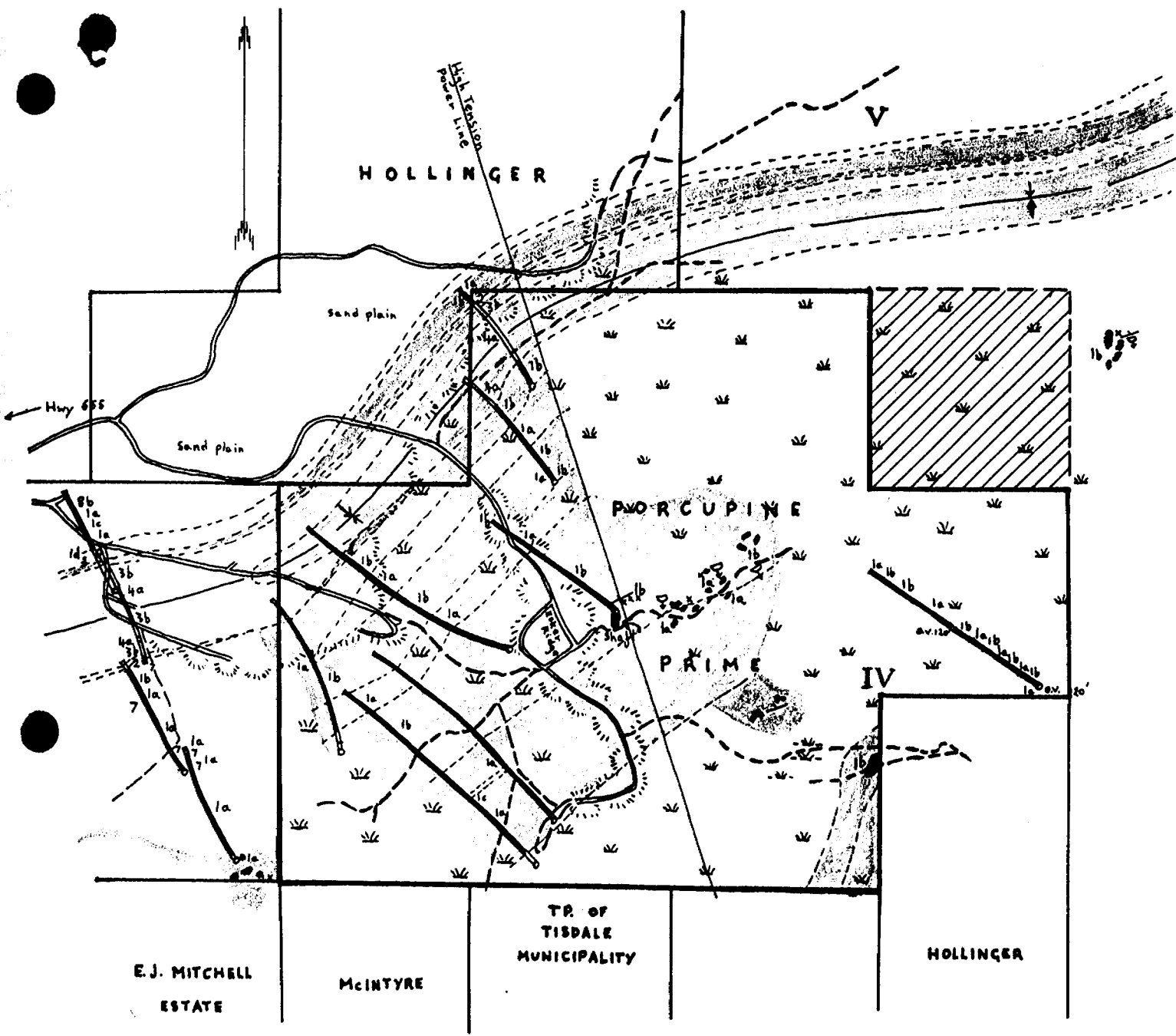
Diagrammatic Map showing location of property & Access via Timmins

### 3. GEOLOGY

The Timmins area lies within a sequence of Archaean (Keewatin age) volcanics, sediments and intrusives which form a part of the Abitibi orogenic subprovince, a major gold producing area in Ontario. Substantial gold finds have been made, including those of Dome Mines Ltd., Hollinger Consolidated Gold Mines Ltd., McIntyre Porcupine Mines Ltd. and Porcupine Paymaster Ltd.

The majority of geological information on the area, to be discussed below, has been furnished from O.D.M. Geological Report 58, "Geology & Ore Deposits of Tisdale Township", by S.A. Ferguson, 1968. A detailed discussion on the geology of the Timmins area will, therefore, not be presented.

In the Tisdale Township area, North of the Porcupine-Destor Fault, the Pre-Cambrian sequence has been divided into two volcanic and two sedimentary units. The oldest rocks are basic metavolcanics, overlain by thinner slates and greywackes. Above this lies a unit of acid to intermediate metavolcanics which are overlain by a metasedimentary unit. Finally, Timiskaming age metasediments unconformably overlie the earlier Keewatin volcanics and sediments.



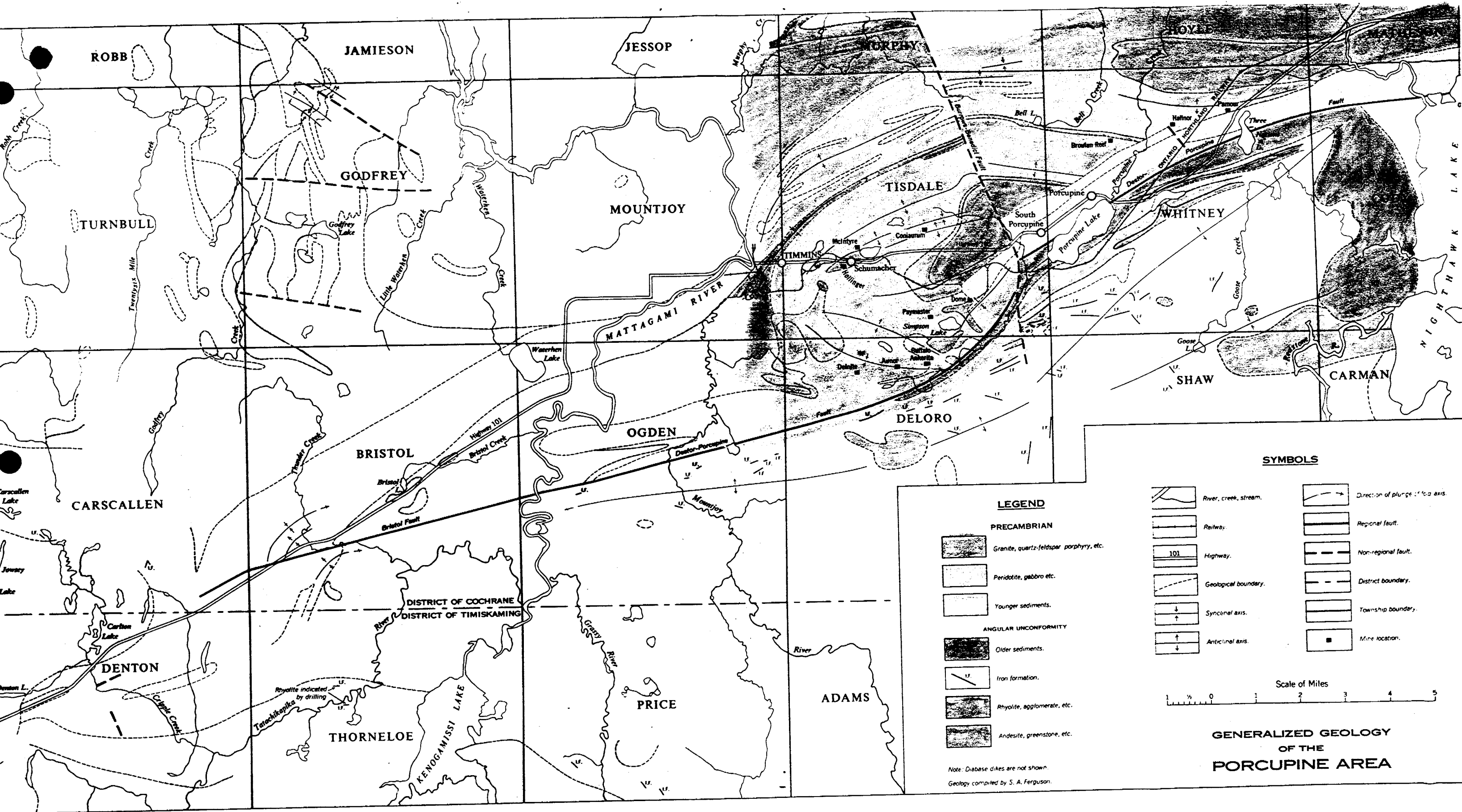
GEOLOGY OF "TISDALE PROPERTY" (P. PRIME + SHADED CLAIM)

Scale: 1" = 1,000ft (1:12,000)

(FROM O.D.M. MAP 2075, TISDALE TOWNSHIP, COCHRANE DISTRICT, ACCOMPANIES O.D.M. GEOL. REPORT 58, 1968, BY S.A. FERGUSON)

LEGEND:-

- |  |  |   |
|--|--|---|
| <p>KEEWATIN</p> <p>ALUMMAN-<br/>MAHEWAN-<br/>ORKEWENAWAN</p> | <ul style="list-style-type: none"> <li>Basalt (metabasalt), uniform, massive.</li> <li>" ( " ), fine-grained with pillows &amp; amygdules</li> <li>Flow top breccia</li> <li>Varicolitic basalt (metabasalt).</li> <li>Amphibolite &amp; slate</li> <li>(b) Porphyritic Latite (Acid to Int. metavolcanics)</li> <li>Metasediments</li> <li>Quartz-feldspar porphyry</li> <li>(b) Quartz-diorite.</li> </ul> | <ul style="list-style-type: none"> <li>x Small rock outcrop</li> <li>● Boundary of rock outcrop</li> <li>— Strike &amp; Dip</li> <li>△ Direction in which lava flows face as indicated by shape of pillows</li> <li>⊕ Synclinal axis</li> <li>⋯ Higher ground</li> <li>⊞ Muckey or Swamp</li> <li>--- Trail, portage, winter road</li> <li>■ shaft, vertical</li> <li>○ Drill hole, geology projected vertically to horizontal plane. o.v. 120' Depth of overburden in feet.</li> </ul> |
|--|--|---|



With regard to the gold producing area as a whole, gold is found in quartz veins which occupy a series of fractures which, though usually conformably with strike, dip more steeply than the country rock. The veins are along major anticlinal structures, eg. the Hollinger Anticline, Coni-aurum Anticline and Simpson Lake Anticline.

No ore bodies in synclinal structures are known to date but favourable structural conditions may exist on the limbs of synclines. In the anticlines, the veins may be adjacent to the axial plane of the anticline, eg. the Hollinger Anticline, or on one or both limbs of the anticline.

All ore found to date is within basalts of the Tisdale Group Lavas (see Table of Formations), the Timiskaming sediments and the porphyries and no ore has been found in the Latite and Latite breccia of the tuff and breccia unit, or in the Keewatin sediments. Most of the ore is contained within the basalts of the Tisdale Group, particularly rock units from '95' to 'V 10B', which include the Central Subgroup and part of the Vipond Subgroup. The above lithological units are important marker horizons and have been used in extending existing ore bodies, and locating new gold showings. At the Dome Mine, part of the ore lies in lithologies stratigraphically higher than V 10B, and includes mineralisation in the overlying Timiskaming sediments.



TABLE OF FORMATIONS, TISDALE AREA

Matachewan

D Diabase

Algoman

A-Pf Quartz-feldspar porphyry

Haileyburian

Bsp. Serpentinite

Timiskaming

T-Sg Greywacke

T-Ss Slate and argillite

T-Scg Conglomerate

Unconformity

Keewatin

K-Ss Argillite

K-Sg Greywacke

Vt Latite

Vtag Latite breccia

K-Ss Argillite and slate

Tisdale Gp

V 10B Variolitic (spherulitic) basalt with some brecciation of the variolites, Vipond sub-Gp. flow No. 10B.

V 8 Variolitic (spherulitic) basalt includes Vipond sub-Gp. flow No. 8.

C 95 Variolitic top of central Sub-Gp. flow No. 95.

Vsp Variolitic basalt of other stratigraphic positions

Vbx Flow top breccia

Vap1 Basalt, fine grained, with pillows and amygdules

Vam Basalt, medium grained, massive, uniform.

Va Basalt, undifferentiated

Vd "Dacite"

K-Ss Interflow argillite

Algomian porphyry provides excellent conditions for vein formation and gold mineralisation, with a zonation of veins in and near the porphyry. The majority of porphyry, however, lies near anticlinal fold axes, but the most favourable zones for Au location exist along the porphyry margins (Ferguson, 1968).

Vein-rock associations are not confined to a particular lithological type with structural control appearing to be an important factor. The presence of fractures in a rock and its ability to maintain anisotropic planes during deformational phases is, according to Ferguson, a feature which must be taken into account.

Minerals associated with gold include, in order of frequency of occurrence, pyrite, and less commonly, sphalerite, chalcopyrite, galena and tellurides. When gold is located in the wall rock, it is most commonly associated with pyrite, though it probably post-dates the sulphide.

With respect to the property itself, the underlying geology comprises a Keewatin volcano-sedimentary sequence, located on the southern limb of the North Tisdale Syncline. Few outcrops exist, due to a cover of Cenozoic to Recent deposits, mainly of sand, and being fluvio-glacial in origin. They are confined to a number of metabasalt outcrops in

the Central, East Central and South-Eastern areas of the property.

Diamond drilling, (see Geology Map for location of drill holes, and orientation of drilling), has revealed a sequence of basal metabasalts overlain by acid to intermediate meta-volcanics, with younger metasediments situated in the N.W. of the property.

Reconnaissance geological work, carried out during the geophysical surveys, located several outcrops of massive, pillowed and amygdaloidal metabasalts. Assigning an age to these is difficult, due to lack of marker horizons in the area.

A quartz granodiorite (quartz porphyry of Algoman age?) outcrops on Line 32, 7+00N., though it is of small areal extent. It appears to have conformable dip with the country rock, but its true strike could not be obtained because of its size. Trenching in the form of two parallel cuts within the granodiorite. No mineralisation was observed by the author.

An extensive area of trenching exists on Line 40, at 5+80 to 8+00S in amygdaloidal and porphyritic metabasalt. Again, no mineralisation other than irregular

quartz veins was found.

In conclusion, it would appear that favourable conditions may exist for gold mineralisation on the Southern limb of the North Tisdale Syncline. Vertical drilling here may locate a marker horizon which would enable age dating to be established for the outcrops on the property. The majority of the country rocks in existing gold producing areas are part of units C 95 to V 10B. and attention should be paid to rock units of this age, if encountered during drilling.

Fractures established during the formation of the North Tisdale Syncline, would probably be most prevalent near the hinge of the fold. Gold formation and deposition in this fractures, if present, would require relatively deep drilling to locate a gold formation.

No Algoman age porphyry was known to exist, prior to the survey. Only a small outcrop, possibly a quartz porphyry was found by the author, but its full extent should be ascertained, as there may be, at depth, a larger body which would provide, as mentioned previously, favourable conditions for gold deposition.

#### 4. PREVIOUS WORK

Balboa Explorations Ltd. held an 85% interest in 9 claims in Concessions IV and V, N.E. of Tisdale Township, which were held by Pinnacle Gold Mines Ltd. The interest held by Balboa Explorations was transferred to Cortez Explorations Ltd. in January 1946. Pincortez Mines Ltd. was incorporated to take over the property, with the company name being changed to Porcupine Prime Mines Ltd. in 1949.

Extensive diamond drilling was carried out before the formation of Pincortez Mines, with 8 holes drilled, (total length 8 965 ft.) 15 holes (total length 20 075 ft.) were later drilled to explore the same zone at greater depth. In 1958, 2 holes were drilled in the most easterly claim, in an area covered by overburden.

In December 1965, Porcupine Prime Mines Ltd. was renamed Prime Potash Corporation of Canada.

Ingex Holding & Development Ltd. commenced work on the Property in 1980.

## 5. SURVEY PARAMETERS

### 5.1 Linecutting

The linecutting was carried out by Ingamar Explorations Ltd., during July and August, 1981. An E.-W. baseline was established with crosslines, (at 400 foot intervals cut perpendicular to the baseline), extended to the property boundaries.

Station intervals were extended at 100 ft. intervals, with approximately 10 miles of line being cut, chained and picketed.

### 5.2 V.L.F. - E.M.

Approximately 10 miles of survey lines were covered using the E.M.-16 unit. Cutler, Maine, which transmits at a frequency of 17.8 KHz, was used as a single source, and this provided suitable E.M. coupling with the interpreted geological strike.

### 5.3 Proton Magnetometer

Approximately 10 miles of surveying was carried on the property. Station observations were at 400 ft. intervals on the baseline, and, as with the V.L.F.-E.M., at 100 ft. intervals on the crosslines.

#### 5.4 Personnel

The following personnel were connected with this project:

T.N.J. Hughes, B.Sc.  
Geologist, Operator

Matheson, Ontario

B.J. Boyd  
Operator

Connaught, Ontario

J.G. Salo  
Draftsperson

Connaught, Ontario

## 6. INSTRUMENTATION

### 6.1 VLF Survey

The VLF-EM method employs as a source, one of the numerous submarine communications transmitters in the 15 to 25 KHz band located throughout the world. At the surface of the earth these radio waves propagate predominantly in a single mode along the earth-air interface. This mode is known as the "surface wave". Over flat homogeneous ground in the absence of vertical conductive discontinuities the magnetic field component of this radio wave is horizontal and perpendicular to its direction of propagation.

Where non-horizontal structures such as faults, contacts and conductors give rise to changes in ground conductivity, secondary modes are generated which produce a vertical component of the magnetic field. This produces an elliptical polarization of the total field in a plane perpendicular to the direction of propagation.

Commercial VLF instruments enable detection of disturbing structures by measuring the tilt angle of the major axis of the polarization ellipse. On flat homogeneous ground the tilt angle will be zero, but in the vicinity of conducting disturbances it will acquire a finite value.



Direction of tilt indicates direction of the disturbing structure. Ability to deduce such parameters as depth, depth extent, dip and width of anomalous structures is minimal. Fortunately, this does not seriously affect location of points where VLF profiles cross the upper limit of dipping structures which can be identified as areas of greatest change is tilt angle per unit of distance.

The transmitting station used during the survey was Cutler, Maine at 17.8 KHz.

The data is presented as profiles with positive to the left, negative to the right. The instruments specifications are given in Appendix I.

## 6.2 Magnetometer Systems

A McPhar GP-70 Proton Magnetometer was used to survey the grid. This system utilizes the precession of spinning protons of a hydrogen atom within a hydrocarbon fluid. These spinning magnetic dipoles (protons) are polarized by applying a magnetic field using a current within a coil of wire. When the current is discontinued the protons precess about the earth's magnetic field and in turn generate a small current in the wire. This frequency of precession is proportional to the earth's total magnetic field.

This instrument is read directly in gammas which is the absolute value of the earth's total field for that station.

Correction of the magnetic data for instrument and diurnal drift was done by re-occupying previously established base stations periodically (approximately every 2 hours) during the course of the survey. In this manner a drift curve can be made such that they are all related to an established datum. Instrument specifications are presented in Appendix I.

7. INTERPRETATION

7.1 V.L.F.-E.M.

Thirteen conductive axes have been outlined on the Fraser Plot Map. They possess, in general, N.E.-S.W. or E.-W. trends, being essentially parallel with the geological strike of the area.

Determination of the true extent of the axes is considerably hampered by the presence of a high tension power line running N.N.W. through the property. As a result, the readings obtained in the vicinity of the cables are unreliable. Filtering by Fraser Plotting the results has clarified the overall picture to some extent, but continuation of axes across the power line has been accomplished only by examination of the conductor and geology strike on either side of the power line where values were unaffected.

Each anomaly will be discussed in turn, with an evaluation as a potential economic source.

Conductor 1

Located on Line 0+00, 5+75N to Line 8+00E, off the property, and possessing a N.E. trend. The anomaly is poorly defined, with a maximum on the West edge of the property. It probably represents a geological

contact and is of little economic significance.

#### Conductor 2

Located on Line 12+00E, 8+00N, it is situated adjacent to Conductor 5, and possesses a N.E. trend. The conductor has a length of 400 feet and represents a formational anomaly. No depth estimate is given. A further discussion will be given when evaluating Conductor 5

#### Conductor 3

This only appears as one crossover on Line 24+00E, 26+00N, and because of the lack of additional data, no further discussion is given.

#### Conductor 4

Situated on Line 0+00E, 0+00N to Line 4+00E, 2+50N. Depth to conductor is very shallow, probably within the unconsolidated glacio-fluvial deposits. It is partially affected by the outlet from the settling pond to the West. Closure is rapid to the East, and is open to the West.

#### Conductor 5

A N.E. trending anomaly, situated on Line 20+00E, 15+00N. Its' continuity under the power line is uncertain, but filtering the values reveals that the anomaly extends east to the power line.

Depth to conductor is estimated at 75 feet with a non-conductive overburden, in a bedrock source. The conductor dips North at a high angle, with sharp lateral gradients, but relatively open at its' East and West ends. It represents either a structural discontinuity, or a formational break. Conductor 2, being parallel, probably is related to this conductor, being a parallel fault, produced syn-genetically with Conductor 5, or simply represents a lithological variation in the underlying mafic lavas.

#### Conductor 6

Located on Line 32+00E, 22+00N, and trending N.N.E. off the property, it may form a continuation of Conductor 5, with a structural break between the two. Conductivity is low, with no depth estimate given; due to lack of sufficient data.

#### Conductor 7

This conductor trends N.E. and is situated on Line 0+00N, 10+00S. The strongest conductivity lies at the end of Line 00 and may be related to the setting pond immediately to the West. An outlet exists just south of the conductor, therefore one cannot dismiss the possibility of an artificial influence upon the geology in the immediate area.

#### Conductor 8

Located from Line 16+00E, 4+00N and probably extending across the power line East, to the edge of the property,

it is conformable with the strike of the underlying geology.

(Based on drill hole data)

On Line 16+00E, the influence of a drill hole to the west may have produced anomalously high values, but its' distance away from the conductor (100 ft.) probably excludes this theory.

Conductor length is approximately 4100 feet, with a bifurcation at its' eastern end, on Line 48+00E, at 14+50N.

Dip is to the south, and is subvertical. Depth to conductor is estimated at 75 to 80 feet. Conductivity is relatively constant throughout.

#### Conductor 9

The conductor is situated from Line 36+00E, 21+00N to Line 52+00E, 24+00N, with the highest conductivity being on Line 52. Depth to conductor is at 50-60 feet. The zone is open at both ends, with a low amplitude throughout. It is probably a contact between differing lithological types.

#### Conductor 10

Located on Line 12+00E, 11+00S to Line 20+00E, 4+50S, it is open to the East and West and continues off the property at its West end.

Conductor depth estimate is 60 feet with the axes parallel

the geological strike.

In the West, the presence of a drill hole located just East of Line 16 may have affected readings. Its short length indicates that the conductor has little economic significance.

#### Conductor 11

Only one crossover represents this conductor, located on Line 52+00E, 12+00N. Its short length and lack of additional crossover precludes a detailed discussion of this anomaly.

#### Conductor 12

This is located from Line 40+00E, 2+00S to Line 52+00E, 3+00N. It is open to the East, but may continue West to join Conductor 14. Trend is approximately East-West with a southerly dip for the conductor. Depth estimate is 100 feet, at its West end, to 180 feet at the East end, of the property. The conductor represents a linear, sub-vertical sheet or a geological contact.

#### Conductor 13

Located from Line 20+00E, 10+00S to Line 44+00E, 10+00S, it has an East-West trend and is open to the East and West.

Conductor depth is constant, at approximately 100' - 125' with a sub-vertical southerly dip. The values obtained have a high amplitude throughout, with negligible overburden effects. Outcrop, as in Conductor 12, exists and

therefore the source is probably is bedrock, rather than overburden.

Conductor 14

Located from Line 8+00E, 9+00S to Line 36+00E, 3+50N. Dip of this linear conductor is approximately 180 feet. The conductor may continue South-West to join, with a swing South-East, Conductor 12.

The anomaly possesses relatively high E.M. value, indicating a fairly conductive source, though overburden effects (e.g. thickness and conductivity) over the anomaly partially account for the readings.

A geological contact is the probable cause for this conductive zone.



## 7.2 Magnetometer Survey

There is very little coincidence of Magnetic and E.M. data, nor is there a definite magnetic trend on the property. High magnetic anomalies are due in part to artificial magnetic bodies, being indicated by small, high anomaly values, with sharp cut off.

Background values are in the range 59370 - 390 gammas, with highs of maximum 550 to 600 and rarely, 700 gammas, and lows of less than 59300 gammas.

A magnetic ridge extends from Line 0+00, 3+00N, to Line 16+00, 12+00S. It is poorly defined, with low gradients, but is essentially a linear magnetic feature, probably being a weak magnetic, intermediate intrusive at depth, with a slight plunge to the S.E. and trending N.W.-S.E.

There is Magnetic-electromagnetic coincidence on Line 16+00E, 0+00N, to Line 28+00E, 9+00N. Conductor 8 is situated along this line. The anomaly represents a slightly curving, linear structure, plunging East and of sub-vertical dip. Disseminated sulphides may account for the weak magnetic signal.

The influence of the power line on the magnetometer is strong, and as with the E.M. results, the readings are unreliable in the area of the power line and to a distance of two hundred feet on either side.

There are no other large magnetic anomalies, with only small highs occurring sporadically on the property. On Line 32+00E, 5+00S, there is an anomaly which is probably caused by an artificial effect. Decay is rapid on all sides and there is no E.M. coincidence.

On Line 52+00E, 1+00N, the effect of a drill hole (see Geology Map) probably accounts for this small magnetic high.

The lack of a strong magnetic signal throughout the property is caused, in part by a considerable thickness of overburden, which, though not uniform, presents a more accurate reading being obtained. Magnetic highs are also associated with the presence of outcrop, eg. Line 40+00E, 3+00S.

## 8. CONCLUSIONS

The E.M. Survey conducted on the property outlined fourteen anomalies which are concordant with the N.E.-S.W. to E.N.E.-W.S.W. geological strike in the area. The anomalies probably correspond to lithological boundaries which have been located by diamond drilling.

The magnetometer survey defined only two major structures in an otherwise minimal magnetic relief area. Consequently no structural interpretation can be made using only the magnetic anomaly patterns.

E.M. patterns in nearly all cases are well-defined. They characterise distinct, linear conductive zones of medium to high conductivity, and outline geological boundaries (lithological rather than structural). Coincidence with the magnetic anomalies is rare, and only occurs with certainty along Conductor 8. Disseminated sulphides may be responsible for this phenomena.

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9. RECOMMENDATIONS

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The V.L.F.-E.M. and Magnetometer surveys have outlined no definite geophysical targets for future gold prospecting.

However, the V.L.F.-E.M. results show the existence of several linear conductive zones which may form suitable localities for the deposition of massive sulphides (with possible gold associations), notably Conductors 5 and 8. These zones may only represent geological boundaries but magnetic anomalies where coincidental, suggest there is some mineralisation along the contacts of these zones.

It is recommended that a thorough geological programme be established, together with an Induced polarization survey, the latter enabling one to locate more precisely the presence of sulphide zones on the property.

Submitted by

*T. Hughes*

T.N.J. Hughes B.Sc.

Murphy Twp.

THE TOWNSHIP OF  
OF  
**TISDALE**

DISTRICT OF  
COCHRANE  
PORCUPINE  
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

**LEGEND**

- PATENTED LAND Ⓟ
- CROWN LAND SALE Ⓢ or C.S.
- LEASES Ⓛ
- LOCATED LAND Loc.
- LICENSE OF OCCUPATION L.O.
- MINING RIGHTS ONLY M.R.O.
- SURFACE RIGHTS ONLY S.R.O.
- ROADS —
- IMPROVED ROADS —
- KINGS HIGHWAYS —
- RAILWAYS —
- POWER LINES —
- MARSH OR MUSKEG —
- MINES —
- GEODECTIC STATION ⚡
- SURFACE RIGHTS ONLY PATENTED Ⓟ

**NOTES**

This township lies within the Municipality of CITY of TIMMINS.

400' Surface rights reservation around all lakes & rivers.

Town boundary of TIMMINS shown thus:  NOW WITHIN THE CITY OF TIMMINS.

2.4174

DATE OF ISSUE  
**OCT 21 1981**  
Ministry of Natural Resources  
TORONTO

**PLAN NO. - M. 315**

ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

VI

V

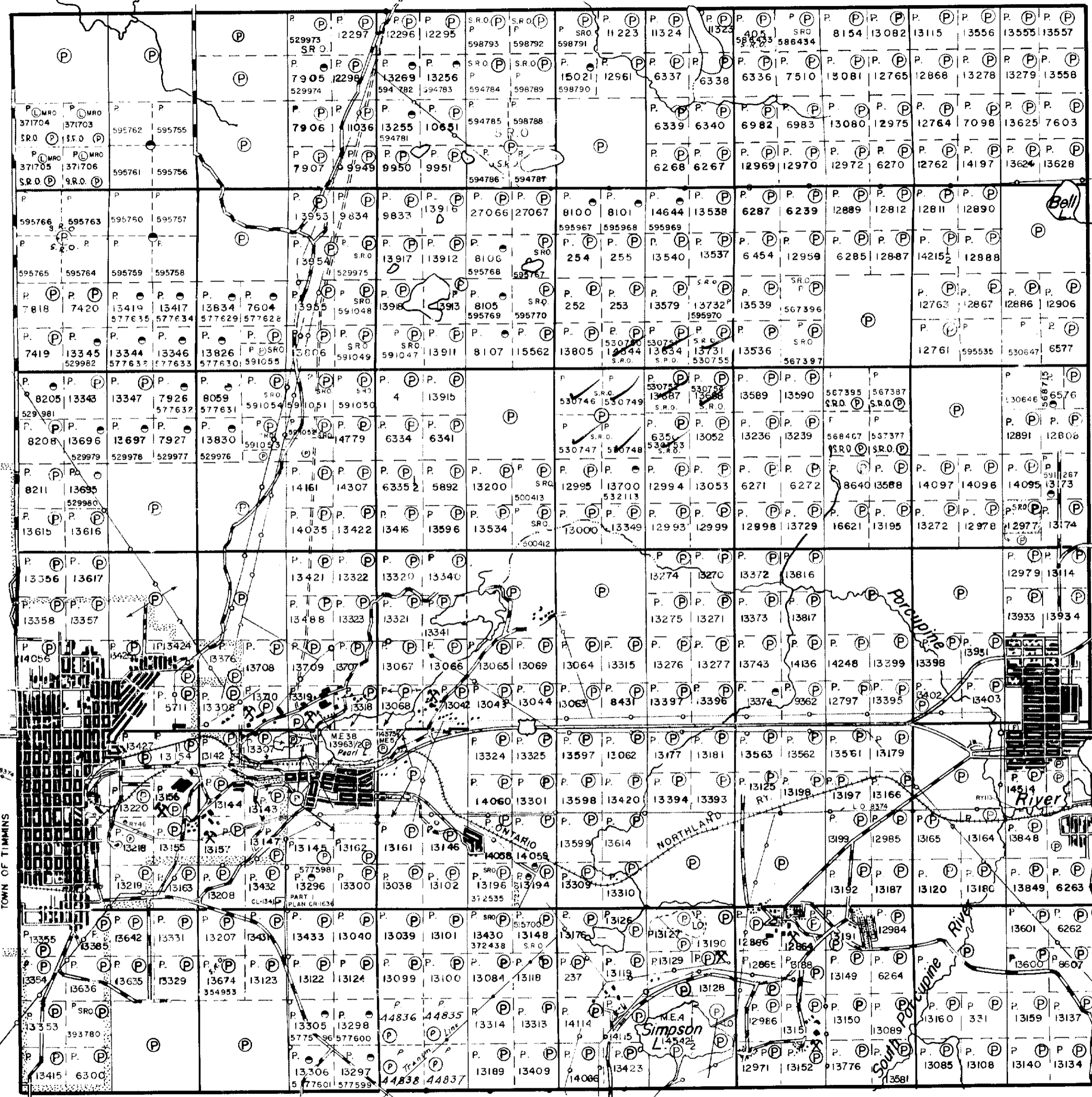
IV

III

II

I

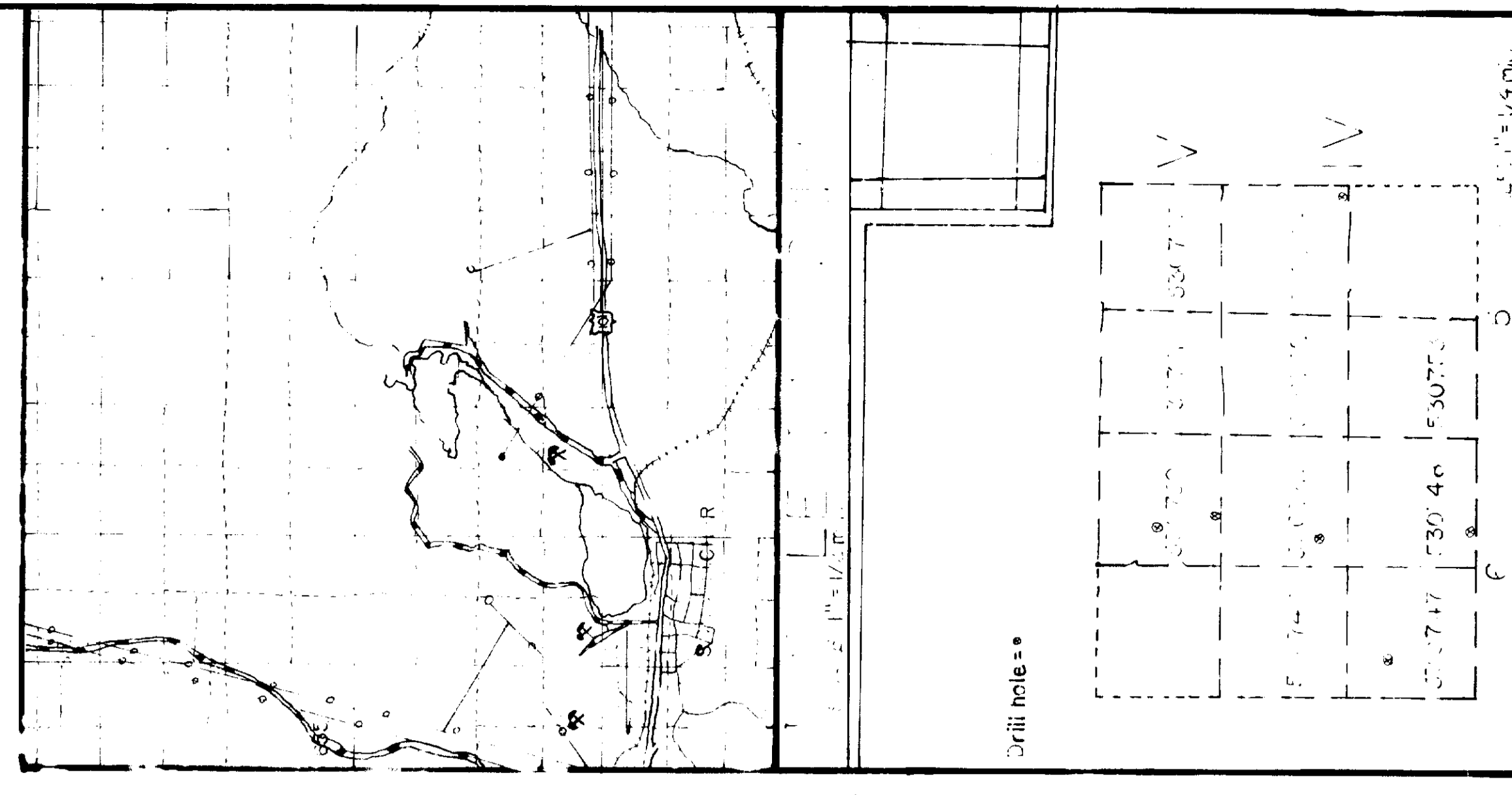
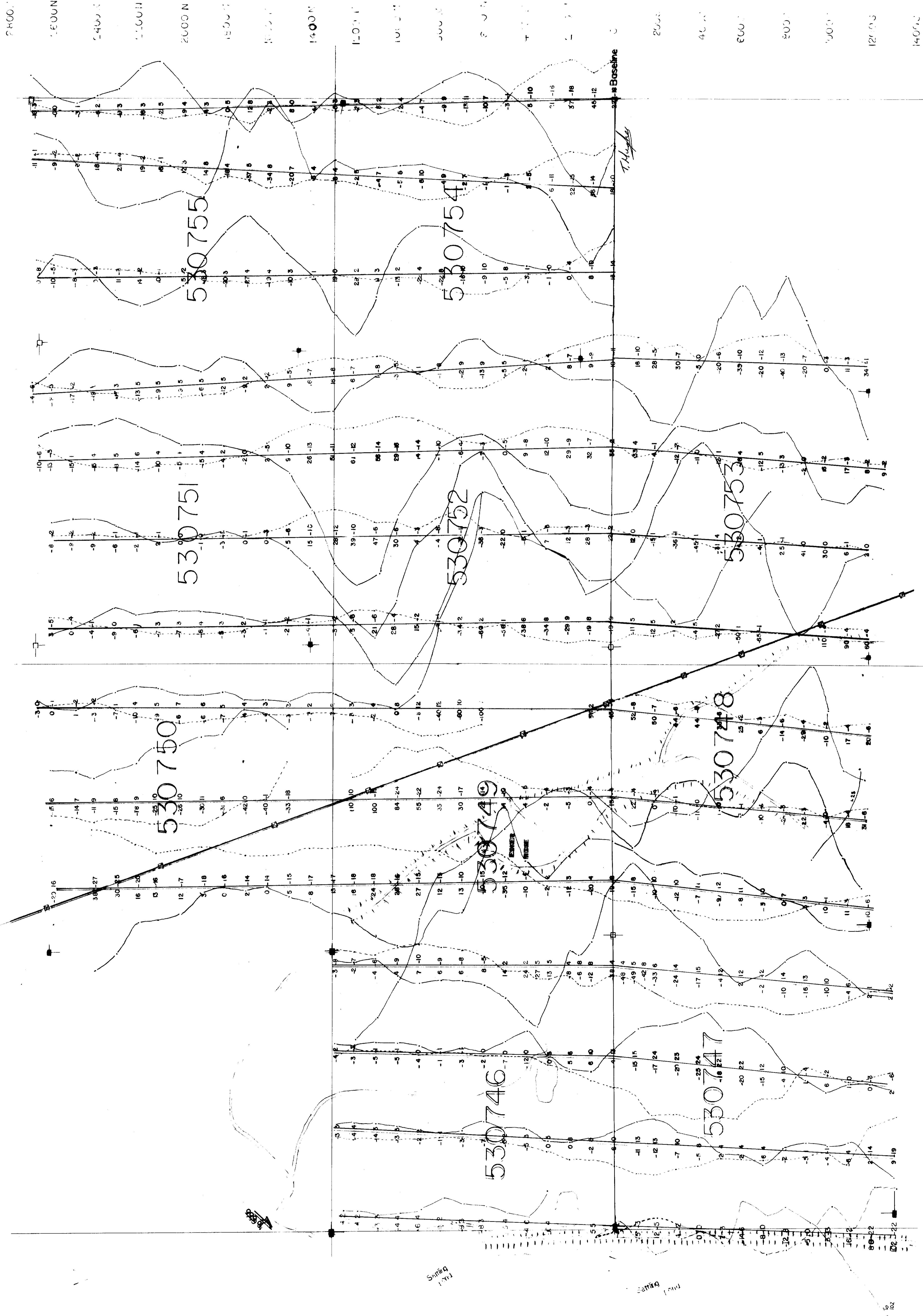
Whitney Twp.



Mountjoy Twp.



Deloro Twp.



**LEGEND**

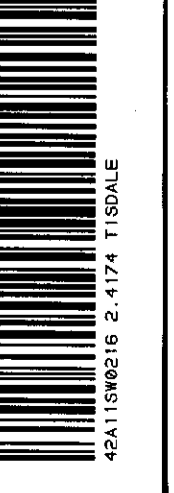
- GEONICS VLF EM 16
- 1. Resistor values
- 2. Inductor values
- 3. Claim post
- 4. Marked post
- 5. Survey Station
- 6. Center, MAIR-E
- 7. 17.8 kHz
- 8. Hydro line

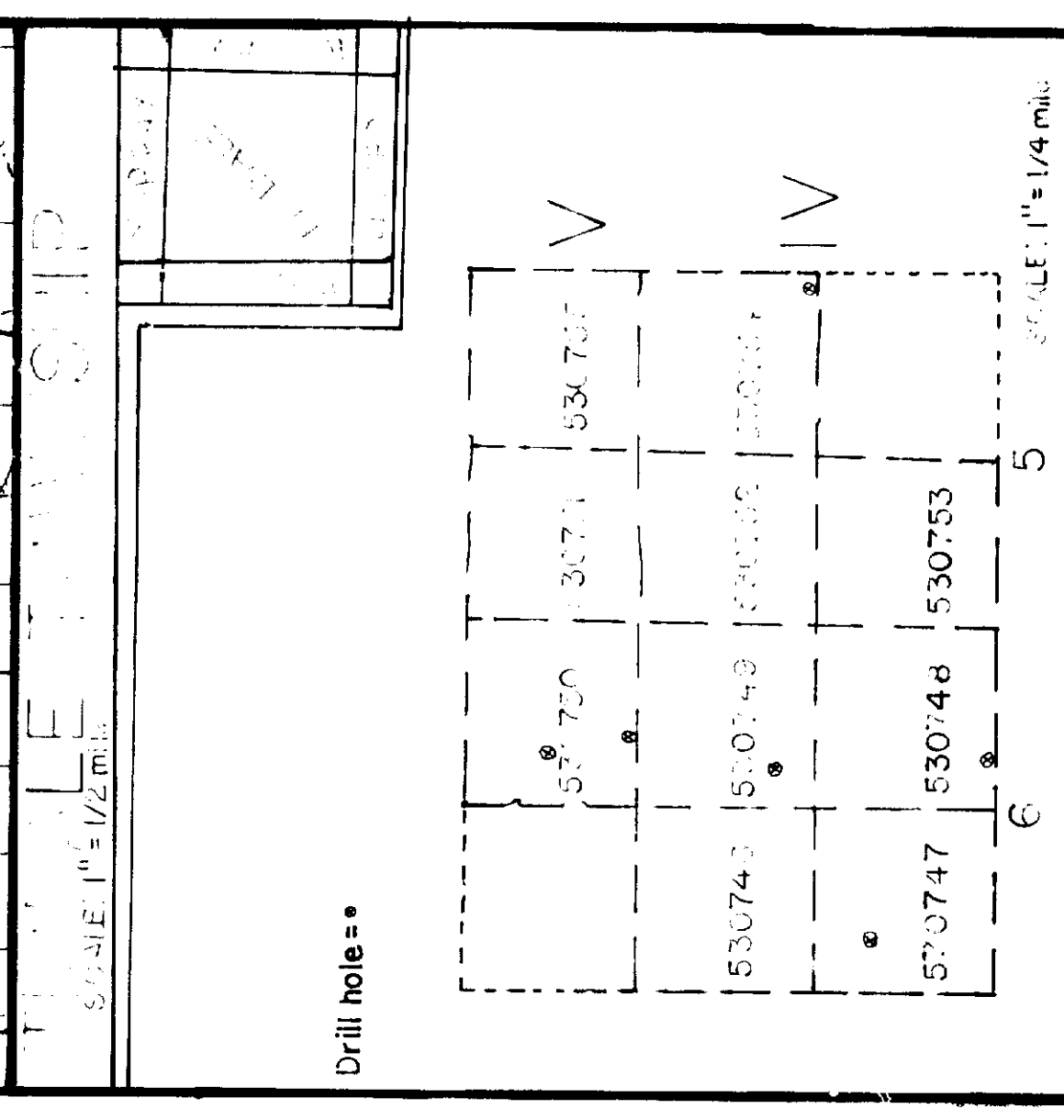
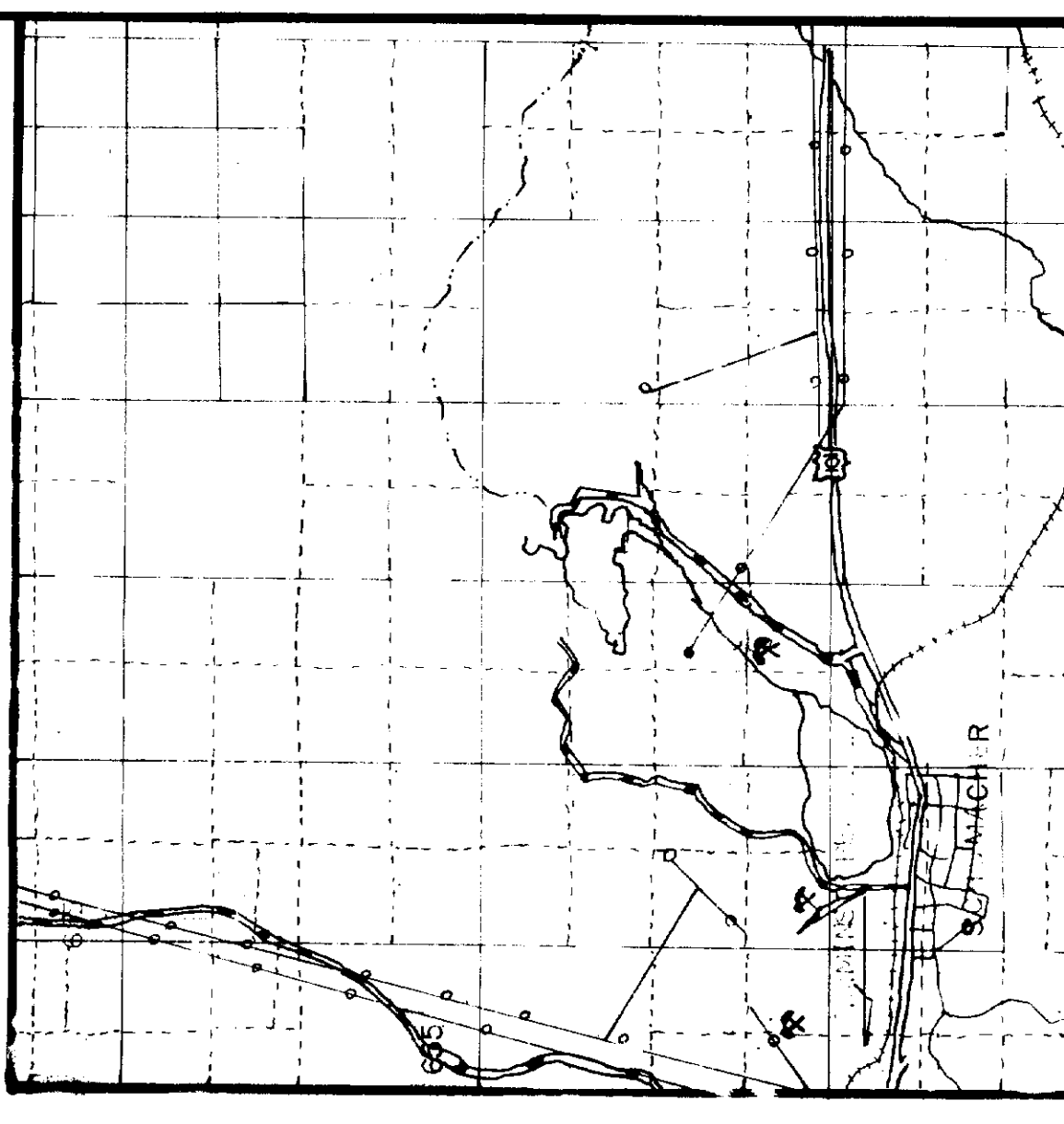
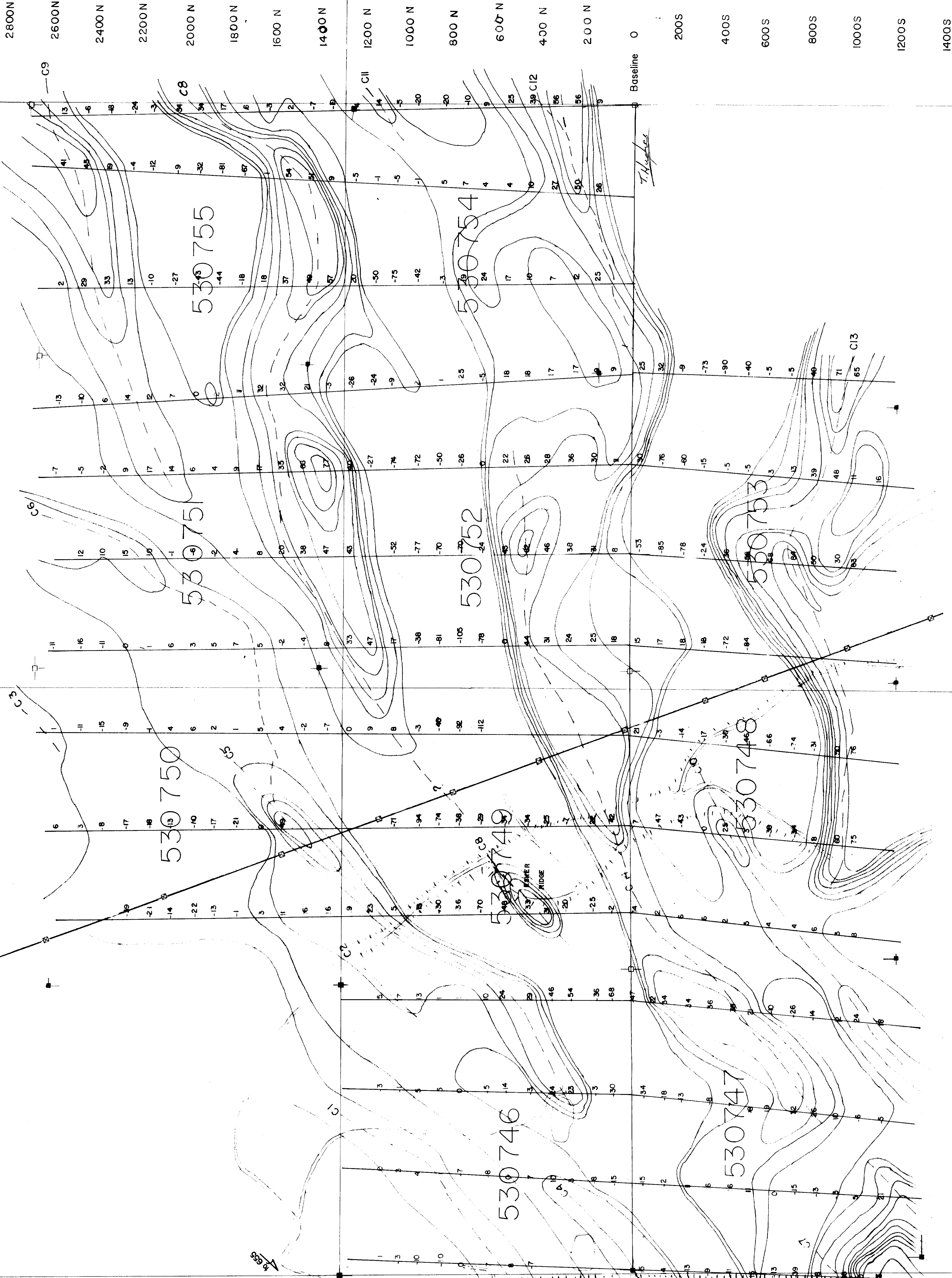
**INPHASE & QUAD  
PROFILE MAP**

TOWNSHIP OF TITAGUA  
DISTRICT OF COCHABAMBA

**INGAMAR  
EXPLORATIONS LTD**

PROJECT: 81-33 LTD  
SCALE: 1:200 feet  
SEPT. 1981





**LEGEND**

GEONICS VLF EM 16

— VLF EM Fraser filter value

— Contour intervals (10%)

⊕ Claim post

○ Unlocated post

Survey Station  
Cutler, MAINE  
17.8 kHz.

Hydro line

**FRASER PLOT MAP**

TOWNSHIP OF TILDALE -  
DISTRICT OF COCHICHEWIC

**INGAMAR EXPLORATIONS LTD**

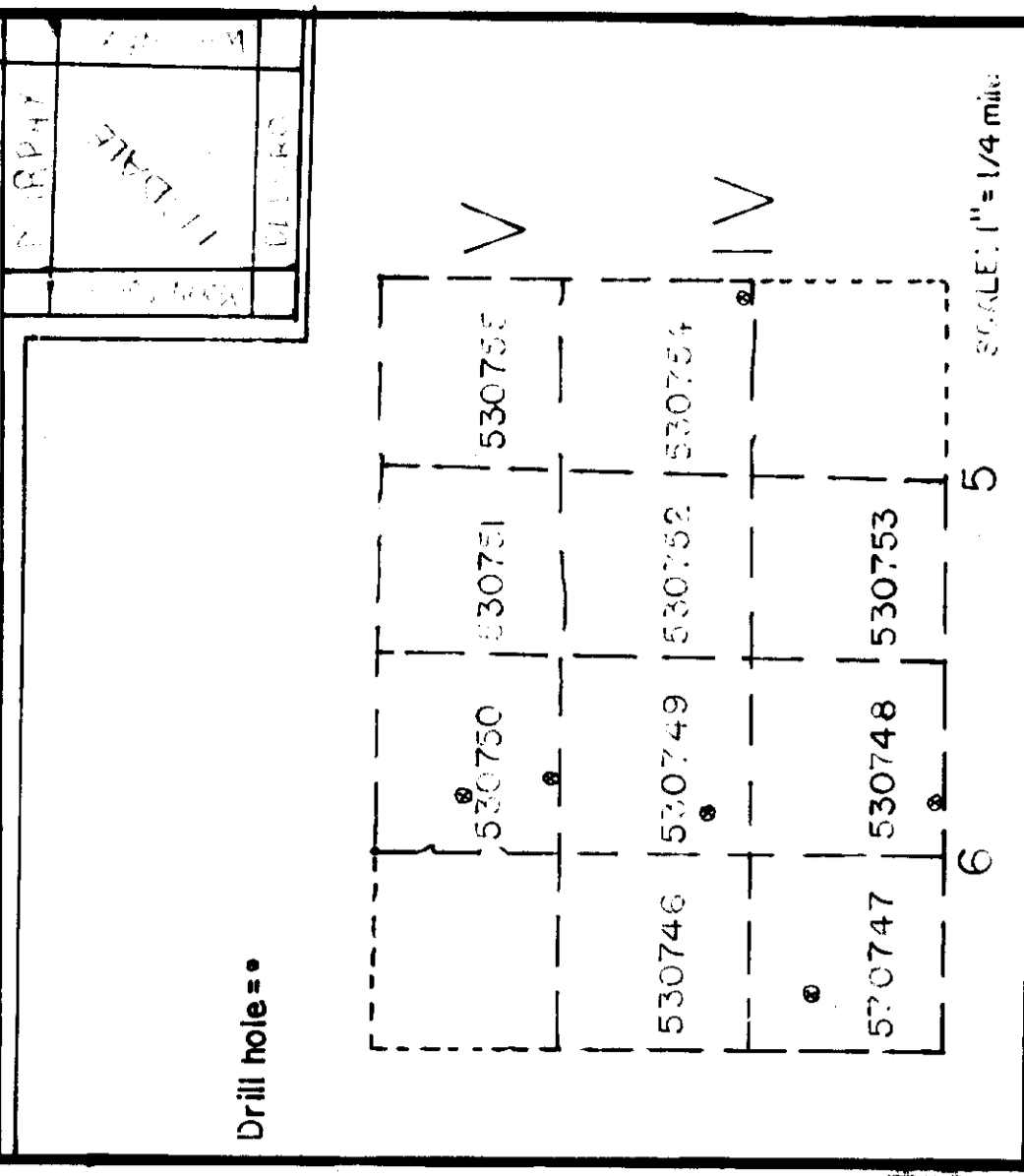
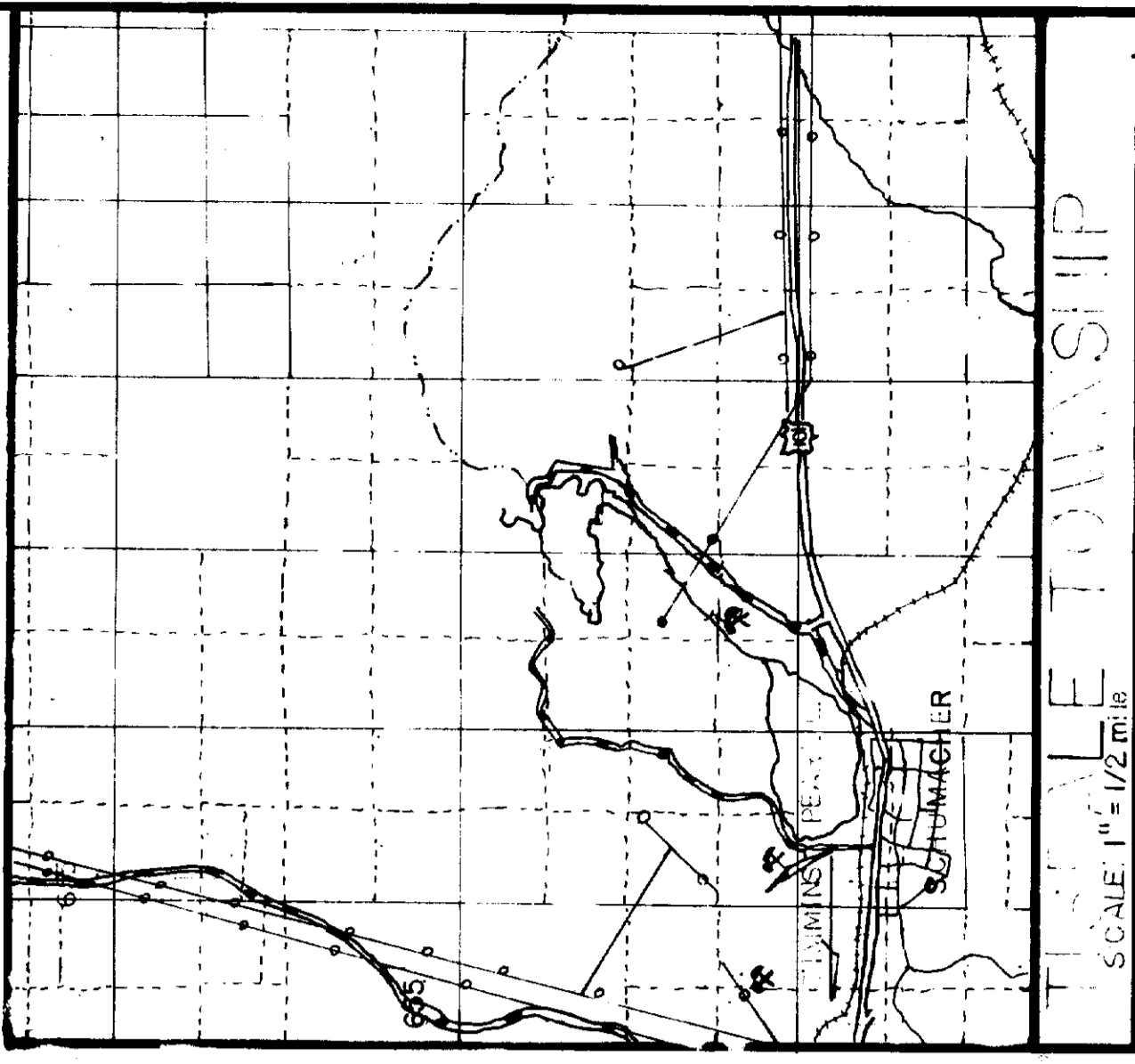
PROJECT: 81-33

SCALE: 1 inch = 200 feet

SEPT./81

J. SALO





**LEGEND**

McPHAR G.P. 70 Magnetometer

— 234 Magnetic values in gammas  
base: 59000

- - - 100 gammas intervals

- - - 50 gammas intervals

+ Claim post

+ Unlocated post

+ Base control stations

Unreliable readings

Hydro line

**MAGNETOMETER SURVEY**

TOWNSHIP OF TISDALE -  
DISTRICT OF COCHRANE

**INGAMAR EXPLORATIONS LTD**

PROJECT: 81-33 LTD

SCALE: 1 inch = 200 feet

Q 200 400 600 J.SALO

SEPT./81

