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PROJECTS UNIT

REPORT ON  
GEOPHYSICAL AND GEOLOGICAL SURVEYS  
EAST BLOCK  
PROPERTY OF DR. F. YANDEL, JR., M. D.  
POWELL TOWNSHIP  
MATACHEWAN GOLD MINING AREA  
NORTHERN ONTARIO

Sept. 7, 1975

By: S. S. Szetu, Ph. D., P. Eng.

CANA EXPLORATION CONSULTANTS LIMITED



41P15NE8257 2.1930 POWELL

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Plans

Plan No. 1: Magnetic and VLF Electromagnetic Surveys  
on claims of Dr. F. Yandel, Jr., M. D.  
Powell Township.                      Scale: 1" = 100'

Plan No. 2: Vertical Loop Electromagnetic Survey and  
Check Survey Data, Geological Survey Data  
and Interpretation on claims of Dr. F. Yandel,  
Jr., M. D., Powell Township.      Scale: 1" = 100'

## INTRODUCTION

In July and August, 1975 a program of geophysical and geological surveys were conducted by Cana Exploration Consultants Limited on a block of five claims located at the southeast part of Powell Township, Matachewan Gold Mining Area, Northern Ontario. These claims constitute the east block of a property owned by Dr. F. Yandel, Jr., M.D. Four of these claims were staked in June, 1975 and one, a fractional claim, was staked on the commencement of the surveys on July 18, 1975.

The purposes of the surveys were to check the gold and base metal possibilities of the property.

The data, complete with interpretations, are depicted on two plans, plotted to a scale 1" = 100', accompanying this report.

## SURVEYED AREA

The claims covered by the surveys are numbered L-449382, L-449385, L-449397, L-449398 and L-454585. According to claim map M241, O. D. M., the southeast corner of this block of claims ties onto the two-mile post on the east township line of Powell Township. However, this two-mile post was not observed by the survey crew. Judging from the air-photo mosaic prepared by Questor Surveys Limited on Preliminary Map No. 1022, O. D. M., and with correlation to the line grid cut and chained for the surveys described in this report, the said southeast corner appeared to be about 200 feet to the south of the assumed location of the two-mile post.

## LOCATION AND ACCESS

The property is located about 1 1/2 miles northwest of the Village of Matachewan, District of Timiskaming, Larder Lake Mining Division, Northern Ontario. Matachewan lies about 40 miles west-southwest of Kirkland Lake and is accessible by paved Highway No. 66.

From Matachewan, an all weather road, Highway 566, traverses the West Block of the same property at about 3/5 of a mile to the west of the surveyed East Block. There is an old tractor road leading from Highway 566 to the west central part of the surveyed area. This road requires an estimated one to two days' work by a bulldozer and two line cutters to re-open.

Access to the surveyed area was made from Matachewan via Highway 566 and a gravel side-road which leads to the south end of a small lake known as Otisse Lake, and then by boat to the west central part of the property at the north end of said lake. Otisse Lake is about 1/2 mile long and there are tourist boats for rent at Matachewan. With proper arrangements, one can reach the property from Matachewan within one hour.

## PREVIOUS DEVELOPMENT AND MINERAL OCCURRENCES

Readers are referred to a report by J. C. Honsberger, P. Eng., dated June 12, 1975 for previous development work done by Culver Gold Mines Limited and the adjoining and nearby former producers, i. e. Young-Davidson Mines Ltd., Matachewan Consolidated Mines Ltd. and

Ryan Lake Mines Ltd.

The central section of the former property of Culver Gold Mines Ltd. (nee O'Connell G. M. Ltd. , nee Bloom Lake Consolidated G. M. ) is now covered by the property of Dr. F. Yandel, Jr.

Extensive surface trenching and considerable amounts of drilling were conducted by previous owners. According to a map compiled by Mr. Honsberger, the drilling was mainly located on now Claim L-449382. Several holes cut low but encouraging gold values in narrow widths. One hole, Hole #29 by Bloom Lake Consolidated Mines Ltd. in 1937, cut three feet of just over one ounce gold per ton as reported by J. W. Morrison, B. Sc. , M. E.

The location, grid and geology intersected by the 1937 drilling, are plotted on Plan #2 accompanying this report, based on a map showing proposed diamond drilling by Culver Gold Mines Limited in 1945. Only a few of the 11 holes drilled here were plotted. In addition, Culver Gold Mines Ltd. had apparently drilled 10 holes in 1945 in the same area which was noted as the "Morrison Break" and interesting gold values (0.04-0.56 oz/t) in narrow widths were obtained in all but one of the ten holes.

The sediments and the porphyries in the drilled area are said to be heavily mineralized with pyrite and at the contacts with chalcopyrite, galena and zinc blends as well. The Morrison break in the sediments was said to have been trenched for a distance of almost one mile and wherever trenched, had shown interesting gold values.

## GENERAL GEOLOGY

Geological Map 2110, O. D. M., by H. L. Lovell, 1964, showed the most up-to-date geology of Powell and Cairo Townships. According to this map the property area is mostly underlain by Timiskaming sediments, except for the northeast part which is underlain by Keewatin volcanics. These sediments and volcanics are intruded by syenitic and porphyritic members of Algoman silicic intrusives. One of these syenitic intrusives is indicated across the north part of the West Block and extended into the southwest part of the East Block of the property herein concerned, and is considered as associated with the known gold mineralization.

The above-said three major formations are cut by north-south Matachewan diabase dikes, four of which are known at the East Block covered by the surveys described in this report.

The syenitic intrusives are apparently in narrow elongated bodies as compared with the large syenite complexes located to the east in Cairo, Alma and Holmes Townships.

There are northeasterly lineaments and faults indicated in the area but none appear to be the definite southwesterly extension of the Kirkland Lake break and they are separated by two northwesterly regional faults (see Map 2205, O. D. M.).

### AIRBORNE GEOPHYSICAL DATA

G. S. C. aeromagnetic map 284G (1956) shows that the property is located on the south rim of an anomaly which has high readings of about 2700 gammas near the north boundary of Claim L-454585. The rim extends northwesterly to the Ryan Lake Mine.

Similar but more detailed data are depicted on Preliminary Map #1022 released by O. D. M. on April 4, 1975. In addition to the magnetic data, this map showed the occurrence of an electromagnetic anomaly in the vicinity of the northeast boundary area of the property. This anomaly is one of the important new features noted in the area and had created intensive interests in staking claims and exploration work. It is an "In-put" six channel anomaly indicating the occurrence of a strong sub-surface conductor.

### SURVEY DATA

A picket line grid was established at 300 foot intervals, north-south and east-west, covering the south four claims. The east township line of Powell Township was used as the base line for all east-west lines and L6N was established as the tie line and for the turning-off of all north-south lines. Two north-south picket lines were extended to cover the fractional claim L-454585. Stations were established at 100 foot intervals along the picket lines. Readings were taken at 100 foot and/or 50 foot intervals.

The magnetic and geological surveys were carried out along all north-south and east-west picket lines. A Fluxgate MF-1 magnetometer was used for the magnetic survey with control stations established at 300 foot intervals along the base line and at 600 foot intervals along L6N.

The VLF<sup>F</sup> electromagnetic survey was carried out to cover the north-south picket lines established on the property, using a Ronka EM-16 instrument and transmitter station NAA. The vertical loop electromagnetic survey was carried out to cover all east-west picket lines, using an SE-200 unit with transmitter located 300 feet to the north or south on next line. Interesting VLF<sup>F</sup> indications were checked by the vertical loop electromagnetic survey with transmitter stationary as shown on Plan #2.

#### MAGNETIC AND VLF ELECTROMAGNETIC SURVEY RESULTS

The magnetic survey encountered anomalies with high readings in the order of 1000-3000 gammas at the north part of the surveyed area. The peaks are in the order similar to that indicated on G. S. C. aeromagnetic map 284G. To the south the readings decreased rather sharply to minus readings - except along several narrow north-south magnetic zones. The sharp drop to minus readings are not indicated on the aeromagnetic maps. Strong halo effects of the aeromagnetic anomaly located to the north are thus evident. The north-south narrow magnetic zones are apparently indicating diabase dikes.



The VLF electromagnetic survey encountered two conductor zones, one of which has an indicated length of 1600 feet at the northwest part of the surveyed area, and the other which has an indicated length of 300 feet at the southeast part of the property. In addition, there is an isolated indication encountered on the south part of line 18W. These are moderate to weak VLF conductors with peak in-phase readings of less than 28% which changes to less than minus 20% across the conductor. There is no obvious reverse out-of-phase changes to indicate the occurrence of appreciable concentrations of conductive minerals.

VERTICAL LOOP ELECTROMAGNETIC SURVEY AND CHECK SURVEY RESULTS

The vertical loop electromagnetic survey carried out along the east-west lines encountered several marginal to weak conductors (cross-overs) which commonly have less than 3° changes in dip angles which are within the limitation of the parallel-line method used for the survey and thus may not be indicative. However, as indicated on Plan No 2, several of these appeared to be indicating contacts between diabase dikes and their country rocks, plus the effects of topography. Few may indicate faults or shears.

The vertical loop check survey with transmitter stationary encountered negative results along the VLF conductors.

## GEOLOGICAL SURVEY

The geological survey has observed and mapped many rock outcrops and trenches. The work was hindered to a great extent by second growths in the trenches and mosses on outcrops.

The rock types and formations observed are listed as follows:

### Overburden:

Swamp and stream deposits (recent);  
Sand, gravel, clay (Pleistocene)  
- Unconformity -

### Precambrian (Archean):

Mafic Intrusive Rocks (Matachewan) -  
diabase, undifferentiated  
- Intrusive Contact -  
Silicic Intrusive Rocks (Algoman) -  
Syenite Porphyry  
- Intrusive Contact -  
Sedimentary Rocks (Timiskaming) -  
Conglomerate; greywacke and  
interbedded argillite and quartzite;  
arkosic sediment.  
- Unconformity -  
Volcanic Rocks (Keewatin) -  
Intermediate to basic volcanics,  
Sheared volcanics and tuff.

The Matachewan diabase is fine to medium grained and usually occurs on high ground.

The syenite porphyry is pale pink in colour with phanocrysts of feldspar. Small lamprophyre dikes were observed by previous operators but not by the present writer. No outcrop of syenite and/or syenite porphyry was observed at the southwest part of the surveyed area where such was indicated on geological map 2110, O. D. M.

Pebbles of the conglomerates are commonly scattered and varied in sizes from 1/4" to several inches in diameter. The rock is light grey, grey to sometimes greenish-grey and apparently metamorphosed to a certain degree. When no pebble was observed, it is similar to greywacke and sometimes to arkosic sediments. In places, at the northeastern part, the metasediments resemble some of the volcanics and only microscopic studies can tell the differences.

The volcanics are as a rule very fine grained dark grey to greenish-grey. One occurrence, just off the northeastern corner of the property, the rock appears to be dioritic. The volcanics are, as a rule, more or less calcareous. Shear volcanics are grouped with schist-tuff and one occurrence of which, located in Claim L-449385, appears to be slightly talcose.

The only sulphide noted in the field is pyrite - in cubes, dissemination or in fine grained narrow streaks. Wide spread pyrite mineralization is noted in the vicinity just north of Otisse Lake. When mineralization is observed in conglomerates, it commonly concentrates around pebbles.

Few floats of quartz were noted at the north part of Claim L-449385. A stockwork of quartz-calcite veins, with widths up to 10", is located on a small island just south of the old core cabin.

Epidote mineralization was noted on a diabasic rock just west of L39W, on L9N.

## INTERPRETATION AND CONCLUSIONS

The geophysical and geological data described above were correlated for an interpretation of the geology. The results are depicted on Plan No. 2. The main features are described as follows:

- (1) There appears to be more diabase dikes than shown on Map 2110, O. D. M. Most of these dikes are located on the eastern part. They are not all straight north-south but irregular in shape, locally, somewhat similar to those found on the eastern part of the property of Matachewan Consolidated Mines Ltd., south of Otisse Lake.
- (2) An east-southeasterly striking band of syenite-porphry is located to the immediate north of the gold-bearing area drilled by previous owners. This band lies along the contact zone between volcanics and sediments and the setting suggested a direct relationship with a similar but much larger band located to the northwest at the Ryan Lake Mines.

The north boundary of this band of syenite porphyry located on the property is marked by a series of VLF conductors but does not carry heavy concentrations of conductive minerals. As Hole #35 by Bloom Lake Consolidated Mines Ltd. (1937) cut across this band, it would be very interesting to obtain the drill log for further evaluation.

- (3) There are weak and scattered geophysical indications for the occurrence of a south band of syenite porphyry such as shown on Map 2110, O. D. M. The existence of this band and its branches has been confirmed by previous drilling. It is inferred as the source of the gold mineralization found to date and probably related to the quartz veins found on Otisse Lake and the 12 foot wide mineralized quartz vein described by Mr. Honsberger near the west boundary of the West Block of the property.

Drill logs by previous owners may serve to detail the occurrence of this band, its relationships to the gold mineralization and its relationship with the north band.

- (4) The drill tested area is associated with weak magnetism (0 to 500 gammas) but has no appreciable indication for the occurrence of the "Morrison Break" though the existence of which is possible and may be detected by a resistivity survey.

The mineralization observed here at the surface indicates that it may respond to a certain degree to self-potential and/or induced polarization surveys but not the electromagnetic surveys.

- (5) The interesting airborne electromagnetic conductor is apparently not located on the property and is likely to be located about 500 feet to the north of the property, somewhere near the north extension of L9N.
- (6) There are several indicated northeasterly shear or fault zones, one of which, located between L15W and L18W, cutting sheared volcanics with some tuff, strikes toward the area of the airborne EM conductor. This formation of sheared volcanics and tuff is the choice formation for the occurrence of heavy concentrations of conductive sulphides which may be detected by electromagnetic methods. The "Morrison Break", if existing and if offset by minor cross faults such as suggested by the abrupt change of strikes of the sediments at the northeast part of the drill tested area, may extend toward the area of the airborne EM conductor.
- (7) Extensive pyrite mineralization is also noted to the west of the test-drilled area. Epidote mineralization, which indicates the advance of alteration, has been noted further west near L39W. The areas of weak magnetic indications with readings in the order of 0 to 500 gammas outlined there and to the immediate west and south, including the inferred syenite porphyry, are inferred as choice areas

for the occurrence of gold-bearing pyrite mineralization.

### RECOMMENDATIONS

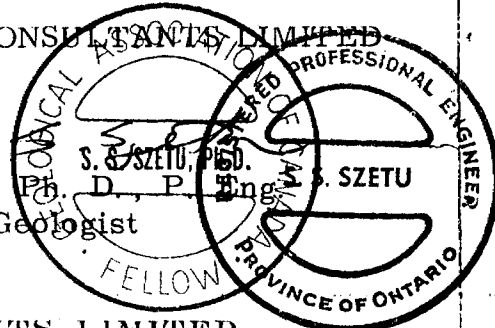
- (1) To obtain all drill logs from previous owners for further evaluation and interpretation of the gold occurrence known on the property.
- (2) To further explore gold possibilities of the property by means of a self-potential survey and/or induced polarization survey, covering the area between L30W and L45W for precise drill targets.
- (3) To explore between L15W and L24W, north of L9N, by means of cleaning out the old trenches and geological prospecting for base metal and gold possibilities.
- (4) If diamond drilling is desired prior to the above recommended exploration work, the writer suggests cross sectioning the inferred band of syenite located at L42W, south of L6N, and the weak magnetic area located along the same line between 7N and 11N.

Respectfully submitted,

CANA EXPLORATION CONSULTANTS LIMITED

SSS:rk  
Encl.  
Toronto, Ontario  
September 7, 1975

*S.S.*  
S. S. Szetu, Ph. D., P. Eng.  
Consulting Geologist



CANA EXPLORATION CONSULTANTS LIMITED

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT ( 41 )

TO BE ATTACHED AS AN APPENDIX  
FACTS SHOWN HERE NEED NOT  
TECHNICAL REPORT MUST CONTAIN INTI



41P15NE8257 2.1930 POWELL

900

Type of Survey - Magnetometer Survey, VLF EM Survey and Geology, North-south lines.

Township or Area - Powell township

Claim holder(s) - Dr. F. Yandel, Jr., M.D.

Author of Report - Suf S. Szetu, Ph. D., P. Eng.

Address - Suite 220, 12 Richmond St. E., Toronto

Covering Dates of Survey - Period July 18 - Sept. 7th, 1975  
(linecutting to office)

Total Miles of Line cut - 5 miles, N-S lines

MINING CLAIMS TRAVERSED  
List numerically

L.....449882  
(prefix) (number)  
L.....449885  
L.....449897  
L.....449898  
L.....454585

<u>SPECIAL PROVISIONS</u> <u>CREDITS REQUESTED</u>		DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical --Electromagnetic	30
	--Magnetometer	40
	--Radiometric	
ENTER 20 days for each additional survey using same grid.	--Other	
	Geological	30
	Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys) -

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Sept. 23, 1975 SIGNATURE: Suf S. Szetu  
Author of Report or Agent

PROJECTS SECTION LID

Res. Geol. \_\_\_\_\_ Qualifications 63.1064

Previous Surveys no previous surveys  
performed

Checked by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

TOTAL CLAIMS 5

OFFICE USE ONLY

If space insufficient, attach list



Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

## GEOPHYSICAL TECHNICAL DATA

### GROUND SURVEYS

Number of Stations 261 - 100' station Number of Readings 337 Mag., 307 EM.  
Station interval 100' & 50'  
Line spacing 300'  
Profile scale or Contour intervals Profile scale: 1/10"=5%; Contour intervals: 500 gammas (Plan 1)  
(specify for each type of survey)

### MAGNETIC

Instrument Fluxgate MF-1  
Accuracy - Scale constant 20 gammas  
Diurnal correction method Base check  
Base station location L6N, Base Line (East boundary of Powell township)

### ELECTROMAGNETIC

Instrument Ronka EM-16  
Coil configuration Operator facing north  
Coil separation Transmitter station NAA, Cutler Maine, U. S. A.  
Accuracy ± 1%  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency 17.8 kHz  
(specify V.L.F. station)  
Parameters measured The vertical in-phase and out-of-phase components

### GRAVITY

Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
Base station value and location \_\_\_\_\_

Elevation accuracy \_\_\_\_\_

### INDUCED POLARIZATION -- RESISTIVITY

Instrument \_\_\_\_\_  
Time domain \_\_\_\_\_ Frequency domain \_\_\_\_\_  
Frequency \_\_\_\_\_ Range \_\_\_\_\_  
Power \_\_\_\_\_  
Electrode array \_\_\_\_\_  
Electrode spacing \_\_\_\_\_  
Type of electrode \_\_\_\_\_

**GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT (#2)**

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey Vertical Loop EM Survey & check survey, Geological survey(E-W lines)

Township or Area Powell Township

Claim holder(s) Dr. F. Yandel, Jr., M. D.

Author of Report S. S. Szetu, Ph. D., P. Eng.

Address Suite 220, 12 Richmond St. E., Toronto.

Covering Dates of Survey Period July 18-Sept. 7th, 1975  
(linecutting to office)

Total Miles of Line cut 4.3 miles of east-west lines

**MINING CLAIMS TRAVERSED**  
List numerically

L. 449382 .....  
(prefix) (number)  
L 449385 .....  
L. 449397 .....  
L. 449398 .....

<u>SPECIAL PROVISIONS CREDITS REQUESTED</u>	DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical
	--Electromagnetic <u>20</u>
	--Magnetometer _____
ENTER 20 days for each additional survey using same grid.	--Radiometric _____
	--Other _____
	Geological <u>20</u>
	Geochemical _____

**AIRBORNE CREDITS** (Special provision credits do not apply to airborne surveys)

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Sept. 23, 1975 SIGNATURE: *S. S. Szetu*  
Author of Report or Agent

**PROJECTS SECTION**

Res. Geol. \_\_\_\_\_ Qualifications 63.1064

Previous Surveys \_\_\_\_\_

Checked by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

**TOTAL CLAIMS** 4

OFFICE USE ONLY

If space insufficient, attach list

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 230 - 100' stations Number of Readings 236 EM + 28 check
Station interval 100' + some 50' (Plan #2)
Line spacing 300'
Profile scale or Contour intervals 1/10" = 1' (null)
(specify for each type of survey)

MAGNETIC

Instrument
Accuracy - Scale constant
Diurnal correction method
Base station location

ELECTROMAGNETIC

Instrument SE-200 unit
Coil configuration A parallel line method for the survey; fixed transmitter for check survey
Coil separation 300'
Accuracy 1-2 (null)
Method: [x] Fixed transmitter [ ] Shoot back [ ] In line [x] Parallel line
Frequency 1250 c.p.s.
(specify V.L.F. station)
Parameters measured

GRAVITY

Instrument
Scale constant
Corrections made
Base station value and location
Elevation accuracy

INDUCED POLARIZATION - RESISTIVITY

Instrument
Time domain Frequency domain
Frequency Range
Power
Electrode array
Electrode spacing
Type of electrode

Baden Twp. (M.205)

THE TOWNSHIP OF

2.1930

POWELL

DISTRICT OF TIMISKAMING

LARDER LAKE MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	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	—
KING'S HIGHWAYS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
MINES	ⓧ
CANCELLED	ⓧ

NOTES

400' Surface Rights Reservation along the shores of all lakes and rivers

L.O. 7001 Cover: Easement Rights in this Twp. To Below Contour 670' on Powell File 12290 Vol. 2

L.O. 11167 Shows the ...

MINING LANDS  
DATE OF ISSUE  
SEP 29 1975  
MINISTRY OF NATURAL RESOURCES

PLAN NO. M.241

ONTARIO  
MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

Bannockburn Twp. (M.207)

Cairo Twp. (M.210)

Yarrow Twp. (M.260)

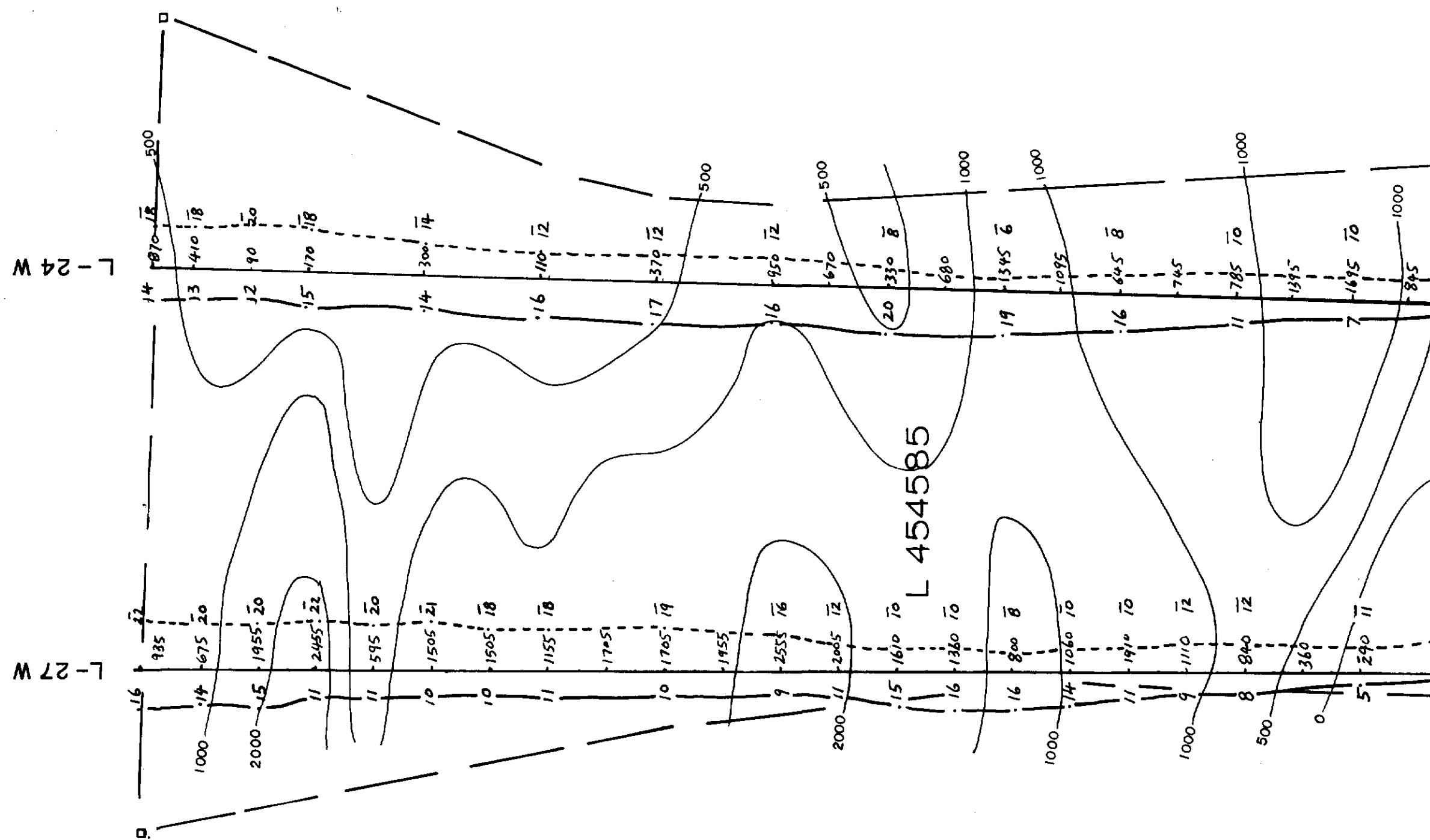
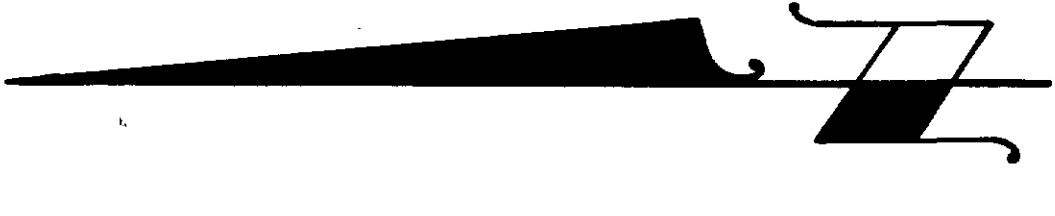


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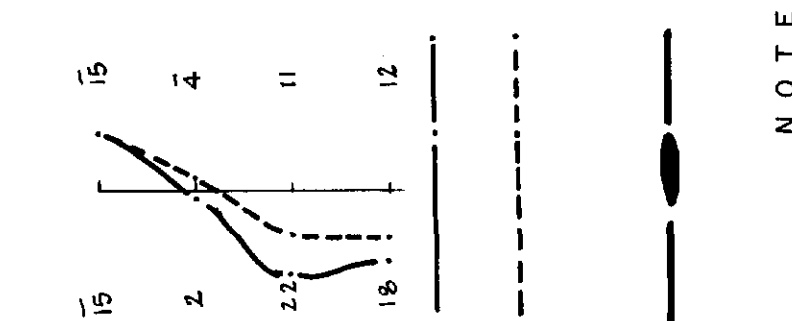
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**PLAN No. 1.**  
**MAGNETIC AND VLF ELECTROMAGNETIC SURVEYS**  
 on claims of Dr. F. YANDEL, Jr. M.D.

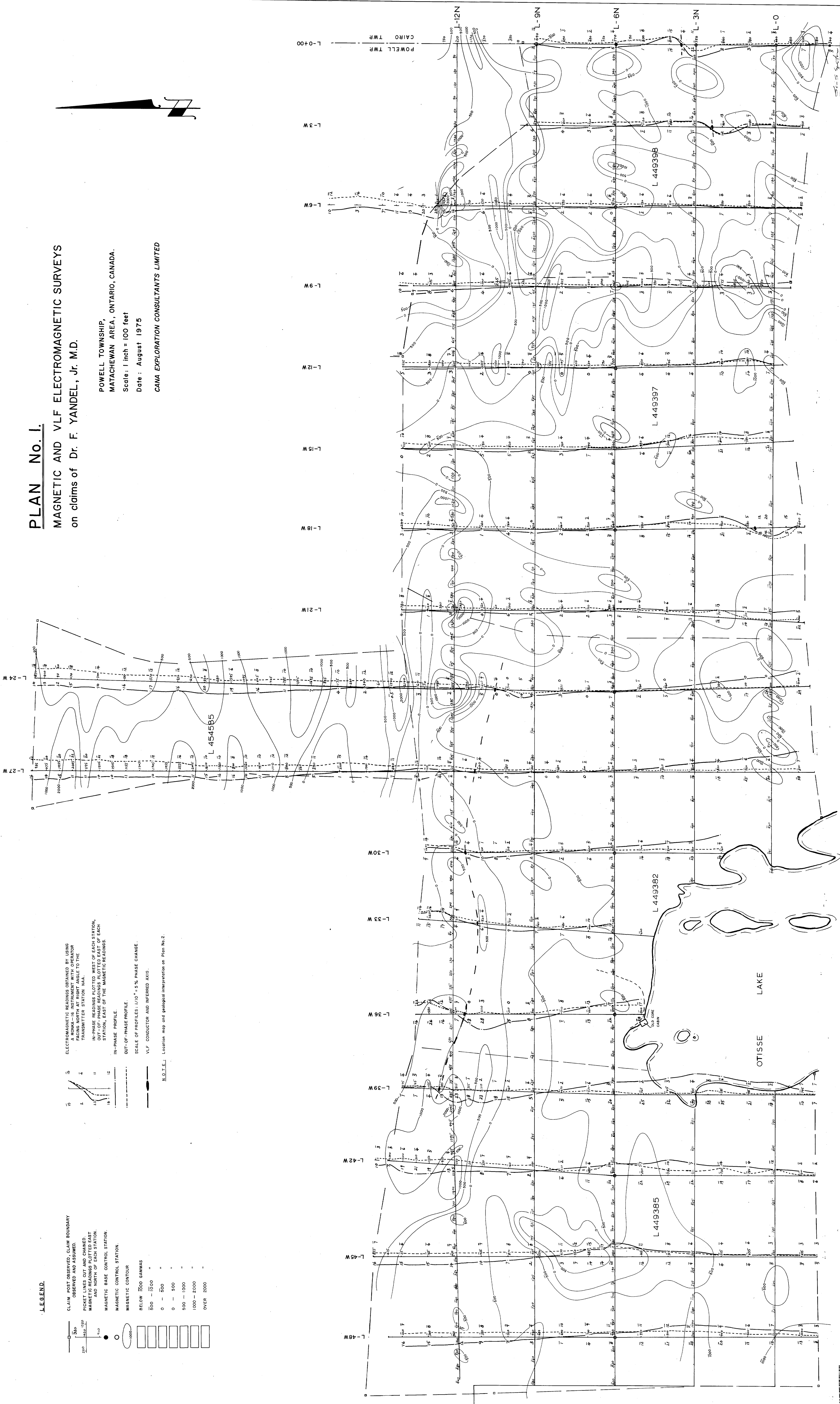
POWELL TOWNSHIP,  
 MATACHEWAN AREA, ONTARIO, CANADA.  
 Scale: 1 inch = 100 feet  
 Date: August 1975  
 CANA EXPLORATION CONSULTANTS LIMITED



ELECTROMAGNETIC READINGS OBTAINED BY USING A ROMA-16 INSTRUMENT WITH OPERATOR FACING NORTH AT RIGHT ANGLE TO THE TRANSMITTER STATION. N.M.A.  
 IN-PHASE READINGS PLOTTED WEST OF EACH STATION, AND NORTH OF EACH STATION. EAST OF THE MAGNETIC READINGS.  
 IN-PHASE PROFILE.  
 OUT-OF-PHASE PROFILE.  
 SCALE OF PROFILES: 1/10" = 5% PHASE CHANGE.  
 VLF CONDUCTOR AND INFERRED AXIS.  
 N.O.I.E.L. Location map and geological interpretation on Plan No. 2.



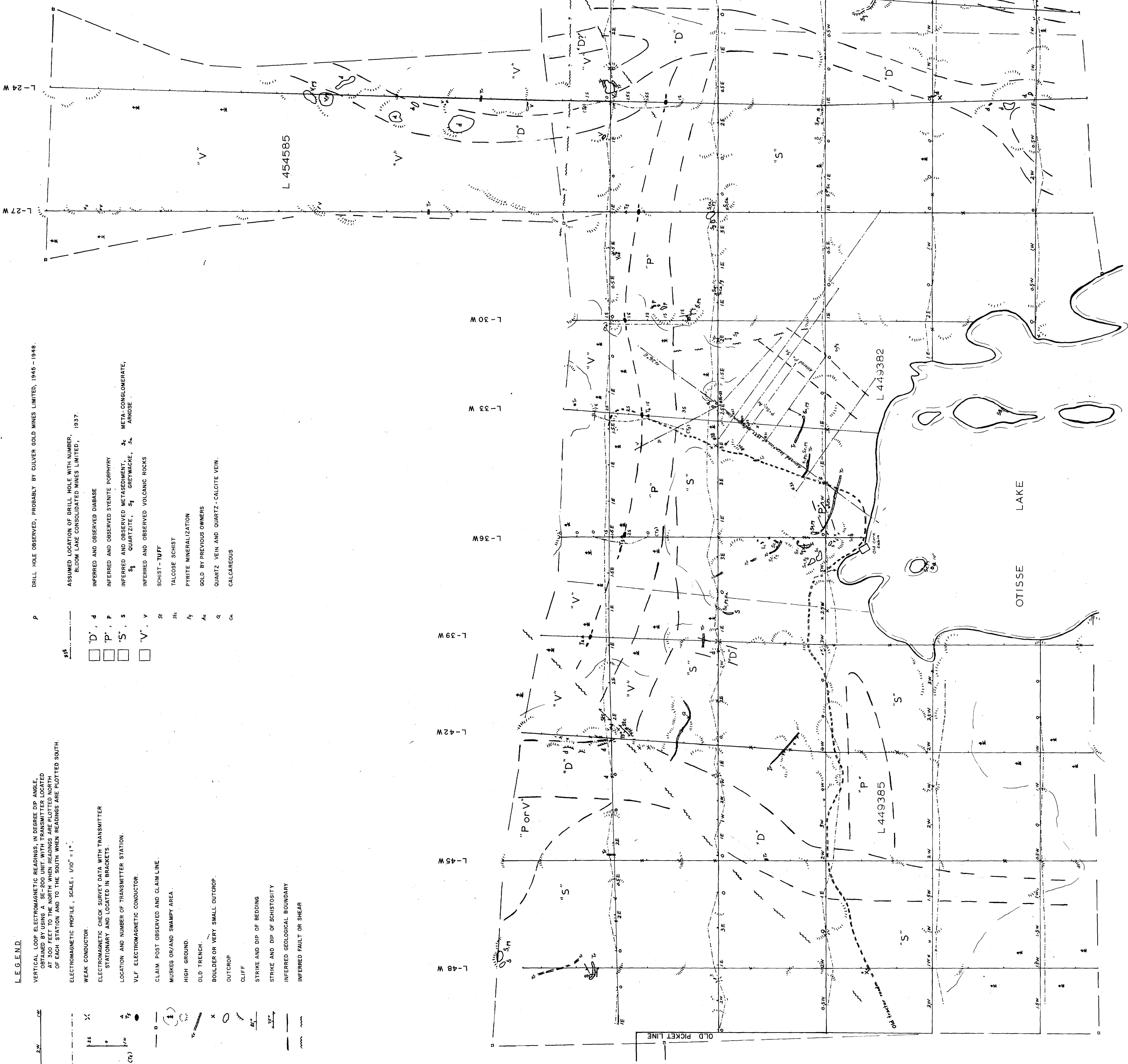
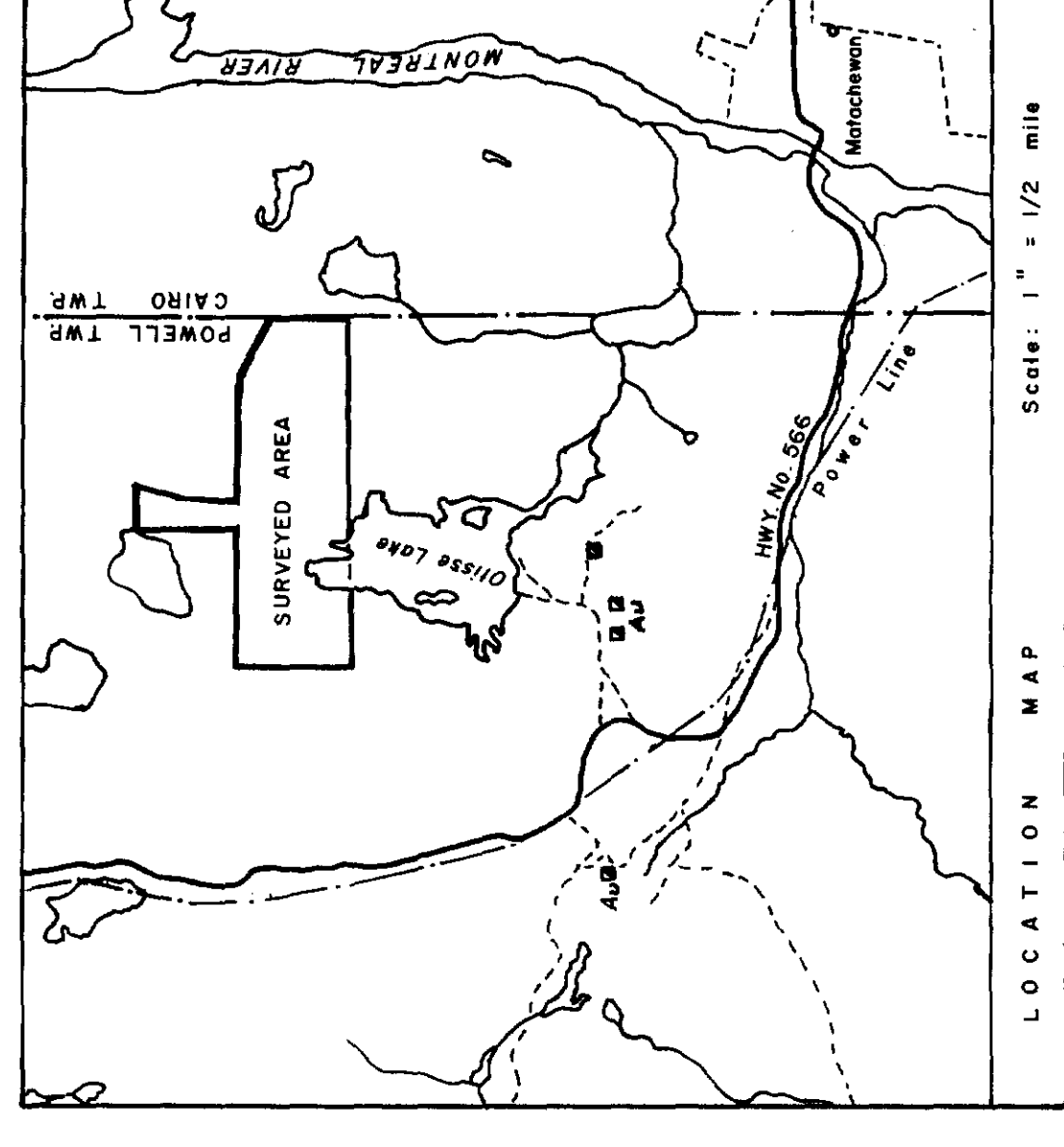
- LEGEND**
- CLAIM, POST OBSERVED, CLAIM BOUNDARY
  - POST LINES, DIT AND RANMED.
  - MAGNETIC READINGS PLOTTED EAST AND NORTH OF EACH STATION.
  - MAGNETIC BASE CONTROL STATION.
  - MAGNETIC CONTROL STATION.
  - MAGNETIC CONTOUR
  - BELOW 1000 GAMMAS
  - 500 - 1000
  - 0 - 500
  - 0 - 500
  - 500 - 1000
  - 1000 - 2000
  - OVER 2000



# PLAN No. 2

VERTICAL LOOP ELECTROMAGNETIC SURVEY  
AND CHECK SURVEY DATA,  
AND GEOLOGICAL SURVEY DATA AND INTERPRETATION  
on claims of Dr. F. YANDEL, Jr. M.D.

POWELL TOWNSHIP,  
MATAHEWAN AREA, ONTARIO, CANADA.  
Scale: 1 inch = 100 feet  
Date: August 1975  
CANA EXPLORATION CONSULTANTS LIMITED



DRILL HOLE OBSERVED, PROBABLY BY GULVER GOLD MINES LIMITED, 1945-1948.

ASSUMED LOCATION OF DRILL HOLE WITH NUMBER, BLOOM LAKE CONSOLIDATED MINES LIMITED, 1937.

- INFERRED AND OBSERVED DIABASE
- INFERRED AND OBSERVED SYENITE PORPHYRY
- INFERRED AND OBSERVED METASANDSTONE, META-CONGLOMERATE, QUARTZITE, GREYWACKE, ARGILLITE
- INFERRED AND OBSERVED VOLCANIC ROCKS
- SCHIST - TUFF
- TALCOSE SCHIST
- PYRITE MINERALIZATION
- GOLD BY PREVIOUS OWNERS
- QUARTZ VEIN AND QUARTZ-CALCITE VEIN
- CALCAREOUS

LEGEND

VERTICAL LOOP ELECTROMAGNETIC READINGS, IN DEGREE DIP ANGLE, AND CHECK SURVEY DATA, AND GEOLOGICAL SURVEY DATA AND INTERPRETATION, AT EACH STATION AND TO THE SOUTH WHEN READINGS ARE PLOTTED SOUTH.

ELECTROMAGNETIC PROFILE, SCALE: 1/10" = 1'.

- WEAK CONDUCTOR
- ELECTROMAGNETIC CHECK SURVEY DATA WITH TRANSMITTER STATIONARY AND LOCATED IN BRACKETS.
- LOCATION AND NUMBER OF TRANSMITTER STATION.
- VLF ELECTROMAGNETIC CONDUCTOR.
- CLAIM POST OBSERVED AND CLAIMLINE.
- MUSKES OR/AND SWAMPY AREA.
- HIGH GROUND.
- OLD TRENCH.
- BOULDER OR VERY SMALL OUTCROP.
- OUTCROP.
- CLIFF.
- STRIKE AND DIP OF BEDDING.
- STRIKE AND DIP OF SCHISTOSITY.
- INFERRED GEOLOGICAL BOUNDARY.
- INFERRED FAULT OR SHEAR.