2.2880

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SPANEX RESOURCES LTD.

MAGNETOMETER & VLF SURVEYS

ON THE STELLAR MINING PROPERTY

BAD VERMILLION LAKE, DISTRICT OF RAINY RIVER

NORTH-WESTERN ONTARIO

- by -

P.A.R. Brown
Mining Geologist, B.Sc., A.R.S.M.

December, 1978

MAGNETOMETER SURVEY - AREA OF GRASSY LAKE, DISTRICT OF RAINY RIVER, KENORA MINING DIVISION

PROPERTY

The property comprises 11 claim Nos. - 418305, 418310, 418311, 418312, 418313, 418314, 418332, 418333, 418334, 418429, and 475096 in the area of Grassy Lake, District of Rainy River, Kenora Mining Division.

LOCATION

The property is situated on the NW shore of Bad Vermillion Lake south of highway 11 about 4 miles west of Mine Centre. Mine Centre is approximately 40 miles east of Fort Francis and 160 miles west of Thunder Bay, N.W. Ontario.

(see location map and claim map appended)

ACCESS

The north south gravel road approximately 4 miles west of Mine Centre traverses the west part of the property linking the cottages on the N.W. shore of Bad Vermillion Lake with highway 11. In addition many rough tractor roads provide access to various parts of the property.

OWNERSHIP

The eleven claims are held by Ed-Vic Explorations and Spanex Resources Ltd. is carrying on the present program with the view of becoming the new owners.

HISTORY & PREVIOUS WORK

The Rainy River area was one of the earliest gold mining camps in the Canadian Shield. Several small gold mines were in operation before 1900, but interest in the area waned as the Porcupine area was discovered. The Olive Gold Mine which is 3 km northwest of the present property was in production from 1897 to 1900 although production plans are unavailable. Undoubtedly there must have been intensive prospecting activity in the area at that time, but no records remain of any such work on the Stellar Property.

In 1934 a group of nine claims covering the same area as the present property (excluding the two most easterly claims) was held by Stellar Gold Mines Ltd. Considerable prospecting was carried out and several gold bearing veins were located, some of which can be correlated with recently examined veins reopened in the last few years. The Rainbow Vein was apparently the best showing located, as a shaft was sunk on it. The shaft is situated between lines 0+00 and 50W at 180N. The shaft was abandoned at 20M and operations suspended. Subsequently the company was reported as inactive and its charter was cancelled.

RECENT EXPLORATION

Following aquisition of the property, Ed-Vic Explorations carried out extensive stripping with a small bulldozer. The work was concentrated on the ridges where overburden is light and wherever quartz veining was exposed a trench was blasted to permit sampling.

A short X-ray drill hole, 5m deep, was put down on the Rainbow Vein just east of the shaft. Two Exdrill holes were also put

d[illegible], one 61 m hole in the Rainbow Vein which cut minimal vein material below the shaft, and the other 690E, 300N was 45 m deep but failed to cut any veins. In my opinion this hole was drilled under any vein material as the vein material appears to dip SE and this was also the direction of the hole.

GEOLOGY

The area is underlain by Archaean rocks and has been mapped by the G.S.C., map 334A by T.L. Tanton, 1936. A recent compilation sheet has also been made by the O.D.M. - Rainy Lake Sheet p. 293, 1965. Strike of the rocks is generally ENE-WSW and dips almost vertical. The property can be divided into three areas 1) the Gabbro-Anorthosite Complex in the south, 2) the central granite containing the quartz vein material and gold mineralization, 3) and the gabbro in the northwest which is much finer grained and is presumed to be older than the oxide bearing gabbro of the anorthosite complex.

THE MAGNETOMETER SURVEY

The survey was carried out between the 24th October and 20th November, 1978.

Line cutting progressed well due to the fine weather excepting the last week when a few inches of snow fell. Eighteen and one-half miles of line were established or 29.6 kilometres. The grid was established using a N 56 degree E baseline with crosslines cut at 50 metre intervals. Chaining of lines was carried out with 30 metre stations and readings were taken every 15 metres.

The unit was a G 836 Geometrics UNIMAG proton precession magnetometer with a sensitivity of 10 gammas. Total number of readings taken was 1,857.

e method used was to read the baseline rapidly from one end to the other and back again to establish the baseline readings. The grid line readings were then corrected to the established baseline values. No magnetic disturbances were observed during the survey period and consequently corrections are small.

RESULTS - (see map in back pocket)

These have been plotted at a scale of 1:2000 or 1 cm. to 20 metres. (very close to the old 1" to 200')

Immediate reaction to the map draws one to the anorthosite in the south with high values and a gabbro band to the north separated by lower values of the granite. On the western claims a NNW fault is indicated by a sharp break in the magnetics and this ties in with a VLF anomaly which would be the northwestern extension of this feature.

Essentially the magnetics divide the claims into three areas, one in the north and one in the south of high values separated by the low values over the granite.

Linear features associated with quartz veining were not delimited or even indicated by the magnetics.

CONCLUSIONS

The magnetometer survey was proposed to delimit geological contacts. Thus the survey has done remarkably well due to the contrasting magnetic response of the granite and gabbro.

NOTE: Detailed geological mapping will be completed as soon as the snow melts in the spring. The sudden snowfall blanketed the area before this could be completed. The geological survey will be filed for assessment work at this time.

THE V.L.F. SURVEY

This survey was carried out during the same period as the magnetometer survey. Station used throughout the survey was Washington. The unit is the E.M. 16 rented from Geonics Ltd., Toronto. The unit is held horizontally and rotated in an arc until the lowest signal is received toward and away from the station. The vertical plane of maximum signal strength perpendicular to this axis is that used for taking the readings. Once the plane is established the unit is tilted within this plane until a null is obtained. Practically, the eye is placed to the scale eyepiece and when the lowest signal is noted the instrument is held in that position while the quadrature dial is turned to obtain the null. The deflection in the primary (in-phase) signal is read off in percent and then the quadrature dial is also read. Special care is taken to ensure the positive or negative value of the reading. The unit was always read facing northward. A conductor is then determined by when the in-phase changes from positive to negative. In fact, any abrupt change from a high positive toward the negative is indicative of a conductor.

PRINCIPLE OF OPERATION (excerpt from Geonics handbook)

The VLF-transmitting stations operating for communications with submarines have a vertical antenna. The antenna current is thus vertical, creating a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary fields radiating from these bodies. This equipment measures the vertical components of these secondary fields.

The EM16 is simply a sensitive receiver covering the frequency band of the new VLF-transmitting stations with means of measuring the vertical field components.

The receiver has two inputs, with two receiving coils built into the instrument. One coil has normally vertical axis and the other is horizontal.

The signal from one of the coils (vertical axis) is first minimized by tilting the instrument. The tilt-angle is calibrated in percentage. The remaining signal in this coil is finally balanced out by a measured percentage of signal from the other coil, after being shifted by 90 degrees. This coil is normally parallel to the primary field.

Thus, if the secondary signals are small compared to the primary horizontal field, the mechanical tilt-angle is an accurate measure of the vertical real-component, and the compensation $\pi/2$-signal from the horizontal coil is a measure of the quadrature vertical signal.

SELECTION OF THE STATION

The magnetic field lines from the station are a right angles to the direction of the station. Always select a station which gives the field approximately at right angles to the main strike of the ore bodies or geological structure of the area you are presently working on. In other words, the strike of geology should point to the transmitter. Of course, ±45 degree variations are quite tolerable in practice.

The selection of the proper transmitting station is done by plug-in units inside the receiver. The equipment takes two selector-units

simultaneously. A swtich is provided for quick switching between these two stations.

To change a plug-in unit, open the cover on top of the instrument, and insert the proper plug. Then close the cover again.

Here is a list of some of the stations useful in Canada and United States.

Station NAA:	Cutler, Main	Freq. 17.8 kHz
Station NPG:	Seattle, Washington	Freq. 18.6 kHz
Station NSS:	Annapolis, Maryland	Freq. 21.4 kHz
Station NBA:	Panama	Freq. 24.0 kHz
For European use GBR:	Rugby, England	Freq. 16.0 kHz
NWC:	Australia	Freq. 22.3 kHz

When ordering an instrument, consult Geonics for latest information for best selection of stations.

TAKING A READING

The direction of the survey lines should be selected approximately along the lines of the primary magnetic field, at right angles to the direction to the station being used. Before starting the survey, the instrument can be used to orient oneself in that respect. By turning the instrument sideways, the signal is minimum when the instrument is pointing towards the station, thus indicating that the magnetic field is at right angles to the receiving coil inside the handle.

To take a reading, first orient the reference coil (in the lower end of the handle) along the magnetic lines. Swing the instrument back and forth for minimum sound intensity in the speaker. Use the volume control to set the sound level for comfortable listening. Then use your left hand to adjust the quadrature component dial on the front left corner of the instrument to further minimize the

sound. After finding the minimum signal strength on both adjustments, read the inclinometer by looking into the small lens. Also, mark down the quadrature reading.

While travelling to the next location you can, if you wish, keep the instrument in operating position. If fast changes in the readings occur, you might take extra stations to pinpoint accurately the details of anomaly.

The dials inside the inclinometer are calibrated in positive and negative percentages. If the instrument is facing 180 degrees from the original direction of travel, the polarities of the readings will be reversed. Therefore, in the same area take the readings always facing in the same direction even when travelling in opposite way along the lines.

The lower end of the handle, will as a rule, point towards the conductor. The instrument is so calibrated that when approaching the conductor, the angles are positive in the in-phase component. Turn always in the same direction for readings and mark all this on your notes, maps, etc.

THE INCLINOMETER DIALS

The in-phase percentage scale is on the right. The left scale is the secant of the slope of the ground surface. You can use it to "calculate" your distance to the next station along the slope of the mountain.

(1) Open both eyes

(2) Aim the hairline along the slope to the next station to about your eye level height above ground

(3) Read on the left scale directly the distance necessary to measure along the slope to advance 100 (ft) horizontally

We feel that this will make your reconnaissance work easier. The outside scale on the inclinometer is calibrated in degrees just in case you have use for it.

PLOTTING THE RESULTS

For easy interpretation of the results, it is good practice to plot the actual curves directly on the survey line map using suitable scales for the percentage readings. The horizontal scale should be the same as your other maps on the area for convenience.

The unit was used for this property because of its good response to poorly conductive zones which can be expected along shears or quartz veins and it is this type of enviroment that is to be expected as the host of gold mineralisation on the claims block.

Many conductive zones are indicated from the results and it is interesting to note the weak response from the Rainbow Vein.

(see map in back pocket)

1. Significance should be attached to the conductor running from 0+00 to 350 m west lying between 60 m and 120 m north of the base-line, claim #418313. The western part of this conductor has parallel quartz veining, one vein even trenched for a considerable distance - 25 m. The eastern part runs parallel to a scarp edge and lies under overburden.

2. The very long conductor from 100W, 300N to 900E, 20S. This is a strong and long linear feature following much of the low ground. Quartz veining and shearing were noted close to this feature.

3. From 700 m E to 1000 m E at approximately 380N a good conductor can be seen lying just south of a linear magnetic anomaly - the south edge of a gabbro.

4. Between mag. highs within the anorthosite is a strong conductor from 1000E to 1350E approximately 120 m south of the baseline.

A diamond drill program of 500 metres has been proposed for the property and will be carried out in the spring.

RECOMMENDATIONS

1. Geochemical samples be taken over the conductors to indicate the presence of gold and copper, plus lead and zinc.

2. Drill a hole SW - 45 degrees into the conductive fault zone 650W, 140N.

3. Drill a -45 degree hole parallel to the grid lines southward on line 100W at 90N to check the conductor parallel to the B.L.

4. Drill a SE hole -45 degrees at 540E, 350N to check the conductor lying just south of the small magnetic high.

5. Drill a -45 degree hole northward along the grid line direction at 725E, 380N. Here the conductor seems to bend southward away from the magnetic high. The high gold values on the Rainbow Vein arc are associated with a 'kink' in the vein structure.

6. Drill a -45 degree hole northward through the conductor indicated between the magnetic highs in the anorthosite, 100E, 140S.

7. Drill a northward hole 450E, 70N to check the conductor. This conductor has quartz veining to the south and vuggy quartz vein material was found on the road 30 metres south of the conductor.

Results of the geochemical survey over the conductors may alter the drill targets and also when the geological survey is completed this will reveal geological targets.

It is of interest to note the absence of conductive zones associated with known quartz veining except on the Rainbow Vein.

C E R T I F I C A T E

I, PHILIP A. R. BROWN, do hereby certify as follows:

(1) THAT I am a Mining and Exploration Geologist living at R. R. #1, Corbeil, Ontario, P0H1K0.

(2) THAT I am a graduate of the Royal School of Mines, London University, London, England. That I graduated with a B.Sc. in Mining Geology, 1966.

(3) THAT I am an associate of the Royal School of Mines.

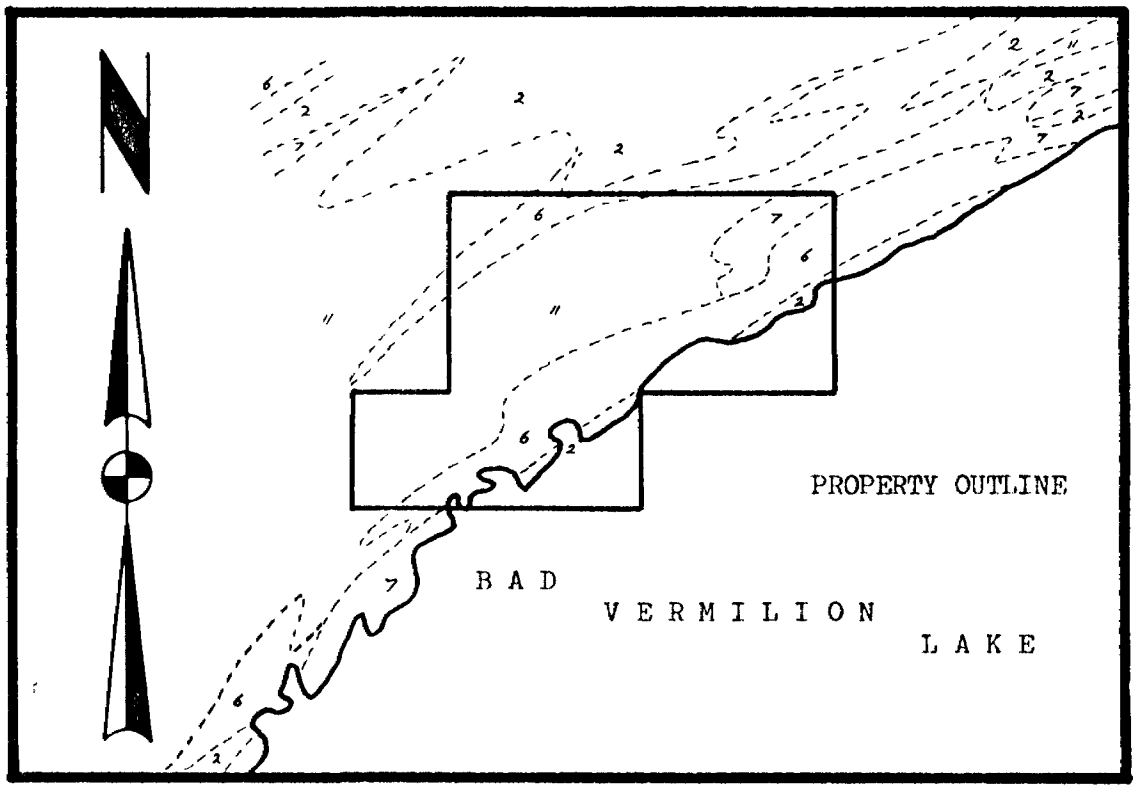
(4) THAT I have nine years experience in all phases of exploration associated with a major company.

(5) THAT I have been self employed since 1975.

(6) THAT I have no personal interest, direct or indirect, in the property or any companies associated with the property, nor do I expect to receive any.

P. A. R. Brown, B.Sc., A.R.S.M.

Dated at Corbeil, Ontario
December, 1978.

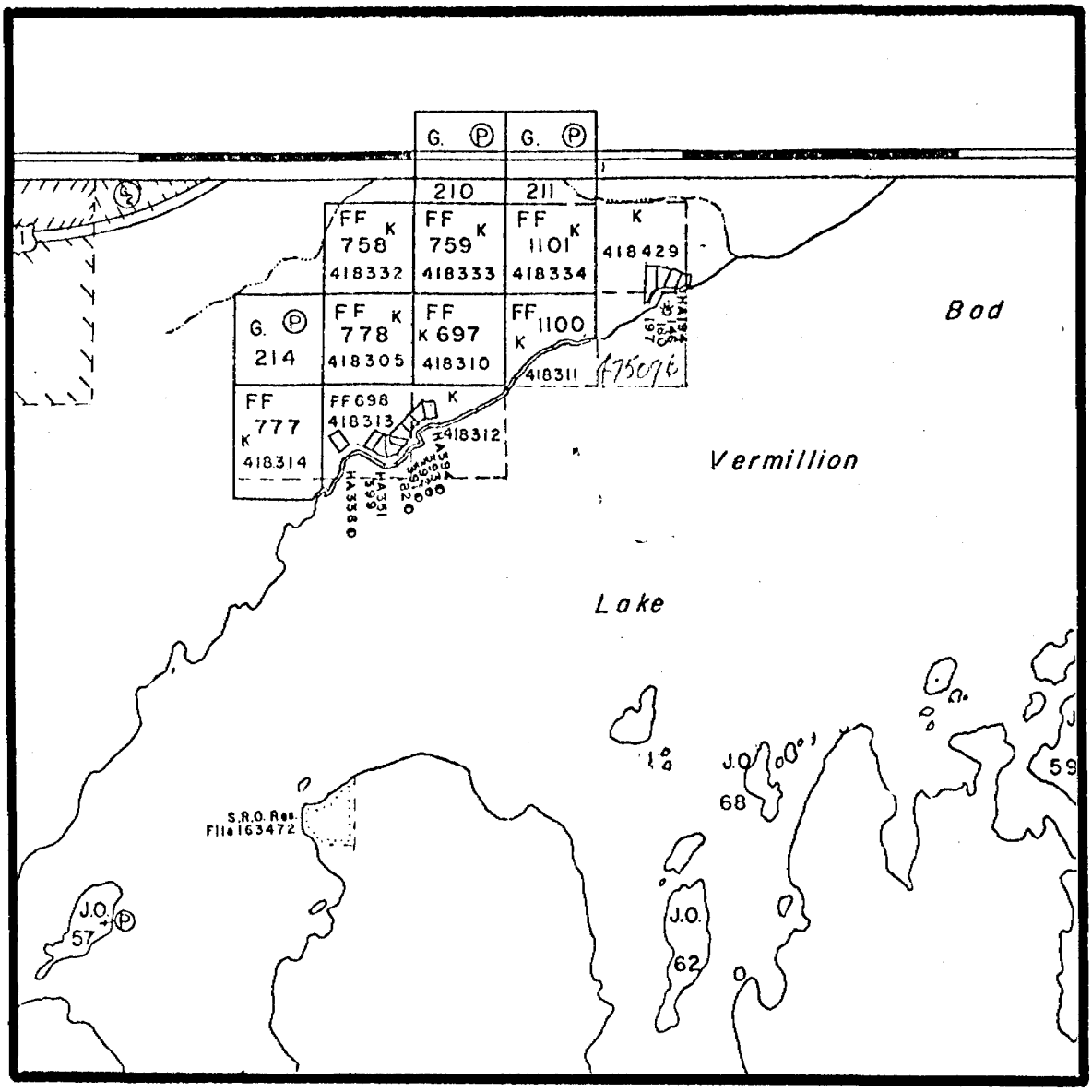


11	Granite
7	Anorthosite
6	Gabbro
2	Greenstone

"STELLAR" PROPERTY, DISTRICT OF RAINY RIVER, ONTARIO

GEOLOGICAL MAP (PART OF G.S.C. MAP 334A, MINE CENTRE AREA, 1936)

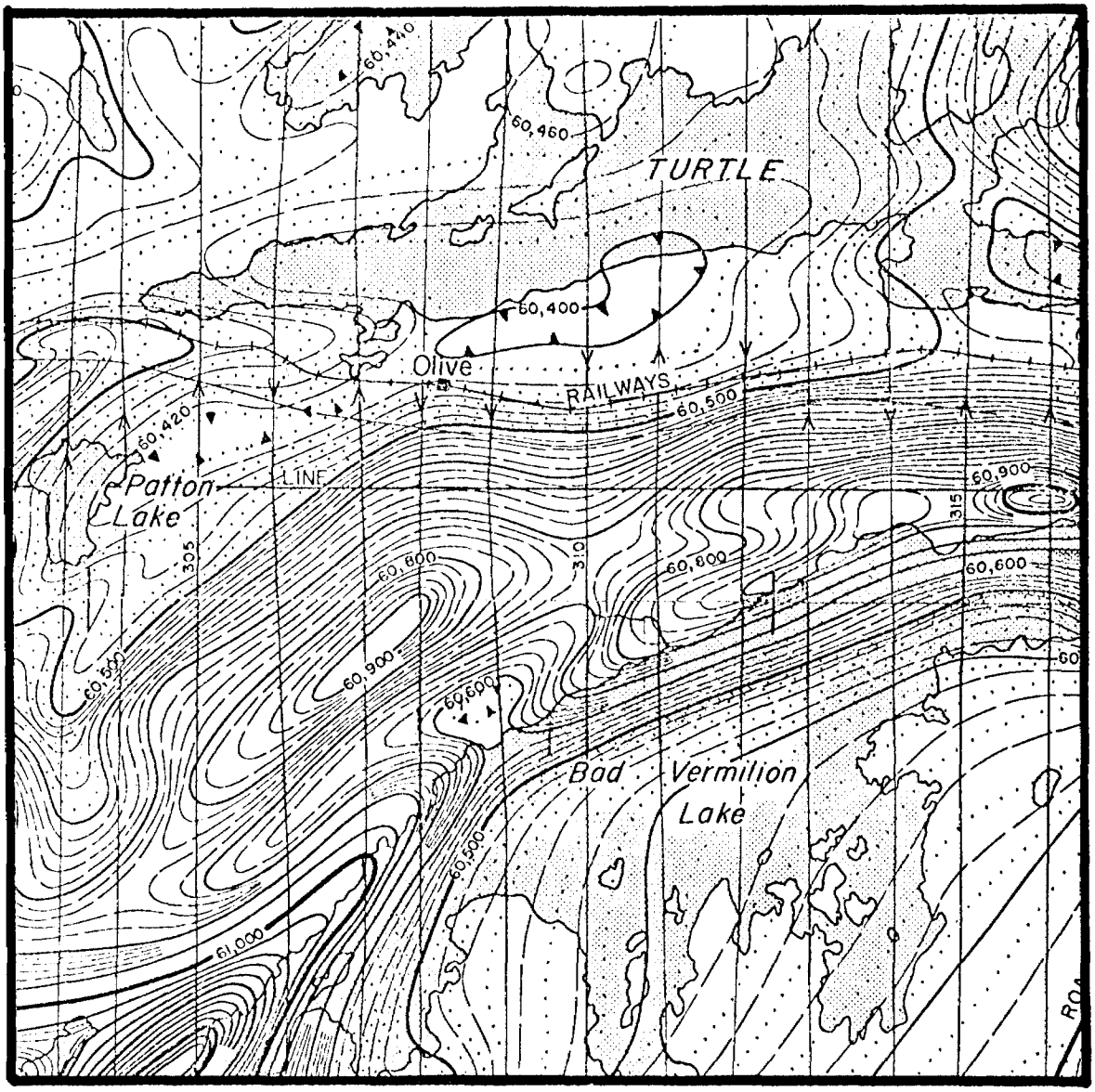
SCALE: 1:31680 (1 inch to one-half mile)



"STELLAR" PROPERTY, DISTRICT OF RAINY RIVER, ONTARIO

CLAIM MAP: EXTRACT FROM ONTARIO M.N.R. MAP M-2474

SCALE: 1:31680 (1 inch to one-half mile)



"STELLAR" PROPERTY, DISTRICT OF RAINY RIVER, ONTARIO

AEROMAGNETIC MAP (PART OF G.S.C. MAPS 1150G & 1151G)

SCALE: 1:63360 (1 inch to 1 mile)

Ontario

Ministry of Natural Resources

File _____

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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(s) MAGNETOMETER, VLF (E.M.)
Township or Area BAD VERMILLION LAKE AREA DISTRICT Rainy River
Claim Holder(s) ED-VIC EXPLORATIONS, RAY PITKANEN
ADRIAN LAFRENIERE.
Survey Company P BRAUN
Author of Report PHIL BROWN
Address of Author RR#1 CORBEIL ONT POHIKO.
Covering Dates of Survey Oct 22nd – Dec 31st.
(linecutting to office)
Total Miles of Line Cut 18.5

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	20
–Magnetometer	40.
–Radiometric	
–Other	
Geological	
Geochemical	

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

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: 31st Dec 1978 SIGNATURE: P.R. Braun.
Author of Report or Agent

L.D.

Res. Geol. _____ Qualifications 2.82 + on this file

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)

K	418305	✓
K	418310	✓
K	418311	1/3
K	418312	
K	418313	1/2
K	418314	✓
K	418332	✓
K	418333	✓
K	418334	✓
K	418429	✓
K	475096	3/4

If space insufficient, attach list

TOTAL CLAIMS 11

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations 930 PICKETS at 30M intervals Number of Readings 1857

Station interval 15 METRES Line spacing 30 METRES.

Profile scale

Contour interval 250 γ

MAGNETIC

Instrument UNIMAG PROTON PRECESSION MAGNETOMETER

Accuracy – Scale constant 10 γ

Diurnal correction method RAPID READING OF BASELINE IN BOTH

Base Station check-in interval (hours) DIRECTIONS WAS USED TO ESTABLISH

Base Station location and value THE BASELINE READINGS (VALUES)

ELECTROMAGNETIC

Instrument EM16 (VLF)

Coil configuration HORIZONTAL AND VERTICAL

Coil separation

Accuracy

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☑ Parallel line

Frequency WASHINGTON (specify V.L.F. station)

Parameters measured IN PHASE & QUADRATURE.

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

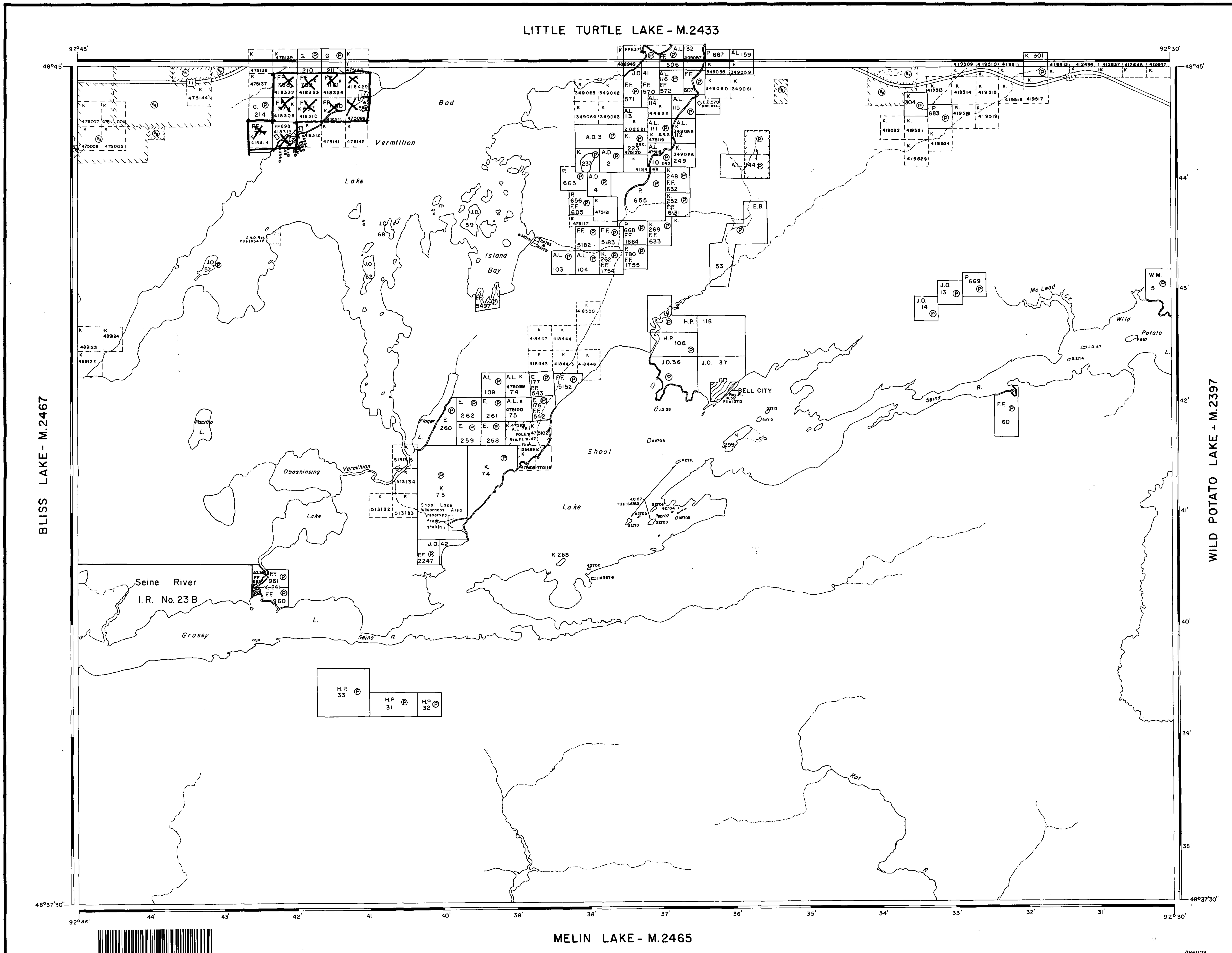
– Integration time

Power

Electrode array

Electrode spacing

Type of electrode



AREA OF

BAD VERMILION LAKE

DISTRICT OF RAINY RIVER

KENORA 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	C.
PATENTED S.R.O.	

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

Sand & Gravel

G_1	MTC Pit No 1212
G_2	" " " 1213
G_3	" " " 1214
G_4	MTC Gravel Pit 1016
G_5	Gravel File. 170703
G_6	" " 23798
G_7	" " 170756
G_8	Gravel Pit No 988
G_9	M.N.R. Gravel Reserve No. 239

DATE OF ISSUE
JAN 18 1979
SURVEYS AND MAPPING BRANCH

NATIONAL TOPOGRAPHIC SERIES 52 C 10

PLAN NO. M. 2474

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

HWY 11 1Km.

N

Beaver pond

BAD VERMILLION LAKE

BASELINE

600W 750W 700W 650W 600W 550W 500W 450W 400W 350W 300W 250W 200W 150W 100W 50W 0.00 50E 100E 150E 200E 250E 300E 350E 400E 450E 500E 550E 600E 650E 700E 750E 800E 850E 900E 950E 1000E 1050E 1100E 1150E 1200E 1250E 1300E 1350E 1400E

SDC-MAG8884 2.2880 BAD VERMILLION LAKE

210

2.2880

SPANEX RESOURCES LTD.

STELLAR PROPERTY

DISTRICT OF RAINY RIVER
N.W. ONTARIO.

MAGNETOMETER SURVEY

Instrument — UNIMAG

SCALE 1:2000 or 1cm to 20m

0 50m 100m 200m

P.A.R. Brown Nov 1978

2.2880

SPANEX RESOURCES LTD.

STELLAR PROPERTY

DISTRICT OF RAINY RIVER
N.W. ONTARIO.

VLF SURVEY GEONICS EM 16

IN PHASE — QUADRATURE — 1cm to 20% +|-

SCALE 1:2000 or 1cm to 20m

0 50m 100m 200m

P.R. Brown
Nov 1978