



42A03SE0159 2.12890 ZAVITZ

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**2.12890**

Report on the Total Field Magnetic  
Survey  
and the VLF - EM Survey  
Conducted on the Zavitz Township Property  
for  
TBS Resource Developers Inc.

Sault Ste. Marie, Ontario  
October 10, 1989

John R. Walmsley, B.Sc.  
Geologist



42A035E0159 2.12890 ZAVITZ

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## INTRODUCTION

In the late spring of 1989, E.H. van Hees Geological Services Inc. was contracted by TBS Resource Developers Inc. to conduct an exploration program on a group of claims in the Porcupine Mining Division, District of Sudbury. The claims covered by the program, make up part of a larger claim block located in the south-east corner of Zavtiz Township and the south-west corner of Hincks Township.

The phase of the program covered by this report includes a Total Field Magnetic survey, and a two station VLF-EM survey. The surveys were carried out on a metric grid, and covered a total of 9 claims at the west end of the property.

This report describes the method and results of the program.

PROPERTY DESCRIPTION, LOCATION AND ACCESS

The TBS-Zavitz Property is located in both Zavitz and Hincks Townships and is comprised of thirty-two (32) claims. The claims in Zavitz Township are in the South Porcupine Mining Division, District of Sudbury, Northeastern Ontario; the claims in Hincks Township are in the Larder Lake Mining Division, District of Sudbury, Northeastern Ontario. The claims are approximately 32.5 km west-north-west of the town of Matachewan, and approximately 51.2 km south-south-east of the city of Timmins. See figures 1, 2 and 3 for property location.

A total of eight (8) contiguous claims were wholly and/or partially covered by the surveys described in this report. The claims involved are listed in Table 1. Abstracts for the claims can be found in Appendix A.

Table 1. Schedule of Claims

<u>Claim #</u>	<u>Date Recorded</u>	<u>Assessment</u>	<u>Due Date</u>	<u>Area</u>
P 1027468	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres
1027469	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres
1027472	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres
1027473	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres
1027474	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres
1027475	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres
1027477	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres
1027478	Oct. 28, 1987	0 days	Oct. 17, 1988	40 acres

Note: Extensions were granted till the end of October, 1989, for filing of assessment work.

Access to the property is generally good, though during winter months area roads may not be plowed regularly. Several routes to the property exist. The simplest route begins in

Matachewan where highway 561 can be followed for approximately 30 km to the west. From here, a well used timber access road is followed for approximately 20 km further to the west to the Moray Lake turnoff on the north side of the road. This last road is followed for approximately 1.5 km to Moray Lake which is covered by the south part of the claim block.

A second route from Timmins exists and is actually the continuation of the road followed from the end of highway 561. Pine street in Timmins can be followed south from the city centre for approximately 5 km where it turns into a well used forestry access road. This road is followed for approximately another 55 km to the Moray Lake turnoff.

Another route can be followed by travelling the old Langmuire Mine road south from the town of South Porcupine (west of Timmins), past the Langmuire Mine and to the forestry access road mentioned in the previous two routes.

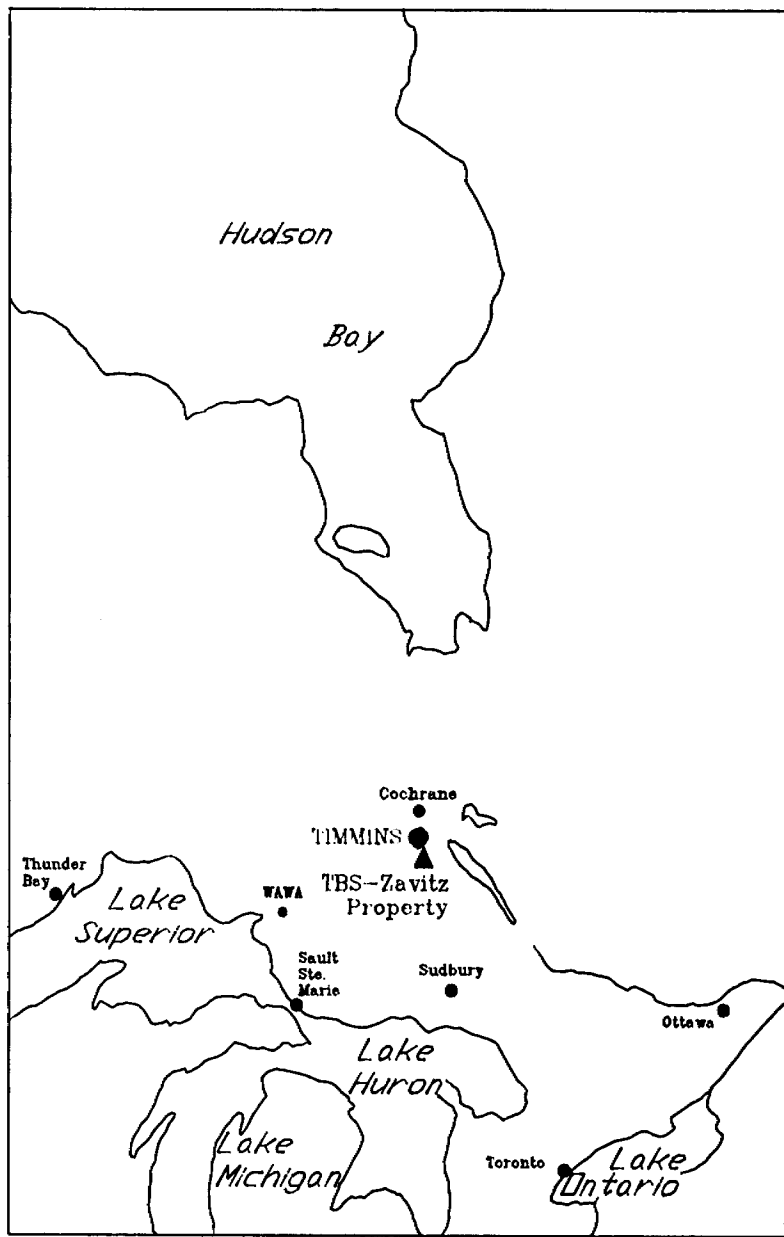


Figure 1. Regional Location Map

*John W. Dandy*

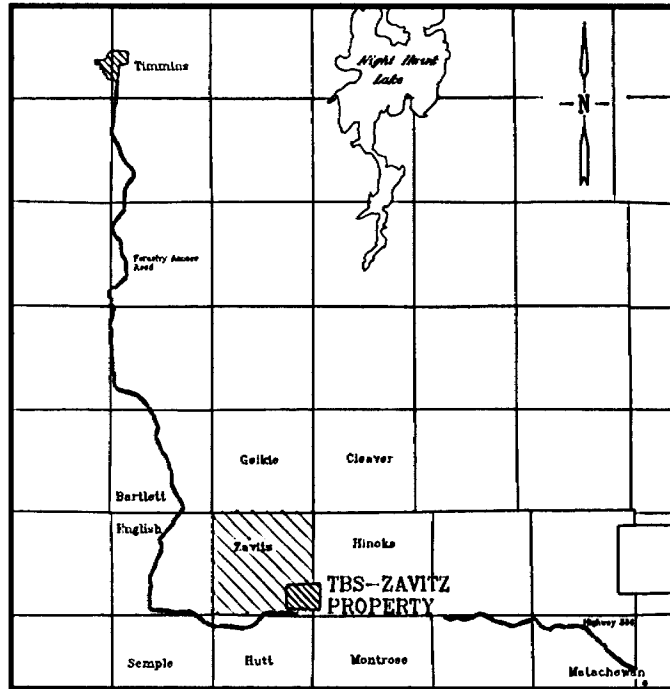
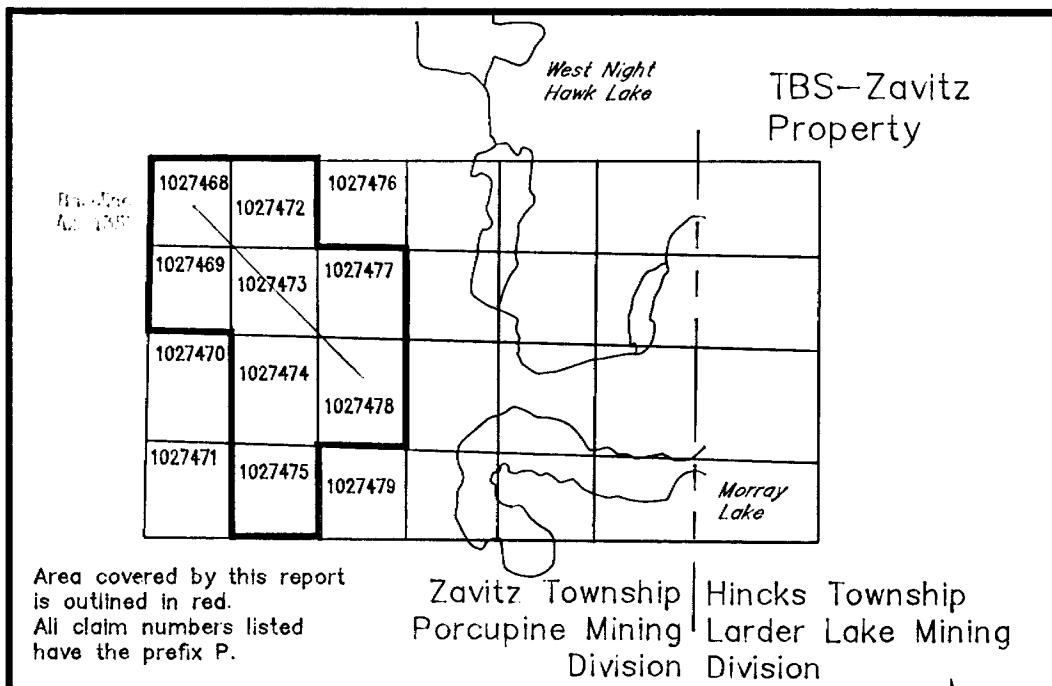


Figure 2. Property Location Map

Figure 3. Claim Sketch of the Complete Claim Block



Area covered by this report is outlined in red. All claim numbers listed have the prefix P.

Zavitz Township | Hincks Township  
 Porcupine Mining | Larder Lake Mining  
 Division | Division

*John E. Schmely*

## TOPOGRAPHY AND RESOURCES

The ground covered by the eight (8) claims is generally of low relief with gently rolling sand eskers and local rock outcroppings. The south-west portion of the ground is generally dry with local swampy areas. The centre portion is both swampy and exposed rock. The north-east portion is generally swampy. Clay is the main soil type away from the sand eskers and drainage is generally to the east.

In the past, the area has been logged, and consequently trees are generally fairly young. Tree types vary depending on the ground conditions. In the south-west, the main tree types are spruce, jackpine and some scotch pine. In the centre, the main tree types are spruce and poplar. In the north-east, the main tree types are spruce, alders and poplar. Birch is also found throughout.

Other than tourism and trapping, little economic activity is apparent in the immediate vicinity of the property. Logging is still practised within the region but has already covered the claim block. The nearest industrial centres are the town of Kirkland Lake and the city of Timmins. Both centres have economies based primarily on mining and most resources necessary for mining and exploration can be found in either place. The nearby town of Matachewan is a past producing gold town and with limited resources.



### SUMMARY OF PAST EXPLORATION

The property has seen a fair amount of activity in the past. A total of ten companies have explored the area, dating back to 1939. Exploration has found three (3) gold showings within the entire 32 claims. These showings have since been named the Fiset Showing, the Noranda Showing, and the Voyager Showing. The eight (8) claims discussed in this report cover the Voyager showing.

In 1964, Voyager Explorations Ltd., completed a geophysical program that involved an EM survey and a magnetometer survey on the Voyager Showing. The purpose of the surveys was to cover a massive sulphide zone discovered during logging operations (Tremblay, 1986). Follow up drilling, involving six (6) diamond drill holes totalling 1,819 feet, produced a significant assay of 0.33 ounces per ton over a length of 4.0 feet (Mazur, 1988).

Pan Ore Gold Mines Ltd. conducted a geophysical program on both the Voyager Showing and the Fiset Showing in 1974. Induced Polarization, electromagnetics and magnetics were completed. Follow up drilling did not involve the Voyager Showing.

Rio Tinto Canadian Exploration Ltd. drilled three holes in 1975 on the EM anomalies delineated by the Pan Ore surveys, under an option agreement with Pan Ore. Three other holes were drilled on the Fiset showing for a total of 2,940 feet.

Between 1978 and 1980, Newmont Exploration of Canada completed the most comprehensive program on the property

involving I.P., EM and total field magnetics. Seven holes totalling 1,422 metres were drilled, two of which were on the Voyager Showing.

The last activity on the property prior to the current program was completed by 635540 Ontario Inc., in 1985, but did not involve the Voyager Showing.

### REGIONAL GEOLOGY

The region of the Zavitz property is located near the southern edge of the Abitibi Greenstone Belt, and was first looked at in significant detail by H. C. Rickaby in his 1932, Ontario Department of Mines Report *Bannockburn Gold Area*, which covered Zavitz and English Townships. It was remapped in 1972 by D. R. Pyke, along with several surrounding townships, and is described in his 1978, Ontario Geological Survey Report, *Geology of the Peterlong Lake Area*. A third examination was completed by E. G. Bright, in his 1968 Preliminary Map Number P.455 and in his 1984, Geological Survey Report, *Geology of the Ferrier Lake - Canoeshed Lake Area, District of Sudbury, Ontario*. The two most recent reports best describe the general geology of the region with Pyke's geology map number 2345 providing the best illustration for the region, and Bright's preliminary map for the township.

Quartz diabase dykes intrude all other rocks in the area. These dykes strike generally north-east and are Middle Precambrian in age (Pyke, 1978). They are succeeded by another phase of diabase intrusions during the Late Precambrian which are

distinguished from the earlier phase by being olivene rich and striking north-west.

The next youngest rocks of the area are a narrow band of Middle Precambrian (Huronian) sediments located east of the Zavitz property in Hincks Township. This band strikes north with flat to moderate, easterly dipping beds of greywacke, arkose, and conglomerate.

A third phase of diabase intrusions occurred in the Early Precambrian (Archean). These dykes have a general north-south strike.

Other intrusive rocks include gabbros and batholiths in the surrounding regions. The Peterlong Lake Complex is the dominant batholithic intrusion and is located well to the west of the property. Locally, the Geikie Pluton, north of the property has had a more direct effect. This pluton is most likely the source for syenite, felsic porphyries and diorite intrusives found within the claim block.

Both Pyke (1978), and Bright (1984), have discerned two cycles of volcanism. Both cycles consist of an underlying ultramafic unit overlain by a mafic unit, and topped by an intermediate to felsic unit (Pyke, 1978). Zavitz Township is underlain by the younger cycle, while the older cycle is exposed further to the west. The Halliday Dome, south of the property, is believed by Pyke (1978), to be the volcanic centre. Both cycles are Early Precambrian (Archean) in age and the overall stratigraphic trend is east-west.

See Table 2 for Table of Formations.

Table 2. Table of Formations (after D.R. Pyke, 1978)

## PHANEROZOIC

## CENOZOIC

## QUATERNARY

## PLEISTOCENE AND RECENT

Clay, sand, gravel, swamp and stream deposits

*UNCONFORMITY*

## PRECAMBRIAN

## LATE PRECAMBRIAN

## MAFIC INTRUSIVE ROCKS

Olivine Diabase

*INTRUSIVE CONTACT*

## MIDDLE PRECAMBRIAN

## MAFIC INTRUSIVE ROCKS

Quartz Diabase

*INTRUSIVE CONTACT*

## HURONIAN SUPERGROUP

## COBALT GROUP

Gowganda Formation

Greywacke, arkose, greywacke and argillite,  
conglomerate*UNCONFORMITY*

## EARLY PRECAMBRIAN

## MAFIC INTRUSIVE ROCKS

Diabase

*INTRUSIVE CONTACT*

## FELSIC INTRUSIVE ROCKS

Porphyritic hornblende monzonite; porphyritic  
hornblende granodiorite; hornblende-biotite  
trondhjemite, biotite-hornblende trondhjemite,  
diorite and quartz diorite, biotite  
granodiorite, porphyritic hornblende diorite,  
leucocratic granodiorite and alaskite; quartz-  
feldspar porphyry, trondhjemite

Table 2. (Continued)

*INTRUSIVE CONTACT*

## METAMORPHOSED MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS

Gabbro, gabbroic anorthosite, pyroxinite,  
serpentinized peridotite, peridotite largely  
altered to talc-carbonate, quartz gabbro

*INTRUSIVE CONTACT*

## METAVOLCANICS AND METASEDIMENTS

## Intermediate to Felsic Metavolcanics

Tuff and lapilli-tuff, volcanic breccia, massive and  
pillowed flows, variolitic flows, interlayered  
siltstone and greywacke, garnet-and-staurolite-  
bearing tuffs

## Mafic Metavolcanics

Massive and pillowed flows, variolitic flows, tuff  
and lapilli-tuff, volcanic breccia, amphibolized  
and gneissic lavas, pyroxene spinifex-textured  
flows, tremolitic-(low Fe) bearing flows and  
pyroclastic rocks

## Ultramafic Metavolcanics

Massive polysutured serpentized peridotite,  
spinifex textured flows, tuff and lapilli-tuff,  
cummingtonized flows, steatized and carbonatized  
peridotite

The area is pervaded by numerous folds due primarily to the large batholithic complexes and plutons. The main structure in the immediate vicinity of the property is a large, east to north-east striking syncline located to the north-west. A lesser anticline, striking north-north-east has been interpreted by Bright (1968), just north of the claim boundary and south of the syncline. Other, lesser synclines and anticlines are indicated by Pyke (1978), to be present across the claim block.

Two main faults are present to the west of the property. The Burrows-Benedict Fault is the closer of the two and is a

major north-south striking break that can be traced northward through the Timmins gold camp (Tisdale Township). Further to the west is the Scott Lake Fault which strikes to the north-west with dextral displacement (Pyke, 1978). Two north-west striking faults bound the property on the north-east and south-west sides (the latter may have some influence on the Voyager Showing). The western fault is dextral and the eastern fault is sinistral (Pyke, 1978).

See Figure 4 for a representation of the regional geology.

#### PROPERTY GEOLOGY

Bedrock exposure on the property is poor, less than 10%, and restricted to the north-west end of the property grid. H. Tremblay best describes the property geology in his 1986 report based on geological mapping, diamond drilling and geophysics conducted by Newmont Exploration of Canada Ltd. in 1980. Tremblay records the stratigraphy of the Voyager Showing as striking north-north-west primarily based on pillow tops. The units from north to south are described to be; ultramafic to mafic volcanics with intercalated mafic tuffs, intermediate to felsic tuffs and argillites (underlying most of the showing); intercalated graphitic tuffs and argillites with some volcanic flows (south of the showing); and ultramafic volcanics with some intermediate to felsic volcanics (south edge of the total claim block).

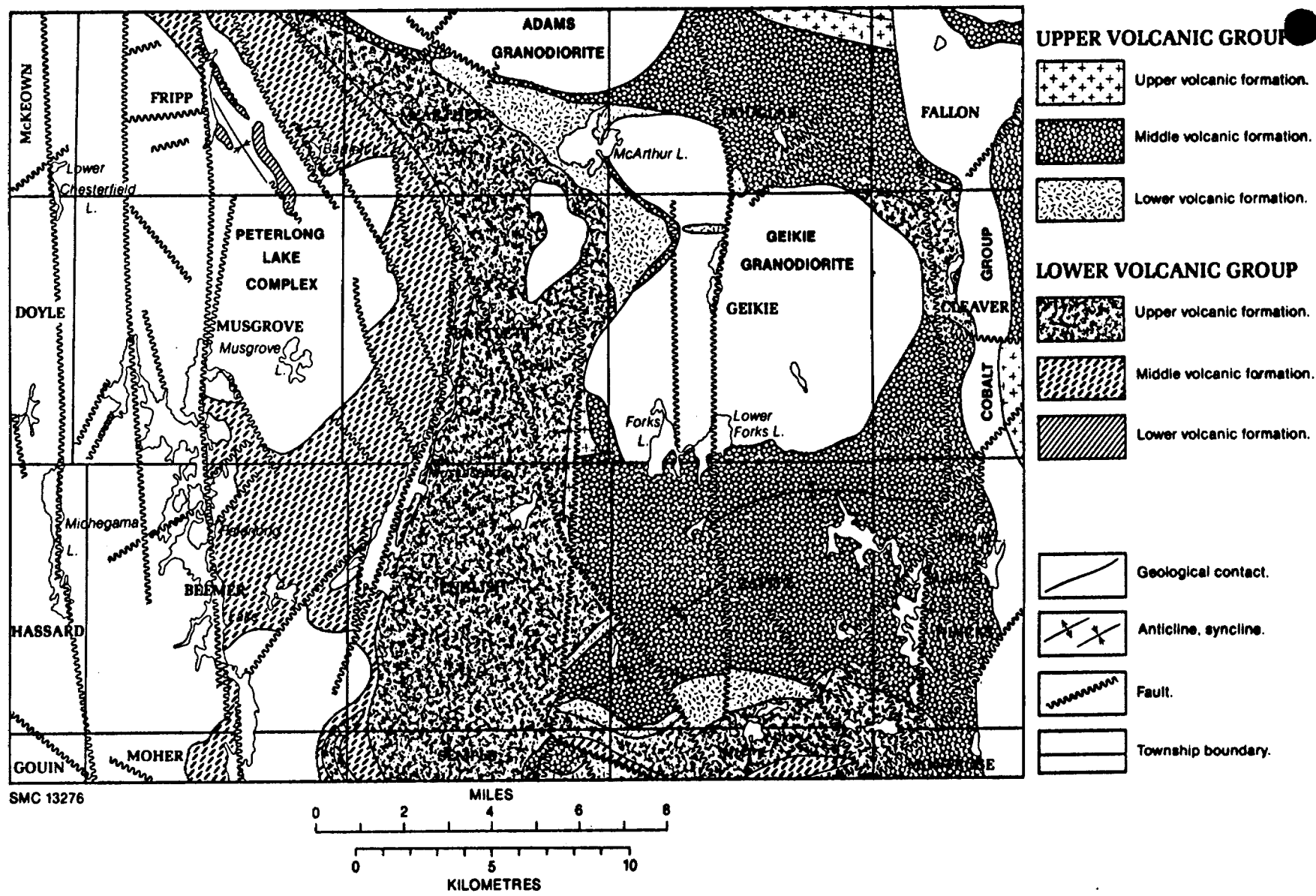


Figure 4. Regional Geology of the TBS-Zavitz Property (After D.R. Pyke, 1978)

*John A. S. [Signature]*

Syenite and diorite plugs are the most likely source for the dykes and dykelets of similar compositions found throughout the showing. Syenite is exposed in the north-west corner while a diorite plug is interpreted from past geophysics to the south-east. These plugs are believed to strongly affect stratigraphic attitudes (Tremblay, 1986).

Tremblay, using geophysical trends delineated from the Newmont I.P and magnetic surveys, along with pillow tops from Newmont's mapping and graded bedding from a Newmont diamond drill hole, an anticline as striking west-north-west across the Voyager section of the property with its axis just to the south-east. This complies with Bright (1968), who interprets an anticline on the west side of the western property fault and along strike from Tremblay's fold.

Also interpreted from geophysics is a north-west striking fault traversing the claim block just to the north-east of the Voyager Showing. This fault may mark a contact between the volcanic sequence described above and an extension of the syenite plug also described above (Newmont Geology Map, 1980).



### METHOD OF SURVEYS

A metric grid was established across the Voyager Showing to provide control for both geophysical surveys and geological surveys. Lines were cut on 100 metre centres with lines on 50 metre centres across most of the central section. The baseline has an azimuth of  $135^{\circ}$  with gridlines running perpendicular to this. Stations are marked with standing pickets every 25 metres along the gridlines and every 50 metres along the baseline.

The instrument used for both the total field magnetic survey and the VLF - EM survey was a Scintrex IGS IV. This instrument is computer driven and provides automatic storage of data within its memory. Although it also allows the simultaneous recording of 2 magnetic readings (gradient and total field), and up to three station VLF readings, the mag survey was completed on different traverses from the VLF in order to meet assessment requirements. During both surveys the operator was Bruce Pigeon of Timmins, Ontario. The surveys were completed between the beginning and end of June, 1989.

Specifications for the Scintrex Integrated System can be found in Appendix B.

The magnetic survey recorded total field magnetic data. A total of 529 readings were taken with the operator always looking north at stations every 25 metres and with readings every 12.5 metres when an anomalous area was discerned. A base value of

58,000 nT's was assigned the instrument for tuning but was not subtracted from the recorded values.

A second Scintrex magnetometer was used as a base station to provide data for diurnal drift corrections. This instrument is equipped with a cycling mode that was set to take and store readings every 5 seconds. The base station was set up off the grid to the south-east, away from any magnetically anomalous areas.

At the end of each day's survey, both the field mag and the base station mag were cabled together and the readings were automatically corrected for diurnal drift. The corrected data was then "dumped" from the field mag onto a computer. Utilizing Geopak's geophysical software, data from the completed survey was then compiled and a contour map was produced at a scale of 1:2500. Contour intervals vary between 50 nT's and 100 nT's in order to enhance anomalous trends.

The VLF - EM survey was carried in much the same way as the mag survey with a similar number of readings. Readings were taken every 25 metres with 12.5 metre stations where required. Two transmitting stations were read at each station during the same traverse. The stations read were Cutler, Maine (NAA, frequency 24.0 KHz) and Annapolis, Maryland (NSS, frequency 21.4 KHz). Both stations were read with the operator looking towards the transmitting tower which is the equivalent to the 90° rotation to the north for NAA and to the east for NSS when using an EM-16 VLF receiver.

Data was dumped at the end of each day on to a computer. At the end of the completed survey, the data was compiled with Geopak's geophysical software and profile maps (with both in-phase data and quadrature data profiles on each map) for both transmitting stations were produced at a scale of 1:2500 and a profile scale of 1 cm = 5%. The in-phase data was also subjected to a low pass filter calculation (Fraser Filtering). This manipulated data was then contoured and plotted on maps at a scale of 1:2500, and a contour interval of 10%, using Geopak's software. Only the positive values of the Fraser Filter data were contoured.

### RESULTS

Several geophysical anomalies were delineated by the program and correlation between the two types of surveys appears to be good in most cases. The correlation is between magnetic highs and VLF Fraser Filter highs.

The mag results are fairly spotty on the north-west end of the grid with several one station anomalies defined. Most of these are most likely caused by unsettled diurnal magnetic activity.

Overall, there appears to be a distinct "geophysical contact" which is marked by a magnetically high ridge (Anomaly "A") that strikes south from the north-west corner of the grid to a point on the baseline at line 150 South where the ridge bends

sharply to the south-east. North-east of this ridge the magnetic background area is about 200 nT's above magnetic background of the area to the immediate south-west of the ridge, and 100 nT's above the magnetic background of the area further to the south-west.

A small "nipple" strikes north-west along the baseline from the bend in the ridge at line 150 South. From this nipple another magnetic high branches off and can be traced north-westward to line 150 North (Anomaly "B"). Two strong magnetic lows flanking this high are most likely caused by a magnetic storm. Anomaly "B" and the south-east extent of Anomaly "A" may be one continuous anomaly as depicted by the VLF results.

The strongest magnetic anomaly is located on line 800 South between 500 West and 600 West (Anomaly "C"). Being on the edge of the grid and consequently having little information, it is difficult to determine the strike of the anomaly but a north-east strike is indicated.

A fourth magnetic anomaly (Anomaly "D") may exist and extend from line 200 North at 300 West to an intersection with anomaly "A" at the baseline on line 300 South. This anomaly is not continuous though this may only be due to the lack of readings across the pond on line 100 South.

The VLF results are best illustrated by the Fraser Filter contour maps. The "strongest" Fraser Filter anomaly is coincident with the magnetic anomaly "B" and the south-eastern extent of anomaly "A". It is the strongest anomaly on both Annapolis and Cutler frequencies and appears to be more

consistent than the magnetic data shows. It can be traced from line 100 North, south-east along the baseline to line 500 South on the Cutler Fraser Filter contour map, and from line 0 north (and possibly line 200 North) to line 500 South on the Annapolis Fraser Filter contour map. The strongest part of the VLF anomalies are on line 0 North, just south of the baseline. From line 0 North to line 100 North, the anomaly takes a sharp bend and strikes westerly on the Cutler map. This is less apparent on the Annapolis frequency.

The northern extent of magnetic anomaly "A" has a correlated VLF Fraser Filter high on the Annapolis frequency. This anomaly is narrow at the intersection with anomaly "B" on line 250 West, and broadens along strike to the north.

A Fraser Filter high on the Cutler frequency is coincident with the "spotty" magnetic anomaly "D". This anomaly starts at an intersection with anomaly "A" on line 300 South, south of the baseline, and strikes westerly off the grid at line 100 North. The Geopack contouring software extrapolated the data across the pond on line 100 South, and appears to indicate a more continuous anomaly than the magnetic data does.

Two more anomalies (Anomalies "E" and "E'") can be delineated from the VLF data on both stations but do not have a readily apparent associated magnetic anomaly. Both anomalies are strongest on the Annapolis frequency. Anomaly "E" strikes south-south-east from line 300 North at 225 West to where it intersects anomaly "D" on line 50 North at 300 West. Anomaly "E'" strikes

south-south-east from where it intersects anomaly "D" on line 100 South at 225 West to 250 South at 250 West.

### DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The geophysical surveys described in this report have defined a total of six (6), significantly anomalous areas discussed below:

Anomaly "A" - This anomaly is a magnetic ridge with readings significantly higher than the flanking background readings. It appears to indicate a "geophysical contact" between slightly higher background readings to the east from the readings to the west. As indicated by the Preliminary Map of Zavitz Township (Bright, 1968), an ultramafic unit has been interpreted from field observations to the north of the property. Bright puts the contact between the ultramafics and the mafics of the TBS-Zavitz Property north of the claim block. The higher readings north of Anomaly "A" may however indicate that the contact is actually just north of the Voyager Showing, on the property, and that the "geophysical contact" is actually a geological contact.

The ridge itself is associated with a fairly strong VLF anomaly on the Annapolis station in the northern extent, and both frequencies on the south-east extent. This would indicate that the magnetic high is probably caused by more than just the ultramafic/mafic contact and that possibly significant mineralization is concentrated along the contact. The fact that a magnetic high is associated with the Fraser Filter high could indicate that the mineralization is at least in part pyrrhotite. The lack of a significant associated Cutler anomaly is most likely due to the anomaly's attitude.

Anomaly "B" - This appears to be a "offshoot" extending from Anomaly "A" and striking north-west. It is delineated by both VLF stations and it has an associated magnetic high (the latter being less continuous than the VLF). As with Anomaly "A", this correlation probably indicates mineralization as the cause, with pyrrhotite again being present. The fact that past reports place trenches near line 0 North at the baseline, (which is coincident with the strongest part of the anomaly), and that these trenches are reported to have exposed a massive sulphide zone of pyrite and pyrrhotite, tends to support this theory. It is not possible to tell if the linear nature of the anomaly indicates a mineralized fault zone, or the axis of a fold.

The VLF profiles for this anomaly become broad and low south-east of line 0 North. This most likely indicates that the

mineralized structure is plunging in that direction.

Anomaly "C" - This anomaly is a strong magnetic high without an associated VLF anomaly, located at the south-west end of line 800 South. Because of limited information on this anomaly, little interpretation can be made. It may be a diabase dyke or the diorite plug that is mentioned in the literature.

Anomaly "D" - The VLF station Cutler best delineates this anomaly. The associated magnetic anomaly is spotty, and Annapolis apparently did not pick it up (probably due to the anomaly's attitude). This is a moderately weak conductor but the associated magnetic high again suggests mineralization, most likely pyrite and pyrrhotite. What is most obvious about this anomaly is the apparent dextral offset of anomalies "E" and "E'" along the eastern strike of "D". This would indicate that the anomaly is most likely a mineralized fault.

Anomalies "E" and "E'" - These two anomalies are probably the same feature, displaced by anomaly "D". Newmont drilling results indicate graphitic argillites and tuffs underlie this area. The lack of a significant magnetic high, and the general north-west strike which is concordant to this part of the property's stratigraphy seem to support Newmont's findings.

It should be noted that on all the geophysical maps, all the anomalies (except for "C"), appear to "peter" out to the south-east and to the north-west. The cause for this is most likely due to increased overburden depths.

With the above in mind, it can be concluded that: 1) Anomaly "B" along with the south-eastern extent of anomaly "A" are the most important anomalies delineated by this program and that the entire length of anomaly "A" may discern a geological contact between ultramafic volcanics to the north and mafic volcanics to the south; 2) that the north-eastern part of the property is most likely underlain by ultramafic volcanics; 3) that there is not enough information provided by this program about anomaly "C" to

determine its cause; 4) anomaly "D" is most likely a mineralized, dextral fault zone that 5) displaces a graphitic argillite/tuff unit at the southern boundary of the mafic volcanics (anomalies "E" and "E'").

Followup exploration programs are warranted for this part of the TBS-Zavitz Property. Significant mineralization is indicated both by this program and previous programs conducted by other companies, with some gold values having been recorded. The extent of mineralization could also indicate a source for base metals.

Future programs should include followup Max-Min and/or Induced Polarization surveys, geological mapping/prospecting, stripping with channel sampling to try and expose the anomalies on surface, and diamond drilling.

Sault Ste. Marie, Ontario  
October 10, 1989

Respectfully Submitted,

*John R. Walmsley*  
John R. Walmsley, B.Sc.  
Geologist

*Qual 2.396L*



CERTIFICATE

With reference to my report on the exploration program conducted on the TBS-Zavitz Property for TBS Resource Developers Inc., dated October 10, 1989 ....

I John R. Walmsley, of the City of Sault Ste. Marie, do hereby certify the following to be true and accurate to the best of my knowledge:

- 1) That I received my Geological Engineering Technician papers from the Sault College of Applied Arts and Technology in 1980,
- 2) That I received a B.Sc. degree in Earth Science, Geology Major, from the University of Western Ontario in 1984,
- 3) That I have been employed by various exploration companies since 1978,
- 4) That I am the author of the corresponding report, and have been actively exploring in the Timmins area for seven (8) of the past ten (11) years,
- 5) That I have no interest, direct or indirect, in the thirty-two claims comprising the property described in this report,
- 6) That I hold no interest or shares in the companies holding the property nor do I expect to receive such interest or shares in the future.

Dated this 10<sup>th</sup> day of Oct., 1989  
Sault Ste. Marie, Ontario.

*John R. Walmsley*  
John R. Walmsley, B.Sc.  
Geologist

Qual 2.3966

## REFERENCES

Bright, E.G.; *Geology of the Ferrier Lake - Conoeshed Lake Area, District of Sudbury, Ontario*, Geological Survey Report 231, 60 pp. (1984).

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Mazur, V.A.; *Geological Compilation Report on the Allerston Zavitz Property, Zavitz and Hincks Townships, Porcupine and Larder Lake Mining Divisions, Ontario*, March, 1988.

Pyke, D.R.; *Geology of the Peterlong Lake Area, Districts of Timiskaming and Sudbury, Ontario* Geological Survey Report Number 171, Map Number 2345, 1978.

Tremblay J.H.; *Report on the Allerston Zavitz Property for 635540 Ontario Inc.*, Internal Report, MPH Consulting Limited, January, 1986.

Appendix A  
Claim Abstracts





Ministry of  
Northern Development  
and Mines

Mining  
Claim

Entered <i>BB</i>	Checked <i>MB</i>
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Mining Act

Claim No.  
P-1027469

Recorded in the Name of <b>Daniel Bienias</b>		Licence No. <b>M-21289</b>	Receipt No.	Date Recorded <b>October 28, 1987</b>	
Address <b>289 B Pine South, Timmins, Ont.</b>				Date and Time of Staking <b>Oct. 17/87</b> <b>AT 10:15 am</b>	
Office Use Only		Days Recorded	Balance	Description of Claim	
Assessment Work Credits Assigned to other Claims				<b>-ZAVITZ TOWNSHIP - M 1189</b>	
				Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.	
				File No. <b>1027468</b>	

Date	Days Work		Receipt No.
Oct. 17/88		(OC5) Commissioner extends time until and including July 31, 1989 for work and filing thereof.	(08806.50174)
<div data-bbox="662 959 1156 1341" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p><b>MAY 18 1989</b></p> <p><i>G. White</i></p> <p>Mining Recorder PORCUPINE MINING DIVISION</p> </div>			



Ministry of  
Northern Development  
and Mines

Mining  
Claim

Entered *BB* Checked *BB*  
Mining Act

Claim No.  
P-1027470

Recorded in the Name of <b>Daniel Bienias</b>		Licence No. <b>M-21289</b>	Receipt No.	Date Recorded <b>October 28, 1987</b>
Address <b>289 B Pine South, Timmins, Ont.</b>			Date and Time of Staking <b>Oct. 17 /87 AT 12:20 pm</b>	P.T. <b>X</b>
Office Use Only		Days Recorded	Balance	Description of Claim
Assessment Work Credits Assigned to other Claims				<b>ZAVITZ TOWNSHIP - M 1189</b>
				Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.
				File No. <b>1027468</b>

Date	Days Work		Receipt No.
Oct. 17/88		(OC5) Commissioner extends time until and including July 31, 1989 for work and filing thereof. (08806.50174)	
<div data-bbox="646 1024 1140 1401" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p>MAY 18 1989</p> <p><i>[Signature]</i></p> <p>Recorder MINING DIVISION</p> </div>			



Ministry of  
Northern Development  
and Mines

Mining  
Claim

Entered <i>BB</i>	Checked <i>BB</i>
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Mining Act

Claim No.  
P-1027471

Recorded in the Name of <b>Daniel Bienias</b>		Licence No. <b>M-21289</b>	Receipt No.	Date Recorded <b>October 28, 1987</b>	
Address <b>289 B Pine South, Timmins, Ont.</b>				Date and Time of Staking <b>Oct. 17/87 AT 3:00 pm</b>	P.T. <b>X</b>
Office Use Only		Days Recorded	Balance	Description of Claim	
Assessment Work Credits Assigned to other Claims				<b>ZAVITZ TOWNSHIP - M 1189</b>	
				Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.	
				<b>INCLUDING LAND UNDER WATER</b>	
				File No. <b>1027468</b>	

Date	Days Work		Receipt No.
Oct. 17/88		(OC5) Commissioner extends time until and including July 31, 1989 for work and filing thereof.	(08806.50174)
<div data-bbox="711 944 1193 1315" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p><b>MAY 18 1989</b></p> <p><i>S. White</i></p> <p>Mining Recorder PORCUPINE MINING DIVISION</p> </div>			













Ministry of  
Northern Development  
and Mines

Mining  
Claim

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<i>BB</i>	<i>BB</i>

Mining Act

Claim No.  
P-1027476

Recorded in the Name of <b>Daniel Bienias</b>		Licence No. <b>M-21289</b>	Receipt No.	Date Recorded <b>October 28, 1987</b>
Address <b>289 B Pine South, Timmins, Ont.</b>			Date and Time of Staking <b>Oct. 19 /87 - AT 7:15 am</b>	P.T. <b>X</b>
Office Use Only		Days Recorded	Balance	Description of Claim
Assessment Work Credits Assigned to other Claims				<b>ZAVITZ TOWNSHIP - M 1189</b>
Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.				
<b>EXCLUDING ROAD</b>				
				File No. <b>1027468</b>

Date	Days Work		Receipt No.
Oct. 17/88		(OC5) Commissioner extends time until and including July 31, 1989 for work and filing thereof. (08806.50174)	
<div data-bbox="669 1024 1136 1375" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p><b>MAY 18 1989</b></p> <p><i>[Signature]</i></p> <p>Mining Records PORCUPINE MINING DIVISION</p> </div>			





Ministry of  
Northern Development  
and Mines

Mining  
Claim

Entered <i>BB</i>	Checked <i>BB</i>
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Mining Act

Claim No.  
P-1027478

Recorded in the Name of <b>Daniel Bienias</b>		Licence No. <b>M-21289</b>	Receipt No.	Date Recorded <b>October 28, 1987</b>
Address <b>289 B Pine South, Timmins, Ont.</b>			Date and Time of Staking <b>Oct. 19 /87 AT 11:30 am</b>	
Office Use Only		Days Recorded	Balance	Description of Claim
Assessment Work Credits Assigned to other Claims				<b>ZAVITZ TOWNSHIP - M 1189</b>
Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.				
<b>EXCLUDING ROAD</b>				
				File No. <b>1027468</b>

Date	Days Work		Receipt No.
Oct. 17/88		(OC5) Commissioner extends time until and including July 31, 1989 for work and filing thereof.	
<div data-bbox="641 927 1144 1325" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p><b>MAY 18 1989</b></p> <p><i>[Signature]</i> Mining Recorder PORCUPINE MINING DIVISION</p> </div>			
			(08806.50174)















Ministry of  
Northern Development  
and Mines

**Mining  
Claim**

**Mining Act**

Claim No.  
**P-1087851**

Recorded in the Name of <b>RICHARD BRENT MCALLISTER</b>		Licence No. <b>M-23728</b>	Date Recorded <b>October 17, 1988</b>
Address <b>124 Tamarack Street, Timmins, Ontario</b>		Date and Time of Staking <b>Oct. 6/88 AT: 13:00</b>	
Office Use Only		Days Recorded	Balance
Assessment Work Credits Assigned to other Claims			
Description of Claim <b>ZAVITZ TOWNSHIP M-1189</b>			
Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.			
<b>INCLUDING LAND UNDER WATER</b>			
			File No. <b>R8806.50263</b>

Date	Days Work	
Oct. 17/88		(T10) Brent McAllister (M-23728) transfers 100% to Canadian Nickel Company (A-17527). (T8806.50214)
		<div data-bbox="735 976 1214 1343" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p><b>MAY 18 1989</b></p> <p><i>[Signature]</i></p> <p>Mining Recorder PORCUPINE MINING DIVISION</p> </div>































Ministry of  
Northern Development  
and Mines

**Mining  
Claim**

**Mining Act**

Claim No.  
**L 1032818**

Recorded in the Name of <b>Michael W. Peplinski</b>		Licence No. <b>M 21221</b>	Receipt No. <b>5763</b>	Date Recorded <b>March 25, 1988</b>	
Address <b>P.O. Box 2265 TIMMINS, Ontario P4N 7X8</b>				Date and Time of Staking <b>March 16, 1988 at 10:15 a.m.</b>	P.T. <b>X</b>
<b>Office Use Only</b>		Days Recorded	Balance	Description of Claim	
Assessment Work Credits Assigned to other Claims				<b>HINCKS TOWNSHIP (M-223) Former 528782</b>	
				Reservations - 400 foot Surface Rights reservation around all lakes and rivers. Sand, gravel and peat reserved.	
				File No. <b>L 1032812</b>	

Date	Days Work		Receipt No.	
Apr. 5/88		(T1) Michael Peplinski transfers 100% interest to Ralph E. Allerston (M-13613)* (170/88)		
Apr. 3/89		(OC5) Commissioner extends time until and including December 15, 1989 for work and filing thereof* (178/89)		
		<div data-bbox="841 1224 1185 1578" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p><b>JUN - 9 1989</b></p> <p><i>M. A. Weir</i> Mining Recorder LARDER LAKE MINING DIVISION</p> </div>		







ABSTRACT NUMBER

474288

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Natural Resources

The Mining Act

CLAIM NO

L 853204

RECORDED IN THE NAME OF Nolan Boa	LICENCE NO. H 8687	RECEIPT NO. 1035	DATE RECORDED September 10/85
ADDRESS 33 Pine St S, Apt. D, Box 581 Timmins Ont.			DATE AND TIME OF STAKING August 11/85 at 12:00 noon

ASSESSMENT WORK CREDITS ASSIGNED TO OTHER CLAIMS	OFFICE USE ONLY	DAYS RECORDED	BALANCE	DESCRIPTION OF CLAIM ZAVITZ TWP: including land under water
	RESERVATIONS — 400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS. SAND AND GRAVEL RESERVED. PEAT RESERVED.			
				FILE NO. 848522

DATE	DAYS WORK		RECEIPT NO.
Dec. 16/85		Transfer all interest to Ralph E Allerston M13613 (12/85)	2404
Sept. 2/86	160	Diamond Drilling (performed on 848522) (352/86)	
Sept. 2/86	7	Core Specimens (performed on 848522) (353/86)	
Sept. 2/86	23	Section 77-19 (assays) Approved SEP 23 1986 (354/86)	
<div data-bbox="738 1034 1193 1369" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p>MAY 18 1989</p> <p><i>[Signature]</i></p> <p>Mining Recorder PORCUPINE MINING DIVISION</p> </div>			

AUDIT NUMBER

474289

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11/23/85



Natural Resources

Ministry of Energy and Northern Development

The Mining Act

CLAIM NO

L 853295

RECORDED IN THE NAME OF Nolan Boa	LICENCE NO. H 8637	RECEIPT NO. 1035	DATE RECORDED September 10/85
--------------------------------------	-----------------------	---------------------	----------------------------------

ADDRESS 33 Pine St S, Apt. D, Box 581 Timmins Ont.	DATE AND TIME OF STAKING August 11/85 at 3:00 pm	P.T.
--	--	------

ASSESSMENT WORK CREDITS ASSIGNED TO OTHER CLAIMS	OFFICE USE ONLY	DAYS RECORDED	BALANCE	DESCRIPTION OF CLAIM ZAVITZ TWP; including land under water
	RESERVATIONS — 400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS SAND AND GRAVEL RESERVED. PEAT RESERVED.			

FILE NO  
848522

DATE	DAYS WORK		RECEIPT NO.
Dec. 16/85		Transfer all interest to Ralph E. Allerston M13613 (12/85)	2404
Sept. 2/86	160	Diamond Drilling (performed on 848522) (352/86)	
Sept. 2/86	7	Core Specimens (performed on 848522) (353/86)	
Sept. 2/86	23	Section 77-19 (assays) Approved SEP 23 1986 (354/86)	
<div data-bbox="771 970 1226 1304" data-label="Text"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p>MAY 18 1989</p> <p><i>[Signature]</i></p> <p>Mining Recorder PORCUPINE MINING DIVISION</p> </div>			

NUMBER

474290

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Natural Resources

The Mining Act

CLAIM NO

L 853206

RECORDED IN THE NAME OF Nolan Bea	LICENCE NO. H 8687	RECEIPT NO. 1035	DATE RECORDED September 10 1985
ADDRESS 33 Pine St S, Apt. D, Box 581 Timmins Ont.	DATE AND TIME OF STAKING August 12 1985 at 9:00 am		P.T.

ASSESSMENT WORK CREDITS ASSIGNED TO OTHER CLAIMS	OFFICE USE ONLY	DAYS RECORDED	BALANCE	DESCRIPTION OF CLAIM ZAVITZ TWP; including land under water
	RESERVATIONS — 400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS SAND AND GRAVEL RESERVED. PEAT RESERVED.			
				FILE NO. 848522

DATE	DAYS WORK		RECEIPT NO.
Dec. 16/85		Transfer all interest to Ralph E. Allerston M13613 (12/85)	2404
Sept. 2/86	160	Diamond Drilling (performed on 848522) (352/86)	
Sept. 2/86	7	Core Specimens (performed on 848522) (353/86)	
Sept. 2/86	23	Section 77-19 (assays) Approved SEP 23 1986 (354/86)	

This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.

MAY 18 1989

*[Signature]*  
Mining Engineer  
PORCUPINE MINING DIVISION

REC'D NUMBER

474291

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*KY*



Natural Resources

The Mining Act

CLAIM NO

L. 353267

RECORDED IN THE NAME OF Nolan Roa	LICENCE NO. W 8627	RECEIPT NO. 1035	DATE RECORDED September 10 1985
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ADDRESS 33 Pine St S, Apt. D, Box 581 Timmins Ont.	DATE AND TIME OF STAKING August 12 1985 at 11:00 am
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ASSESSMENT WORK CREDITS ASSIGNED TO OTHER CLAIMS	OFFICE USE ONLY	DAYS RECORDED	BALANCE	DESCRIPTION OF CLAIM ZAVITZ TWP; including land under water
	RESERVATIONS -- 400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS. SAND AND GRAVEL RESERVED. PEAT RESERVED.			

FILE NO. 848522
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DATE	DAYS WORK		RECEIPT NO.
Dec. 16/85		Transfer all interest to Ralph E. Allerston M13613 (12/85)	2404
Sept. 2/86	160	Diamond Drilling (performed on 848522) (352/86)	
Sept. 2/86	7	Core Specimens (performed on 848522) (353/86)	
Sept. 2/86	33	Section 77-19 (assays) Approved SEP 23 1986 (354/86)	

This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.

MAY 18 1989

*[Signature]*

MINING  
PORCUPINE DISTRICT



ABSTRACT NUMBER

474292

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Natural Resources

Mining Section

The Mining Act

CLAIM NO

1 253200

RECORDED IN THE NAME OF Nolan Boa	LICENCE NO. 1 8687	RECEIPT NO. 1035	DATE RECORDED September 10/85
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ADDRESS 33 Pine St S, Apt. D, Box 581 Timmins Ont.	DATE AND TIME OF STAKING August 12/85 at 1:00 pm	P.T.
--	--	------

ASSESSMENT WORK CREDITS ASSIGNED TO OTHER CLAIMS	OFFICE USE ONLY	DATE RECORDED	BALANCE	DESCRIPTION OF CLAIM ZAVITZ TWP including land under water
	RESERVATIONS — 400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS SAND AND GRAVEL RESERVED. PEAT RESERVED.			

FILE NO. 848522
--------------------

DATE	DAYS WORK		RECEIPT NO.
Dec. 16/85		Transfer all interest to Ralph E. Allerston M13613 (12/85)	2404
Sept. 2/86	144	Diamond Drilling (performed on 848522) (352/86)	
Sept. 2/86	7	Core Specimens (performed on 848522) (353/86)	
Sept. 2/86	25	Section 77-19 (assays) Approved SEP 23 1986 (354/86)	

This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.

MAY 18 1989

*G. White*

Mining Recorder  
PORCUPINE MINING DIVISION

ACCOUNT NUMBER

474293

Emitted [Signature] Checked [Signature]



Natural Resources

Mining Claims

The Mining Act

CLAIM NO

L 853220

RECORDED IN THE NAME OF Nolan Boa	LICENCE NO. 4 8687	RECEIPT NO. 1035	DATE RECORDED September 10/85
--------------------------------------	-----------------------	---------------------	----------------------------------

ADDRESS 33 Pine St S, Apt. D, Box 581 Timmins Ont.	DATE AND TIME OF STAKING August 12/85 at 3:00 P.M.
--	--

ASSESSMENT WORK CREDITS ASSIGNED TO OTHER CLAIMS	OFFICE USE ONLY	DAYS RECORDED	BALANCE	DESCRIPTION OF CLAIM ZAVITZ TWP: M1189 including land under water
	RESERVATIONS -- 400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS SAND AND GRAVEL RESERVED. PEAT RESERVED.			

FILE NO. 848522

DATE	DAYS WORK		RECEIPT NO.
Dec. 16/85	71	Transfer all interest to Ralph E. Allerston M13613 (12/85)	2404
Sept. 2/86	144	<sup>M40</sup> DRILL Diamond Drilling (performed on 848522) (352/86)	
Sept. 2/86	7	<sup>X77-19</sup> Core Specimens (performed on 848522) (353/86)	
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> <p>This Abstract is a copy of the entries in the Record Book and is not to be considered as assurance of the validity of the claim.</p> <p style="text-align: center;">MAY 18 1989</p> <p style="text-align: center;"><i>[Signature]</i></p> <p style="text-align: center;">Mining Recorder PORCUPINE MINING DIVISION</p> </div>			

474294

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Natural Resources

Mining Claim  
The Mining Act

CLAIM NO  
L 853300

RECORDED IN THE NAME OF

Nolan Roa

LICENCE NO.

2687

RECEIPT NO.

1035

DATE RECORDED

September 10/85

DATE AND TIME OF STAKING

August 12/85  
at 5:00 p.m.

33 Pine St S, Apt. D, Box 591  
Timmins Ont.

ASSESSMENT WORK CREDITS  
ASSIGNED TO OTHER CLAIMS

OFFICE USE ONLY

DAYS  
RECORDED

BALANCE

DESCRIPTION OF CLAIM

ZAVITZ TWP  
including land under water

RESERVATIONS — 400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS.  
SAND AND GRAVEL RESERVED. PEAT RESERVED.

FILE NO.  
848522

DATE

DAYS  
WORK

RECEIPT NO.

Dec. 16/85

Transfer all interest to Ralph E. Allerston M13613 (12/85) 2404

Sept. 2/86

160

Diamond Drilling (performed on 848522) (352/86)

Sept. 2/86

7

Core Specimens (performed on 848522) (353/86)

Sept. 2/86

33

Section 77-19 (assays) Approved SEP 23 1986 (354/86)

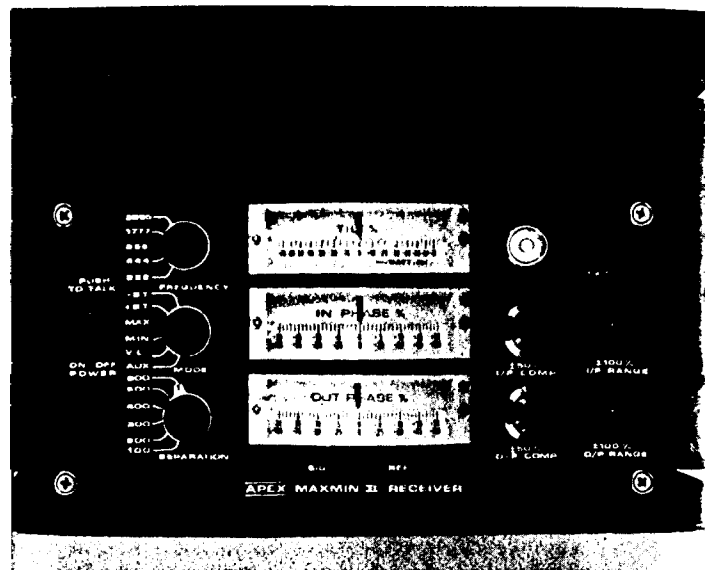
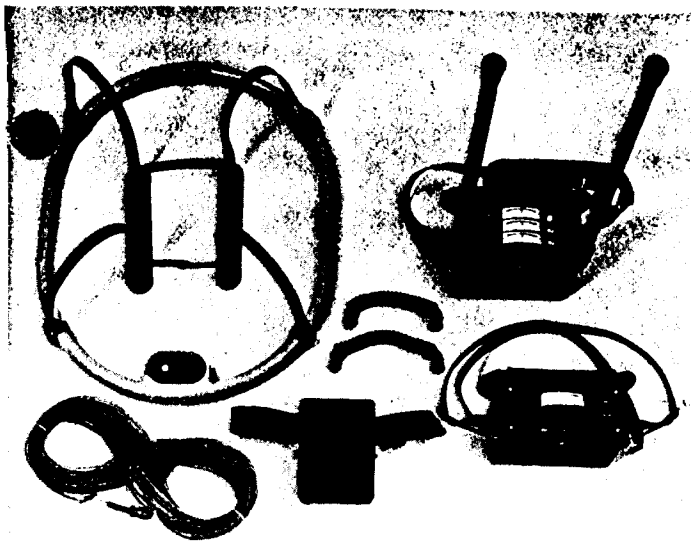
This Abstract is a copy of the entries in the  
Record Book and is not to be considered as  
assurance of the validity of the claim.

MAY 18 1986  
*White*

Mining Recorder  
PORCUPINE MINING DIVISION

Appendix B

Instrument Specifications



## SPECIFICATIONS :

**Frequencies:** 222, 444, 888, 1777 and 3555 Hz.

**Modes of Operation:** MAX: Transmitter coil plane and receiver coil plane horizontal (Max-coupled; Horizontal-loop mode). Used with refer. cable.

MIN: Transmitter coil plane horizontal and receiver coil plane vertical (Min-coupled mode). Used with reference cable.

V.L. : Transmitter coil plane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

**Coil Separations:** 25, 50, 100, 150, 200 & 250m (MMII) or 100, 200, 300, 400, 600 and 800 ft. (MMIIF). Coil separations in V.L. mode not restricted to fixed values.

**Parameters Read:** - In-Phase and Quadrature components of the secondary field in MAX and MIN modes.  
- Tilt-angle of the total field in V.L. mode.

**Readouts:** - Automatic, direct readout on 90mm (3.5") edgewise meters in MAX and MIN modes. No nulling or compensation necessary.  
- Tilt angle and null in 90mm edgewise meters in V.L. mode.

**Scale Ranges:** In-Phase:  $\pm 20\%$ ,  $\pm 100\%$  by push-button switch.  
Quadrature:  $\pm 20\%$ ,  $\pm 100\%$  by push-button switch.  
Tilt:  $\pm 75\%$  slope.  
Null (V.L.): Sensitivity adjustable by separation switch.

NOW ALSO  $\pm 4\%$   
QUADRATURE  
FULL SCALE.

**Readability:** In-Phase and Quadrature: 0.25 % to 0.5 % ; Tilt: 1% .

**Repeatability:**  $\pm 0.25\%$  to  $\pm 1\%$  normally, depending on conditions, frequencies and coil separation used.

**Transmitter Output:** - 222Hz : 220 Atm<sup>2</sup>  
- 444Hz : 200 Atm<sup>2</sup>  
- 888Hz : 120 Atm<sup>2</sup>  
- 1777 Hz : 80 Atm<sup>2</sup>  
- 3555 Hz : 30 Atm<sup>2</sup>

**Receiver Batteries:** 9V trans. radio type batteries (4)  
Life: approx. 35 hrs. continuous duty (alkaline, 0.5 Ah), less in cold weather.

**Transmitter Batteries:** 12V 6Ah Gel-type rechargeable battery. (Charger supplied).

**Reference Cable:** Light weight 2-conductor teflon cable for minimum friction. Unshielded. All reference cables optional at extra cost. Please specify.

**Voice Link:** Built-in intercom system for voice communication between receiver and transmitter operators in MAX and MIN modes, via reference cable.

**Indicator Lights:** Built-in signal and reference warning lights to indicate erroneous readings.

**Temperature Range:** -40°C to +60°C (-40°F to +140°F)

**Receiver Weight:** 8kg (13 lbs.)

**Transmitter Weight:** 13kg (29 lbs.)

**Shipping Weight:** Typically 60kg (135 lbs.), depending on quantities of reference cable and batteries included  
Shipped in two field/shipping cases

Specifications subject to change without notification

# APEX PARAMETRICS LIMITED

BOX 818, R.R. NO.1; UXBRIDGE, ONTARIO, CANADA L0C 1K0

Phone: (416) 640-6102  
852-5875

Cables: APEXPARA TORONTO

Telex: 06-966625 APEXPARA UXB



**Mining Act**

**Report of Work**  
(Geophysical, Geological and Geochemical Surveys)

Mining Lands Section, Mineral Development and Lands Branch:

Type of Survey(s) <i>Geophysical</i>	Mining Division <i>Porcupine</i>	Township or Area <i>Zavitz Twp</i>
Recorded Holder(s) <i>Daniel Brenais</i>	Prospector's Licence No. <i>2.12890</i>	
Address <i>289 B Pine South, Timmins, Ont. P4N-3K0</i>	Telephone No. <i>M-21287</i> <i>267-4105</i>	
Survey Company <i>H. van Hees Geological Services Inc.</i>	Date of Survey (from & to) <i>14 06 87 24 06 89</i>	
Name and Address of Author (of Geo-Technical Report) <i>John R. Walmsley, 165 Tamarack St., Timmins Ont. P4N 6P7</i>	Date of Survey (from & to) <i>14 06 87 24 06 89</i>	

Credits Requested per Each Claim in Columns at right		Days per Claim	
Special Provisions For first survey:  Enter 40 days. (This includes line cutting)  For each additional survey using the same grid:  Enter 20 days (for each)	Geophysical		
	- Electromagnetic (VF)	20	
	- Magnetometer	20	
	- Other		
Geological			
Geochemical			
Man Days Complete reverse side and enter total(s) here	Geophysical		
	- Electromagnetic		
	- Magnetometer		
	- Other		
Geological			
Geochemical			
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic		
	Magnetometer		
	Other		
Total miles flown over claim(s).			
Date	Recorded Holder or Agent (Signature)		

Mining Claims Traversed (List in numerical sequence)					
Mining Claim		Mining Claim		Mining Claim	
Prefix	Number	Prefix	Number	Prefix	Number
P	1027468				
	1027467				
	1027472				
	1027473				
	1027474				
	1027475				
	1027477				
	1027478				
<b>RECEIVED</b>					
<b>OCT 26 1989</b>					
<b>MINING LANDS SECTION</b>					
Total number of mining claims covered by this report of work.					8

**RECORDED**  
**SEP 22 1989**

**Certification Verifying Report of Work**

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

Name and Address of Person Certifying  
*John R. Walmsley, 165 Tamarack St., Timmins, Ont. P4N 6P7*

Telephone No. *267-9742* Date *Sept. 21, 1989* Certified By (Signature) *John R. Walmsley*

Received Stamp

**For Office Use Only**

Total Days Cr. Recorded <i>320</i>	Date Recorded <i>SEPT. 22/89</i>	Mining Recorder <i>[Signature]</i>
Date Approved as Recorded <i>See Revised Work Statement</i>	Provincial Manager, Mining Lands	

**SEP 22 1989**

*@ 9:00 AM '89*



File  
2.12890

Date  
February 8, 1990

Mining Recorder's Report of  
Work No. W8906-472

Recorded Holder  
**DANIEL BIENAIIS**

Township or Area  
**ZAVITZ TOWNSHIP**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b> Electromagnetic <u>15.6</u> days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input type="checkbox"/> <input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	P 1027468, 1027469  1027472 to 475 incl.  1027477, 1027478

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey       insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.



File  
2,12890

Date  
February 8, 1990

Mining Recorder's Report of  
Work No. W8906-472

Recorded Holder  
**DANIEL BIENAIIS**

Township or Area  
**ZAVITZ TOWNSHIP**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b>	
Electromagnetic _____ days	P 1027468, 1027469
Magnetometer <u>15.2</u> _____ days	1027472 to 1027475 incl.
Radiometric _____ days	1027477, 1027478
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/>	
Special provision <input checked="" type="checkbox"/> Ground <input type="checkbox"/>	
<input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey       insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.





Ontario

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Mining Lands Section  
880 Bay Street, 3rd Floor  
Toronto, Ontario  
M5S 1Z8

Telephone: (416) 965-488

March 21, 1990

Your File: W8906-472  
Our File: 2.12890

Mining Recorder  
Ministry of Northern Development and Mines  
60 Wilson Avenue  
Timmins, Ontario  
P4N 2S7

Dear Sir:

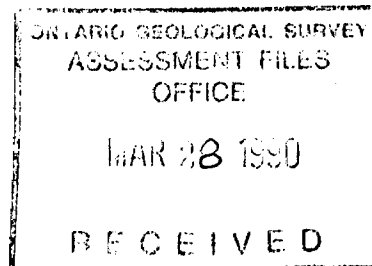
Re: Notice of Intent dated February 8, 1990 for Geophysical  
(Electromagnetic & Magnetometer) Survey submitted on Mining  
Claims P 1027468 et al in Township of Zavitz.

The assessment work credits, as listed with the above-mentioned Notice  
Intent have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate  
on your records.

Yours sincerely,

W.R. Cowan  
Provincial Manager, Mining Lands  
Mines & Minerals Division



AM DM:pt  
Enclosure

cc: Mr. G.H. Ferguson  
Mining and Lands Commissioner  
Toronto, Ontario

Resident Geologist  
Timmins,, Ontario

Daniel Bienas  
Timmins, Ontario

E.H. Van Hees Geological Services Inc.  
Timmins, Ontario



Ontario

*March 11/90*

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Mining Lands Section  
3rd Floor, 880 Bay Street  
Toronto, Ontario  
M5S 1Z8

Telephone: (416) 965-4888

February 8, 1990

Your File: W8906-472

Our File: 2.12890

Mining Recorder  
Ministry of Northern Development & Mines  
60 Wilson Avenue  
Timmins, Ontario  
P4N 2S7

Dear Sir:

Enclosed is one copy of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please check your records to ensure that we have sent a copy to the recorded holder at the correct address. If it is not, please photocopy this letter and attached Notice of Intent, and forward to the new recorded holder at the correct address. In approximately thirty days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Dale Messenger at (416) 965-4888.

Yours sincerely,

*For* W.R. Cowan  
Provincial Manager, Mining Lands  
Mines and Minerals Division  
DM:zm

Enclosure

cc: Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario

Daniel Bienas  
Timmins, Ontario

E.H. van Hees Geological Services Inc.  
Timmins, Ontario



Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

Notice of Intent  
for Technical Reports

February 8, 1990

2.12890/W8906-472

An examination of your technical survey report indicates that the requirements of the Mining Act have not been fully met to warrant maximum work credits as calculated on the submitted work report(s). This notice is a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 30 days from the above date, the Mining Recorder will be advised of the change in credits and will amend the entries on the record sheets to agree with the enclosed statement.

The effect of the proposed reduction on the mining claims should be considered immediately. If the anniversary date in respect of which the assessment work was recorded has not passed and the proposed reduction will create a forfeiture of the mining claims on the anniversary date, you may, before the anniversary date, record additional unrecorded work or apply to the Mining and Lands Commissioner within the usual thirty day period for an extension of time to perform additional assessment work. If the anniversary date has passed, you may wish to apply to the the Commissioner for relief from forfeiture and an extension of time to record unrecorded assessment work that you have performed or to perform assessment work. This must be done within six months of the date of forfeiture.

If you intend to apply to the Commissioner for relief from forfeiture and an extension of time, arrangements should be made with the Mining Recorder to have representative abstracts submitted to the Commissioner.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Commissioner and this Notice of Intent may be disregarded.

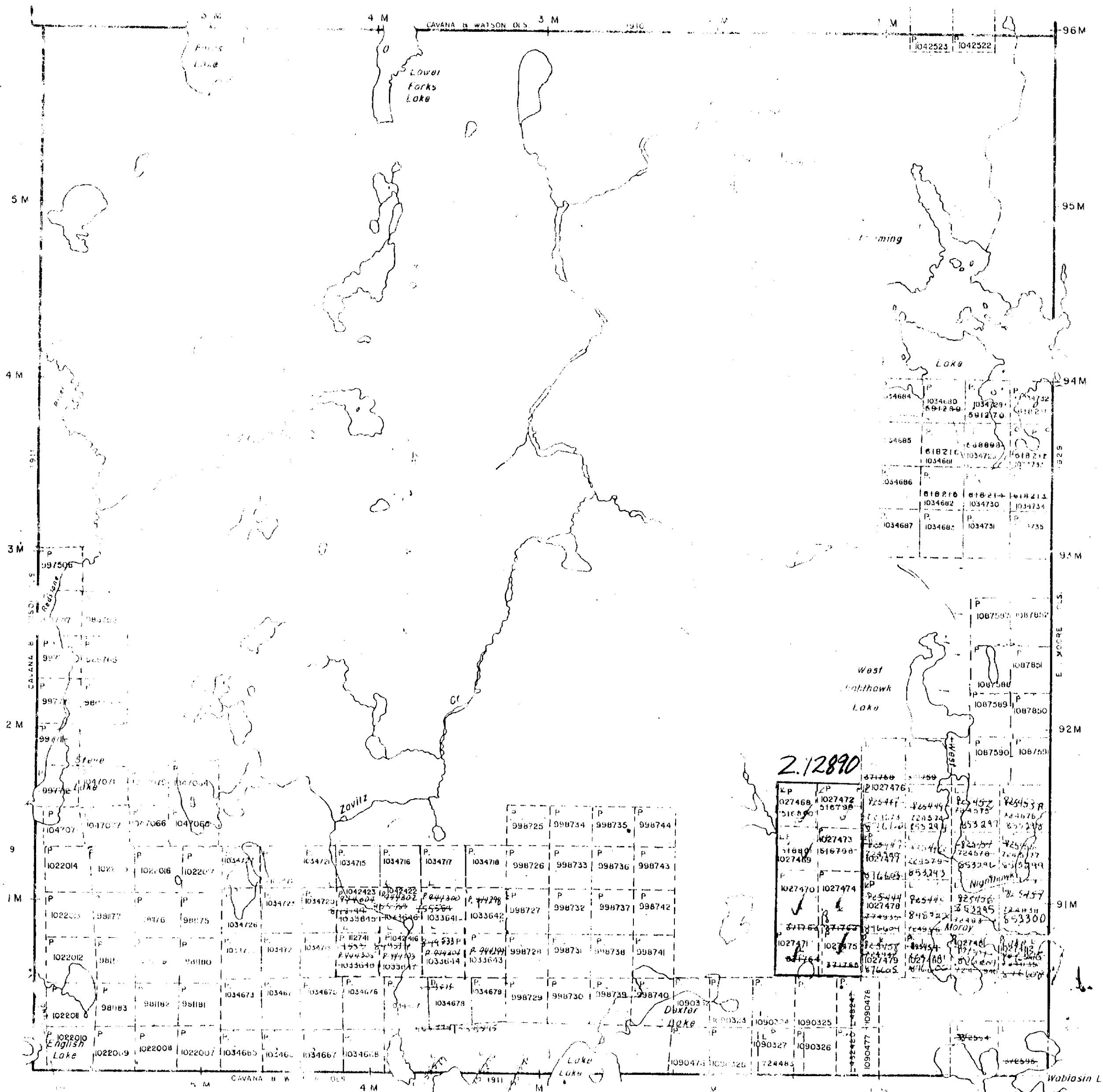
If your survey was submitted and assessed under the "Special Provision - Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said thirty day period, submit an assessment work breakdown listing the employees' names, addresses, dates and hours they worked. The new work breakdown should be submitted directly to the Mining Lands Section, Mineral Development and Lands Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.





Geikie Twp (M.320)

English Twp. (M.703)



16 TOWNSHIP

ZAVITZ

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

SCALE: 1 INCH = 40 CHAINS

LEGEND

- P. FREE LAND (P)
- L. DOWN HILL (L)
- E. EASES (E)
- C. CROWN LAND (C)
- L.O. LICENSE OF OCCUPATION (L.O.)
- M.D.O. MINING RIGHTS ONLY (M.D.O.)
- S.D.O. SURFACE RIGHTS ONLY (S.D.O.)
- R. ROADS (R)
- I.R. IMPROVED ROADS (I.R.)
- K.F.A. KINGS HIGHWAYS (K.F.A.)
- R.W. RAILWAYS (R.W.)
- T.W.L. TOWER LINES (T.W.L.)
- M.D. MARSH DEPOSITED (M.D.)
- W. WATER (W)
- ...

NOTICE

NO SURFACE RIGHTS RESTRICTION ALONG THE BORDERS OF ALL LAKES AND RIVERS.



42A03SE0159 2.12890 ZAVITZ

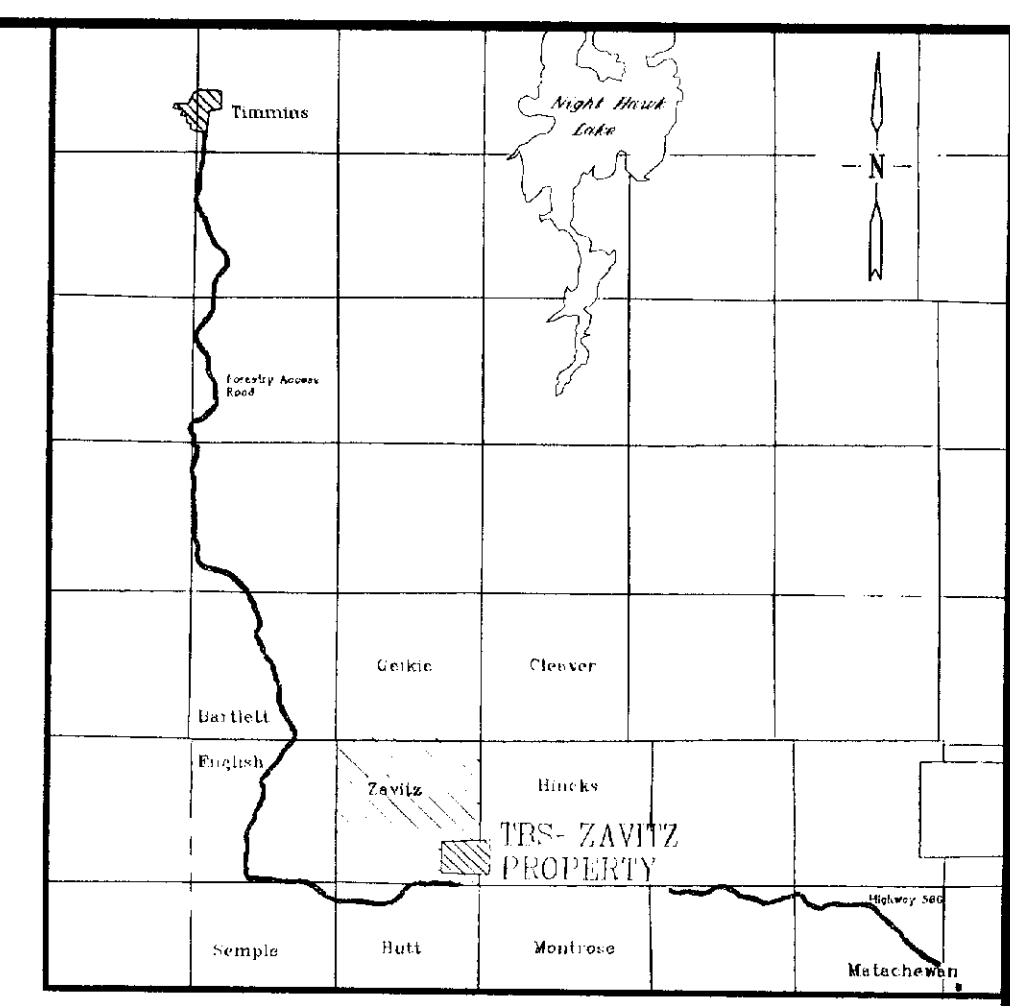
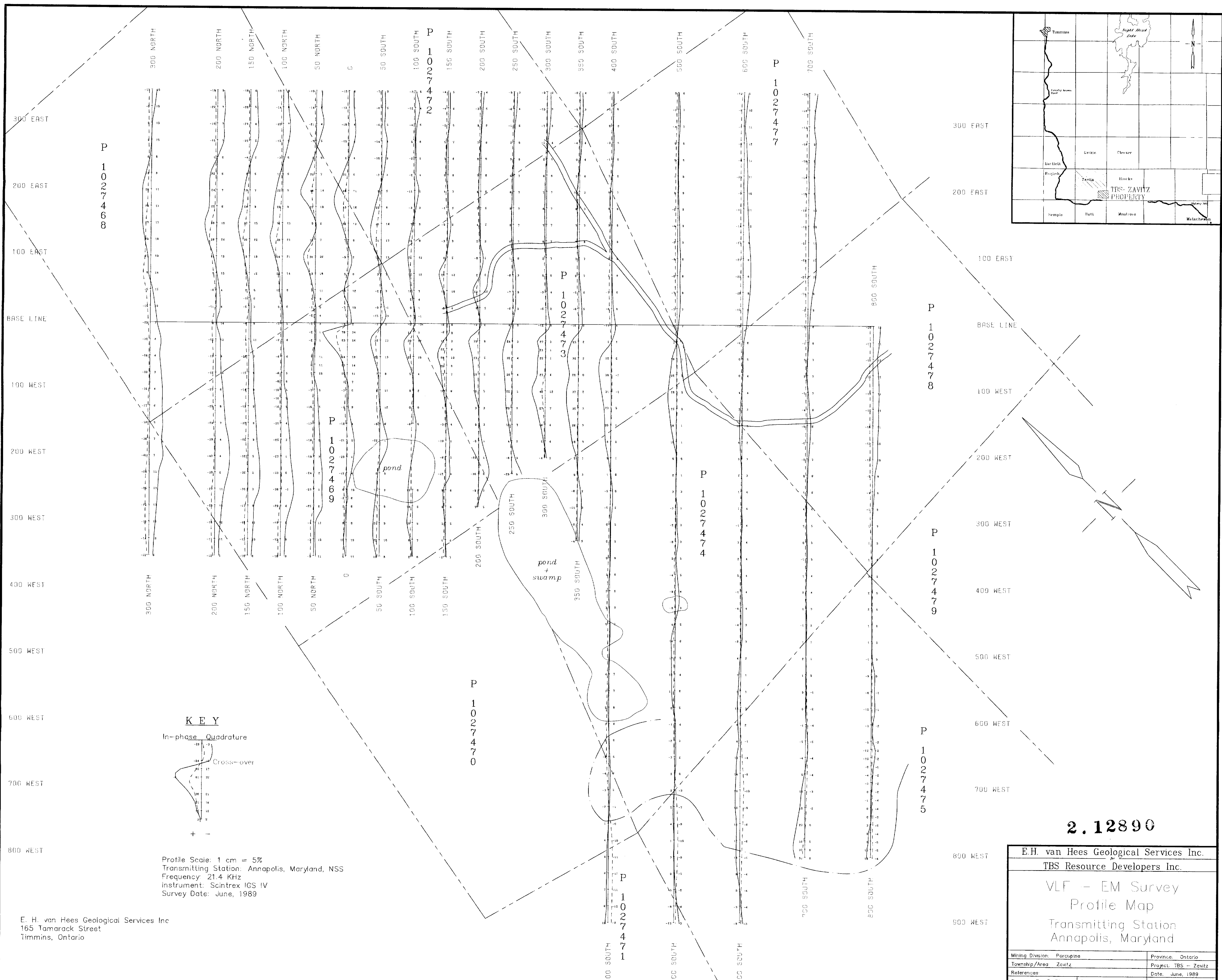
200

Hutt Twp. (M.943)

PLAN NO. M 150

MINISTRY OF NATURAL RESOURCES SURVEYS AND MAPS BRANCH





P 1027468

P 1027469

P 1027470

P 1027471

P 1027472

P 1027473

P 1027474

P 1027475

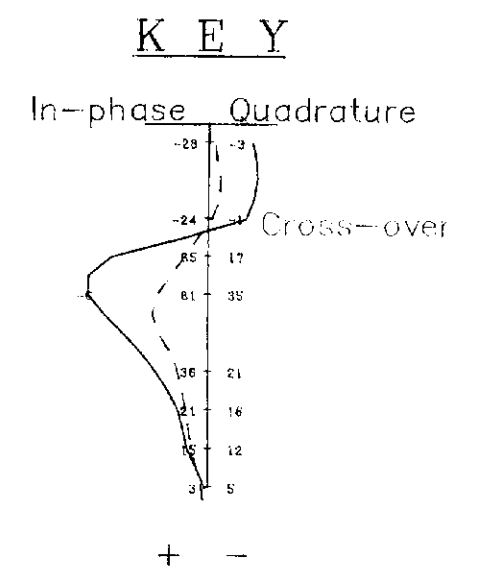
P 1027476

P 1027477

P 1027478

P 1027479

P 1027480



Profile Scale: 1 cm = 5%  
 Transmitting Station: Annapolis, Maryland, NSS  
 Frequency: 21.4 KHz  
 Instrument: Scintrex ICS IV  
 Survey Date: June, 1989

E. H. van Hees Geological Services Inc  
 165 Tamarack Street  
 Timmins, Ontario

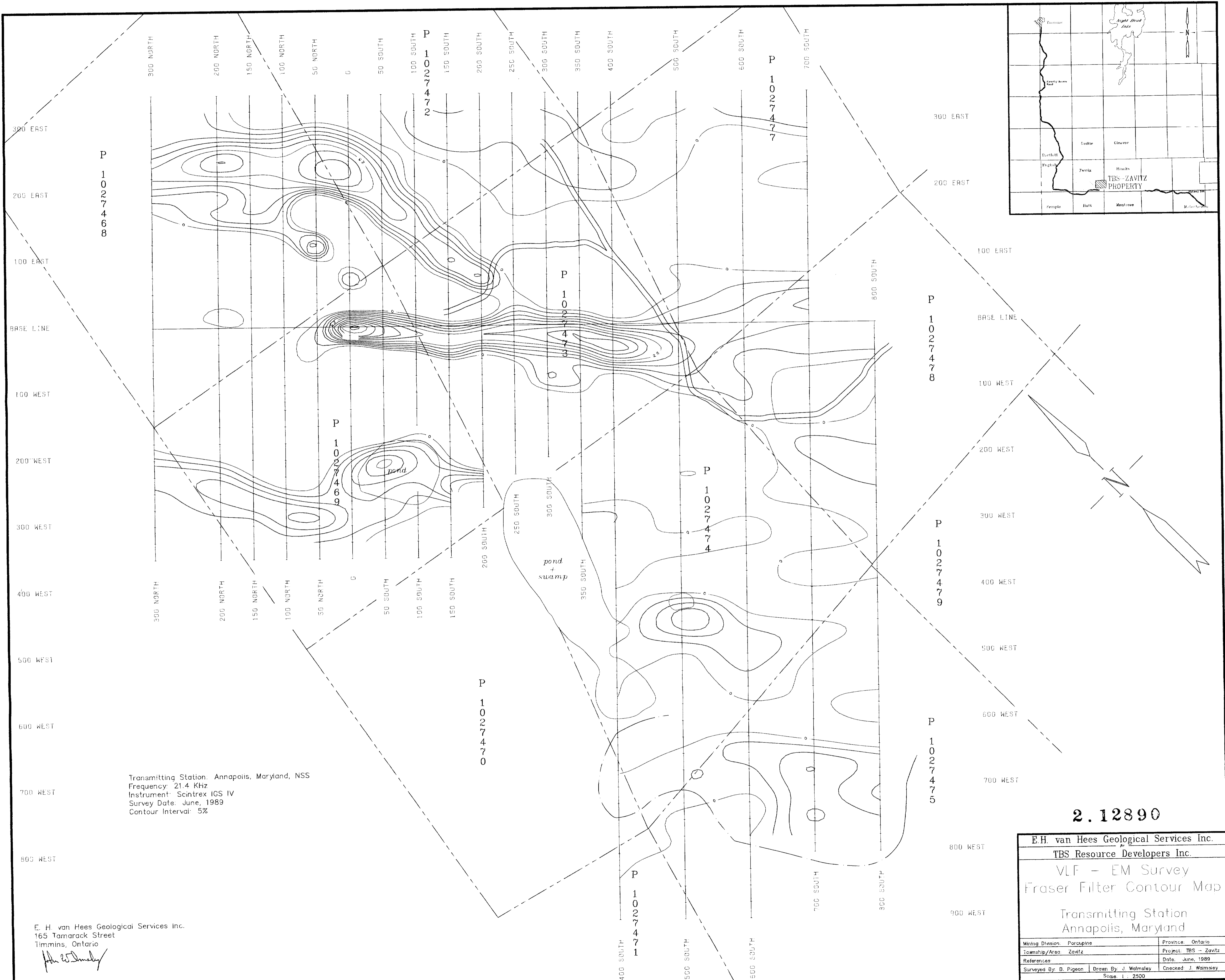
**2.12890**

E.H. van Hees Geological Services Inc.	
TBS Resource Developers Inc.	
VLF - EM Survey Profile Map Transmitting Station Annapolis, Maryland	
Mining Division: Porcupine	Province: Ontario
Township/Area: Zavitz	Project: TBS - Zavitz
References:	Date: June, 1989
Surveyed By: B. Pigeon	Drawn By: J. Walsley
	Checked: J. Walsley
	Scale: 1 : 2500



*J. Walsley*





Transmitting Station: Annapolis, Maryland, NSS  
 Frequency: 21.4 KHz  
 Instrument: Scintrex ICS IV  
 Survey Date: June, 1989  
 Contour Interval: 5%

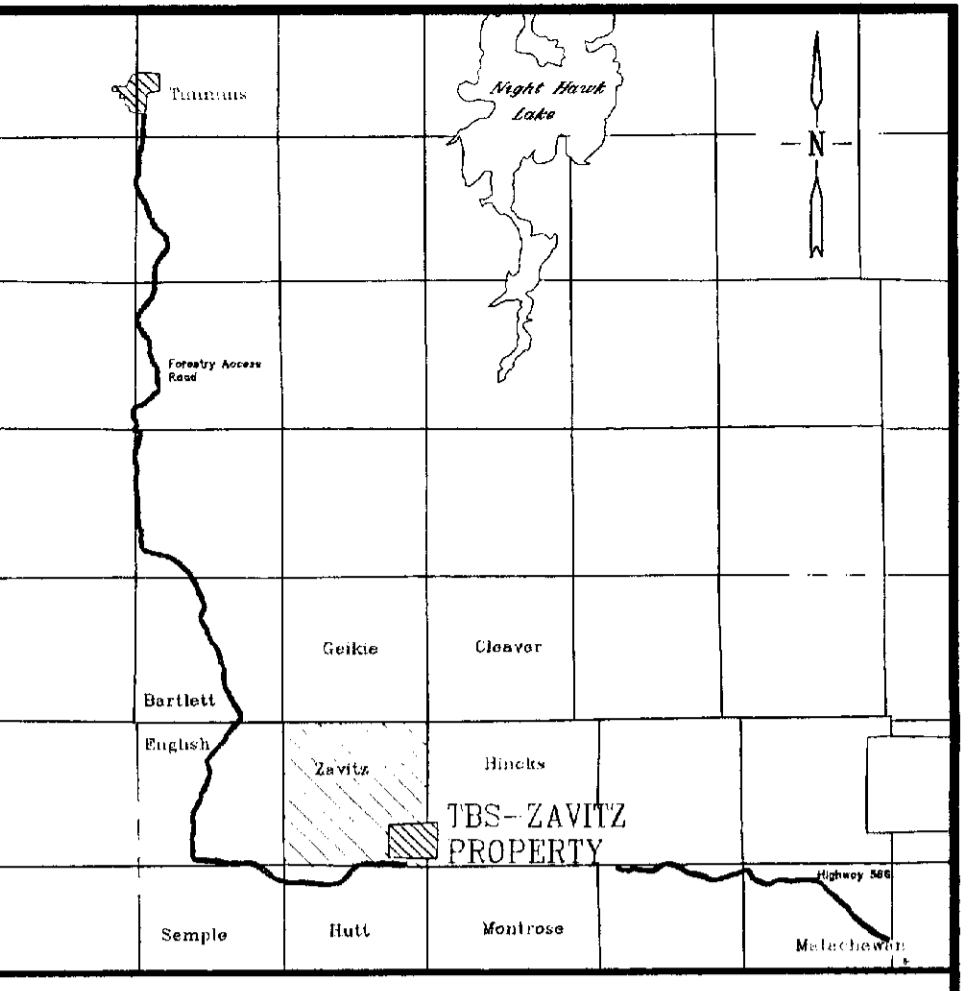
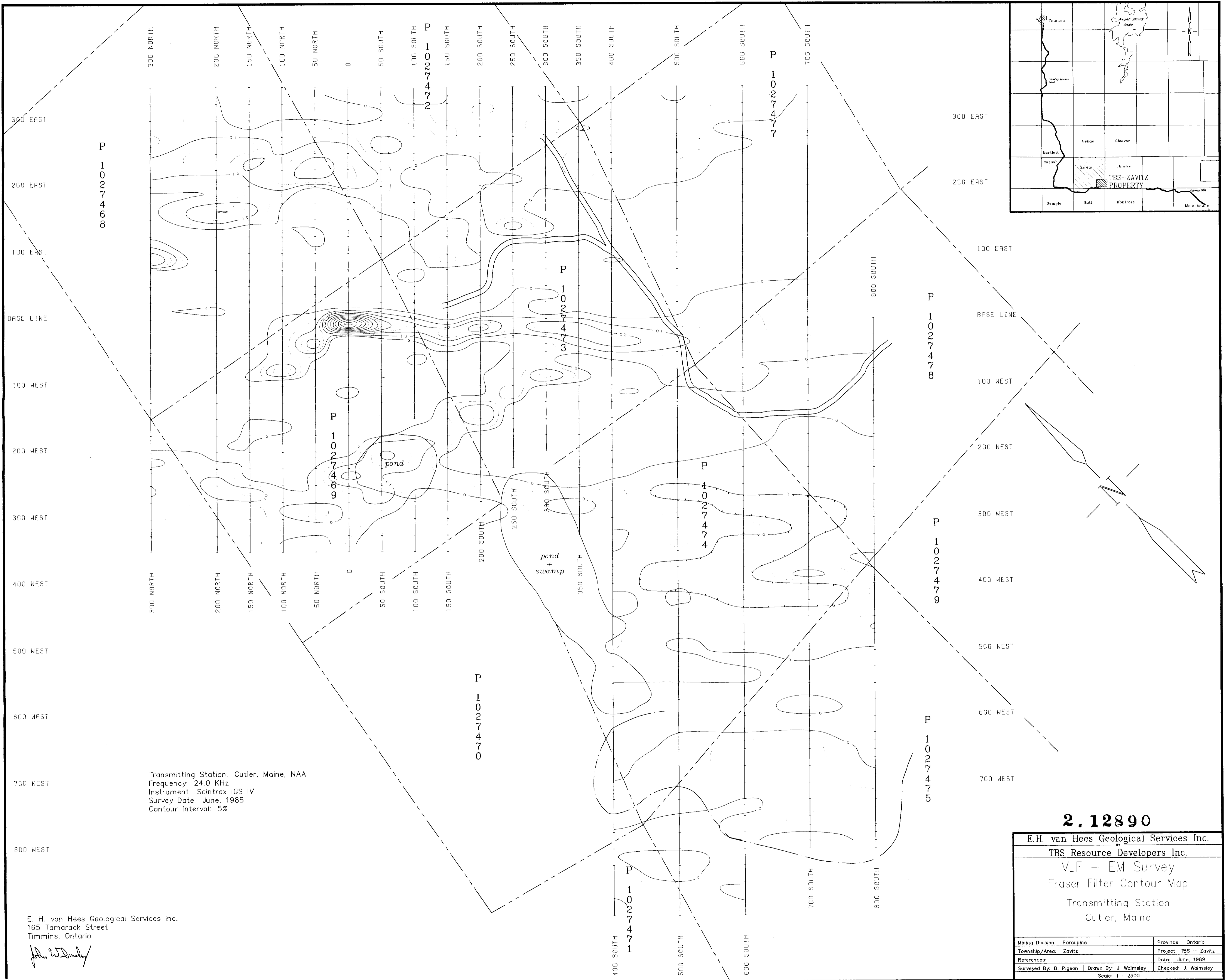
E. H. van Hees Geological Services Inc.  
 165 Tamarack Street  
 Timmins, Ontario  
*John E. Walsley*

2.12890

E.H. van Hees Geological Services Inc.	
TBS Resource Developers Inc.	
VLF - EM Survey Fraser Filter Contour Map	
Transmitting Station Annapolis, Maryland	
Mining Division: Porcupine	Province: Ontario
Township/Area: Zavitz	Project: TBS - Zavitz
References:	Date: June, 1989
Surveyed By: B. Pigeon	Drawn By: J. Walsley
Checked: J. Walsley	Scale: 1 : 2500







Transmitting Station: Cutler, Maine, NAA  
 Frequency: 24.0 KHz  
 Instrument: Scintrex IGS IV  
 Survey Date: June, 1985  
 Contour Interval: 5%

E. H. van Hees Geological Services Inc.  
 165 Tamarack Street  
 Timmins, Ontario

*John W. Dwyer*

<b>2.12890</b>	
E.H. van Hees Geological Services Inc. TBS Resource Developers Inc.	
VLF - EM Survey Fraser Filter Contour Map Transmitting Station Cutler, Maine	
Mining Division: Porcupine	Province: Ontario
Township/Area: Zavitz	Project: TBS - Zavitz
References:	Date: June, 1989
Surveyed By: B. Pigeon	Drawn By: J. Walmsley
	Checked: J. Walmsley
Scale: 1 : 2500	

