# GEOPHYSICAL REPORT <br> BRISTOL TOWNSHIP <br> Northwest Quadrant 

FOR

RALPH ALLERSTON

## RECEIVED

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MINING LANDS SECTION


Prepared by:

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## INTRODUCTION

The block of claims under discussion forms one contiguous group consisting of 8 unpatented mining claims.

The claim block is located in the Northwest corner of Bristol Township, District of Cochrane, Porcupine Mining Division, Northeastern Ontario. (Figures 1,2).

The claims numbers are as follows:

LOCATION
Bristol "Township
"

1

11

11

11

CLAIM NUMBER 725351 725352 725353 725354 725355 725356 725357 725358
(refer to Claim Group Sketch, Figure 3)
p. 2


p. 4


The property is located 13 miles West, Southwest of the city of Timmins.

More specifically it is situated such that the Northwest corner of the block is 1 mile East of the corner posts of Bristol, Godfrey, Turnbull and Carscallen Townships, and the North boundary of the block follows Malletts Lumber road which also represents the township line between Bristol and Godfrey Township.

## ACCESS

Access to the property is ideal. If one travels West from the City of Timmins along Highway 101 to Mallette's Lumber operation and then west along their lumber road, constructed along the township line between Ogden and Mountjoy and Bristol and Godfrey, for approximately 6 miles, you will reach the Northeast corner of the block. (refer to sketches $2 \& 3$ ).

## LINECUTTING PROGRAM

A detailed grid was established to cover the entire claim block. A baseline was established at 250 and cut from Lo+00 to $\mathrm{L} 5400^{\prime}$ West. Cross lines were turned off at $400^{\prime}$ intervals from L $0+00$ to L 5400 W and cut to the North and South boundaries of the claim group. All of the cross lines and baseline were chained and picketed at $100^{\prime}$ intervals. A total of 8 miles of grid and baselines were cut. (refer to figure 4).


Exsics Exploration Limited was contracted to perform detailed magnetic and EM-MaxMin II surveys over the entire grid. All of the grid lines were read at $100^{\prime}$ intervals.

## SURVEY PROCEDURES

## Magnetometer Survey

The magnetic survey was completed on 8 miles of grid lines using a Scintrex, MP-2 , portable proton magnetometer. A total of 465 readings were collected.

This collected data was then plotted on a base map using a scale of $1^{\prime \prime}$ to $200^{\prime}$ and contoured at 50 and 100 gamma intervals wherever possible. For convenience in plotting the magnetic data, a base level of 58,000 gammas was removed from all the readings. This base map can be found in the back packet of this report.

The specifications for the Scintrex, MP-2, Proton Magnetometer can be found as Appendix $A$ of this report.

## EM Survey

The EM survey was completed over the entire grid using the MaxMin II, Horizontal loop, system, manufactured by Apex.

A coil seperation of 410 feet was used and the two frequencies recorded were the 1777 Hz and 444 Hz .

The collected data was then plotted on two base maps, one map for the 1777 Hz frequency and one map for the 444 Hz frequency. A scale of $1^{\prime \prime}$ to $20 \%$ was used in plotting the values.

These base maps can be found in the back packet of this report. Specifications of the MaxMinII system can be found as Appendix $B$ of this report.

## SURVEY RESULTS

The magnetic data was successful in locating and detailing the diabase dike, noted on the geology map, figure $5^{1}$, which parallels Line 3800 W of the survey grid.

Another area of interest is located Southwest of the dike betweeen lines 3800 W and 5000 W . The Southern flank of this magnetic feature may in fact represent the geological contact between the intrusive quartz-porphyry and the felsic volcanics. Also of interest in this feature is the isolated lows North of the baseline between lines 5000 W and 4600 W , which may relate to a possible alteration zone.

Another area of interest is located, paralleling the baseline between lines 1800 W to 600 W .

This feature possibly relates to the volcanic outcrops coming out of the swamp in the area. The outcrops are mapped as massive lavas flows.

The MaxMin surveys outlined two questionable responses, generally noted only on the 1777 Hz or high frequency channel.

The weak $400^{\prime}$ zone between lines 1000 W and 1400 W may relate to topography. Interpretations show a weak 3-3.5 mho source at a depth of 200-220 feet.

A second single line response was noted on L2600W, $100^{\prime}$ South of the baseline. Interpretations show a 7 mho response at a $200^{\prime}$ depth.

There does not appear to be any definite magnetic correlation with either response.

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RECOMMENDATIONS AND CONCLUSIONS

Although the $E M$ response was discouraging, the magnetics show at least two areas of interest. Both of these areas should have detailed, geological surveys done to determine if the magnetic lows are related to alteration zones.

If these alteration zones are encountered, stripping and trenching may be considered.

I, John C. Grant, hereby certify that:

1) I am a graduate geophysicist (1975) of the three year program in Geological Technology at Cambrian College of Applied Arts and Technology, Sudbury Campus. I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years), North Bay Office, and as exploration manager and Geophysicist for Exsics Exploration Limited, from 1980 to the present.
2) I am a Member of the Certified Engineering Technologist Association since 1984.
3) I am an Associate Member of the Geological Association of Canada.
4) I have been actively engaged in my profession for the last eleven (11) years, including all aspects of exploration studies, surveys and interpretations.
5) I have no specific or special interest in the described property. I have been retained as a Consulting Geophysicist for property appraisal.


Consulting Geophisicist
Exsics Exploration Limited.


Proton Precession Magnetometer for Portable or Base Station Use

## MP - 2

features
1 gamma sensitivity and accuracy over range of 20,000 to 100,000 gammas.
Operates in very high gradients, to 5000 gammas per metre.
Ultra small size and weight.
Up to 25,000 readings from only 8 D cells.
Battery pack isolated from electronics for corrosion protection.
Battery pack easily extended for winter use.
Light-emitting diode digital display, with complete test feature.
Unique no-glare polarized reflector permits easy reading in bright sunlight.
Indicator light warning of excessive gradient, ambient noise or electronic failure.
Digital readout of battery voltage.
Rugged all metal housing for rough field use at all temperatures.
Automatic recycling or external trigger features permit ready conversion to base station use.
Short reading time.

- Broad operating temperature range.

The MP-2 is a portable one gamma proton precession magnetometer for field survey or base station use. The optimized design of sensor and circuitry using the latest CMOS components has resulted in a very light weight, low power consumption, rugged and rellable magnetometer.

Light emitting diodes coupled with an ingenious optically polarized reflector combine solid state reliability with easy reading even in bright sunlight.

A standard automatic recycling feature allows ready use of the MP-2, with sultable (optional) interfacing, as a base slation recorder in analogue or ditigal form. Alternatively, a remote trigger can be used.
The noise-cancelling dual-coll sensor and electronics have been so designed as to effectively eliminate reading problems due to virtually all magnetic gradients which may be encountered in field survey conditions.


## (1)

 SCINTREXRESOLUTION<br>TOTAL FIELD ACCURACY<br>RANGE<br>INTERNAL MEASURING PROGRAMME<br>EXTERNAL TRIGGER<br>DISPLAY<br>RECORDER OUTPUT (Optional)<br>\section*{GRADIENT TOLERANCE} POWER SOURCE<br>SENSOR<br>HARNESS<br>OPERATING TEMPERATURE TANGE<br>SIZE<br>WEIGHTS<br>Console, with batteries: 1.8 kg .<br>Sensor: 1.3 kg .<br>Stalf: 0.6kg.




## SPECIFEGATICINE:

Frexplencites:
2e2, 444, 888, 1777 and 3555 Hz .
Modes of Gpermacm: MAX: Transmitter coilplane and receiver coll plane horizontal (Max-coupled; Horizontal-loop mode). Used with refer, cable.
MIN: Tranomituer coilplane horizontel and receiver coil plane vertical (Min-coupled mode). Used with reference cable.
V.L. : Transmitten coilplane vertical and receiver coil plane horizontal (Vertical-loop mode). Used without reference cable, in parallel lines.

Coil separititur: $\quad 25,50,100,150,200$ e P50m (MMI) or 100, 200, 300, 400,600 and 800 ft . (MMIIF).
Coilseparations in V.L.mode not restricted to fixed values.

Parametifrs: Fread: - In Phase and Quadrature components of the secondary field in MAX end MIN modes.

- Tilt-angle of the total field in V.L. mode.

Peadout:s:

- Automatic, direct readout on 90 mm ( $3.5^{\prime \prime}$ ) 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 Rariges: InPhase: $\pm 20 \%, \pm 100 \%$ by pushbutton switch.
Quadrature: $\pm 20 \%, \pm 100 \%$ by pushbutton switch.
Tilt: $\pm 75 \%$ slope.
Null [V.L.]: Sensitivity sdjustable by separation ewitch.

Readalitity :

In-Phase and Quadrature : 0.25 \% to $0.5 \%$; Tilt: $1 \%$.
$\qquad$ $\pm 0.25 \%$ to $\pm 1 \%$ normally, depending on conditions, frequencies and coil separation used.

- 2e2Hz : Rea Atme
- 444Hz : 2DO Atme
- 888 Hz : 120Atm²
- 1777Hz : 60Atm²
- 3555 Hz : 30 Atri2

$9 \vee$ trans. radio type batteries (4), Life: approx. 35tres. continuous duty (alkaline, 0.5 Ah), less in cold weather.

12V GAh Gel-type rechargeable bettery. (Charger supplied).

Fition osm: Cinble:

Vonce L mo:

Built-in signal and reference waming lights to indicate erroneous readinge.


Tranismatit: Whight: 13 kg (29 Ibs.)
Shi৷ғमing We:tyit: Typically EOkg (135lbs.), depending on quentities of reference cable and batteries included. Shipped in two field/ahipping cases.

Specifications subject to chenge without notification -

## 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)Magnetic and EM, MaxMin II Surveys Township or Area Bristol Township
Claim Holder(s)Mr. Ralph E. Allerston
543 Pine Street, North, Timmins,ont.
Survey Company Exsics Exploration Limited
Author of Report __John C. Grant
Address of Author P.O.Box 1880 , Timmins, Ontario
Covering Dates of Survey_April $\underset{\text { (linecutting to office) }}{16-19 / 86, ~ M a y ~ 11-12,86}$
Total Miles of Line Cut
8.0 miles

| SPECIAL PROVISIONS | days |
| :---: | :---: |
| CREDITS REQUESTED | Geophysical perclaim |
| ENTER 40 days (includes line cutting) for first survey. | --Electromagnetic_40 |
|  | -Magnetometer_20 |
|  | -Radiometric |
| ENTER 20 days for each additional survey using same grid. | -Other |
|  | Geological |
|  | Geochemical |

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



MINING CLAIMS TRAVERSED List numerically

| .........................2.5.3.51......................... |
| :---: |
|  |  |
|  |
| ......................7.2.535.4...................... |
| ......................7.25.35.5..................... |
| .......................7.1.5.3.5.6...................... |
| .......................7.4.5.3.5.7....................... |
| ......7.7.5.35.8.. |
|  |

## GEOPHYSICAL TECHNICAL DATA

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


Instrument __Scintrex, MP-2 Portable Proton Magnetometer
Accuracy - Scale constant _ $\pm 1$ gamma
Diurnal correction method loop method, various basestations on the grid
Base Station check-in interval (hours) 2 hours
Base Station location and value $\qquad$ $/ 1800 N-(58800)$

Instrument Apex, MaxMin II System
Coil configuration Horizontal Loop
Coil separation $\qquad$ 150 meter, 410 feet

Accuracy $\pm \quad 0.5 \%$
Method:
$\square$ Fixed transmitterShoot back
© In line
$\square$ Parallel line
Frequency 1777 and 444 hz
(specify V.L.F. station)
Parameters measured_Inphase and Quadrature

Instrument $\qquad$
Scale constant $\qquad$
Corrections made $\qquad$

Base station value and location

Elevation accuracy $\qquad$

Instrument $\qquad$
Method $\square$ Time Domain
Frequency Domain
Parameters - On time Frequency

- Off time Range $\qquad$
- Delay time
- Integration time $\qquad$
Power $\qquad$
Electrode array
Electrode spacing
Type of electrode


## SELF POTENTIAL

Instrument $\qquad$
Survey Method $\qquad$

Corrections made

## RADIOMETRIC

Instrument $\qquad$
Values measured
Energy windows (levels) $\qquad$
Height of instrument $\qquad$ Background Count $\qquad$
Size of detector $\qquad$
Overburden (type, depth -- include outcrop map)
OTHERS (SEISMIC, JRILI WELA I, OGGING ETC.)
Type of surveyInstrument
$\qquad$
AccuracyParameters measured

$\qquad$

Additional information (for understanding results)
$\qquad$
$\qquad$
AIRBORNE SURVFYS
Type of survey(s)
Instrument(s) (specify for each type of survey)
Accuracy (specify for each type of survey)
Aircraft used
$\qquad$
Sensor altitude
$\qquad$
Navigation and flight path recovery method $\qquad$
Aircraft altitude________ Over claims only
Miles flown over total area__________

Numbers of claims from which samples taken


Ministry of Northern Affairs and Mines


Gegchemical and Expenditures)

# $301 / 86$ 

Minin
$\qquad$

Name and Addross of Author (of Geo-Technical report)
J.C.Grant P.O.Box 1880, Timmins, ontario, P4N 7X1

Credits Requested per Each Claim in Columns at right


Certification Verifying Report of Work
I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having piltorad the wi.nt or witnessed same during and/or alter its completion and the annexed renort is true.
Name and Postal Actdress of Person Cettitying
J.C.Grant, P.O.Box 1880, Timmins, Ontématitic


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$\min =\infty$



[^0]:    ${ }^{1}$ Bristol Township, Map No. 1957-7, scale 1" to $1000^{\prime}$.

