MAGNETIC - ELECTROMAGNETIC SURVEY

on the

J. V. BONHOMME PROPERTY

Matheson Township, Ontario

Timmins, Ontario,

September 11, 1972.

R. J. Bradshaw, P. Eng.,

Consulting Geologist.

INTRODUCTION

Electromagnetic and magnetic surveys have been completed on the six claim property designated South Group, Matheson Township, held by J. V. Bonhomme, 168 Algonquin Blvd. E., Timmins, Ont.

Picket lines were established on the property during the period August 9-13 and the surveys were carried out during the August 14-17 period.

The object of the survey work is to locate anomalous zones which may represent or be associated with base or precious metal deposits.

PROPERTY, LOCATION AND ACCESS

The property consists of six contiguous unpatented mining claims designated P308597 to P308602 inclusive.

Situated in the southwest sector of Matheson Township the claim group is about 15 miles east of Timmins.

Highway 101 forms the south boundary of the claim group thereby providing excellent access.

PREVIOUS WORK

It is indicated in assessment work files of the Ontario Ministry of Mines that Ventures Limited previously held the property, part of a larger group, on which they carried out a drill programme.

No drilling or other work, however, was completed on the J. V. Bonhomme holdings.

GEOLOGY

According to government plans no rock exposure is present on the claim group. Outcrops east and west of the property, however, indicate that an assemblage of sedimentary-volcanic rocks strike east-northeast across the property. Including greywacke and conglomerate, the sediments to the north are in contact with andesite. A little more than a mile to the south is present the major east striking Porcupine-Destor fault.

MAGNETIC SURVEY RESULTS AND INTERPRETATION

A plan at a scale of one inch to two hundred feet showing the contoured magnetic readings accompanies this report. The instrument and survey method are described in the Appendix to this report.

The magnetic background on the property ranges from about 350 to 500 gammas. No anomalies which might be attributed to natural features appear to be present on the property.

In the centre of the property a series of magnetic lows and highs along a line trending about east corresponds to the location of a natural gas pipe line. Along the south boundary of the property widely divergent magnetic susceptibilities ranging from -8605 to 6495 gammas correspond to the location of the Ecstall water main adjacent and parallel to the highway. From station 2+00 to 7+00 North on Line 28W is located a garbage dump. Metal objects including old cars account for the anomalous

NO WAY

magnetic susceptibilities in the area. It is suspected that a buried metal object accounts for the magnetic reading of 65 gammas on Line 8W, station 3+50 North.

The 400 gamma isomagnetic crosses the north half of the property in an easterly direction. This contour may represent an increase in depth of overburden to the north.

ELECTROMAGNETIC SURVEY RESULTS AND INTERPRETATION

The electromagnetic survey data is plotted on two plans accompanying this report at a scale of one inch to two hundred feet. The vertical loop electromagnetic unit and survey method are described in the Appendix to this report.

The gas pipe line through the centre of the property and a power line along the highway prevented coverage in adjacent areas because of signal interference.

A series of strong conductors are located north and south parallel to the gas pipe line. Because of the signal interference caused by the pipe line and the spatial relationship of the conductor axes to the pipe line the conductors are attributed to this feature.

CONCLUSIONS AND RECOMMENDATIONS

There are no magnetic or electromagnetic anomalous zones detected on the property which have economic significance. Artificial features including a gas pipe line, a water line, a power line and a garbage dump are interpreted to account for the magnetic and electromagnetic anomalies.

The gas pipe line effects the electromagnetic unit in an area about 1000 feet wide crossing the property. The conductive effects resulting from this gas pipe line prevent an effective survey of natural conductive features within this area. Because of the presence of the volcanic-sedimentary contact within this area this is the most important zone for the possible presence of conductive mineralization.

The only other type of geophysical work which may be effective along the gas pipe line is an induced polarization survey. A survey of one picket line across the gas pipe line would determine whether or not this survey method is feasible.

Respectfully submitted,

SHIELD GEOPHYSICS LIMITED,

R. J. Bradshaw, P. Eng.,
Consulting Geophysicist.

Timmins, Ontario,
September 11, 1972.

C E R T I F I C A T E

I, Ronald J. Bradshaw, residing at 480 Howard Street, Timmins, Ontario, a consulting geologist with office at 26 Pine Street South, Timmins, Ontario, do hereby certify that:

I attended Queen's University, Kingston, Ontario, and graduated with an Honour's B.A. degree in Geological Sciences in 1958.

I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining and Metallurgy and of the Association of Professional Engineers of the Province of Ontario.

I have no interest either directly or indirectly in the shares or securities of the J. V. Bonhomme holdings.

REGISTERED PROFESSIONAL ENGINEER
R. J. BRADSHAW
PROVINCE OF ONTARIO

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

Timmins, Ontario,
September 11, 1972.

APPENDIX

INSTRUMENT METHOD AND SURVEY DATA

ELECTROMAGNETIC SURVEY

Any alternating magnetic field will induce an electrical eddy current in the medium through which the magnetic field passes. If a source of an alternating magnetic field is located near a conductive body anomalously strong eddy currents will be induced in the deposit due to its high electrical conductivity. Electrical currents induced in the conductive body will produce a secondary magnetic field proportional to the intensity of current flow.

A receiver coil tuned to the frequency of the transmitting device will pick up both the directly transmitted signal and the eddy current signal.

The electromagnetic unit used in this survey is a McPhar unit and consists of a vertically mounted, motor-generator powered transmitting coil operating at frequencies of 5000 and 1000 cps. and a receiving coil, tuned to the transmitting frequencies, an inclinometer, an amplifier and a headset.

Throughout the survey, the transmitter and receiver were separated by distances of 400, 800 and 1200 feet. The plane of the transmitter coil was oriented so that the transmitter was vertical and pointed towards the receiver. Orientation was obtained using a plate on which predetermined receiver positions were plotted. Stations were read at one hundred foot intervals. At all times, the receiver "faced" the transmitter. The results obtained are dip angles, measured in degrees. The dip angles are obtained by first orienting the receiver coil in the plane of the

magnetic field by rotating the coil about a vertical axis until a null or minimum signal is obtained, and then rotating the coil about a horizontal axis until a null or minimum signal is obtained. The angle which the magnetic field makes with the horizontal is recorded as a "dip" or "tilt" angle. In the absence of a conductor the dip angle will be zero since no secondary field is present. In the presence of a conductor, the axis of the receiver coil points towards the conductor and the plane of the coil away from the conductor. In the presence of a conductor, the secondary magnetic field is usually displaced from the primary in-phase as well as direction so that the total field is elliptically polarized. The receiver cannot then be nulled completely but a minimum signal can be obtained, the width of the minimum being an indication of the phase displacement.

The tilt angles are plotted as profiles, the zero or "cross-over" point indicating the focus of the conductor axis.

Once a conductor axis has been established, the transmitter is set up over the conductor and lines are read on both sides of the transmitter and the conductor axis is traced out by "leap frogging" from "cross-over" to "cross-over".

SPECIFICATIONS

Operating Frequencies: 1000 and 5000 cycles per second

Range: 2000 foot separation between transmitter and receiver for a $\pm$ 10 degree null width.

Depth of Exploration: Roughly half the distance between transmitter and receiver.

Transmitter Power Supply: 500 watt alternator driven by a 1¾ H.P. gasoline engine.

Weights:

Packboard-mounted engine generator	48 lbs.
Transmitter coil on packboard	49 lbs.
Coil mounting pole and spreader bar	22 lbs.
Receiver	7 lbs.

MAGNETOMETER SURVEY

A Sharpe M.F.-1 fluxgate magnetometer was used in the magnetic survey. This instrument measures the vertical component of the earth's magnetic field in gammas. Base stations for determining the magnetic diurnal variations were established along the main base line at 100 foot intervals. Magnetic readings were taken at 50 foot intervals, along the cross lines.

900

File 2.1016

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: Magnetic & Electromagnetic

Township or Area: Matheson Township

Claim holder(s): J. V. Bonhomme
168 Algonquin Blvd. E., Timmins, Ont.

Author of Report: R. J. Bradshaw

Address: 26 pine St. S., Timmins, Ontario.

Covering Dates of Survey: August 9 - 17 incl, 1972
(linecutting to office)

Total Miles of Line cut: 5.83

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	40
–Magnetometer	20
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: Sept. 8, 1972 SIGNATURE: R J Bradshaw
Author of Report or Agent

PROJECTS SECTION

Res. Geol. _____ Qualifications On this file

Previous Surveys LD

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	308597
	308598
	308599
	308600
	308601
	308602

If space insufficient, attach list

TOTAL CLAIMS 6

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

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 300 Number of Readings magnetic - 600 E.M. - 300

Station interval 100'

Line spacing 400'

Profile scale or Contour intervals 1"=20° EM profile scale; 100 gamma magnetic contour interval
(specify for each type of survey)

MAGNETIC

Instrument Sharpe M.F.-1 fluxgate

Accuracy - Scale constant + or - 10 gammas

Diurnal correction method check of base stations at no greater than 1 hour intervals

Base station location on cross lines at stations 4+00N

Note: could not be established on base line because of pipe line anomaly

ELECTROMAGNETIC

Instrument McPhar 1000-5000

Coil configuration vertical loop

Coil separation minimum - 400' maximum - 1600'

Accuracy + or - 1 degree

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

Frequency 1000 & 5000 cps
(specify V.L.F. station)

Parameters measured dip angles in degrees

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION – RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

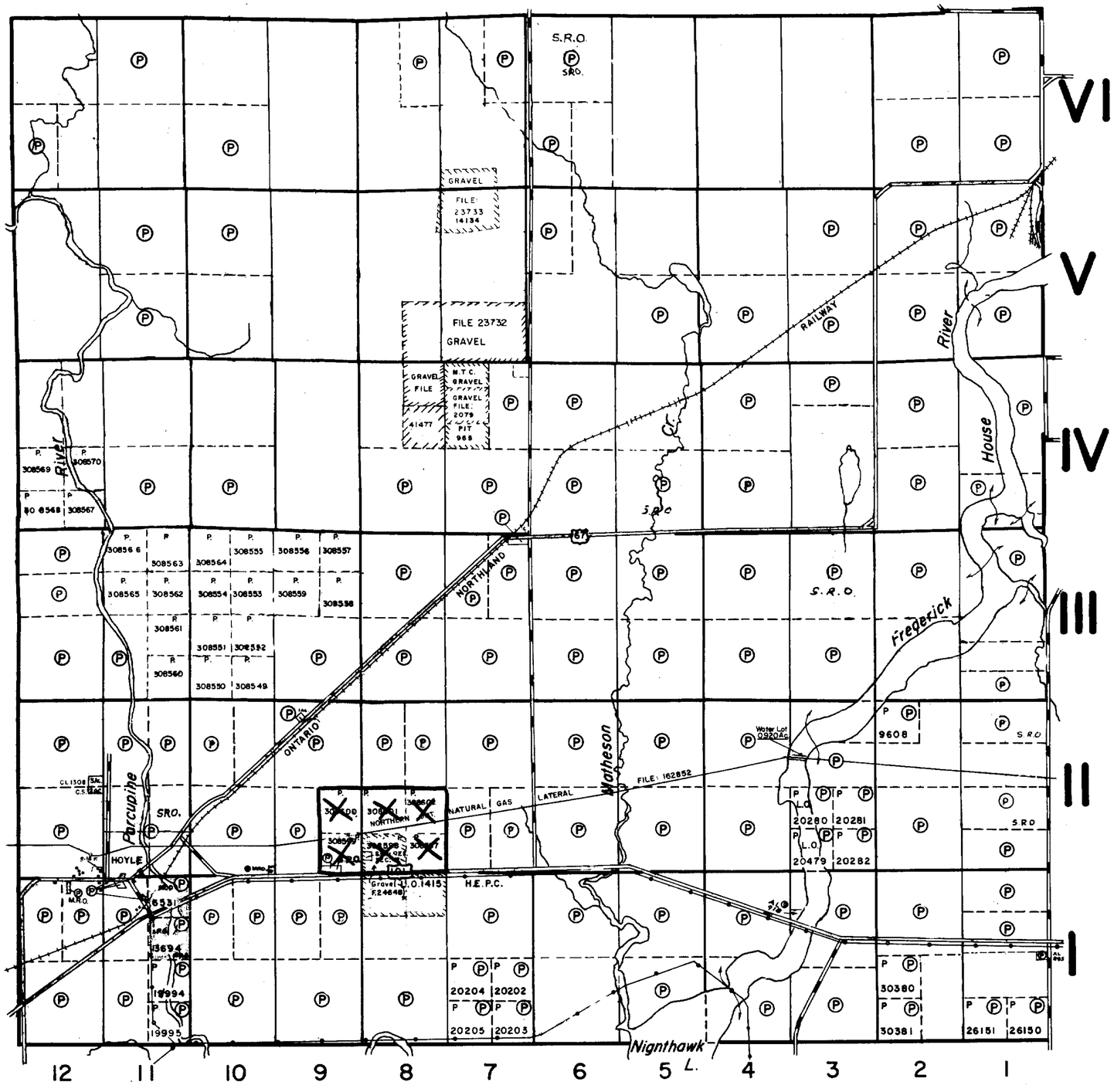
Type of electrode

Evelyn Twp.

Hoyle Twp.

German Twp.

Cody Twp.



THE TOWNSHIP OF

MATHESON

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	(S) or C.S.
LEASES	(L)
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	

NOTES

Reserve Flooding Rights to 903' Contour to H.E.P.C. on Frederick House River.

400' Surface rights reservation around all lakes & rivers.

DATE OF ISSUE
SEP 19 1972
ONT. DEPT. OF MINES AND NORTHERN AFFAIRS

PLAN NO.- M-297

ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS

Lot 9

Lot 8

N

Gas Pipe Line

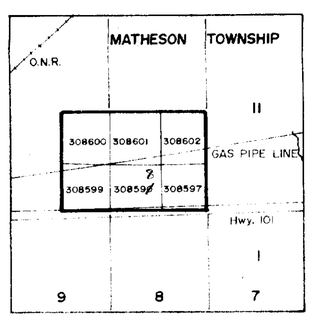
CON. II

CON. I

Water Line

Hwy. 101

36 W | 32 W | 28 W | 1 | 24 W | 20 W | 16 W | 12 W | 8 W | 4 W | 0



KEY MAP
one inch to one half mile

LEGEND

- Measurement station along picket line
- 340 — Relative value of the vertical component of the earth's magnetic field in gammas
- 400 — Magnetic contour
- 400 — Magnetic depression

INSTRUMENT: Sharpe M.F.-1 fluxgate

MAGNETOMETER SURVEY
ON THE
J. V. BONHOMME PROPERTY
MATHESON TOWNSHIP, ONTARIO
BY
SHIELD GEOPHYSICS LIMITED

SCALE
0 200 400 600
FEET

Sept. 12, 72

AUGUST 1972

Lot 9

Lot 8

N

Gas Pipe Line

DUMP

ROAD

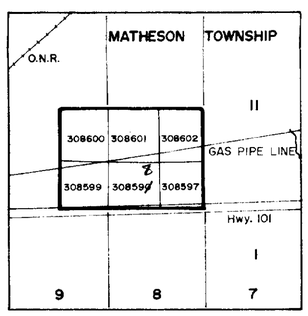
CON. II

CON. I

Water Line

Hwy. 101

36 W | 32 W | 28 W | 24 W | 20 W | 16 W | 12 W | 8 W | 4 W | 0



KEY MAP
one inch to one half mile

LEGEND

Measurement station along picket line

North dip angles to left of line
South dip angles to right of line

1000 cps

5000 cps

Transmitter location

Profile scale: 1" = 20°

Conductor axis - 1000 cps
- 5000 cps

INSTRUMENT: McPhar 1000/5000 E.M.

ELECTROMAGNETIC SURVEY
ON THE
J. V. BONHOMME PROPERTY
MATHESON TOWNSHIP, ONTARIO
BY
SHIELD GEOPHYSICS LIMITED

SCALE
0 200 400 600
FEET

AUGUST 1972

Lot 9

Lot 8

N

Gas Pipe Line

D U M P

ROAD

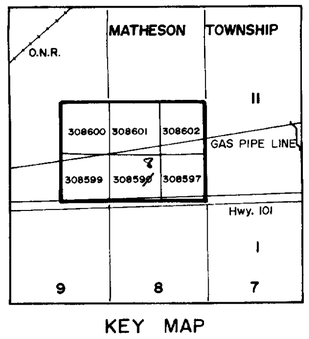
CON. II

CON. I

36 W | 32 W | 28 W | 24 W | 20 W | 16 W | 12 W | 8 W | 4 W | 0

Water Line

Hwy. 101



KEY MAP
one inch to one half mile

See Electromagnetic Survey for LEGEND.

DETAILED

ELECTROMAGNETIC SURVEY

ON THE

J. V. BONHOMME PROPERTY

MATHESON TOWNSHIP, ONTARIO

BY

SHIELD GEOPHYSICS LIMITED

SCALE

0 200 400 600

FEET

AUGUST 1972