2.2875

010

MAGNETIC - ELECTROMAGNETIC SURVEY

on the

J. V. BONHOMME PROPERTY

Ogden Township, Ontario

Timmins, Ontario,
December 29, 1978.

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

INTRODUCTION

Magnetic and electromagnetic surveys have been completed on the holdings of J. V. Bonhomme, 168 Algonquin Blvd. E., Timmins, Ontario, in Ogden Township, Ontario.

Establishment of the picket lines began in early November and was completed on December 15, 1978. The geophysical work was undertaken during the period December 1-21, 1978.

In this area of deep overburden and very few rock exposures, the object of the geophysical survey work is, with the aid of previous work, to identify locations which may contain metals, primarily gold and silver.

PROPERTY, LOCATION AND ACCESS

The property consists of 25 contiguous claims including P21514 to 21517 incl., P24768 and P24769, the patented claims; and unpatented claims P480779 to 480791 incl., P508675 and 508676, P516477 to 516479 inclusive.

Located in the north-central sector of Ogden Township, just a few miles southeast of the centre of Timmins, the property is readily accessible.

A gravel road paralleling the east shore of the Mattagami River is within a half mile of the claims while to the north a concession road forms the north boundary of the property.

PREVIOUS WORK

The most significant previous work undertaken on the claims include three relatively deep inclined holes, totalling

4139 feet, drilled by McIntyre in 1934. This drilling, shown on the accompanying plan as holes 1, 2 and 3, was based on rudimentary magnetic and electrical surveys by Hans Lundberg.

Subsequently in 1962, magnetic and resistivity surveys were completed on the south half of the property by New Hope Porcupine Mines Limited. A hole by Siko Resources, designated N73-2 on the accompanying plan, was drilled in 1973 to investigate a magnetic anomaly.

Now known as New Hope Porcupine Mines Ltd., the de Santis mine, a former producer, is located 2000 feet east of claim P480787. According to the Division of Mines, development work began in 1915 and the most recent work was undertaken in 1964. The mineralized zone was developed to a depth of 1175 feet and more than 75,000 feet of surface and underground drilling was completed. Production in 1933, 39, 42 and 64 totalled 35,842 tons having a gross value of $1,368,765.

GEOLOGY

Local and regional geology is shown on map P341, Ogden Township, and map 2205 published by the Ontario Division of Mines.

According to Map P341, the south half of the property is underlain by intermediate to mafic volcanics and fine grained sediments which strike generally east. The north half of the property is interpreted to be underlain by fine grained sediments with the entire assemblage intruded by generally north striking diabase dykes.

In McIntyre hole No. 2, a sample from 378 to 380.6 feet assayed $4.16, presumably with gold at about $35 per ounce. A check assay failed to confirm the value. No other significant gold values were encountered in the previous drilling.

ELECTROMAGNETIC SURVEY RESULTS AND INTERPRETATION

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

Seven conductive zones have been outlined on the property. Designated A to G inclusive, they generally strike west-southwest.

In the northeast sector of the property, conductors A and B of moderate strength and striking generally west may represent shear zones in the fine grained sediments, thought to be present in this area, based on a rock exposure several hundred feet south. Alternatively, either of the conductors may represent the sheared contact between sediments to the north and mainly volcanics to the south. Detailed survey work is necessary on these zones to better analyze the cause and importance of the conductivity.

Conductor C, weak and discontinuous, approximately corresponds to the sedimentary-volcanic contact as interpreted on map P341.

Over 3000 feet long, conductor D is a well defined feature of good strength to the east and weakening to the west. Although the overburden appears to be deepening westward, the varying strength of the conductivity appears to be related to

changing mineralization of the rock rather than a masking effect from the overburden. The west portion of the conductor was intersected by McIntyre hole No. 1. It apparently is caused by graphitic shearing at a volcanic-sedimentary rock contact. To the east on claim P480787, the greater strength of conductivity suggests more intense graphitization or increased sulphide mineralization.

Paralleling conductors E and F in the southern part of the property are of week to moderate strength and appear to represent narrow features. Conductor F has been intersected by McIntyre holes 2 and 8. A graphitic zone in hole 8 and a carbonate-chlorite zone in hole 2 both within intermediate to mafic volcanics appear to account for conductor F. Likely a shear zone, conductor E is of interest since it strikes towards the old De Santis workings.

Weak and discontinuous, conductor G does not appear to be particularly significant.

MAGNETIC SURVEY RESULTS AND INTERPRETATION

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

The magnetic background of the property is in the range of 100 to 300 gammas. Diabase dykes account for the prominent north-south trend of the isomagnetics.

Two well defined magnetic lineors obviously represent diabase dykes. In the north portion of the property they strike north-northwest while in the south they strike south. Over a

distance of about 2000 feet roughly between conductor C and the creek to the north, this change in the strike of the dykes occurs. This form of diffraction is characteristic when a crosscutting feature encounters a differing rock type. The contact between sediments to the north and mainly volcanics to the south is thought to be present within the area described, north of conductor C.

A third diabase dyke may account for a weak, poorly defined magnetic high along Line 4 East.

To the south below the base line there is gradual increase in magnetic intensity apparently caused by more mafic volcanic rocks. Near the south boundary of the property is present a fairly broad west-southwest striking anomaly which has been intersected by hole No. 2.

CONCLUSIONS

Two parallel northerly trending diabase dykes about 3000 feet apart are the most prominent features of the geophysical surveys. Over a distance of about 2000 feet near the centre of the property the dykes show a minor but significant change in strike. This area of diffraction marks in general the west-southwesterly trending contact between fine grained sediments to the north and a volcanic-sedimentary assemblage to the south.

Previous drilling confirms that some of the conductors, namely D and F, are at least, in part, caused by graphitic shear zones. Each of the conductors strike generally west-southwest and

except for A and B are unusually long, although in some cases discontinuous.

A geophysical feature on strike with the old De Santis mine which may represent shearing or faulting is the most obvious location for additional gold exploration. This area has been identified as a zone in the vicinity of conductors E and F which strike west-southwest. However, the old McIntyre holes 2 and 8 have investigated all but a section of about 500 feet within this favourable zone.

A zone within a few thousand feet on either side of the main sedimentary-volcanic contact is considered to be an attractive area for gold deposition. Although the location of the contact has not been accurately determined, this area has not been previously explored by diamond drilling.

RECOMMENDATIONS

Prior to initiating a drill programme on the property, it is recommended that detailed vertical loop electromagnetic work be undertaken in the vicinity of conductors A and B to better define their location and characteristics. A day or perhaps two is required for this job. At this stage, 1200 or 1700 feet of drilling is required for further investigation of the property. A 500 foot hole south of McIntyre hole 1 to complete the investigation of this area is considered of low priority because of the lack of significant mineralization in adjacent holes. A 500 foot hole is recommended

for the investigation of conductor D on Line 36E. A hole at least 700 feet deep is necessary for the investigation of conductor A or B, the location dependent upon the detailed geophysical work.

Estimated cost of the programme is as follows:

Detailed electromagnetic work	$ 500.00
Diamond drilling: 1700 feet @ $15 per foot .	25,500.00
Supervision and assaying	2,000.00
	$28,000.00

Respectfully submitted,

SHIELD GEOPHYSICS LIMITED,

REGISTERED PROFESSIONAL ENGINEER
R. J. BRADSHAW
PROVINCE OF ONTARIO

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

Timmins, Ontario,
December 29, 1978.

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 ± 10 degree null width.

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

Transmitter Power Supply: 500 watt alternator driven by a 1½ 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 magnatometer 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 400 foot intervals. Magnetic readings were taken at 100 foot intervals, along the cross lines.

2.2875

Ontario

GEOP

42A06NW0229 2.2875 OGDEN

900

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 & Electromagnetic

Township or Area Ogden Township

Claim Holder(s) J. V. Bonhomme

168 Algonquin Blvd. E., Timmins

Survey Company Shield Geophysics Ltd. Box 630, Timmins

Author of Report R. J. Bradshaw

Address of Author P. O. Box 630, Timmins, Ontario

Covering Dates of Survey November 1 - December 21, 1978
(linecutting to office)

Total Miles of Line Cut 23.87

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: Jan. 8, 79 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications F.D 63.1323 on this File

Previous Surveys

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

MINING CLAIMS TRAVERSED
List numerically M.Z.G E.H

(prefix)	(number)
P	480779
	480780
	480781
	480782
	480783
	480784
	480785
	480786
	480787
	480788
	480789
	480790
	480791
1/3	508675
1/3	508676
	516477
	516478
	516479

TOTAL CLAIMS 18

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 950 Number of Readings 950 Magnetic 1000 EM

Station interval 100' Line spacing 400'

Profile scale 1" = 20° EM

Contour interval 100 gammas Magnetic

MAGNETIC

Instrument Sharpe M.F.-1 fluxgate

Accuracy – Scale constant + or - 10 gammas

Diurnal correction method check of base stations at no greater than

Base Station check-in interval (hours) 2 hour intervals

Base Station location and value along base line at 400' intervals

ELECTROMAGNETIC

Instrument McPhar 1000-5000

Coil configuration vertical loop

Coil separation minimum 400' maximum 1600'

Accuracy

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

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

Parameters measured dip angle in degrees

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION RESISTIVITY

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

Power

Electrode array

Electrode spacing

Type of electrode

MOUNTJOY TWP. M-302

BRISTOL TWP. M-264

DELORO TWP. M-272

PRICE TWP. M-307

THE TOWNSHIP OF OGDEN

2.2875

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 20 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	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	
CANCELLED	C.

NOTES

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

L.O. 6613 - Booming Grounds - covers the westerly half of the bed of the Mattagami River flowing through this township. File: 73543.

This township lies within the Municipality of CITY of TIMMINS.

Areas withdrawn from staking under Section 43 of the Mining Act

	File	Date	Disposition
(43) W.55/74	189427	6/11/74	S.R.O.
(43) W.17/76	138801	2/4/76	S.R.O.
(R) W.25/78	108545	26/5/78	S.R.O.

DATE OF ISSUE
JAN 11 1979
SURVEYS AND MAPPING BRANCH

PLAN NO. M-305

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42A06NW0229 2.2875 OGDEN

200

MAGNETOMETER SURVEY
ON THE
J. V. BONHOMME PROPERTY
OGDEN TOWNSHIP, ONTARIO

SCALE
0 300 600 900
FEET

DECEMBER 1978

INSTRUMENT: Sharpe M.F.-1 fluxgate magnetometer

LEGEND

- 370 — Measurement station along picket line
- 370 — Relative value of the vertical component of the earth's magnetic field in gammas
- 400 — Magnetic contour
- 100 — Magnetic depression
- Base station location
- F — Conductive zone
- Rock exposure, location after Map P341, ODM
- Claim post, located, approximate
- Vertical projection of drill hole

D	Diabase
Bs	Serpentinite
Sg	Greywacke, slate
Vcc	Carbonate chlorite schist
Va	Andesite, basalt
~	Graphite, pyrite zone
0.60'	Overburden depth - 60'

KEY MAP — one inch to one quarter mile

MOUNTJOY TWP. / OGDEN TWP.

21516 21517 21515 21514 24768 24769 24770 480779 508675 508676 516478 516477 480780 480781 516479 480784 480783 480782 522488 522489 480785 480786 480787 51T111 51T109 480789 480788 51T112 51T110 480790 480791 UNSURVEYED

Bldg

Trail

Radio

Tower

Trail

Pond

Trail

Road

Trail

26N

40E

44E

48E

52E

56E

60E

36E

32E

28E

24E

20E

16E

12E

8E

4E

0

MOUNTJOY TWP

OGDEN TWP

508675	508676	21516 (P)
		21517 (P)
		21515 (P)
		21514 (P)
480779	24768 (P)	24769 (P)
		516478
		516477
480780	480781	24770 (P)
		516479
480784	480783	480782
522488	522489	480785
		480786
		480787
UNSURVEYED	517109	480789
		480788
517112	517110	480790
		480791

KEY MAP

one inch to one quarter mile

LEGEND

- Measurement station along picket line
- 45 — .1000 cps plotted to left of line
- 45 — .5000 cps plotted to right of line
- △4 Transmitter location
- .1000 cps profile
- .5000 cps profile
- Profile scale: 1" = 20°
- Conductor axis - 1000 cps
  - 5000 cps

INSTRUMENT McPhar 1000/5000 EM

ELECTROMAGNETIC SURVEY
ON THE
J. V. BONHOMME PROPERTY
OGDEN TOWNSHIP, ONTARIO

SCALE

0 300 600 900

FEET

DECEMBER 1978