GOLDMAC EXPLORATIONS INC.

MAGNETIC AND ELECTROMAGNETIC SURVEYS

BEN NEVIS TOWNSHIP

ONTARIO

JULY 20, 1980

HARPER CONSULTING SERVICES INC.

GOLDMAC EXPLORATIONS INC.

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INTRODUCTION

This report covers magnetic and electromagnetic surveys on seven claims of a sixteen claim group located in Ben Nevis Township, Larder Lake Mining Division, Ontario. Similar surveys were done on the original nine claims in the Fall of 1979. The present surveys were done during the Spring of 1980.

PROPERTY AND LOCATION

The seven claims are located in Ben Nevis Township, Larder Lake Mining Division, and are numbered as follows:

L575225 to L575231 inclusive.

The claims have an area of about 250 acres.

ACCESS AND FACILITIES

Access to the property from the Town of Larder Lake,

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Ontario is via a Ministry of Natural Resources resource access road which runs northward immediately east of the town. The resource access road ends about the middle of Ben Nevis Township some seventeen miles north of Highway 66. It is an all weather, gravel road. During the winter it is snowploughed only as required by logging operations.

The claim group lies 1½ miles northeast of the end of the resource access road and is reached by a well blazed walking trail.

During the course of the survey a grid system of picket lines 400 feet apart were cut and chained over all of the claims. These lines are in serviceable condition and can be used for further exploration requirements. There are no other mining facilities on the property.

HISTORY AND DEVELOPMENT

The general area north of the Canagau Mine was first prospected in the 1920's. During the 1930's more prospecting and considerable trenching was done. In 1964 Dome Explorations (Canada) Ltd. and Frobex Limited drilled six holes totalling 1971 linear feet encountering silver values over substantial core lengths. Subsequently Amax Explorations Inc. drilled 3 cross section holes about ¼ mile east of the Frobex silver value location. These holes encountered minor amounts of

copper, lead, and silver in quartz veins. No assay data is available. In 1979 the Ontario Ministry of Natural Resources published airborne input and magnetic surveys of the entire township.

In the spring of 1980 the subject claims were staked and surveyed as part of a larger exploration program covering the 16 claims in the group.

GENERAL GEOLOGY

The general geology of Ben Nevis Township was published on Map 2283 by the Ontario Ministry of Natural Resources. The general geology indicates that the claims are underlain by intermediate and felsic volcanics, with a major andesite-rhyolite contact striking roughly east-west through the claim group. A major north-east trending linear (several miles in length) cuts through the claim group. Basic and acid intrusives occur in the immediate area.

SURVEY RESULTS AND INTERPRETATION

The airborne input and magnetic surveys completed this year in Ben Nevis Township showed absolutely no positive responses over the claim area. The magnetics are flat and the

fault linear did not respond to the input survey. Obviously there are no large iron formations, sulphide conductors, or graphitic shears within the claim area.

The ground surveys were done on lines 400 feet apart with readings at 50 foot intervals on the picket lines.

MAGNETIC SURVEYS

The maximum magnetic change recorded is 440 gammas whereas on the original 9 claim group the maximum magnetic change was 700 gammas. These relatively slight changes are a clear reflection of the minimal change in magnetic susceptability of the underlying rocks. It can be assumed that those rocks are uniformly low in magnetite and pyrrhotite content and probably belong to the same rock sequence. The relatively minor increases in susceptability are probably due to small diabase dikes.

The eastern and northern claims of the group are slightly more magnetic and it is in these areas where the strongest and best defined VLF conductors occur.

ELECTROMAGNETIC SURVEY

As in the case of the electromagnetic survey of the original claim group, the VLF conductors continue to present an interpretation problem. Their concentration in the north and eastern portion of the property is not readily explained. There may be a major geological change, probably in strike

direction, the nature of which is still unknown.

The strongest and best developed group of conductors lies in the northern tier of claims in the general location of a creek and the major northeast trending fault zone. It appears that in this area the very complex, multiple conductors, are caused by both overburden and the major fault. A wildcat drill hole here would greatly assist the interpretation of the geophysics and geology of the property.

There is no VLF response over the Main Showing when it is surveyed on N-S lines, yet one claim width due east and on strike, there are some very strong VLF responses.

A very strong VLF conductor occurs on the southeastern-most claim. A drill test of this conductor is in order.

CONCLUSIONS AND RECOMMENDATIONS

1. The magnetic survey has produced very little of interest.

2. There are strong VLF conductors in the northern tier of claims roughly coinciding with the major fault that traverses the area and not far removed in distance from the known silver-gold mineralisation. A drill test of these conductors and the fault zone is recommended.

3. There is a very strong conductor on the southeastern claim which warrants drill testing.

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4. The general area of the known silver-gold mineralisation warrants drill testing but this particular area is not covered by the surveys described in this report. Therefore, only a general recommendation to drill test the mineralised zone is pertinent to the contents of this report.

This report is respectfully submitted.

REGISTERED PROFESSIONAL ENGINEER
MINING
H. C. HARPER
PROVINCE OF ONTARIO

HARPER CONSULTING SERVICES INC.

H. G. Harper

WILLOWDALE, ONTARIO
July 20, 1980

H. G. Harper, P.Eng.
President.

File ____________

Ontario

Ministry of Natural Resources

GEOPHYSICAL – GEOI
TECHNICAL D

32D05SE0053 2.3388 BEN NEVIS

900

TO BE ATTACHED AS AN AI
FACTS SHOWN HERE NEED
TECHNICAL REPORT MUST CONTAIN ...

Type of Survey(s) Electromagnetic & Magnetic

Township or Area Ben Nevis Twp.

Claim Holder(s) Goldmac Exploration Inc.
Suite 806 - 88 University Ave. Toronto

Survey Company Harper Consulting Service Inc.

Author of Report H. G. Harper, P.Eng.

Address of Author 314 Hendon Ave. Willowdale Ont.

Covering Dates of Survey May 20/80 – July 20/80
(linecutting to office)

Total Miles of Line Cut 4.32

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: July 20/80 SIGNATURE: H. G. Harper.
Author of Report or Agent

Res. Geol. ______ Qualifications 63.1058

OFFICE USE ONLY

Previous Surveys

File No.	Type	Date	Claim Holder
			L.D.

MINING CLAIMS TRAVERSED
List numerically

(prefix) (number)	
L 575225 ✓ ✓	Mag
L 575226 ✓ -1/8	-1/8
L 575227 ✓ -1/8	-1/8
L 575228 ✓ ✓	✓
L 575229 ✓ ✓	✓
L 575230 ✓ ✓	✓
L 575231 ✓ -1/8	-1/8

If space insufficient, attach list

TOTAL CLAIMS 7

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 456 Number of Readings 1368

Station interval 50 feet Line spacing 200 feet

Profile scale 1" = 300'

Contour interval 300 X

MAGNETIC

Instrument Mc Phar M 500A Fluxgate Magnetometer.

Accuracy -- Scale constant ± 5 gammas.

Diurnal correction method Check back on Base & Control Station

Base Station check-in interval (hours) ½ to 1 hour

Base Station location and value ~~L0+00~~ L12W - 0+00 2400 gammas

ELECTROMAGNETIC

Instrument Ronka EM 16

Coil configuration Fixed Horizontal & Vertical

Coil separation N/A.

Accuracy ± 1%

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

Frequency 17.80 kHz Cutler Maine (specify V.L.F. station)

Parameters measured Vertical in phase & out of phase components

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

L12W L8W L4W L0 L4E L8E L12E L16E L20E L24E L28E L32E

L 575231 L 575230 L 575229 L 575228

L 544466 L 544467 L 544468 L 575227

L 537914 L 537915 L 537916 L 575226

L 537919 L 537918 L 537917 L 575225

BASELINE

N

2600

LOCATION MAP

1 INCH = 2640 FEET

BEN NEVIS TWP
PONTIAC TWP

4 M
3 M
2 M

▲ BASE STATION
△ CONTROL STATION

under 2600 GAMMAS
2600 to 2900 GAMMAS
over 2900 GAMMAS

0 200 400 600 800
FEET

GOLDMAC EXPLORATIONS INC.

BEN NEVIS TWP.

Magnetometer Survey

McPhar M500A

REGISTERED PROFESSIONAL ENGINEER
MINING
H. C. HARPER
PROVINCE OF ONTARIO

JUL 20 1980

H.C. Harper

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L12W L8W L4W L0 L4E L8E L12E L16E L20E L24E L28E L32E

L 575231 L 575230 L 575229 L 575228

L 544486 L 544487 L 544488 L 575227

L 537914 L 537915 L 537916 L 575226

L 537919 L 537918 L 537917 L 575225

N

BASELINE

GOOD CONDUCTOR

POOR CONDUCTOR

RONKA EM16

Inphase solid line

Quadrature dashed line

Profile Scale: 1"=30%

Transmitting Station: CUTLER, MAINE

LOCATION MAP

INCH = 2640 FEET

BEN NEVIS TWP

PONTIAC TWP

4M

3M

2M

0 200 400 600 800

FEET

GOLDMAC EXPLORATIONS INC.

BEN NEVIS TWP.

Electromagnetic Survey

REGISTERED PROFESSIONAL ENGINEER MINING H. C. HARPER PROVINCE OF ONTARIO

JUL 20 1980

H.C. Harper

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