J.A. KIDSTON
GAUTHIER VOLCANICS GROUP
MAG & VLF EM SURVEY
GAUTHIER TOWNSHIP
LARDER LAKE MINING DIVISION
DISTRICT OF TIMISKAMING

RECEIVED
MAY 29 1991
MINING LANDS SECTION

MAY 3, 1991
SWASTIKA, ONTARIO
L.M. DYMENT
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INTRODUCTION

A group of four contiguous mining claims was staked in Gauthier Township for its gold and/or base metal potential.

It was intended to probe the claim group with an 8' bar to search for near surface outcrop because the claim group is covered with glacial overburden with sparse and elusive outcropping.

LOCATION AND ACCESS

The four claims are located in North Central Gauthier Township (Fig.1) in the Larder Lake Mining District.

The claims are accessible from Hwy. 66 East of Kirkland Lake to the Esker Lake Road, then North 4.5 KM to a sand road to the East on which you can walk to the center of the grid at 2W on the baseline.
PROPERTY DESCRIPTION

The property consists of four contiguous claims (Fig. 2):

L1136765
L1136766
L1136767
L1137546

VEGETATION

The vegetation on the property is composed of 60% spruce and pine, 10% poplar and 30% alder in swamp.
REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
S.R.O. - SURFACE RIGHTS ONLY
M+S - MINING AND SURFACE RIGHTS

BARRICK POWER LINE
(Application pending under Public Lands Act)

SAND and GRAVEL

TOWNSHIP SUBJECT TO FORESTRY OPERATIONS
SURVEY PROCEDURE

A grid was cut with lines 400' apart, by Natives Exploration Services, and the lines were picketed every 100'. Unfortunately, because of intense beaver activity and flooding, only three of the claims in the group were accessible. A total of 15,800' was cut.

The Magnetometer survey was conducted with a Barringer GM 122. A base station was established on the property for diurnal change control and pickets were read and plotted every 100'.

The VLF-EM survey was conducted with a Crone Radem VLF unit. The results for both surveys were plotted on a scale of 1"=300' and accompany this report.

PREVIOUS WORK

A search was made of the Kirkland Lake assessment files and, although no previous work was found on the group, several different surveys have been conducted close to the group. (Fig.3)
REGIONAL GEOLOGY

The Kirkland-Larder lake area forms part of the south limb of a synclinorium and consists of two volcanic cycles. Each volcanic cycle consists of komatiitic rocks at the base overlain by tholeiitic and calc-alkaline rocks which are in turn capped by alkalic rocks.

The oldest cycle in the Kirkland Lake area is the Wawbewawa Group komatiites and Mg tholeiites which are overlain by the Catherine Group Mg-Fe tholeiites followed by the Skead Group calc-alkaline rocks (2709my).

The youngest cycle in the Kirkland Lake area has the Larder lake Group komatiites disconformably overlying the Skead Group. Conformably overlying the Larder Lake Group is the Kinojevis Group Mg-Fe tholeiites. Conformably above the Kinojevis Group, the Blake River group calc-alkaline rocks occur.

Unconformably overlying all the above and earlier groups is the Timiskaming Group.

The Gauthier Group is a thin sequence of K-rich calc-alkaline volcanics that unconformably underlie the Kinojevis and Timiskaming Groups. The origin of this formation is
uncertain. Ridler (1970) correlates the Gauthier Group with the Skead Group due to its fragmental appearance. However Jensen (1983) suggests the Gauthier Group is part of the Blake River Group because of its well rounded felsic clasts and higher potassium values.

PROPERTY GEOLOGY

The entire property was probed with an 8' rebar steel in search of outcropping. Several E-W trending eskers, 25'-50' above natural ground level were noted and the entire property is drift covered. The only outcrop was located by probing at 2W-3N.

The outcrop was mechanically stripped and mapped as part of the Gauthier Volcanics sequence of rocks. The outcrop has a tuffaceous agglomeratic appearance and weathered white to gray-buff and is non-magnetic. Carbonate and sericite alteration is very pervasive throughout the outcrop with tiny quartz veinlets at all angles. The outcrop weathers locally to a rusty brown color.
CONCLUSIONS

The survey of the property does not suggest any evidence of economic mineralization but more mechanical stripping of other potential areas could prove more productive. The areas of potential shown by the geo-chem survey are just south of the base line on 8W, 12W and 16W.
This is a rugged, simple to operate, ONE MAN EM unit. It can be used without line cutting and is thus ideally suited for GROUND LOCATION OF AIRBORNE CONDUCTORS and the CHECKING OUT OF MINERAL SHOWINGS. This instrument utilizes higher than normal EM frequencies and is capable of detecting DISSEMINATED SULPHIDE DEPOSITS and SMALL SULPHIDE BODIES. It accurately isolates BANDED CONDUCTORS and operates through areas of HIGH HYDRO NOISE. The method is capable of deep penetration but due to the high frequency used its penetration is limited in areas of clay and conductive overburden.
| **Range:** | 20,000 to 99,999 in 12 ranges |
| **Accuracy:** | ± 1 μ through operating temperature range |
| **Sensitivity:** | 1 μ |
| **Gradient Tolerance:** | 600 μ/ft. |
| **Power:** | 12 "D" cells |
| **Power Consumption:** | < 50 Joules (Wsec) per reading |
| **Polarizing Power:** | 0.8 A @ 13.5 V for 1.5 sec. (3 second cycle) 0.8 A @ 13.5 V for 3 sec. (6 second cycle) |
| **Number of Readings with 1 Battery Set:** | 2,000 - 10,000 depending on type of batteries |
| **Frequency of Readings:** | 1 every 3 seconds 1 every 6 seconds |
| **Controls:** | Pushbutton switch Range Selection switch - Slide switch for 3 and 6 sec. located on P/C Board |
| **Output:** | 5 digit incandescent filament readout |
| **Indicators:** | LED point Lock Indicator - last three digits of the display blanked off when phaselock not achieved Segment Function Indicator - all segments light up to permit visual inspection of the display function |

**Mechanical:**

| **Instrument:** | Dimensions - 7" X 3.5" X 11" (18 cm X 9 cm X 28 cm) Weight - 8 lbs (3.6 kg) including batteries |
| **Sensor:** | Omnidiirectional noise cancelling toroidal sensing head Dimensions - 4 7/8" (12 cm) diameter 4 3/8" (11 cm) height Weight - 3 lbs (1.4 kg) |

**Ambient Conditions:**

| **Operating Temperature Range:** | -40°F to 131°F (-40°C to 55°C) |
| **Relative Humidity:** | 0 to 100% |

**Environmental:** Instrument and sensor case made of high impact plastic
BIBLIOGRAPHY


I, Leslie Michael Dyment, residing in the township of Marquis, Ontario, and having a mailing address of Jomi Minerals and Expediting Ltd., Box 66, Swastika, Ontario, P0K 1T0, do hereby certify:

(1) That I am a Mining Technician having taken the two year course at Haileybury School of Mines, Haileybury, Ontario.

(2) That I have been employed in all phases of mining exploration and development for 30 years.

(3) That I did personally accumulate and set forth the facts and knowledge in the accompanying report and maps.

(4) That the accompanying report is true.

MAY 3, 1991
SWASTIKA, ONTARIO

LESLIE MICHAEL DYMENT
Report of Work
(Mining Act (Geophysical, Geological and Geotechnical))

Type of Surveys:
- Geophysics: Magnetic
- Ulf-Em

Recorded Holder(s):
J.A. Kidston

Township or Area:
Larder Township

Prospector's Licence No.:
K18401

Address:
Box 66, Swastika, Ont. P0K 1TO

Telephone No. 705-642-3062

Survey Company:

Name and Address of Author (of Geo-Technical Report):
L.M. Dyment, Box 66, Swastika, P0K 1TO

Credit Requested per Each Claim in Columns at Right:

Special Provisions:
- Geophysical
  - Electromagnetic
  - Magnetometer
  - Other
- Geological
- Geochemical

Man Days:
Geophysical
Electromagnetic
Magnetometer
Other
Geological
Geochemical

Airborne Credits:
Electromagnetic
Magnetometer
Other

Total miles flown over claim(s):

Date Recorded Holder or Agent (Signature):

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:
L.M. Dyment, Box 66, Swastika, Ont. P0K 1TO

Date:
May 25/91

For Office Use Only:

Total Days Cr. Recorded:
120

Date Approved as Recorded:
July 4/91

Received:

Certified By (Signature):
Ministry of Northern Development and Mines
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) MAGNETOMETER & ULF-EM
Township or Area GAUTHIER
Claim Holder(s) J.A. KIDSTON

Survey Company SELF
Author of Report L.M. DYMENT
Address of Author BOX 66 SWASTIKA ONT. POKITO
Covering Dates of Survey OCT 2/90 - OCT 10/90
(linecutting to office)
Total Miles of Line Cut 2.98 (15,800 ft)

SPECIAL PROVISIONS CREDITS REQUESTED
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: MAY 25/91 SIGNATURE: Author of Report or Agent

Res. Geol. Qualifications 2.2903

Previous Surveys
File No. Type Date Claim Holder

MINING CLAIMS TRAVERSED
List numerically

TOTAL CLAIMS 3
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<thead>
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<td>Number of Stations</td>
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<tr>
<td>Station interval</td>
<td>100'</td>
</tr>
<tr>
<td>Line spacing</td>
<td>400'</td>
</tr>
<tr>
<td>Profile scale</td>
<td>1&quot; = 10°</td>
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<tr>
<td>Contour interval</td>
<td>50 gammas</td>
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**MAGNETIC**

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<tr>
<th>Instrument</th>
<th>BARRINGER GM-122</th>
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<tr>
<td>Accuracy — Scale constant</td>
<td>± 1 gamma</td>
</tr>
<tr>
<td>Diurnal correction method</td>
<td>Averaging drift over all readings</td>
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<td>1 hour</td>
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<td>Base Station location and value</td>
<td>LINE 0+00 at Baseline (57,934)</td>
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**ELECTROMAGNETIC**

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<tr>
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<td>Coil separation</td>
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<tr>
<td>Accuracy</td>
<td></td>
</tr>
<tr>
<td>Method</td>
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<td>Parameters measured</td>
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**GRAVITY**

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<td>Scale constant</td>
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</tr>
<tr>
<td>Corrections made</td>
<td></td>
</tr>
<tr>
<td>Base station value and location</td>
<td></td>
</tr>
<tr>
<td>Elevation accuracy</td>
<td></td>
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</table>

**INDUCED POLARIZATION**

| Instrument          |     |
| Method              | ☑ Time Domain ☐ Frequency Domain |
| Parameters          | Frequency |
| On time             | Range   |
| Off time            |         |
| Delay time          |         |
| Integration time    |         |
| Power               |         |
| Electrode array     |         |
| Electrode spacing   |         |
| Type of electrode   |         |
SELF POTENTIAL
Instrument _______________________________________________ Range ______________________
Survey Method ____________________________________________________________
Corrections made ____________________________________________________________

RADIOMETRIC
Instrument ________________________________________________________________
Values measured ____________________________________________________________
Energy windows (levels) ______________________________________________________
Height of instrument _________________________________________________________
Size of detector _____________________________________________________________
Overburden ________________________________________________________________
(type, depth — include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)
Type of survey _____________________________________________________________
Instrument ________________________________________________________________
Accuracy _________________________________________________________________
Parameters measured ______________________________________________________
Additional information (for understanding results) ________________________________

AIRBORNE SURVEYS
Type of survey(s) __________________________________________________________
Instrument(s) ______________________ (specify for each type of survey)
Accuracy ______________________ (specify for each type of survey)
Aircraft used ______________________
Sensor altitude ______________________
Navigation and flight path recovery method ______________________
Aircraft altitude ______________________ Line Spacing ______________________
Miles flown over total area ______________________ Over claims only ______________________
GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken

Total Number of Samples

Type of Sample

Average Sample Weight

Method of Collection

Soil Horizon Sampled

Horizon Development

Sample Depth

Terrain

Drainage Development

Estimated Range of Overburden Thickness

**ANALYTICAL METHODS**

Values expressed in:

- per cent
- p. p. m.
- p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As—(circle)

Others—

Field Analysis (_________ tests)

- Extraction Method
- Analytical Method
- Reagents Used

Field Laboratory Analysis

- No. (_________ tests)
- Extraction Method
- Analytical Method
- Reagents Used

Commercial Laboratory (_________ tests)

- Name of Laboratory
- Extraction Method
- Analytical Method
- Reagents Used

**SAMPLE PREPARATION**

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis

General
GAUTHIER.3 PROPERTY
GAUTHIER TWP.
LARDER LAKE MINING DIV.
ULF-EM PROFILES
Instrument: Crone Radem

Scale 1' = 300'
1" = 10'

2.14152
Magnetometer Survey

*Note: Add 57,000 to all Readings*

Scale 1" = 300'