REPORT ON AN
AIRBORNE GEOPHYSICAL SURVEY
in the
MABEL-EVA-ALICE AREA
YUKON, CANADA
for
M.P.H. CONSULTING LIMITED
CONDUCTED BY
GEOTERREX LIMITED
Project 92-106

OTTAWA, ONTARIO
November 1981

P. NORGAARD
Geophysicist.
This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $2,000.

[Signature]

Geological Services for Commissioner of Yukon Territory.
From: Mining Recorder at Whitewhore

To: Supervising Mining Recorder - Whitehorse, Y.T.

FOR ACTION:

New Application for Lease to Prospect: Name__________

Renewal Appl'n Lease to Prospect: Name__________No.

Affidavit of Expenditure on Placer Lease: Name__________No.

Assignment of Prospecting Lease No.__________

From__________To__________

Grouping Appl'n under Sec. 52(2) Yukon Placer Mining Act: Owner__________

Diamond Drill Logs:__________Claim Sheet No.__________

Owner:__________Claim Sheet No.__________

Quartz Assessment Report: H.C.H. Consulting

Claims: F11-20

Type of Report: Underground Geophysical Survey

Submitted By: H.C.H. Consulting

Claims work performed on: F11-20

$ Req. for renewal application: 500

Signature:________________________

Date: 3-7-11-31

Reply action

090904

Date Ref

#38

Signature:________________________

Date:________________________
MAKE OATH AND SAY, THAT:

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):

(Here list claims on which work was actually done by number and name)

FU 1 - 20 inclusive

situated at north of Rose Mountain Claim Sheet No. 105 K 5
in the Whitehorse Mining District, to the value of at least $2,000.00

dollars, since the 25th day of July 1951,

to represent the following mineral claims under the authority of Grouping Certificate No.

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

FU 1 - 20 incl. YA 51045 - YA51064 incl. 1 year renewal

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Work period - July 25th - August 9th, 1981
Nature of work - airborne magnetics and electromagnetics
(Geoterrrex EM 33-3 system)
Report to be forwarded by November 15, 1981
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I. INTRODUCTION

On July 25th to August 18th, 1981 Geoterrex Limited conducted an airborne electromagnetic and magnetic geophysical survey in the Mabel-Eva-Alice Area, Yukon on behalf of M.P.H. Consulting Limited.

This report outlines the survey procedures, data processing, compilation and interpretation of the electromagnetic and magnetic data.

This outlined section of the surveyed area consists of segments from eleven flight lines.
II. INSTRUMENTATION

The survey was conducted with a Squirrel AS-350B helicopter, registered as C-FTPH, supplied by Peace Helicopters Limited of Grande Prairie, Alberta.

The following items of geophysical equipment were utilized during the survey:

- a Geonics EM-33-3 electromagnetic system having two coil orientations and being capable of operating at three frequencies (385 Hz and 3690 Hz for the vertical coaxial coils and 2860 Hz for the horizontal co-planar coils). The transmitter and receiver coil pairs are separated by 17.8 feet, housed in a rigid "bird" carried 100 feet below the helicopter.

- a Varian V-85 proton precession magnetometer system consisting of a sensor coil mounted in a "bird" flown 45 feet below the helicopter.

- a Barringer eight channel analogue chart recorder and five fiducial pens to record the survey data.
- a Madacs digital acquisition system.
- a Sperry radar altimeter consisting of an antenna, a power supply and height indicator.
- various racks necessary to mount the instruments.
- a magnetic ground station consisting of a Geometrics magnetometer, a detector and an analogue chart recorder.

The altitude of the electromagnetic "bird" was normally maintained at 100 feet above the ground surface.
III. PERSONNEL

The following personnel were involved in the performance of this survey:

A. Field Operation

Pilot
J. Pridie
C/O Peace Helicopters Ltd
Box 6757, Stn 'D'
Calgary, Alta

Navigator/Electronic Technician
S. Kiss
13 Whiting Street.
P.O. Box 386
Artarmon, 2064 NSW
Australia

Data Compiler
R. Reyes
2870 Cedarwood Dr. # 716
Ottawa, Ontario

Project Manager/Geophysicist
F. Kiss
70 Aero Drive
Ottawa, Ontario

B. Office Compilation

Data
P. Tallyhoe
1962 Navaho Dr.
Ottawa, Ontario

Drafting
R. Schingh
3004 DuMaurier Ave.
Ottawa, Ontario

Geophysics
B. Konopacki
117 Second Ave. # 3
Ottawa, Ontario

M. Carson
34 Edina Street
Ottawa, Ontario
M.P.H. Consultants Limited was represented in the field by Bill Brereton, geologist.
IV. SCHEDULE OF FIELD OPERATIONS


July 28  Truck arrives in Ross River. EM calibrations and test flights.

July 29 - August 4 Production flights 1,2,3,4, in Mabel-Eva-Alice area. "Bird" hit tree on flight 4.

August 5  Repair of "bird" skirt. Production flight 5 in Mabel-Eva-Alice area.

August 6-7  Production flights 6 and 7 in Mabel-Eva-Alice area. More flights in other assigned areas.

August 8  Test flight with second "bird". Removal of equipment from helicopter. Review of data.

August 9  Helicopter demobilizing from Ross River, Yukon to Grande Prairie, Alberta. Equipment packed in truck for transport.
Truck and crew demobilizing to Whitehorse, Yukon.

August 10-18
Truck and crew depart from Whitehorse, Yukon to Ottawa.
V. CLAIMS COVERED

A total of 20 claims are included in the survey area.

They are:

<table>
<thead>
<tr>
<th>Claim No.</th>
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<tbody>
<tr>
<td>YA 51050 (FU 6)</td>
<td>YA 51050 (FU 6)</td>
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<td>YA 51048 (FU 4)</td>
<td>YA 51060 (FU 16)</td>
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<td>YA 51046 (FU 2)</td>
<td>YA 51062 (FU 18)</td>
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<td>YA 51049 (FU 5)</td>
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<td>YA 51045 (FU 1)</td>
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<td>YA 51053 (FU 9)</td>
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<td>YA 51063 (FU 19)</td>
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<td>YA 51052 (FU 8)</td>
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<td>YA 51054 (FU 10)</td>
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<td>YA 51056 (FU 12)</td>
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<td>YA 51058 (FU 14)</td>
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VI. MILEAGE

Total mileage in the requested section of the Mabel-Eva-Alice area was 12.3 kilometres (approximately 7.7 miles). Lines were spaced 200 metres (1/8 mile) apart and flown in a general north-east-southwest direction.
VII. PROCEDURES AND DATA COMPILATION

The base of operations was Ross River, Yukon.

The flying procedure entailed following a pre-determined flight path from aerial photomosaics at various scales from 1:5,000 to 1:10,000 and continuously photographing the aircraft's actual position. The operator recorded lines, direction of flight and the initial and final fiducial numbers of each flight line on a flight log. Upon completion of the flight, the 35mm tracking film was developed, from which the data compiler then checked the track flown by the aircraft using the photomosaics.

For any given point, the appropriate fiducial number was placed on the photo laydown and the points joined to produce the actual flight path.

A. Electromagnetic Anomaly Map

The electromagnetic results are presented in the form of an Electromagnetic Anomaly Map. The flight lines were plotted on a topographic base at a scale of 1:5,000. The electromagnetic anomalies were then plotted in correct lateral position on these flight lines.
Zones of anomalous conductivity have been delineated.

First a box was drawn which represents the width of the anomaly at one-half the maximum amplitude of the in-phase component. A symbol is then placed indicating the positions of the anomaly peak. This peak is left unshaded if there is no associated magnetic anomaly and is shaded if there is a magnetic correlation. The in-phase and quadrature amplitudes of the anomaly measured in ppm from the Low Frequency channels (385 Hz) are indicated as a proper fraction to the upper left of the anomaly box. The altitude of the helicopter in feet is shown to the upper right of the anomaly box and the amplitude, in gammas, of the associated magnetic anomaly (if any) is seen at the lower right. Offset magnetic anomalies are indicated by an arrow in the direction of the offset.

B. Magnetic Contour Map

The magnetic data are presented in the form of a magnetic contour map. The magnetic values were transcribed onto the flight lines, and the contoured at an interval of ten gammas.
VIII. RESULTS OF SURVEY

Since there are only three responses in this selected area, each one has been noted and discussed.

Zone numbers, line numbers and fiducial numbers are included to facilitate reference to the original records and plan map. The letter 'M' (e.g. M-1) refers simply to the Mabel-Eva-Alice area.

The order of zone number bears no relation to the relative importance of the conductor.
Zone M-1

Priority 3

Line 30(1)S  Flight 3  Fiducial 61157  Ratio -0.5/1.0  Altitude 230

The anomaly is probably reflecting a magnetite conductor. This is supported by its characteristics and its magnetic correlation. The flight film plots this response in bush.

A low priority followup is recommended.
Zone M-2

Line 29(1)N  Flight 3  Fiducial 61580  Ratio 0.5/1.0  Altitude 210

The anomaly is weak and is likely due to a surficial source which has low conductivity. Fitting the anomaly on a homogeneous half space model gives a conductivity of .001 mhos/metres and a near surface depth.

A second possibility could be a deep conductor with low conductivity. The horizontal thin sheet model gives a conductance value of .15 mhos and a possible depth of 220 feet.

The tracking film shows the source is located in bush.

Followup is recommended on a low priority basis.
The anomaly is located near the edge of a river, and may be caused by surficial material.

The anomaly fits the homogeneous half space model which indicates a conductivity value of .001 mhos/metre and a near surface depth.

The response also fits the horizontal thin sheet model (.1 mhos, 100 foot depth).

There is a possible magnetic correlation of 90 gammas.

Low priority followup is recommended.
IX. CONCLUSIONS

This area is fairly resistive. The three noted responses have been given a low priority rating, based on the geophysical information. Geological or geochemical considerations will determine whether or not these three anomalies require any further consideration.

The general magnetic trend is north-south up to an east-west tracking possible fault located in the northern portion of the area, around Lines 24 and 25. North of that fault the contours show an east-west trend.

Respectfully submitted,

[Signature]

P. Norgaard
December 30, 1981.

Mr. D.F. Jennings,
Mining Recorder,
Room 220, Federal Bldg.,
Whitehorse,
Yukon Territory.

Dear Sir: Re: Mineral Claims FU 1-20

Further to your request of December 9th, please find enclosed a Statement of Qualifications for the author of the Geoterrex report. Regarding the above report, it has been brought to my attention that the scale indication on the maps is incorrect. The correct scale is 1:10,000.

I will forward an expenditure statement once we have received final invoicing from Geoterrex.

Yours very truly,

MPH CONSULTING LIMITED

W.E. Brereton, P.Eng.,
Vice President.

WEB/la
Encl.
STATEMENT OF QUALIFICATIONS

I, Peer Norgaard, hereby certify that I am a practicing geophysicist residing at 2 Rebecca Crescent, Ottawa, Ontario. I have been practicing my profession as a geophysicist for the past 22 years and I am a non-resident member of the Association of Professional Engineers of the Province of British Columbia and a member of the Association of Professional Engineers of the Province of Ontario.

[Signature]

The Mining Recorder,
Room 220,
Federal Building,
Whitehorse,
Yukon Territory.

Dear Sir:

Re: FU 1-20 Mineral Claims

Please find enclosed our statement of expenditures and supporting invoices for the above claims.

Yours very truly,

MPH CONSULTING LIMITED

W.E. Brereton, P.Eng.,
Vice President.

WEB/1a
Encl.
STATEMENT OF WORK: Fu 1-20 Claims

A) Airborne Geophysical Surveying (Geoterrex Ltd.)

a) Mabel-Eva-Alice: 345.9 km
   - Newnams: 13.8 km
   - Elkut Orientation: 31.5 km
   - Clear Lake Orientation: 128.0 km

   Total: 519.2 km
   Total survey invoice: $42,438.65

Therefore, expenditure attributable to Fu 1-20

\[ 13.8 \times \frac{42,438.65}{519.2} = 1,127.99 \]

b) Assessment report «Logistics Report»
   Fu 1-20 = $865.63

B) Property Location and General Supervision

W.E. Brereton, P.Eng., 2 days @ $275/day = $550

GRAND TOTAL: $2,543.62

= $127.18 per claim
FORM C (Section 53)

Application for a Certificate of Work

Affidavit

W. E. Breeton of Toronto, make oath and say:

That I have done or caused to be done work on the Mineral Claim No. 5, situated at Rose Mountain, in the Whitehorse Mining District, to the value of at least $100, since the 1st day of July 1981.

The following is a detailed statement of such work:

[See attached]

Sworn and subscribed to at Toronto, Ontario, this 12th day of January 1982.

[Signature]

A Commissioner and Notary Public in and for the Province of Ontario. My commission is for life.
Pay to the Order of Geoterrex Ltd. $42,438.65

----Forty-two thousand, fortyhundred and thirty eight----65/100 Dollars

The Royal Bank of Canada
Twenty King Street West
Toronto, Ontario

Endorsement of attached cheque is sufficient receipt. Detach at perforation

<table>
<thead>
<tr>
<th>Cheque Number</th>
<th>Invoice Reference</th>
<th>Account Reference</th>
<th>Job No.</th>
<th>Job Amount</th>
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<td>6798</td>
<td>R 3333</td>
<td>C-449</td>
<td>42,438.65</td>
<td>42,438.65</td>
</tr>
</tbody>
</table>

TOTAL: $42,438.65

OK W.B.
C-449
R.3333 B/9/30/81

3/6/79 090904
INVOICE:

GEOTERREX LIMITED
INTERNATIONAL RESOURCES and ENGINEERING

60 WALKLEY RD.,
OTTAWA, ONT. K1G 3P5
area code (613) - 731-9571
cable address GEOTERREX

TO:
M.P.H. Consulting
141 Adelaide Street W.
Suite 1506
TORONTO, Ontario
Attention: Mr. W. Brereton

DETAILS
December 23, 1981

92-186

To bill you for amount due upon delivery of the final report and maps:

Interpretation report, EM anomaly maps, Magnetic contour maps
Mable Eva Alice and Grum areas

243.3 miles @ $40.00 per line mile ..........................$ 9,732.00

Logistics report EM anomaly maps and magnetic contour maps for
MEA claims

2 1/2 days data compilation and drafting @ $203.75  
$509.38

1 day Geophysicist @ $356.25  - 356.25
$865.63

Checking and Correcting MEA flight path

2 days data compilation @ $203.75  
$407.50

1 day Geophysicist @ $356.25  - 356.25
$763.75

Four additional copies of the final report @ $45.00 each .. 180.00

TOTAL  $11,541.28

090904