

A REPORT
ON
A GROUND MAGNETIC AND ELECTROMAGNETIC SURVEY

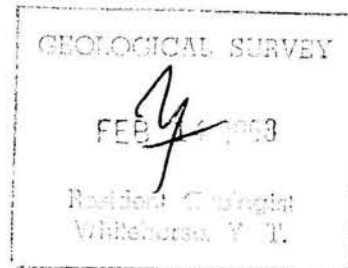
Ross River Area, Yukon Territory

for

Gaylord Mines Limited
Vancouver, British Columbia

by

Eagle Geophysics Limited
Rexdale, Ontario.



November, 1967

This report has been examined by
the Geological Evaluation Unit
approved as to technical worth by:

D. C. Frindley
REGISTERED GEOLOGIST

Approved as to cost in the a. mount
\$ 6400.00

R. S. Ruben
REGISTERED GEOLOGIST

and as preparation work
- Section 35(3) Yukon Quartz
Mining Act.

Arthur Brown
COMMISSIONER OF YUKON

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	1
PROPERTY AND LOCATION	2
PURPOSE	3
GENERAL GEOLOGY	4
SURVEY SPECIFICATIONS	5
DISCUSSION OF RESULTS	6 and 7
SUMMARY AND RECOMMENDATIONS	8
 <u>APPENDIX</u>	
Cost of Surveys	(i)
Personnel Employed on Survey	(ii)
Certification	(iii)
 <u>ACCOMPANYING MAPS</u>	
	<u>MAP POCKET</u>
Electromagnetic Survey 1" = 200 feet	Map No. E-116-1
Magnetometer Survey 1" = 200 feet	Map No. E-116-2

INTRODUCTION

From July 13th to 22nd, August 14th to 16th and September 10th to 12th, 1967, Eagle Geophysics Limited carried out a ground magnetic and electromagnetic survey on a property located in the Ross River area of the Yukon Territory, held by Gaylord Mines Limited.

The survey was carried out over $N45^{\circ}E$ lines which were turned off at right angles from $S45^{\circ}E$ baselines and chained and picketed at 100 foot intervals.

Readings were taken every 100 feet along the picket line using a Ronka E.M.16 electromagnetic unit and a Sharpe M.F.1 fluxgate magnetometer.

The results are shown on plan maps of the line grid, maps E-116-1 and 2, that accompany this report. These maps are at a scale of 1 inch to 200 feet, with the E.M. data in profile form and the magnetic data in contoured form.

PURPOSE

The purpose of the survey was to test for possible occurrences of mineralization on the property that might be expected from its favourable geological environment, and that might be detected by the electromagnetic and magnetic methods, as recommended by a geological report (Ace R. Parker, P.Eng., 1966)

GENERAL GEOLOGY

The reader is referred to a report by Ace R. Parker, P.Eng., November, 1966 (unpublished).

The Grew group is situated on the north side of the Tintina fault zone and is essentially underlain by Mississippian rocks consisting for the most of banded skarn, quartzose granulite, chlorite schist, quartz-sericite schist, hornfels, phyllite, crystalline limestone and feldspar porphyry intrusions.

SURVEY SPECIFICATIONS

The basic principle of any electromagnetic survey is that when conductors are subjected to primary alternating fields secondary magnetic fields are induced in them. Measurements of these secondary fields give indications as to the size, shape and conductivity of conductors. In the absence of conductors no induced secondary fields are obtained.

The electromagnetic survey was carried out using a Ronka E.M.16 unit. This unit utilizes the VLF radio stations that exist for submarine communications, whose vertical antennae create concentric horizontal primary magnetic fields. The receiver, i.e. the E.M.16 unit, measures the vertical components of the secondary fields that might be induced by the primary ones.

The magnetic survey was carried out using a Sharpe M.F.1 fluxgate magnetometer. This instrument measures variations in the vertical component of the earth's magnetic field to an accuracy of ± 10 gammas. Corrections for diurnal variations were made by tying-in to previously established base stations at intervals not exceeding two hours.

Readings with these instruments were taken every 100 feet along the picket lines. In all 23.5 miles of electromagnetic surveying and 25.5 miles of magnetometer surveying were completed.

DISCUSSION OF RESULTS

The magnetic survey showed that the property exhibited generally flat magnetic relief with the exception of several isolated magnetic highs (Map E-116-2). These highs are probably caused by an increase in the magnetite content of the rocks.

The electromagnetic survey indicated the possible existence of 26 conductors of poor to moderate conductivity. These conductors are shown on map E-116-1. Only three of these are considered worthy of further study at the moment and will be best discussed individually. No magnetic correlation is obtained with these or any of the remaining conductors.

Conductor "A" has a strike length of some 1,200 feet and exhibits moderate to poor conductivity. The location of this conductor corresponds with that of a topographic high (Map E-116-1) and while it is thought unlikely that this high is the complete cause of the anomalous readings, (the E.M.16 unit is affected by topography) it precludes any calculations as to depth, width, etc. However in the writer's opinion the depth to the conductor is in the order of 100 feet.

Conductor "B" has a strike length of some 2,600 feet and is not delineated at its eastern extremity. It exhibits poor to moderate conductivity and is associated with a broad topographic high. Although it is unlikely that this high is the total cause of the anomalous readings it does preclude any calculations as to depth, width, etc. However the depth to the conductor would appear to be comparatively large, in the order of some 200 feet.

Conductor "C" has a strike length of some 1,200 feet and exhibits poor to moderate conductivity. Assuming a vertical body, calculations as to the depth of the conductor have been made. These calculations gave depths to the top of the conductor in the order of 200 feet.

The remainder of the conductors do not justify individual discussion at this time but should interesting results be obtained on further investigation of Conductors "A", "B" and "C" they should be reviewed again.

SUMMARY AND RECOMMENDATIONS

From July 13th to 22nd, August 14th to 16th, and September 10th to 12th, 1967, Eagle Geophysics Limited carried out a ground magnetic and electromagnetic survey over the Grew group of claims held by Gaylord Mines Limited.

These claims are situated in the Whitehorse Mining Division of the Yukon Territory, and are situated 15 miles northwest of the settlement of Ross River.

The magnetic survey showed the property to exhibit little magnetic relief with the exception of a few isolated magnetic highs.

The electromagnetic survey suggested the existence of 26 electromagnetic conductors on the property. Only three of these, Conductors "A", "B", and "C" are considered worthy of further investigation at this time.

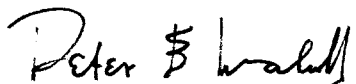
No correlation was obtained between the electromagnetic and the magnetic data.

It is recommended that additional work be done on Conductors "A", "B", and "C" to substantiate their existence. This work should consist of gravity and deep penetration E.M. work (preferably a different system than E.M.16) on 200 foot x 100 foot grids as shown by the blocked out areas on Map E-116-1.

The cost of this additional work, including linecutting would be in the order of \$5,000.00.

Respectfully submitted,

EAGLE GEOPHYSICS LIMITED



Peter E. Walcott, P.Eng.
Geophysicist.

Rexdale, Ontario.

November, 1967

A P P E N D I X

(i)

COST OF SURVEYS

Eagle Geophysics Limited undertook the survey at \$85.00 per line mile for E.M. Surveying and \$65.00 per line mile for magnetometer work, while draughting and interpretation were extra. Therefore the total cost of Services provided by Eagle Geophysics Limited was \$4,637.10.

PERSONNEL EMPLOYED ON SURVEY

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Survey Dates</u>
Peter E. Walcott	Geophysicist	Eagle Geophysics Ltd, P. O. Box 125, Rexdale, Ontario.	September 10th to 12th, November 15th, 16th, 17th, 1967.
V. R. Fallstrom	Geophysical Operator	"	July 13th to 22nd, August 14th to 16th, 1967
G. MacMillan	"	"	" "
V. Pashniak	"	"	September 10th to 12th, 1967
D. Grant	Draughting	"	November 2nd, 5th, 10th, 15th, 17th, 1967
Mrs. D. Longman	Typist	"	November 23, 1967

(iii)

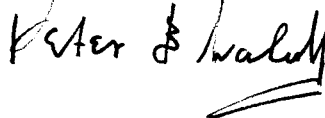
CERTIFICATION

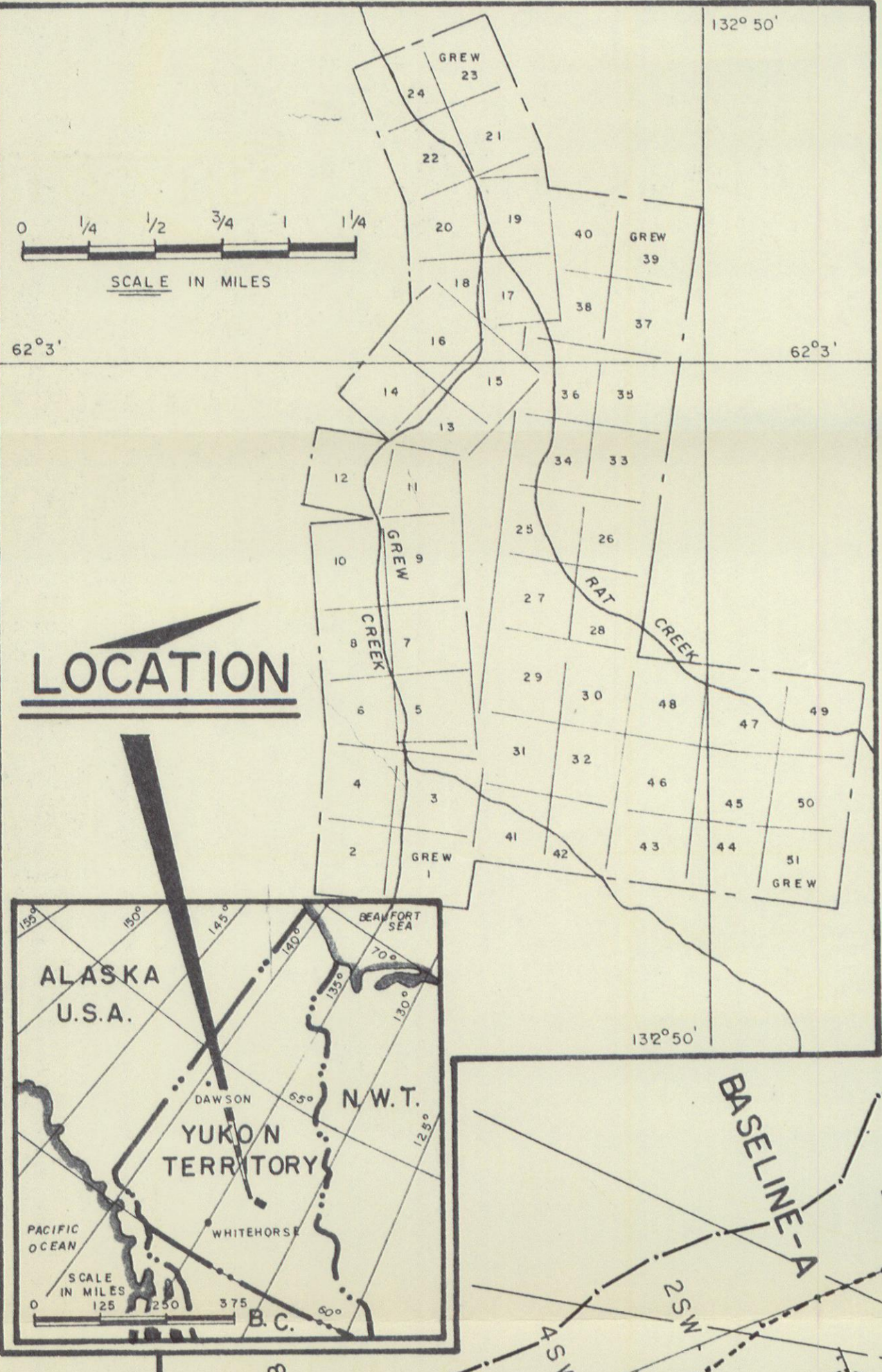
I, Peter E. Walcott, of the city of Weston, Ontario, hereby certify that:

1. I was born in Barbados, W.I. on March 22nd, 1939.
2. I am a graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
3. I have been practising my profession for the last five years.
4. I am a member of the Association of Professional Engineers of the Province of Ontario.
5. I have no shares in Gaylord Mines Limited, nor do I expect to receive any.

November 13th, 1967

Peter E. Walcott, P.Eng.

A handwritten signature in black ink that reads "Peter E. Walcott". The signature is written in a cursive style with a horizontal line underneath the name.



LEGEND
E.M. SURVEY

- IN PHASE PROFILE
- QUADRATURE PROFILE
- TRANSMITTER LOCATION
- MODERATE TO POOR CONDUCTOR
- POOR CONDUCTOR
- CONDUCTOR AXIS
- TOPOGRAPHY REFERENCE PROFILE(LEVEL)
- SYMBOLS
- CLAIM POST, BOUNDARY
- ROAD
- TRACTOR ROAD
- POND OR LAKE OUTLINE
- CREEK
- RIDGE OR CLIFF

GAYLORD MINES LIMITED
GREW CLAIMS, ROSS RIVER - YUKON TERRITORY - WATSON LAKE MINING DIVISION

RONKA E.M. 16
ELECTROMAGNETIC SURVEY

Scale - 1" = 200 FEET

EAGLE GEOPHYSICS LIMITED
TO ACCOMPANY REPORT BY WALLCOTT & BELL
DATED NOVEMBER, 1967
AUG.-SEPT-1967



LEGEND

- MAGNETOMETER SURVEY**
- Contour Interval 100 Gammas
 - 500,000 Gamma Interval Contour
 - 100 Gamma Interval Contour
 - Magnetic Low
 - Base Station
- SYMBOLS**
- CLAIM POST, BOUNDARY
 - ROAD
 - TRACTOR
 - POND OR LAKE OUTLINE
 - CREEK
 - RIDGE OR CLIFF

GAYLORD MINES LIMITED
 GREW CLAIMS, ROSS RIVER - YUKON TERRITORY - WATSON LAKE MINING DIVISION

MAGNETOMETER SURVEY

Scale - 1" = 200 FEET

MAP NO. - E-116-2
 TO ACCOMPANY REPORT BY WALCOTT, P.E.S.
 DATED NOVEMBER, 1967

EAGLE GEOPHYSICS LIMITED
 AUG. - SEPT. - 1967