GETTY CANADIAN METALS, LIMITED

MACMILLAN JOINT VENTURE

ASSESSMENT REPORT

Title: Geology, Soil Geochemistry & Geophysics - Grid 91 East

Author: C.W. Payne

Date: August, 1981

Commodities: Lead, Zinc, Silver

Location: Name of Claim Group - SUB and GET claims
Claim Sheet Numbers - 105L/15
Co-ordinates - Latitude 62°49'N
Longitude 135°05'W

Date Work Was Done: March-June, 1981
This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as reproduction work in the amount of $4,556.75.

[Signature]
Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

[Signature]
Commissioner of Yukon Territory

[Date]
TO Supervising Mining Recorder at Whitehorse, Y.T.

FOR ACTION ARE:

- NEW APPL’N for PLACER LEASE to PROSPECT: Name:
- RENEWAL APPL’N PLACER LEASE to PROSPECT: Name:
- AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name:
- ASSIGNMENT of PLACER LEASE No. From: To:
- GROUPING APPL’N UNDER SEC. 52(2) PLACER MINING ACT. Owner:
- DIAMOND DRILL LOGS:
  - Claims:
- QUARTZ ASSESSMENT REPORT:
  - Claims: GET CLAIMS
  - Type of report: GEOLOGY, SOIL GEOCHEMISTRY, GEOPHYSICS
  - Cls. work performed on: GET B 5, 7, 9 etc.

REPLY ACTION.

090851
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Figure 4: Zinc in Soils
Scale 1" to 200' ................... back pocket

Figure 5: Silver in Soils
Scale 1" to 200' ................... back pocket

Figure 6: Max Min II EM Profiles - 1,777 Hz.
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Figure 7: Max Min II EM Profiles - 444 Hz.
Scale 1" to 200' ................... back pocket
# LIST OF SUE CLAIMS ON WHICH SURVEYS WERE CARRIED OUT - MARCH-JUNE, 1981

<table>
<thead>
<tr>
<th>Grant Number</th>
<th>GET B Number</th>
<th>Holder of claims - Getty Canadian Metals, Limited</th>
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<tr>
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SUMMARY AND CONCLUSIONS

This report describes the results of mapping-prospecting soil geochemistry and Max Min II electromagnetic surveys carried out during March-June, 1981, on a selected airborne EM anomaly, Grid 91 East.

Grid 91 East is underlain by phyllitic limestone containing minor intercalations of graphitic phyllite which have been folded into a syncline.

No mineralization was reported during mapping and prospecting.

A total of 88 soil samples were obtained from Grid 91 East. Soil geochemical analyses show anomalous areas in lead, zinc and Ag. It is believed the anomalies are caused by metal values in the underlying bedrock.

The Max Min II electromagnetic survey outlined a conductor with a strike length of 3,000 feet and it varies in width from 370' to 900'. The conductor is open in both east and west directions.

The conductivity is believed to be caused by graphitic phyllite.
RECOMMENDATIONS

Further exploration is warranted on Grid 91 East. It is recommended that mapping-prospecting be continued to the east of the grid area to find an explanation of the Zn and Ag soil geochemical anomalies.
INTRODUCTION

The SUE claims are currently held by Getty Canadian Metals, Limited and Essex Minerals Canada for the MacMillan Joint Venture.

The claims are located to cover geological formations believed to be similar to those at Vangorda Creek, sixty miles to the southeast.

During March-June, 1981, geology, soil geochemistry and Max Min II electromagnetic surveys were carried out on part of the SUE & GET claims as a follow-up to an airborne input EM survey.

A total of 4.5 miles of picket lines, including baselines and tielines, were cut and chained to establish Grid 91 East.

The work described herein was conducted by and under the direct supervision of C.W. Payne. The writer laid out the programme and evaluated the results based on the data presented herein.
Location and Access

The MacMillan Joint Venture claim group, centered at 62°49'N latitude, 135°05'W longitude, is located east of the confluence of the MacMillan and Pelly Rivers, central Yukon (see fig. 1). Access can be gained in three ways:-

i) via fixed-wing aircraft from Whitehorse or Pelly Crossing, distances of 160 and 40 miles respectively. A dirt airstrip, 150' side and 3,000' long, situated immediately west of the Clear Lake deposit, can accommodate planes up to a DC-3.

ii) via helicopter from a base in Carmacks, a distance of 50 miles.

iii) via winter tote road from Pelly Crossing, road distance of approximately 40 miles.

Access during the 1981 winter-summer exploration programme was via fixed-wing aircraft and helicopter.

Physiography and Climate

The Venture area covers a series of gently rolling hills and ridges referred to as the Tummel Basin. Elevations range from 1,760' ASL at Pelly River to 2,400' ASL on the hilltops.
MACMILLAN JOINT VENTURE
LOCATION

GETTY MINES, LIMITED
The climate is sub-arctic with long cold winters and short cool summers. Temperatures range from $-40^\circ F$ to $80^\circ F$. Annual precipitation is 20-30 inches.

The Joint Venture claims area is underlain by numerous small lakes and swamps which make line-controlled ground geophysical surveys very difficult in summer, therefore, most geophysical surveys have been carried out during the winter months.

**GENERAL GEOLOGY**

The area of interest comprises a belt of Paleozoic metasedimentary and metavolcanic rocks which are similar to and along strike to the northwest of the Anvil mining district. The favourable horizon is a series of Cambrian-Ordovician aged phyllites which are locally, strongly graphitic. The latter rocks have been observed on the SUE claims both in outcrop and drilling.

Reconnaissance mapping of the SUE claims indicates very little outcrop is present and locally, overburden depths may exceed 100'.
Earlier mapping in the SUE claims area (105L) was done by R.B. Campbell (1967). Further mapping to the east and southeast was done by Roddick and Green (1961) and Templeton-Kluit (1972).

**MAPPING AND PROSPECTING OF GRID 91 EAST**

Mapping and prospecting of Grid 91 East was undertaken to investigate the cause of EM conductors located on the grid. Results of this mapping and prospecting are shown in Figure 2.

Grid 91 East is underlain by phyllitic limestone with minor intercalations of graphitic phyllite.

The limestone (Unit 5d) is light grey in colour and medium-to-course grained. Locally, the limestone exhibits a clastic texture and contains small blebs of siderite. Calcite and chlorite has formed along the $S_1$ foliation. Intercalated with the limestone is 1' thick beds of graphitic phyllite. The graphitic phyllite contains localized patches of chlorite along the $S_1$ foliation.

**Structure**

A syncline is defined by the $S_2$ foliation while the $S_1$ foliation follows bedding.
LEGEND

PHYLLITIC LIMESTONE and
GRAPHITIC PHYLLITE

SYMBOLS

Si FOLIATION (inclined, vertical)
S2 FOLIATION
OUTCROP
SYNCLINE AXIS
CONTOUR, ELEVATION in FEET
CONTOUR INTERVAL 50 FEET

TO ACCOMPANY ASSESSMENT REPORT
Geology, Soil Geochemistry &
Geophysics - Grid 91 East

Figure 2
MACMILLAN JOINT VENTURE
GRID 91 EAST
GEOLOGY

DRAWN BY: DATE: AUG. 1961
CHECKED BY: DRAWN BY: SCALE 1" = 600'
MACMILLAN JOIN VENTURE

 Getty Canadian Metals, Ltd.
MINERALIZATION

No mineralization was reported during mapping and prospecting of the area.

GEOCHEMICAL SOIL SURVEY - GRID 91 EAST

A reconnaissance soil geochemical survey was carried out on Grid 91 East. Samples were taken every 200' along crosslines spaced 500' apart.

The objective of the survey was to determine the presence and extent of anomalous metal content that could be inferred as being derived from massive sulphides.

A total of 88 soil samples were collected from the B horizon and analysed for Pb, Zn, and Ag by Acme Laboratory, Vancouver. Analytical procedures are given in Appendix I.

RESULTS

Lead

Lead values range from 1 to 38 ppm (see Fig. 3). Statistical treatment (second standard deviation) of the data suggests:

i) Background population is 1-10 ppm

ii) Three anomalous samples, 29, 30 and 38 ppm, are present.
Two anomalies are present.

Anomaly 1 is located on lines 35W, stn. 18S and 30W, stn. 20S. Lead values range from 29 to 38 ppm. The anomaly is open to the west. Anomaly 1 is located close to bedrock and reflects lead concentrations in the limestone.

Anomaly 2 is located on line 25W, stn. 14S with a lead value of 30 ppm. This is a one sample anomaly which occurs close to a small pond which would allow lead to accumulate.

Zinc

Zinc values in the area sampled range from 9 to 255 ppm (see Fig. 4). Statistical treatment of the data suggests:

i) Background population is 1-72 ppm.

ii) Three samples were anomalous, 154, 225 and 255.

Anomaly 1 is located on lines 5W, stn. 18S and 10W, stn. 18S. Zinc values range from 154 to 255 ppm. The anomaly is open to the east. The anomaly reflects the mobility of zinc through shallow overburden.

Anomaly 2 is located on line 10W, stn. 8S. This is a one sample anomaly of 225 ppm zinc.
Silver

Silver values range from 0.1 to 0.7 ppm (see Fig. 5).
Statistical treatment of the data suggests:

i) Background population is 0.1-0.2 ppm.

ii) Five anomalous samples range from 0.5 to 0.7 ppm.

One anomalous area is present.

Anomaly 1 is located on lines 10W, stn. 18-20S, 5W, stn. 18-22S. Silver values range from 0.5-0.7 ppm. The anomaly is open to the east. The overburden in this area is shallow and the anomalous values reflects silver concentrations in bedrock.

MAX MIN II ELECTROMAGNETIC SURVEY - GRID 91 EAST

Description of Method and Equipment

The survey was completed using an Apex Parametrics Max Min II horizontal loop EM system (instrument specifications Appendix II). Coil separation was maintained at 400'. Readings were obtained at 100' station intervals along picket lines. Readings were taken at two frequencies, 444 Hz and 1,777 Hz.

Discussion of Results

One conductor was outlined on Grid 91 East (see Figs. 6 & 7).
Conductor 1 was traced for 3,000' in length with both the east and west end of the conductor remaining open. Conductor 1 has a strike direction of 115°AZ. Conductor 1 is 500' wide on line 35W and narrows in conductivity width to line 10W where it is 370' wide. On line 5W the conductor widens again to 900'.

Conductivity of conductor 1 is strong on line 35W and then appears to fluctuate between moderate and weak to line 5W. Conductor 1 is caused by graphitic phyllite within the limestone unit.
REFERENCES


APPENDIX I

ACME ANALYTICAL LABORATORY

Cu, Pb, Zn, Ag*

Sample Preparation
Soil samples are dried at 75°C and sieved to -80 mesh.
Rock samples are ground to -100 mesh.

Digestion
A .50 gram sample is digested with dilute aqua regia in a boiling water bath and diluted to 10 mls with demineralized water.

Determination
All the above elements are determined by Atomic Absorption from this solution.

* With background correction.
APPENDIX II

APEX MAXMIN II EM SYSTEM SPECIFICATIONS

OPERATING FREQUENCIES: 222, 444, 888 and 1777 Hz

COIL SEPARATIONS: 100, 200, 300, 400, 600 and 800 feet

MODES OF OPERATION:
(a) Tx coil plane and Rx coil plane horizontal (Horizontal loop mode).
(b) Tx coil plane horizontal and Rx coil plane vertical (Minimum coupled mode).

PARAMETERS MEASURED: In-Phase and Quadrature component of the secondary field.

READOUTS: Automatic, direct readout on 3½” size meters.

SCALE RANGES:
In-Phase: ±20% normal, ±100% by switch.
Quadrature: ±20% normal, ±100% by switch.
Inclinometers: ±150% tilt.

READING REPEATABILITY: ±1/2 to ±1%

RX BANDWIDTH (-3dB): 0.2 Hz nominal

RX INTERNAL NOISE: Negligible

TX DIPOLE MOMENTS:
150 A•m² @ 222 Hz, 150 A•m² @ 444 Hz,
75 A•m² @ 888 Hz, 50 A•m² @ 1777 Hz.

TX POWER SUPPLY: Four 9V batteries (transistor radio type)

RX POWER SUPPLY: Three 6 V alkaline lantern batteries in a separate battery pack. Optionally one 12V 8Ah rechargeable Gel Cell.

REFERENCE CABLE: Light weight, low friction unshielded cable. Unit supplied with 200, 400 and 600 ft cables, other lengths optional.

WEIGHT OF RX UNIT: 13 lbs.

WEIGHT OF TX UNIT: 30 lbs.

OTHER MAIN FEATURES: Built-in Intercom system for communication between receiver and transmitter unit. Signal and reference warning lights to indicate erroneous readings.

FURTHER INFORMATION:
PHONE (416) 491-6388 or WRITE TO: 855 YORKLAND BLVD, WILLOWDALE, ONTARIO, CANADA M2J 1S3
APPENDIX III

PERSONNEL

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Getty Mines, Limited
#509-700 West Pender Street
Vancouver, B.C. V6C 1G8

Diane Howe

Ed McCrossan

Nicole Gillard

Larry Elgert

Dave C. Bingham
Can-Lake Explorations Ltd.
#1-4001-19th Street N.E.
Calgary, Alberta T2E 6X8

Henry Zurloff

Sean Willis

Stan Martin
APPENDIX IV

Linecutting, Chaining and Geophysical Work

MacMillan Joint Venture

March-June, 1981

<table>
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<tr>
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<th>Baseline</th>
<th>Picket Line</th>
<th>Max Min II Survey</th>
<th>(Dollar Value)</th>
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APPENDIX V

Statement of Expenditures
MacMillan Joint Venture
SUE CLAIM GROUP
March-June, 1981

Salaries
 Getty (Mapping-Prospecting, Soil Geochem). $484.58
 Can-Lake (Max Min II Survey) $1,264.85

Equipment Rental
Max Min II Unit (2 days) $120.00
Radio (2 days) $16.00

Aircraft Charter
Helicopter & Fuel 1.83/hr @ $350/hr. $1,391.13
                     2.00/hr @ $375/hr

Fixed Wing (supply) $573.18

Board
Five (5) people @ $20/day for 2 days $200.00
Five (5) people @ $20/day for 3 days $300.00

Fuel
Five (5) people (Heating) $207.01

TOTAL $4,556.75

I certify the above to be a true and correct statement of costs and expenditures.

C.W. Payne
GETTY CANADIAN METALS, LIMITED
I, C.W. Payne, hereby certify that:-

1. I am a geologist residing at #401-2326 Eton Street, Vancouver, B.C.

2. I received a Master of Science degree in Geological Sciences from Brock University in 1979 and have been practising my profession since that time.

3. I am the author of this report and directed the overall conduct of the programme described herein.

4. I am employed as a geologist by Getty Mines, Limited.

C.W. Payne
Geologist