GEOLGICAL, GEOCHEMICAL
AND GEOPHYSICAL REPORT

ON THE
MOOSE 1 to 20 MINERAL CLAIMS

located on
Maxwell Creek, 20 miles N.E. of Clearwater
Latitude 51°54', Longitude 119°44'

Kamloops Mining Division
British Columbia

By
W. D. Cowan, P. Eng.

For
CARIBOO SYNDICATE
during
August 9th - September 2nd, 1972
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SUMMARY AND RECOMMENDATIONS

A number of small massive sulphide lenses in garnetiferous quartz-biotite schistose gneiss form small sporadically distributed knobs in a highland meadow. The line circumscribing all known massive sulphide outcrops defines a mineralized area 3000 feet long and 400 feet wide. Neither the geophysical anomalies nor the geochemical anomalies coincide with the mineralized area. There is no coincidence between geophysical anomalies and the geochemical anomalies. No evidence of a hidden massive sulphide body was found by the exploration surveys.

It is recommended that assessment work be filed on Moose #2, #4, #11 and #13 mineral claims.

Vancouver, B.C.
November 3, 1972
CARIBOO SYNDICATE

MOOSE 1 - 20 MINERAL CLAIMS

PROPERTY LOCATION MAP

BRITISH COLUMBIA

SCALE: 1" = 125 MILES
INTRODUCTION

The twenty Moose mineral claims were staked to obtain the area containing small lenses of massive pyrrhotite and the areas containing any possible buried extensions of the exposed mineral occurrences.

The purpose of the exploration surveys was to find evidence of buried massive sulfide bodies, which would probably have similar physical and chemical characteristics, but be much larger than the small pyrrhotite lenses now exposed in the mineralized area.

This report deals with the geological mapping and with the geochemical and geophysical surveys on the Moose claims from August 7th to September 10th, 1972, by W. D. Cowan assisted by H. Naylor, W. van der Poll, C. Wilson, W. Raymond, R. White, W. Davidson and G. Wittal.

About six miles of control grid were established by tape and compass traverse. The baseline was cut and picketed for 16,000 feet. Cross lines were set-off at 800 foot intervals, and control stations were picketed at 200 foot intervals on alternate lines. On intermediate cross lines the control stations were flagged.
The claims were staked by Colin Wilson as agent for L. G White on August 9th, 1972. Pertinent claim data is tabulated below:

<table>
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<tr>
<th>Claims</th>
<th>Tag Numbers</th>
<th>Record Numbers</th>
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<tr>
<td>Moose #1</td>
<td>86631M</td>
<td>121679</td>
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<tr>
<td>#2</td>
<td>32M</td>
<td>80</td>
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<td>#3</td>
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<td>#20</td>
<td>347574M</td>
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LOCATION, ACCESS, TOPOGRAPHY AND VEGETATION

The Moose mineral claims are located 20 miles northeast of Clearwater, B. C., at the headwaters of Maxwell Creek, latitude $51^\circ 54'$ and longitude $119^\circ 44'$. (See Figure 1).

The property can be reached by walking for three miles up Maxwell Creek from the mile 37 marker on the Raft River Road.

The property is at an elevation of 5000 feet on an highland plateau where there is not much topographic relief. The plateau dips gently to the southeast.

Vegetation varies from highland meadow in the north to coniferous forest, now being prepared for logging, in the south.

GEOLOGY

The rocks outcropping on the Moose claims have been classified macroscopically as garnetiferous quartz-biotite schistose gneiss, graphite-biotite schist, graphitic garnetiferous quartz-biotite schist and leucocratic muscovite granite. (See figure 2).

Garnetiferous quartz-biotite schistose gneiss is the most abundant rock type. It forms massive outcrops on the north-western claims, and it also envelopes small pyrrhotite lenses in the mineralized area. The rock is thinly laminated, and the laminations vary somewhat in appearance and composition. Milky-white quartz lenses that lie concordant with the foliation are found in many of the outcrops. Some of the quartz lenses contain crystals of kyanite.

The graphite-biotite schist and graphitic garnetiferous quartz-biotite schistose schist occur as graphite rich laminae in the garnetiferous quartz-biotite schistose gneiss. Graphitic laminae in layers six inches to a foot thick outcrop at the northern end of the base line.
Boulders and cobbles of olivene basalt are found throughout the survey area. Although no outcroppings of this rock were observed, the float rock has a probable local origin.

A line drawn to circumscribe all observable occurrences of massive pyrrhotite encloses an area 3000 feet long and 400 feet wide. The pyrrhotite lenses are sporadically distributed throughout the mineralized area in small outcrops of garnetiferous quartz-biotite schistose gneiss. Chalcopyrite and quartz are found in minute hairline fractures in the massive pyrrhotite. An average sulfide lens that is five feet long and three feet wide contains 0.05 percent copper and a trace of silver, gold and nickel.

### GEOCHEMISTRY

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Type of Sample</th>
<th>No. Collected</th>
<th>Horizon</th>
<th>Depth of Sample</th>
</tr>
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<tbody>
<tr>
<td>Procedure</td>
<td>Soil</td>
<td>100</td>
<td>B</td>
<td>8 in. -12 in.</td>
</tr>
<tr>
<td>Procedure</td>
<td>Soil</td>
<td>200</td>
<td>C</td>
<td>12 in. -24 in.</td>
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</tbody>
</table>

**Location Control:** Samples taken at 200 foot intervals on cross lines spaced at 800 feet.

**Method of Sample Collection:** By soil auger.

**Method of Analysis:** Atomic absorption spectrometry, hot extraction with HClO₄ - HNO₃.

**Packaging:** Kraft paper envelopes.

**Preparation:** Standard procedures were followed.

**Laboratory:** Vancouver Geochemical Laboratories Ltd.
1521 Pemberton Ave., North Vancouver.

**Supervising Chemist:** C. Chun.
Zinc ppm.

Cumulative Frequency %

Number of Samples: 310
Background: 10 ppm
Threshold: 100 ppm

Moose Claims
Cumulative Frequency Diagram
Zinc Distribution in Soil

Assessments

Mar. 28, 2023

No. 3936
Woll.

Threshold:
Background:
Number of Samples:

FIGURE 6
MAGNETIC SURVEY

Procedure

**Instrument:** Sharpe MF-1 magnetometer, serial #908474, rented from Scintrex Ltd.

**Location Control:** Control stations at 200 feet on cross lines separated by 800 feet, intermediate stations established by pacing.

**Survey Procedures:** Base line was surveyed initially to provide control for a diurnal correction; the magnetometer reading at station 80400 was set at 1000 gammas; the area was surveyed in loops that were traversed in less than two hours; readings were taken at 100 foot intervals.

Interpretation

Magnetic anomalies are very narrow and assume two prominent directions, oblique to the foliation. (See Figure 7). These narrow magnetic anomalies are not coincident with outcrops of massive pyrrhotite, which seem to have no magnetic response. The anomalies were probably induced by conjugate sets of basaltic dykes intruded along pre-existing fractures.
Interpretation

Cumulative frequency diagrams for the distribution of copper and zinc in soil show that copper concentrations above 60 ppm are anomalous, and that zinc concentrations above 160 ppm are anomalous. (See Figures 5 and 6).

Soil samples containing anomalous zinc concentrations are sparse, and there does not appear to be a chemically responsive zinc sulfide body within the survey area. (See Figure 4).

Anomalous copper concentrations occur in soil lying against massive outcrops of gneiss that shows no evidence of mineralization. The anomalies also lie up-slope from the mineralized area and are not coincident with the geophysical anomalies, but axial directions of the magnetic and geochemical anomalies are similar. The anomalies have probably been induced by basaltic dykes with background copper concentrations three to four times higher than that of the gneissic rock. (See Figure 3).

High magnitude anomalous copper samples were collected from a large boggy area. The samples were collected from sand and fine gravel that is covered by 20 inches of loosely consolidated organic soil. There is little likelihood that the anomaly overlies a copper sulfide body, and they are of hydromorphic origin.

There are two explanations to account for the anomalous copper concentrations. Firstly, copper could have accumulated by precipitation, from rising ground water, or the sands from where the samples were collected are old stream beds with anomalous copper concentration in the sediments.
Moose Claims
Cumulative Frequency Diagram
Copper Distribution in Soil

Department of Mines and Petroleum Resources
ASSessment Report
No. 3935 Map #2

Background: 30 ppm
Threshold: 66 ppm

Number of Samples: 300
ELECTROMAGNETIC SURVEY

Procedure

Instrument: Sharpe SE-300, serial #806130, rented from Scintrex Ltd.

Frequency range: 400 and 1600 cps.

Separation: Up to 1200 feet for +5 degree deflection for 1600 cps. and 600 feet for +5 degree deflection for the 400 cps.

Location control: Control stations at 200 feet on cross lines separated by 800 feet.

Coil Configuration: Vertical loop, transmitter coil is held vertically and the receiver coil is held horizontally and rotated about on horizontal axis pointing at the transmitter.

Frequency used: 1600 cps.

Reconnaissance Procedure: Parallel line method, reading taken at the same longitude along parallel cross lines inclined at approximately 90 degrees to the strike of a massive sulfide body; reading at 200 foot interval; coil separation 800 feet.

Detailed Procedure: Transmitter located on trace of reconnaissance anomaly; cross lines established by pace and compass traverse at 200 foot intervals perpendicular to the trace of anomaly; readings taken every 50 feet; coil separation less than 400 feet.

Interpretation

There are well defined cross-overs along the northern end of the base line. (See Figure 7). The surface trace of the electromagnetic (EM) anomaly, defined by the cross-overs, follows a shallow gully.
which has no rock outcrops. The mineralized zone lies on the western edge of the gully; barren gneisses outcrop on the eastern edge of the gully and graphitic laminae are found along the northern extremities of the gully. There is no coincidence between the EM anomaly and the geochemical or magnetic anomaly. A graphic shear is thought to have induced the EM anomaly.
## PERSONNEL AND DATES

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<th>Name</th>
<th>Position</th>
<th>From</th>
<th>To</th>
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<tr>
<td>D. Cowan</td>
<td>Supervisor</td>
<td>August 25th</td>
<td>September 3rd</td>
</tr>
<tr>
<td>H. Naylor</td>
<td>Geologist</td>
<td>August 24th</td>
<td>August 31st</td>
</tr>
<tr>
<td>W. van der Poll</td>
<td>Geologist</td>
<td>September 1st</td>
<td>September 3rd</td>
</tr>
<tr>
<td>C. Wilson</td>
<td>Prospector</td>
<td>August 10th</td>
<td>September 3rd</td>
</tr>
<tr>
<td>W. Raymond</td>
<td>Technician</td>
<td>August 10th</td>
<td>August 29th</td>
</tr>
<tr>
<td>R. White</td>
<td>Helper</td>
<td>August 10th</td>
<td>August 29th</td>
</tr>
<tr>
<td>W. Davidson</td>
<td>Prospector</td>
<td>August 10th</td>
<td>August 16th</td>
</tr>
<tr>
<td>G. Wittal</td>
<td>Helper</td>
<td>August 16th</td>
<td>August 31st</td>
</tr>
</tbody>
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## COSTS

- **Wages:**
  - Cowan, D.: 10 days @ $55.00 = $550.00
  - Naylor, H.: 8 days @ $40.00 = $320.00
  - van der Poll, W.: 3 days @ $30.00 = $90.00
  - Wilson, C.: 25 days @ $30.00 = $750.00
  - Raymond, W.: 19 days @ $30.00 = $570.00
  - Davidson, W.: 19 days @ $30.00 = $570.00
  - White, R.: 19 days @ $20.00 = $380.00
  - Wittal, G.: 16 days @ $20.00 = $320.00

  Total Wages: $3,550.00

- **Camp & subsistence:**
  - 119 days @ $15.00 per day = 1,785.00

- **Vehicle:**
  - 15 days @ $20.00 per day = 300.00

- **Equipment Rental:**
  - MF-1 Magnetometer, Serial #908474: $596.00
  - Sharpe SF-300: $86130

  Both rented for 18 days

- **Assays and Analyses:**
  - 300 analyses @ $2.00 per analysis = 600.00

- **Helicopter:**
  - 3 hrs. @ $160.00 per hour = 480.00

- **Preparation of Report and Drafting:**
  - 600.00

Total Costs: $7,911.00
Declared before me at the city of Vancouver, in the Province of British Columbia, this day of November 1972, A.D.

A Commissioner for taking Affidavits within British Columbia
A Notary Public in and for the Province of British Columbia.

Sub-mining Recorder
CERTIFICATE

I, William Donovan Cowan, of the City of Vancouver, in the Province of British Columbia, HEREBY CERTIFY AS FOLLOWS:

1. That I am a Registered Professional Engineer of the Province of British Columbia.

2. That I am a graduate of McGill University and the University of Alberta, and that I have practised my profession for twelve years.

3. That I was directly responsible for the exploration work on the Moose 1 - 20 mineral claims.

Dated at Vancouver, B. C., this 9th day of November, A. D. 1972

[Signature]
W. D. Cowan, P. Eng.
LEGEND

MAGNETIC CENTER
200 CAMERON CENTRAL SECTION

M-7
3935

CARIBOO SYNDICATE
MOSS' LID MINERAL CLAIMS
MAGNETOMETER SURVEY

MAGNETIC CENTER  
200 CAMERON CENTRAL SECTION

M-7
3935

CARIBOO SYNDICATE
MOSS' LID MINERAL CLAIMS
MAGNETOMETER SURVEY