REPORT ON
GEOCHEMICAL SURVEY
AND BLASTING-SAMPLING
EARLY, GAP AND COLMAN CLAIMS
of
HUDSON BAY EXPLORATION AND DEVELOPMENT CO. LTD.
and
SHUMAL CLAIMS
of
B. WATSON (H.B.E.D. OPERATOR)

SKEENA M.D. 103-P/11
55° 35'N 129° 16'W

Kenneth J. Taylor
October 28, 1981
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SUMMARY & CONCLUSIONS

The 1981 fieldwork on the SHUMAL, EARLY, GAP and COLMAN claims consisted of a 2.50 kilometer geochem survey as well as the blasting and sampling of six showings. The geochem survey located three single station anomalies which showed no length. It was therefore concluded that these anomalies were caused by small erratic mineral occurrences of little significance. The blasting and sampling of several showings on the GAP claim indicated the presence of erratic sulphides, generally of subeconimic grades.

In light of the poor results it is recommended that no further work be done on the property and the option be terminated.

INTRODUCTION

During the summer of 1980, the SHUMAL claims were submitted to Hudson Bay Exploration by Mr. Barry Watson of Whitehorse. The claims were staked over an area of numerous pyritic rhyolite breccia boulders which locally contained appreciable lead, zinc, and silver values. Prospecting by Hudson Bay personnel located the likely source for the mineralized boulders just outside the southwest corner of the SHUMAL claims. The COLMAN, EARLY and GAP claims were staked to cover this showing and any possible extensions.

In December of 1980, the final agreement for the optioning of the SHUMAL 1 and 3 claims was signed.

The report which follows describes the soil geochemical survey and blasting and resampling program which was carried out on the property in 1981.

LOCATION & ACCESS

The claims are located approximately 16 kilometers northeast of Alice Arm near the headwaters of Lahte Creek at latitude 55°34' and longitude 128°16' (see Fig. 1).

Access to the area is by helicopter with the nearest road, the Tchitin logging road, some 15 kilometers away. Vancouver Island Helicopters maintains bases at both Kitsault, 20 kilometers southwest and Stewart, 150 km northwest. Supplies are available at both these centers.

PHYSIOGRAPHY & GLACIATION

The topography in the area surrounding the claims is typical of the Coast Range being extremely rugged. The showing occurs near the floor of a broad
Fig. 1. Location of the SHUMAL-EARLY-GAP-COLMAN Property.
U-shaped glacial valley which hosts the southern tributary of Lahte Creek. The walls of the valley rise steeply from about 600 meters to over 1800 meters above sea level. A recent major landslide which occurred directly across from the showing has blocked off a portion of Lahte Creek resulting in the formation of a small lake.

The western part of the claim area is largely devoid of vegetation although the valley bottom is covered by thick glacial and fluvial debris. The eastern claim area, on the other hand, is densely vegetated with tag alder, willow and buck bush in the valley bottom while black spruce and balsam fir prevail on the upper slopes of the valley.

Glaciation has played an important role in the evolution of the area. As mentioned the showing occurs within a broad U-shaped valley. Glacial ice which still remains at the head of the valley supplies much of the water which feeds Lahte Creek. Morrainal gravels often rim the valley margins while outcrops commonly have been polished and striated. On the southern slope of the property a hanging valley is exposed at the mouth of the Illiance River valley. The property lies on the southeastern margin of the Cambria Icefields which encompass an area of about 300 square miles.

HISTORY

The SHUMAL 1 and 3 claims were part of four twenty unit blocks staked in April 1980 by Mr. Barry Watson and Mr. Brian Robertson, both of Whitehorse, Y.T. The claims were staked to cover the potential source area for mineralized boulders discovered along the banks of Lahte Creek. While assessing the potential of the property for possible option, Hudson Bay Exploration personnel located the probable source for the mineralized float approximately 800 meters west of the SHUMAL 1 southwest boundary. Research suggests this corresponds with the old 'LEFT OVER' showing discovered in the early 1900's. The EARLY and GAP claims were staked to cover the showing area and the COLMAN claims added later. Additional mapping of the showing area indicated the zone was not as promising as originally thought however it was decided to proceed with the option anyway based on the potential of the area. The final option agreement was signed on December 1, 1980.
CLAIMS

The SHUMAL-EARLY-GAP-COLMAN claim groups are located within the Skeena Mining Division on NTS Mapsheet 103-P/11.

The status of the existing claims as of October, 1981 is shown below and on Fig. 2.

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FIG. 2 - Location of the SHUMAL-EARLY-GAP-COLMAN Claims.
GEOLOGY

The SHUMAL-EARLY-GAP-COLMAN claims lie along the western margin of the Intermontane Belt which is flanked by the Coast Crystalline Belt to the west and the Omineca Crystalline Belt to the east. Within this area, a series of volcanics and sedimentary rocks occur.

The Jurassic Hazelton rocks host the mineralized showings in the area and consist of red and green fragmental volcanics of possible pyroclastic origin. A local rhyolitic breccia unit has been silicified and pyritized as well as impregnated with galena, sphalerite and chalcopyrite locally. These rocks are overlain by the Bowser Lake sedimentary package, also of Jurassic age, which consists of cherty siltstones and argillites.

GEOCHEMISTRY

A total of 52 soil samples were collected on the property and analyzed for copper, lead, zinc and silver. These were taken along two 1250 meter long reconnaissance lines (200 meters apart) established by compass and hip-chain. Stations were spaced every 50 meters along these lines. Samples were obtained by digging down to the 'B' soil horizon with a mattock and then placing approximately 150 grams of this material into kraft soil envelopes. Samples were then air dried and shipped to Acme Analytical Labs in Vancouver for analysis.

Sample Preparation

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

Digestion

A 0.50 gram sample is digested with Aqua Regia in boiling water bath and diluted to 10 mls. with demineralized water.

Determination

All the above elements are determined by Atomic Absorption from the solution and given as parts per million (p.p.m.).

(*) with background correction

It is known from other work in the area that the threshold and population II values are approximately as follows:
Although insufficient sampling was done on the claims to do statistical analysis, approximately 400 soils were taken in the area which gave the above values. The threshold values were obtained by plotting cumulative frequency curves on log-probability paper and then taking the value at the 95 percentile. The 'Population 11' or 'ore population' is taken as the value at the 97.5 percentile.

**Discussion of Results**

Although two copper values and one zinc value were anomalous there was no continuity of anomalies from one line to the next. For this reason these have been interpretation as due to small uneconomic occurrences of little significance.

**BLASTING & SAMPLING**

The showings located on the GAP claims were blasted and sampled in 1981 to substantiate results obtained in 1980. Sampling difficulties caused by the highly siliceous nature of the rhyolite hostrock and also the possibility of surface leaching left some doubt as to the validity of the 1980 results.

A total of six showings were sampled in 1981 (see Fig. ). This was done by first drilling a line of holes approximately 2 feet deep along the face of the outcrop using a gas-powered 'Cobra' drill. Charges were then set in each hole and the face blasted off exposing fresh rock. Using a hammer, a continuous chip sample was taken across the width of mineralized rock and placed into a plastic sample-bag. The samples were then coded and sent to Acme Analytical Labs in Vancouver for assay.

**Assay Technique for Cu, Pb, Zn and Ag**

**Sample Preparation**

Rock samples are ground to -100 mesh

**Digestion**

A 1.0 gram sample is digested with Aqua Regia in a boiling water bath and diluted to 100 milliliters with demineralized water.
Determination

All the above elements are determined by Atomic Absorption from the solution and given as percent (%) for Cu, Pb, Zn and as ounces per ton (oz/t) for Ag.

The results of the samples were as follows (see Fig. for sample locations).

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<th>Sample No.</th>
<th>Sample Type</th>
<th>Description</th>
<th>Width (m)</th>
<th>Cu(%)</th>
<th>Pb(%)</th>
<th>Zn(%)</th>
<th>Ag(oz/t)</th>
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<td>4.10</td>
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Discussion of Results

The 1981 sampling confirmed the low results obtained in 1980. Although fair sulphide mineralization is observed locally, grades over minable widths are low.

Signed

Kenneth J. Taylor
Project Geologist
STATEMENT OF EXPENDITURES

1. PERSONNEL

K. Taylor, E. Yarrow, D. Crowe, G. Evans, W. Eisbrenner, G. Picken

(a) Geochemistry (Soil Survey)
   July 30 - 1 day for 2 men @ $55/man/day $110.

(b) Blasting & Sampling
   E. Yarrow, July 19, 20 - 2 days @ $120/man/day $240.
   K. Taylor July 19 - 1 day @ $100/man/day $100.
   D. Crowe July 20 - 1 day @ $85/man/day $85.
   G. Evans, W. Eisbrenner July 22 - 1 day for 2 men @ $55/man/day $110.

   Total Wages for 8 man-days $645.

(c) Travelling
   E. Yarrow 2 man-days $240.
   K. Taylor 6 man-days $600.
   D. Crowe 2 man-days $170.
   G. Evans 6 man-days $330.
   W. Eisbrenner 6 man-days $330.

   Total Travelling Costs $1,670.

(d) Room & Board
   8 man-days @ $15/man/day $120.
   4 nights motel accommodation for 2 men @ $36/night $144.
   4 nights motel accommodation for 1 man @ $25/night $100.
   6 days meals for 3 men @ $20/man/day $360.

   Total Accommodation Costs $724.

TOTAL PERSONNEL COSTS $3,039.

II TRANSPORTATION

(a) Truck
   (i) Rental - 6 days @ $30/day (Vancouver to Kinskutch River Return) $180.
   (ii) Fuel - 12 m.p.g. for 1,800 miles @ 1.75/gal $263.

   TOTAL TRUCK COSTS $443.

(b) Helicopter
   Rate $490/hr (flying time) plus $67.50/hr (fuel)
   July 3 Camp mobilization, 3 men in (1.0 hr) $558.
   July 19 Crew drop-off and pick up, 2 men (1.0 hr) $558.
July 20  Crew drop-off and pick up, 2 men (1.0 hr)  $ 558.
July 22  Crew drop-off and pick up, 2 men & 1 man out (0.8 hr)  446.
Aug. 1  Crew drop-off and pick up, 2 men (1.2 hr)  669.
Aug. 3  Camp demobilization, 3 men out (1.0 hr)  558.

TOTAL HELICOPTER COST  $ 3,347.

III ANALYSES

Soil Geochemistry
52 samples for Cu, Pb, Zn, Ag @ $3.25/sample  $ 169.

Rock Geochemistry
6 samples for Cu, Pb, Zn, Ag @ $5.50/ sample  33.

Rock Assaying
1 sample for Pb, Zn, Ag @ $14.00/sample  14.
2 samples for Pb, Ag @ $10.00/sample  20.
2 samples for Ag @ $6.50/sample  13.

TOTAL COST OF ANALYSES  $ 249.

IV REPORT PREPARATION

3 days @ $100/day  300.
1 days drafting @ $72/day  72.

TOTAL REPORT COST  $ 372.

TOTAL COST OF PROJECT  $ 7,450.
STATEMENT OF QUALIFICATIONS

I, Kenneth J. Taylor of the City of Vancouver, Province of British Columbia do certify that:

1. I have been an employee of Hudson Bay Exploration and Development Company Limited since November, 1973.
2. I am a 1973 graduate of the University of British Columbia with a Bachelor of Science Degree in Geology.
3. I have practiced my profession in British Columbia since graduation. This has included experience in geological, geochemical and geophysical surveys as well as numerous property investigations.

Dated at Vancouver, B.C.
this 28th day of October, 1981

K. J. Taylor
Geologist
Hudson Bay Exploration & Development Co. Ltd
APPENDIX I

GEOCHEMICAL
ASSAY CERTIFICATES
### GEOCHEMICAL ASSAY CERTIFICATE

**To: Hudson Bay Exploration & Development Co. Ltd.,
440 - 1055 W. Hastings St.,
Vancouver, B.C.**

V6E 2E9

**ACME ANALYTICAL LABORATORIES LTD.**

Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C., V6A 1R6

Phone: 253 - 3158

---

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All results are in PPM.

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**DIGESTION:**

**DETERMINATION:**

---

**DATE SAMPLES RECEIVED:** Aug. 6, 1981

**DATE REPORTS MAILED:** Aug. 14, 1981

**ASSAYER:**

DEAN TOYE, B.Sc.

CHIEF CHEMIST

CERTIFIED B.C. ASSAYER
# GEOCHEMICAL ASSAY CERTIFICATE

## SAMPLE No. | Cu | Pb | Zn | Ag
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6+00 | 57 | 20 | 46 | .9
6+50 | 58 | 19 | 47 | 1.2
7+00 | 41 | 16 | 39 | 1.3
7+50 | 38 | 15 | 33 | 1.4
8+00 | 84 | 33 | 280 | 1.3
8+50 | 66 | 30 | 110 | .3
9+00 | 18 | 10 | 17 | .6
9+50 | 14 | 9 | 16 | .5
10+00 | 149 | 40 | 110 | 1.1
10+50 | 32 | 16 | 25 | .6
11+00 | 43 | 21 | 46 | .2
11+50 | 57 | 25 | 59 | .4
12+00 | 60 | 24 | 48 | .3
12+50 S | 14 | 9 | 27 | .3

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**Digestion:**

**Determination:**

**Date Samples Received:** Aug. 6, 1981

**Date Reports Mailed:** Aug. 14, 1981

**Assayer:**

DEAN TOYE, B.SC.
CHIEF CHEMIST
CERTIFIED B.C. ASSAYER
To: Hudson Bay Exploration & Development Co. Ltd.,

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
phone: 253-3158

File No. 81-0972
Type of Samples Soil & Rock
Disposition

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All results are in PPM.

DEAN TOYE, B.Sc.
CHIEF CHEMIST
CERTIFIED B.C. ASSAYER

DATE SAMPLES RECEIVED Aug. 6, 1981

Assay Required.