GEOLOGICAL

&

GEOCHEMICAL SURVEY

REPORT

on the

FORCITE 5 to 8
JEWEL 11 to 14
ERG 15 to 21
WHITETWATER 1 & 2

mineral claims

at Lat. 51° 01.5' N Long. 123° 16.5' W

NTS 92-0/3

For

E & B EXPLORATIONS INC.

JMT SERVICES CORP.

By

W.A. Howell B.Sc.
K.W. Livingstone M.Sc.

JMT Services Corp.
Jan. 26, 1981
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SUMMARY

Trends of very strong copper-molybdenum geochemical values with trends of alteration and fracture controlled sulphide distribution define a porphyry copper-molybdenum target area beneath post glacial cover in the adjacent valley bottom of the upper Taseko River.

A two phased program is proposed to further explore the prospect;

Phase I - I.P. survey and Geochemical survey.
Phase II - Percussion Drill Program.
LIST OF ILLUSTRATIONS

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INTRODUCTION

The property was staked to cover the anticipated source of a stream sediment, anomalous for molybdenum, copper and tungsten, which was collected during the course of the 1979 Regional Stream Sediment and Water Accelerated Geochemical Survey, sponsored by the B.C. Ministry of Mines. The results of the survey were publicly released June 6, 1980.

The surveys described in this report were designed to follow up on the regional sample and to try and define limits on the source of mineralization.

The rocks encountered are predominantly medium grained biotite-hornblende quartz diorite to quartz monzonite in composition. They exhibit locally, minor quartz veining, fracture controlled sulphides, and propylitic alteration.

Evidence of earlier work on the property has been observed since staking commenced in June of 1980. The early development work appears to have taken place 10-20 years ago and includes a limited amount of "X-Ray or "E-X" drilling.

LOCATION AND ACCESS

The property lies on the headwaters of the upper Taseko River, on the west facing slope of Wilson Ridge between elevations of 1800 m (5900 ft) in the valley floor and 2275 m (7500 ft) on the ridge slope.

The property is accessible by helicopter from Pemberton (85 km) or Williams Lake, (142 km distant). A four wheel-drive road exists to the old Taylor-Windfall mine, approximately 7.2 km NW of the property near the mouth of Battlement creek. A rough, 600 m (1800 ft) airstrip also exists on the north bank of Taseko river near the mouth of Granite
Creek, approx. 12 km WNW of the property.

Previous operations have had a bulldozer in the valley bottom and part way up the ridge in the northern portions of the claims. The "Cat road" presumably connects the end of the road at Battlement Creek or old workings at the "Buzzer" showing on the south side of Taseko River across from the mouth of Battlement Creek.

TOPOGRAPHY AND VEGETATION

The property lies on the west side of Wilson Ridge, a mountain spur, with several peaks hanging between 2400 m (7900 ft) and 2700 m (8900 ft) elevation. Glaciers commonly occupy north end east facing cirques while year round snow but little or no ice may occupy south and west facing cirques.

Within the claims, the valley floor of the Taseko River is at approximately 1800 m (5900 feet) elevation. The adjacent slopes are not difficult to traverse except at elevation generally over 2300 m (7500 feet) where considerable rock cliffs and crags may be developed. Elevation on the claims range between 1800 m (5900 ft) and 2300 m (7500 feet) elevation.

Elevations greater than 2100 m (6800 ft) on the property are generally grassy to rocky alpine with local extensive patches of boulder talus and felsenmeer.

Elevations below approximately 1950 m (6300 ft) generally support a mixture of balsam and pine trees in an 'open'forest with little or sparse undergrowth. Between elevation 1950 m and 2100 m the balsam-pine forest gives way gradually to the alpine grasses and heather,
pines cease to occur and the balsam gradually becomes more stunted until it ceases to grow even as dense spreading shrubs.

### MINERAL CLAIMS

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PREVIOUS WORK

Previous work recorded in the area appears restricted to two surveys. The first survey was a soil survey using a rubeanic acid detection method for copper. This survey was conducted in 1964 by Phelps Dodge Corporation.

The survey covers an area low on the valley side to the north of the present survey. The bulk of the anomalous or "good" response samples are at the extreme south end of the old survey area.

The second survey recorded was in 1968 by Americal Smelting and Refining Co. Ltd. This survey analysed samples for Cu, Mo, and a limited number of samples for Cold extractible Cu, as well as Pb and Hg. The area covered by the ASARCO survey is low on the east side of the valley to the valley bottom and lies about 1 mile north of the present survey area. Evidence of physical work (trenching) exists in the area near the confluence of Griswold Creek and Taseko River. Old diamond drill core was also located on the property.

The core resulted from 5 holes, the locations of which are plotted on the maps enclosed in the pocket appended to this report. Brief summaries of the core analysis and logs have been made available by ASARCO holes 3 and 4, the closest to the current target area have subeconomic but significant intercepts of copper and molybdenum values.

GEOLOGY

General

The regional geology is depicted on the map accompanying open file 534 published by the Geological Survey of Canada at a scale of

The geology and detail depicted is as the title suggests based towards those areas where Jurassic and Cretaceous rocks occur.

The region of the Forcite group of claims is close to the northeast margin of a belt of late Cretaceous intrusive quartz diorites and diorites. These intrusives are known to occur as plugs, stockworks and up to batholithic proportions. They form part of the eastern flank of the Coast Crystalline Complex of B.C. and have attracted much exploration activity over the last two and a half decades. This activity has shown several porphyry copper and molybdenum systems to exist although none has been shown to contain sufficient tonnage to be considered economically viable.

Rocks mapped by Jeletzky and Tipper as lower Cretaceous Taylor Creek Group consisting of; dark grey to black shales, siltstones conglomerates, and sandstones, and upper cretaceous Kingsvale Group, consisting of; varicoloured andesitic, dacitic and basaltic pyroclastic flows and sediments, are exposed on the northeast side of the detailed map area.

Local Geology

Within the claim area outcrop exposures are mostly limited to the upper slopes consisting of the alpine and sub-alpine regions. The intrusive rocks consist of hornblende and biotite quartz diorite.
The mapping and sampling carried out on the property noted variations in alteration, fracturing and mineralization of the exposed rocks.

**Alteration**

Alteration varies from nonexistent or diagenetic effects to strongly chloritized and epidotized on fractures, with chloritization of mafics. The alteration degree and intensity appears to coincide with the incidence of fracture controlled sulphides, and fracture density.

**Fracturing**

Fracturing of the intrusive is common on a trend of 020° to 030° and dipping 60° to 75° to the east. Other attitudes are found but the above trend is predominant. Coincident with increased fracturing across the central zone of the claims is the occurrence of increased sulphide mineralization.

Quartz veining and small stringers are not uncommon on the property. The occurrence appears to increase with fracture density and alteration, but is not well developed across the claims. Quartz veins and stringers carry molybdenite, chalcopyrite and pyrite in minor quantities.

**Mineralization**

Sulphide minerals found on the claims include molybdenite, chalcopyrite and pyrite. Molybdenite is observed only in minor amounts associated with quartz veining. Chalcopyrite, pyrite and their oxides are observed as minor constituents in quartz veins, and as relatively
common minor constituents on fracture faces within the central portion of the claims. The mineralization is generally coincident also with increased chlorite/epidote alteration. Total sulphide content on fracture faces was a noteworthy phenomena. The plot of greater than 1% total sulphides on fracture faces encloses the area of strongest geochemistry and alteration. (Figure 7)

GEOCHEMICAL SURVEYS

A Grid was established with lines crossing the property approximately on contour trend. Soil samples were collected every 50 metres along lines spaced 100 to 150 metres apart and covering approximately 1500 metres across the slope of the hillside. Soil development is poor. Soil samples were collected using a hand pick and stainless steel scoop to gather soil from the best development of the oxide accumulation zone at each locale. Geological and lithological data was also collected and noted using the grid as a control base.

Approximately 365 soil samples and 30 silt samples were collected.

In addition to the Grid controlled information several sampling traverses were made to check geochemical responses and view outcrops distally from the grid area.

The geochemical samples, after being collected and placed in gusseted kraft paper bags, were shipped to CHEMEX LABS LTD, 212 Brooksbank Ave., North Vancouver, B.C. V7J 2C1 for analyses. Rock samples were crushed, split and pulverized to -80 mesh. The -80 mesh pulp was then digested in a nitric acid perchloric acid medium
and the resultant solution analysed by atomic absorption techniques for the various elements. Soils and silts were treated in a similar manner after first drying the sample then sieving it to derive the 80 mesh fraction.

**DISCUSSION OF RESULTS & CONCLUSIONS**

Approximately three hundred soil, silt and rock samples were collected and analysed for copper and molybdenum. Eighteen samples, composites from old core, were also analysed for tungsten and gold in addition to copper and molybdenum.

Survey results for copper in rocks varied between 45 ppm and 3250 ppm, results for copper in soils and silts varied between 6 ppm and 3100 ppm with 22% of copper values achieving results of 1000 ppm or greater. Analyses for molybdenum in rocks varied between 1 ppm and 148 ppm, while molybdenum in soils and silts varied between 1 and greater than 250 ppm. (five samples analysed greater than 250 ppm Mo, which is the maximum reliable analytical limit with equipment and procedures used for this survey.)

Of the eighteen samples analysed for Tungsten and Gold, analyses for W ranged from 1 to 85 ppm. (5 were greater than 10 ppm W.) Analyses for Gold were all at the lower detection limit of 5 ppb or less.

The analytical results are plotted on Fig's 4 & 5 and enclosed in the pocket with this report.

Copper results are contoured @ 250 ppm, 500 ppm and greater than 1000 ppm. Molybdenum results are contoured at 20 ppm and 40 ppm.

Both Copper and Molybdenum values when contoured at the 500 ppm and 40 ppm values respectively exhibit a 'nested', bi-lobed pattern
open to the southwest. The trend of the 'nested' lobes is sub parallel to the common joint or fracture direction. This bi-lobed distribution of the Copper and Molybdenum values is believed to reflect bedrock metal content and not be a chemical dispersion effect. Supporting this belief is the distribution of fracture sulphide. When the limit of fracture sulphide greater than 1% is superimposed on the Geochemical responses, the greater than 1% area contains the greater than 40 ppm Mo boundary and the greater than 1000 ppm Cu boundary with all areas open to the southwest going under cover towards the valley bottom.

Very limited prospecting and sampling to the west of the valley bottom indicates weak pyrite on fractures to occur there also. Visual inspection and colour of the mountainside rock on the west side of the valley tends to support the proportion that sulphide occurrence will diminish further to the west.

It is concluded that the geochemical expression for copper and molybdenum is anomalously high over the area surveyed. It is virtually certain that an economically viable deposit is not to be found within rocks exposed on the east side and upper flanks of the valley, however, the degree of propylitic alteration and the total sulphide content are increasing westward to the edge of overburden. Similarly the values for copper and molybdenum are increasing to the west going under cover. The overburden covered area to the west of the geochem and total sulphide anomaly therefore becomes a prime target area for further exploration.

Sufficient room to successfully mask a porphyry deposit of moderate tonnage is deemed to be present within the area of overburden cover.
It is concluded that the survey data and ground conditions are consistent with proposing a porphyry style target beneath the overburden cover of the valley floor within the confines of the FORCITE group of mineral claims.

Recommendations

Future exploration should be undertaken to explore the overburden covered area west of the present survey. A two phased plan is proposed.

Phase I  a) three or four I.P. lines across the established anomaly and onto the area of cover, to establish the continuation and extent of the sulphide system apparent on the east flank of the valley.
          b) extension of the geochemical survey for several lines into the valley bottom.

Phase II  Assuming success or encouragement from phase I, a track mounted percussion drill should be mobilized to the target area and a 30 hole percussion drill program completed to derive bedrock and assay data from the area of post glacial cover.
STATEMENT OF COSTS

FORCITE PROPERTY

JMT Invoice Dec 10/80 $6,543.96

Vancal Invoice 19600 197.25

JMT Invoice - March 10/81 2,859.62

K. W. Livingstone, Geologist
Dec 1, 16, 18, 22 4 days @ $175 700.00

$10,300.83
## STATEMENT OF COSTS

### (a) W. A. Howell, geologist
- **Sept 19-24, Oct 1**: 7 days @ $175 = $1,225.00
- **Jan 26, Feb 3,4,5(½)**: 5½ days @ $200 = $1,100.00

### K. W. Livingstone, geologist
- **Sept 19-24, Oct 1**: 7 days @ $175 = $1,225.00
- **Dec 1,16,18,22**: 4 days @ $175 = 700.00
- **Jan 28,30, Feb 3(½),4,7**: 4½ days @ $200 = 900.00

### B. Price, geologist
- **Sept 19-24, Oct 1**: 7 days @ $175 = $1,225.00

### (b) Food and Accommodation
- **Sept 19-24**: 3 men, 6 days 18 mandays @ $22.00 = $396.00
- **Camp rental**: 50.00
- **Total**: 446.00

### (c) Transportation - Pemberton Helicopters Services
- **Total**: 630.85

### (d) Rentals: SBX-II radio
- **Sept 19-24**: 35.00

### (e) Assay costs:
- 385 soil samples @ $3.00 Cu + Mo = $1,155.00

### (f) Report preparation
- **Total**: 1,187.42

### (g) Miscellaneous supplies consumed in the field and for report preparation
- **Total**: 471.56

### Total Costs
- **Total**: $10,300.83
JMT Services Corp.

8827 HUDSON STREET - VANCOUVER, B.C. V6P 4N1 - TELEPHONE 266-8344

INVOICE
RE: FORCITE PROPERTY

DECEMBER 10, 1980

TIME CHARGES:

W.A. HOWELL, Geologist
SEPT. 19-24, Oct. 1 - 7 days @ 175.00
$1225.00 ✔

K.W. LIVINGSTONE, Geologist
SEPT. 19-24, Oct. 1 - 7 days @ 175.00
1225.00 ✔

B. PRICE, Geologist
SEPT. 19-24, Oct. 1 - 7 days @ 175.00
1225.00 ✔

DISBURSEMENTS:

CHEMEX INV. 40106
39762
39764
39765
39766
39767
81.00
47.85
561.45
259.35
52.20
145.80

WESTERN REP. 59144
21.04

PEMBERTON HEL. SERVICES
INV. 1654 (50% of 1147.00) 573.50

HUDSON BUILD. SUPPLIES
* INVO. 21397 (25%) 182.46
* INVO. 21452 (25%) 15.53
* INVO. 23503 (40%) 124.80

*RAPITAN - truck rental
(25% of 385.00) 92.26

*See BRASS TAGS Invoice for back up

sub total: 2157.24
plus 10% 215.72

Total 2372.96

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**TERMS**

NET 30 DAYS

**REMOT TO**

1180 W. HASTINGS ST.
VANCOUVER B.C. V6E 1B4

**BRITISH COLUMBIA’S ENGINEERING SUPPLY HOUSE**

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PARTNERS: VANCAL REPRODUCTIONS (1978) LTD.
MYJOY SALES LTD. ROSSLAN SALES LTD.

**FEDERAL TAX**

15.00

**SUB TOTAL**

171.00

**PROVINCIAL TAX**

7.00

**SHIPPING**

10.00

**TOTAL**

188.00

*PLEASE REFER TO THIS NUMBER WHEN REMITTING*
RE: FORCITE PROPERTY

TIME CHARGES:

W.A. Howell, Geologist
Jan. 26  Feb. 3,4,5(½), 6,7  5 ½ days @ $200.00  $1,100.00

K.W. LIVINGSTONE, Geologist
Jan. 28, 30  Feb. 3(½), 4,7  4½ days @ $200.00  $900.00

DISBURSEMENTS

Altair Drafting  Inv. #14228,108862, 108643
$750.12 + 10%  $825.13

D. Ballard  $31.35 + 10%  $34.49

TOTAL  $2,859.62

PLEASE REMIT  $2,859.62
STATEMENT OF QUALIFICATIONS

I, William A. Howell do hereby certify that:

1. I am a professional geologist residing at 10611 Ainsworth Cres. Richmond, B.C. V7A 3V5

2. I am a graduate of the University of British Columbia. B.Sc. 1971

3. I have practised my profession as a mining exploration geologist continuously since 1971.

4. I am a Member of the Geological Association of Canada.

5. This report is based on my personal knowledge of the district and the programs completed on the property.

W.A. Howell

W. A. Howell B.Sc.
STATEMENT OF QUALIFICATIONS

I, K. WAYNE LIVINGSTONE of Vancouver, British Columbia do hereby certify that,

1. I am a Professional Geologist, working in British Columbia and residing at 6775 West Blvd. Vancouver, B.C.

2. I am a graduate of CARLETON UNIVERSITY, Ottawa, Ontario with B.Sc. honours geology 1966.

3. I am a graduate of the UNIVERSITY OF BRITISH COLUMBIA with M.Sc. geology 1968.

4. I have practiced my profession as a mining exploration geologist since 1965.

5. I am a Member of the Geological Association of Canada.

6. I am a Member of the CIMM.

7. This report is based on personal knowledge of the geology and mineral potential of the claim area.

K. WAYNE LIVINGSTONE, M.Sc.