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In Pocket: #/ Figure 1 North Sheet
 #2" 2 South Sheet

1.

Geochemical Report on the South West,
South East, Mid East and North
Groups of Claims

Gypsum Lake : 50° 120° S.W.

By

J.P. Weeks, P. Eng.

for

Bralorne Pioneer Mines Limited

Introduction

This report has been prepared for submission as assessment work and describes a geochemical survey carried out on the above claims during the period September 15th, 1965 to February 28th, 1966. The maps and report were prepared during the period March 9th to March 18th, 1966.

Location and Access

The property is situated some 16 miles North of Merritt, B.C. and to the West of Guichon Creek. The claims lie between elevations of 3500' and 5000' and cover Gypsum Mountain and Gypsum Lake.

The Western boundary of the claim group is somewhat precipitous, but generally the topography is characterized by a series of thickly timbered bench-like areas.

Precipitation is moderate being largely confined to the winter months and temperatures similarly are not extreme.

Access is by rough dirt road which leaves the highway close to the Craigmont Mill.

Property

The area has been staked many times in the past, the present claims having been located between 1963 and 1965. The claim

Property. (c'td.)

group consists of 126 claims, the names of which follow:

WIZ	Nos. 12 to 31 inclusive
"	" 34 to 107 "
"	" 108 Fraction to 113 Fraction inclusive
"	" 120 " to 121 " "
DOT	Nos. 2, 4, 6, 8, 10, 12, 23, 24, 25, 26
SHO	Nos. 7 and 8
ROSE	Nos. 1 and 2
INS	Nos. 1 to 3 inclusive
"	" 10 to 12 "
"	" 14 and 15
INS	A and B Fractions.

For purposes of recording assessment work the claims have been grouped and details of these groups and the claims upon which assessment work is to be recorded may be found under the heading "Assessment Work".

Regional Geology

The regional geology is well described by W.E. Cockfield in G.S.C. Memoir 249, "Geology and Mineral Deposits of Nicola Map Area, B.C." and the accompanying map No. 886 A, published in 1948. Additional information on the rock types found in the region may be obtained from papers by J.M. Carr in the Annual Report of the B.C. Minister of Mines and Petroleum Resources for the years 1960 and 1962 and no purpose will be served by repeating this information here.

Property Geology

The property is on the eastern flank of the Guichon batholith, a large body of plutonic rock regarded as being of Mesozoic age. On the claims the most commonly occurring rocks are medium grained to fine grained quartz monzonite with smaller areas of quartz diorite and granodiorite.

The granitic rocks have been intruded locally by dykes of porphyry similar to those of the Bethlehem mine some 10 miles to the North.

The batholith is overlain by volcanic flows and tuffs of the Kamloops group of Cenozoic age in the northeast corner of the claim block. Some volcanic rocks are also present in the south-

Property Geology. (c'td)

east corner of the property and are believed to be older than the quartz monzonite. However the area has not been mapped in detail and the relationship between the two rock types cannot yet be established with any degree of certainty.

Copper mineralization, consisting principally of chalcopyrite and bornite with lesser amounts of chalcocite and malachite is principally found in shear planes traversing the granitic rocks. Structurally it is evident that movement along the faults, which mostly strike N 30° W and dip at 65° to the southwest, has produced tension fractures in the hanging wall that were later healed with quartz and mineralized with copper sulphides. Subsequent movement on the fault has produced gouge containing comminuted fragments of chalcopyrite, some of which show slickensides.

In the vicinity of the mineralization the country rock shows considerable alteration, the most distant from the veins being a change of the feldspars to a salmon pink colour. More pronounced alteration closer to the veins is exhibited by the presence of marked chloritization. Talc and sericite are developed to some extent wherever there is shearing.

Work Program

Muck of the area is covered by overburden of varying, and in some areas considerable thickness. Consequently outcrops are not abundant.

Evidence from earlier work indicated the association of copper mineralization with zones of shearing, which could well be assumed to have eroded preferentially. Subsequent deposition of glacial detritus could have covered any surface expression of the shear zones. It was decided therefore to run a geochemical survey over the area which, it was thought, would:

- a) Indicate the presence of concealed copper bearing shears.
- b) Indicate the presence of copper in the present drainage pattern and hence provide a clue to the source of that metal.
- c) Since appreciable amounts of copper bearing float had been found in the glacial detritus, it was thought that since the direction of movement of the glaciers was known to be from N.N.W. to S.S.E. that

Work Program. (c'td.)

increasing or decreasing indications of trace amounts of copper in the detritus would indicate approximately the source of that metal.

1. Lines:

Close attention was paid to cutting lines and initially a North-South baseline was cut by hand and controlled by tape and Brunton Compass.

Although the individual shears strike generally to the West of North, there is some evidence in the trenches that the zone of shearing has a general North-South strike. From this baseline therefore, East-West lines were turned off at 400' intervals and cut and picketed towards the boundaries of the property. Straightness of the lines was maintained by pickets and frequent checks by Brunton Compass. A D7 Cat, rented from a contractor in Merritt, was used to cut the lines in areas of particularly heavy vegetation and deadfalls.

2. Geochemistry:

Samples were taken along the lines at 100' intervals. Mattock holes were dug and an ounce or two of soil from the "B" horizon was taken and placed in an envelope. All samples were taken to camp for analysis where they were first dried and screened through a plastic sieve. A measure of 1/4 teaspoon of screened soil was placed in a small pyrex test tube to which was added 1 ml. of acetic acid sodium acetate solution after which the test tube was stoppered and shaken 70 times. The wet soil was then emptied into a filter paper folded into a sharp cone, the point of which rested on a strip of rubeanic acid test paper on which the sample number was written.

The amount of copper present was judged to be none, weak, medium or strong depending upon the intensity of the spot formed on the test paper.

A copper testing kit obtained from Eldrico Geophysical Sales Ltd. was used throughout the survey.

Geochemical Survey

The results from the survey are plotted on figures 1 and 2 attached, on which sample sites from which positive reactions were obtained are numbered 1, 2 or 3 depending upon the depth

Geochemical Survey. (c'td.)

of colour obtained on the rubeanic acid paper. The figure 0 indicates sample sites from which no reaction was obtained and the letter x indicates what normally would have been sample sites, but from which no sample was taken for varying reasons. These include swampy areas in which it was impossible to take a sample due to the high water table, talus slopes barren of soil and areas in which human activity had disturbed the soil cover by trenching, road building, etc.

Many of the narrow linear areas in which positive reactions were obtained are clearly associated with the drainage. An example of this occurs between lines 440 N and 444 N at 504 E and 505 E respectively where the watercourse which passes through this area has previously passed through a known area of mineralization at line 464 N near 510 E. Possibly the most striking of such drainage anomalies is that extending from line 528 N at 513 E to line 480 N at 524 E. A parallel watercourse between lines 496 N and 480 N at 538 E and 534 E respectively together with other similar narrow anomalous areas would appear to indicate a source of copper to the North of line 496 N.

Similarly the narrow connections between some of the larger areas which gave positive reactions for copper must be regarded with some suspicion since they also may reflect the drainage pattern although it is not apparent from surface topography that they do so. In addition many of the small areas of one or two anomalous results may be seen to be in the low lying swampy zones.

The effect of copper in the glacial detritus cannot be illustrated definitely but it is possible that some of the anomalous areas to the South and Southeast of line 492 N at 500 E may result from copper transported from that known area of mineralization by the glaciers.

From the survey it is concluded that areas centered approximately on the following co'ordinates are worthy of further work:-

Line	420 N	at	540 E'
	444		537
	448		528
	456		535
	468		492
	472		502
	480		513
	492		500

Geochemical Survey. (c'td.)

Areas of less interest but worthy of investigation are centered on the following co-ordinates:-

Line	460	W	at	528	E
	476			554	
	492			548	
	504			538	
	508			506	
	520			476	

Statement of Qualifications

The field work was carried out by the following personnel in the employment of Bralorne Pioneer Mines Limited:-

- D. Rimmer: B.Sc from the University of Victoria in 1965 who had been employed on geochemical work in the Stikine area earlier in the year.
- J. Oxley: A second year undergraduate from Notre Dame University in Nelson, B.C. who was trained in the techniques of the job.
- R. Barnes: A second year undergraduate from the University of B.C. who was also trained on the job.

The entire program was carried out under my supervision.

Statement of Expendituresa) Sampling and Testing

Geochemical Operators: Salaries	\$ 2,405
Fringe Benefits: 18.2% of \$2405	438
Field Maintenance: 7 man months at \$150/man mth.	1,050

b) Supervision

Salaries	\$ 1,169
Fringe Benefits: 18.2% of \$1169	213
Field Maintenance: 1½ months at \$150/man mth.	225

c) Equipment

Rental of four-wheel drive vehicle: Four months at \$185 per month plus \$0.15 per mile plus gas	\$ 845
Laboratory supplies: 3000 tests at \$0.10 per test (approx.)	300

Statement of Expenditures. (c'td.)d) Preparation of Report

Salaries	\$ 375
Fringe Benefits: 18.2% of \$375	68
	<hr/>
Total Expenditures	\$ 7,088
	<hr/> <hr/>

Assessment Work

Assessment work is to be applied as follows:-

<u>South West Group</u>	<u>South East Group</u>	<u>North Group</u>
WIZ 18	WIZ 46	DOT 8
" 19	" 47	" 10
SHO 7	" 48	" 12
" 8	" 51	ROSE 1
	" 52	" 2
Two years' work to be applied to each claim	" 52	Four years' work to be applied to each claim.
	" 54	
	" 55	
	" 56	
	" 57	
	" 58	
	" 59	
	" 60	
	" 61	
	" 62	
	" 63	
	One year's work to be applied to each claim.	

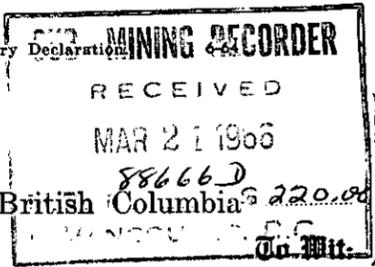
Respectfully submitted,

J.P.W.

J.P. Weeks, P. Eng.,
Chief Geologist,
Bralorne Pioneer Mines Limited.

Canada

Province of British Columbia



In the Matter of
Assessment work on the Mid, East,
South East, South West and North
Groups of mineral claims.

I, James Peter Weeks, of 1285 Bracknell Place,
North Vancouver in the Province of British Columbia.

Do Solemnly Declare that the following persons were employed on the field work:

D. Rimmer, Geo-chemical Operator.	- Sept. 15, 1965 to Oct. 25, 1965.	- 29 working days	- \$457 - \$350/month.
J. Oxley, Geo-chemical Operator.	- Oct. 28, 1965 to Feb. 3, 1966.	- 62 "	- \$1048 - \$325/month.
R. Barnes, Geo-chemical Operator.	- Dec. 10, 1965 to Feb. 28, 1966.	- 50 "	- \$900 - \$325/month.
G. Rose, Field Supervisor.	- Oct. 11, 1965 to Feb. 28, 1966.	- 24 "	- \$719 - \$575/month.
J.P. Weeks, Chief Geologist.	- Sept. 15, 1965 to Feb. 28, 1966.	- 11 "	- \$450 - \$900/month.

Persons employed in the preparation of this report were:

G. Leamy, Drafting	- Mar. 9, 1966 to Mar. 17, 1966.	- 7 working days	- \$150 - \$450/month.
J.P. Weeks, Chief Geologist.	- Mar. 14, 1966 to Mar. 18, 1966	- 5 "	- \$225 - \$1000/month.

Total Salaries	\$3949
Fringe Benefits	719
Field Mtce.	1275
Equipment	1145
Total Expenditure	\$7088

And I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

Declared before me

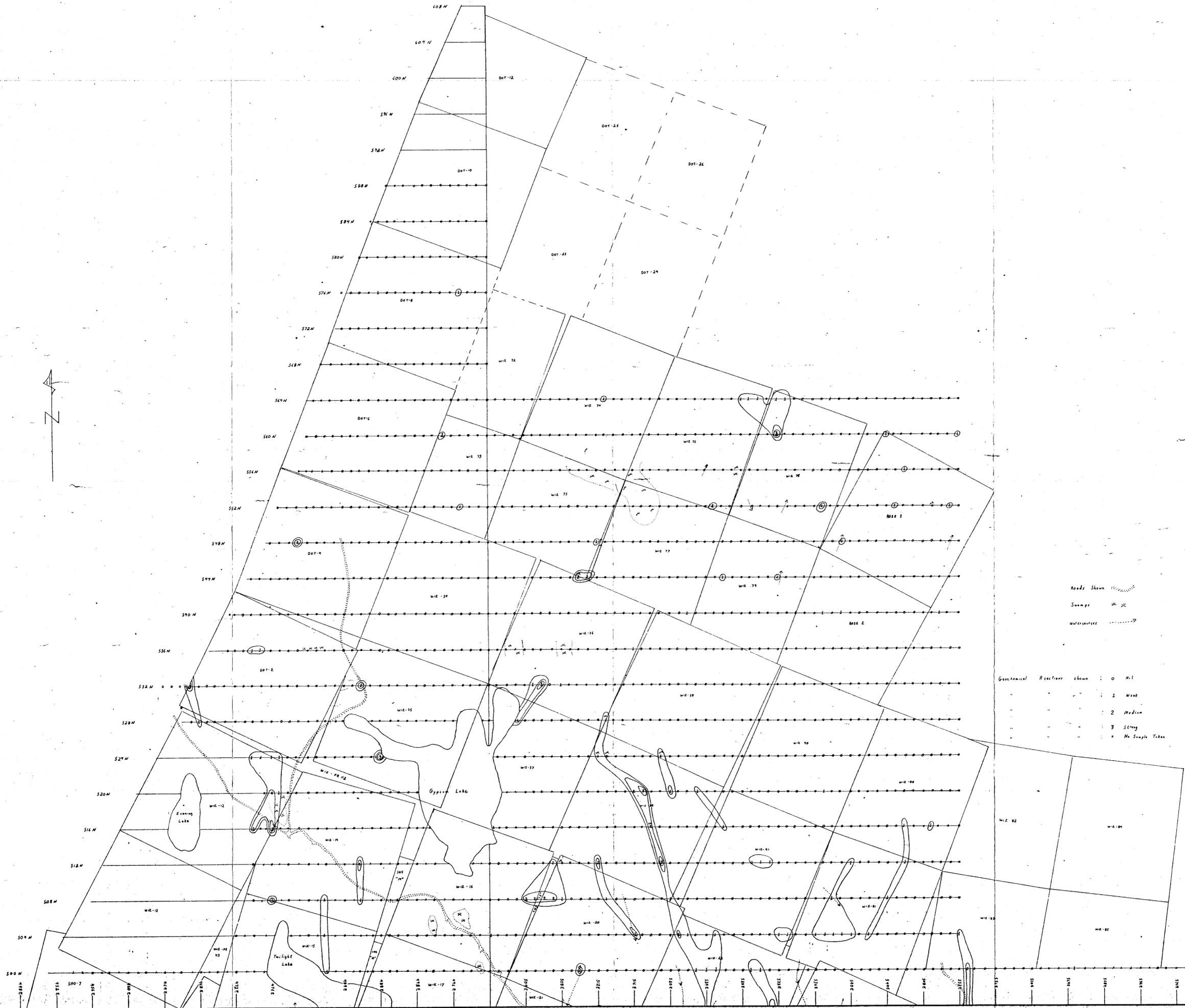
at *Vancouver*
in the Province of British Columbia.

this *21* day of
March A.D. 19*66*

Jul Turner
A Notary Public in and for the Province of British Columbia
A Commissioner for taking affidavits for British Columbia
Sub-Mining Recorder

J.P.W. - 1

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **749** MAP #1



Roads Shown :
Swamps : x x
Watercourses :
Geochemical Reactions shown : 0 Nil
1 Weak
2 Medium
3 Strong
4 No Sample Taken

749

North Half Figure 1
To accompany geochemical report
by J.P. Weeks, P.Eng. on the Mid East,
South East, South West and North groups,
Gypsum Lake, Nicola, B.C.
dated 18th March 1966

BRALORNE PIONEER MINES LTD.

CHATAWAY PROPERTY
GEO-CHEMICAL SURVEY
North Half

SCALE 1" = 400'
DRAWN BY C. LEAHY
DATE MARCH 78, 1967

