

2085

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

GEOLOGICAL REPORT ON THE
BIN PROPERTY,
SITUATED 15 MILES SOUTHEAST OF
SPENCES BRIDGE, KAMLOOPS MINING DIVISION
50° 20' N, 121° 02' W
92I-6

Bin "A" Group - 38 claims and two fractional claims.

<u>Claim</u>	<u>Record Nos.</u>	<u>Requested Assessment Credit</u>
13 Bin 29 - 46	70408 - 70425	Nil
2 Bin 47, 48	70865, - 70866	Nil
2 Bin 63, 64	70881, 70882	Nil
4 Bin 95 - 100	71682 - 71687	4 years each claim
4 Bin 105 - 110	71692 - 71697	2 years each claim
2 Bin 127, 128	71714, 71715	1 year each claim
1 Bin 163	71914	2 years
1 Bin 164	71915	3 years
3 Bin 165 Fr, 166 Fr.	71916, 71917	<u>2 years</u> each claim
Total:		47 years

Work was carried out on the above claims during the period March 1 to August 31, 1969.

Bin "B" Group - 35 claims and three fractional claims.

<u>Claim</u>	<u>Record Nos.</u>	<u>Requested Assessment Credit</u>
Bin 79 - 94	71482 - 71497	Nil
Bin 101 - 104	71688 - 71691	3 years each claim
Bin 111 - 114	71698 - 71701	2 years each claim
Bin 115 Fr.	71702	Nil
Bin 116 - 126	71703 - 71713	2 years each claim
Bin 162 Fr.	71913	Nil
Bunny 1 Fr.	80900	<u>3 years</u>
Total:		45 years

Work was carried out on the above claims during the period March 1 to August 31, 1969.

REPORT BY

M.D. McINNIS, GEOLOGIST

UNDER THE SUPERVISION OF

R.J. NICHOLSON, P. ENG.

MDMcI:ma
October 7, 1969
Vancouver, B.C.

C O M I N C O L T D.

EXPLORATION

WESTERN DISTRICT

GEOLOGICAL REPORT ON THE
BIN PROPERTY
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MAP #1 - "BIN PROPERTY GEOLOGY"	REAR
MAP #2 - "BIN PROPERTY CLAIM LOCATION"	REAR

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2085
NO. 206079 MAP.....

C O M I N C O L T D.

EXPLORATION

WESTERN DISTRICT

GEOLOGICAL REPORT ON THE
BIN PROPERTY
SITUATED 15 MILES SOUTHEAST OF
SPENCES BRIDGE, KAMLOOPS MINING DIVISION
50° 20' N, 121° 02' W
92I-6

INTRODUCTION

The Bin group of mineral claims is located in the Kamloops Mining Division, approximately fifteen miles southeast of Spences Bridge, B. C. The claims were staked in late summer, 1968, for B. I. Nesbitt and consist of 77 claims and fractions. They were optioned to Cominco Ltd in October 1968. Cominco staked an additional fractional claim in 1969 and subsequently divided the property into 40 claim Group "A" and 38 claim Group "B".

SUMMARY

Initial work began on the property in March, 1969, with residence on the property established in mid May. The program carried out on the Bin Property included geological mapping, minor geochemical surveying, line cutting, and geophysics (seismic survey and induced polarization), which was part of an overall program also carried out on the adjoining Nes Property and Highland Queen Property. Separate reports describe the line cutting work, seismic survey and induced polarization survey. This report includes geochemical survey results.

For the most part, mapping of the Bin group was complete at the end of June, with geochemical surveying complete about mid July. Personnel resident on the property for the geological work were: M. R. Murrell, M. D. McInnis, J. R. Bellamy, and G. E. Grisak.

LOCATION AND ACCESS

The property is located about fifteen miles southeast of Spences Bridge, at the intersection of Skuhun and Skuhost Creeks. Access is by dirt road from the Spences Bridge - Merritt highway, 14.2 miles southeast of Spences Bridge. The property is located about 8.5 miles from the highway.

GEOLOGICAL MAPPING

Geological mapping was diligently carried out on a scale of 1" = 1000' over all parts of the optioned property. Because of the extensive overburden, most geological information was derived from traverses that covered hill-tops and ridges as well as areas, such as gullies and canyons, where there has been downcutting into the overburden. Usually, two two-man crews carried out separate traverses from hill-tops to the Skuhun valley floor via canyon or gully. However, overburden areas were also thoroughly examined to investigate the presence of outcropping.

A base map with a scale of 1" = 1000' and contour interval of 50' draughted from 1965 B.C. Government air photos by Lockwood Surveys was used mainly for control. Additional control was obtained through the use of 1960 B.C. Government air photos of scale 1" = 1/2 mile. The photos were used mainly to outline probable locations of outcrop rather than for field orientation. Outcrop position and shape were located on field maps by pace and compass and were assigned a station number. Field notes, with corresponding station numbers, were kept. Outcrop sketches and station numbers were subsequently transferred to the base map.

GEOCHEMICAL WORK

Three types of geochemical programs were employed on the property. A detailed soil sample survey was carried out near an area of outcropping Bethsaida rock type with minor copper mineralization on fracture plane

surfaces. A 2800' x 2800' grid was covered using a sample interval of 400 feet. Samples were taken at an approximate depth of 12 inches using a pick and shovel or, where possible, using a soil auger. In addition to the soil samples, seepage samples were collected from the "B" horizon at 500' intervals along Skuhun Creek beginning in the far east of the property and then traversing west. A shovel and mattock were used for collecting. To supplement the seepage samples, six stream silt samples were collected at approximately 2000' intervals along Skuhun Creek, beginning again in the east. In addition to these, another four silt samples were collected from tributary streams - one from Skuhost Creek, an active stream, and three from dry stream beds. The samples were collected from the creek bed using a scoop.

All geochemical samples collected were packaged in kraft sample bags and subsequently sent to Cominco's Vancouver geochemical lab for drying and analysis. Results of the analyses are tabulated in Table 1.

TABLE 1

Detailed Soil Samples

Sample Numbers	Cu Assay in ppm.	Sample Numbers	Cu Assay in ppm.	Sample Numbers	Cu Assay in ppm.	Sample Numbers	Cu Assay in ppm.
SS12	20	SS28	20	SS44	10	SS60	5
SS13	15	SS29	10	SS45	5	SS61	10
SS14	10	SS30	5	SS46	5	SS62	15
SS15	10	SS31	10	SS47	15	SS63	15
SS16	10	SS32	5	SS48	10	SS64	10
SS17	15	SS33	10	SS49	10	SS65	20
SS18	20	SS34	10	SS50	10	SS66	10
SS19	10	SS35	10	SS51	10	SS67	5
SS20	15	SS36	20	SS52	5	SS68	20
SS21	15	SS37	10	SS53	10	SS69	35
SS22	15	SS38	10	SS54	5	SS70	30
SS23	15	SS39	5	SS55	10	SS71	20
SS24	10	SS40	5	SS56	15	SS72	25
SS25	10	SS41	10	SS57	10	SS73	15
SS26	20	SS42	10	SS58	20	SS74	10
SS27	20	SS43	10	SS59	10	SS75	5

Silt Samples

Sample Numbers	Cu Assay in ppm.	Mo Assay in ppm.
SS1	50	2
SS2	160	2
SS3	140	1
SS4	475	3
SS5	35	2
SS6	40	2
SS7	35	1
SS8	20	1
SS9	30	<1
SS10	50	<1
SS11	60	2

Seepage Samples

<u>Sample Numbers</u>	<u>Cu Assay in ppm.</u>	<u>Sample Numbers</u>	<u>Cu Assay in ppm.</u>
SS77	155	SS88	60
SS78	90	SS89	160
SS80	155	SS90	125
SS81	110	SS91	120
SS83	80	SS93	90
SS84	850	SS94	45
SS85	600	SS95	110
SS87	145	SS96	85
		SS97	400
		SS98	60

LINE CUTTING

In August 1969 several lines of a pre-existing grid were extended. A total of 1.12 miles of cut and picketed line was added to the pre-existing lines as follows:

- L 15W from 29 + 50S to 47 + 60S
- L 30W from 0 + 00 to 29 + 00S
- L 35W from 0 + 00 to 4 + 00
- L 40W from 0 + 00 to 4 + 00
- L 45W from 0 + 00 to 4 + 00

GEOLOGY

The Guichon Creek batholith has been described in K. E. Northcote's PhD thesis. His classification scheme is used here. Five rock types, divided mainly on the basis of texture and mineral content, were identified on the Bin Property. These are the Bethsaida phase, the Chataway and Guichon varieties of the Highland Valley phase, the Skeena phase and the Witches Brook phase.

1) Guichon Variety

The Guichon variety, found in the west of the property is a light grey to grey, medium to coarse grained, hypidiomorphic rock. Usually of granodiorite composition, this variety is richer in mafics, especially biotite, than the Chataway variety. Fine to medium grained, euhedral to subhedral hornblende and subhedral, medium grained biotite make up most of the mafic grains. Commonly, the hornblende is slightly poikilitic, enclosing grains of feldspar and quartz. The biotite occurs as evenly distributed aggregates, probably the most characteristic feature of the Guichon phase.

2) Chataway Variety

One of the most distinctive rock units on the property is the Chataway granodiorite. It is a medium to coarse grained, mottled pink and cream or mottled light green and cream rock. Mafics are made up of phenocrysts of hornblende and biotite, with groundmass mafics of the same minerals. Total mafic content is about 20% with phenocryst mafics and groundmass mafics in equal proportion. The most characteristic feature of the Chataway variety is the well separated, evenly disseminated, euhedral to subhedral mafics. Hornblende grains show this feature particularly well, having very distinct crystal outlines. Also characteristic, but not definitive, is the strongly poikilitic texture of the hornblende, enclosing grains of feldspar and quartz.

3) Skeena (Bethlehem) Phase

The intermediate aged Skeena phases encircles the younger central core of the batholith. This light grey, medium grained rock is found to a limited extent in the southeast corner of the property. It is a slightly porphyritic

rock with phenocrysts of relatively large, subhedral to euhedral, poikilitic hornblende and subhedral phenocrysts of biotite. The ratio of hornblende phenocrysts to biotite phenocrysts is approximately 3 : 1. Hornblende phenocrysts are conspicuously poikilitic and have irregular distribution. Overall, the mafic grains have a marked uneven distribution.

4) Witches Brook Phase

Unlike the other phases, Witches Brook phase breaks the concentric pattern of the batholith phases and occurs as irregular masses of dyke-like bodies cutting other phases. In the south of the property, Witches Brook occurs as a large mass having lateral extent, and also occurs as dyke-like bodies cutting older Skeena and Chataway phases. It is similar to, and appears to grade into Skeena, although overburden cover prevents complete field verification.

Typically; total mafic content is about 20% of which large, poikilitic, subhedral to euhedral phenocrysts make up 5-7% of the total rock content and small, lath-like mafic grains of the groundmass make up 13-15% of the total. Usually, hornblende phenocrysts are slightly more abundant than biotite phenocrysts. Occasionally biotite increases in abundance, often forming irregularly distributed aggregates. The hornblende phenocrysts are subhedral to euhedral and poikilitic; biotite phenocrysts are subhedral and weakly poikilitic. Witches Brook phase rocks have a fairly even distribution with an overall fine grained appearance.

5) Bethsaida Phase

Bethsaida, the youngest phase, forms the central core of the batholith. Found in the north-eastern parts of the property area, this rock varies from quartz monzonite to granodiorite and is strikingly porphyritic. Very coarse grained, euhedral "books" of biotite phenocrysts are characteristic of the Bethsaida phase. Biotite is more abundant than hornblende. The hornblende, as in other phases, may be poikilitic. Another feature common to the Bethsaida phase is the presence of large, anhedral quartz "eyes" which give the weathered rock a distinctive surface with quartz standing in relief.

Leucocratic dykes, late phases of the batholith, are associated with all phases of the batholith on the property and are particularly common in the Bethsaida phase. In most cases, these dykes are fine to medium grained, equigranular and show a definite pinkish coloration due to presence of orthoclase.

Weak propylitic alteration is widespread, being found in all rock units on the property. It is apparently associated with shearing. Thin, crystalline films of potassic feldspar (?) are found typically on fracture plane surfaces in areas of shear. More often than not, the crystalline material has undergone a secondary argillic alteration and forms a pink, powdery substance on the fracture planes.

STRUCTURAL GEOLOGY

Structures on the property have been both inferred from field investigation and from air photo interpretation. Faults were inferred on the basis of steep, often slickensided valley walls whose floors are covered with much large, angular rubble. In some cases, a projection of these faults has been described using air photo interpretation.

Regional fault directions are three-fold. In the Bethsaida rock type in the east of the property, the directions are easterly, northerly and south-easterly. The dominant regional direction appears to be south-easterly. Joint sets generally parallel major structural trends, indicating they are secondary resulting from regional stress after crystallization.

MINERALOGY

1) Bornite

Although exposed in very minor amounts, hypogene bornite is the most prevalent ore mineral on the property. It occurs principally as irregular

masses of films on fracture plane surfaces, and is commonly found alone or enclosed by malachite.

Fracture plane occurrences of bornite are common in the Bethsaida phase on the property. Distribution varies from isolated blebs, which is the most common type occurrence to mineralization which occasionally may cover as much as one square foot on the fracture plane surface.

2) Chalcocite

Chalcocite is even less prevalent than bornite on the property. Minor small chalcocite blebs are found in the Bethsaida, enclosed by, or in places almost entirely altered to malachite on fracture plane surfaces. Very minor chalcocite is also found in some leucocratic dykes in the area.

CONCLUSIONS

The lack of encouragement to date does not preclude the possibility of economic mineralization on the property. Further investigation will be carried out.

ATTACHMENTS

- (1) Plan, "Bin Property, Geology" Scale 1" = 1000'.
- (2) Plan, "Bin Property, Claim Location" Scale 1" = 1000'.
- (3) Statement of Expenditures.
- (4) Statutory Declaration relating to Expenditures.
- (5) Statement of Qualifications.

Report by: "M. D. McInnis"

Endorsed by: *J. Richardson*
J. Richardson
Professional Engineer

MMcI:ma

October 7, 1969

Distribution

Mining Recorder (2)

Vancouver, Exploration (1)

COMINCO LTD.EXPLORATIONWESTERN DISTRICT

EXPENDITURE STATEMENT
GEOLOGY
BIN PROPERTY
KAMLOOPS MINING DIVISION
92I-6

BIN "A" GROUPSALARIES

Senior Geologist, D.W. Heddle, 1 day during July @ \$35/day	\$ 35.00	
Senior Geologist, R.J. Nicholson, 9 days April to Aug. 31 @ \$35/day	315.00	
Geochemist, B.W. Snee, ½ day during July @ \$30/day	15.00	
Geologist, M.D. McInnis, 27 days May 5 to Aug. 31 @ \$30/day	810.00	
Geologist, M.R. Murrell, 14 days May 12 to Aug. 8 @ \$30/day	420.00	
Geologist, R.G. Bagshaw, 9 days March to May 30 @ \$30/day	270.00	
Field Assistant, G.E. Grisak, 23 days May 12 to Aug. 31 @ \$25/day	575.00	
Field Assistant, J.R. Bellamy, 13 days May 14 to Aug. 31 @ \$25/day	325.00	
Field Assistant, R. A. Thomas, 3 days in April @ \$25/day	75.00	
Draughtsman, G. Toop, 1 day in May @ \$25/day	<u>25.00</u>	\$2,865.00

CONTRACT CHARGES

Topographic Map (Lockwood Surveys)	162.00	
Line Cutting (Audet Bros.) 1.12 miles @ \$100/mile	112.00	
Road Maintenance (Chataway Lodge)	<u>25.00</u>	299.00

CAMP SERVICES - including expense accounts 780.00

COMMUNICATIONS 38.00

TRANSPORTATION

Truck Rental - 2½ vehicle months @ \$300/month	750.00	
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GEOCHEMICAL LABORATORY FEES 20.00

TOTAL EXPENDITURES: \$4,752.00

BIN "B" GROUP

SALARIES

Senior Geologist, D.W. Heddle, 1 day during July @ \$35/day	\$ 35.00	
Senior Geologist, R.J. Nicholson, 8 days April to Aug. 31 @ \$35/day	280.00	
Geochemist, B.W. Snee, 1/2 day during July @ \$30/day	15.00	
Geologist, M.D. McInnis, 26 days May 5 to Aug. 31 @ \$30/day	780.00	
Geologist, M.R. Murrell, 14 days May 12 to Aug. 8 @ \$30/day	420.00	
Geologist, R.G. Bagshaw, 9 days March to May 30 @ \$30/day	270.00	
Field Assistant, G.E. Grisak, 23 days May 12 to Aug. 31 @ \$25/day	575.00	
Field Assistant, J.R. Bellamy, 13 days May 1 to Aug 31 \$ 25/day	325.00	
Field Assistant, R.A. Thomas, 2 days in April @ \$25/day	50.00	
Draughtsman, G. Toop, 1 day in May @ \$25/day	<u>25.00</u>	\$2,775.00

CONTRACT CHARGES

Topographic Map (Lockwood Surveys)	162.00	
Road Maintenance (Chataway Lodge)	<u>25.00</u>	187.00

CAMP SERVICES - including expense accounts 780.00

COMMUNICATIONS 37.00

TRANSPORTATION

Truck Rental - 2 1/2 vehicle months
@ \$300/month 750.00

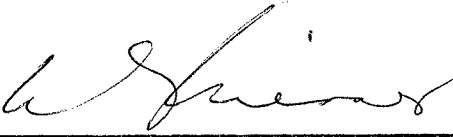
GEOCHEMICAL LABORATORY FEES 80.00

TOTAL EXPENDITURES: \$4,609.00



R.J. Nicholson, P. Eng.

This is Exhibit "A" to the Statutory Declaration of R.J. Nicholson, declared before me the 15th day of October, 1969 A.D.



A Commissioner for taking Affidavits for
British Columbia.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
To Wit:

In the Matter of

STATUTORY DECLARATION RELATING TO
EXPENDITURES ON A GEOLOGICAL SURVEY
OF THE BIN PROPERTY, KAMLOOPS
MINING DIVISION.

I, ROBERT JOHN NICHOLSON, Professional Engineer

of the City of Vancouver

in the Province of British Columbia, do solemnly declare that

1. I do personally know M. D. McInnis who prepared the accompanying geological report as a result of a survey carried out under my supervision on certain mineral claims situated in the Kamloops Mining Division.
2. Copies of the said report are being filed with the Mining Recorder in Vancouver.
3. Attached hereto and marked with the letter "A" upon which I have signed my name at the time of declaring hereof, is a statement of expenditures incurred in connection with the geological survey of the said claims showing in addition the dates during which those making the said survey performed their work.

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 the City
of Vancouver, in the
Province of British Columbia, this 15th
day of October 1969, A.D.




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

In the Matter of

Statutory Declaration
(CANADA EVIDENCE ACT)

C O M I N C O L T D.

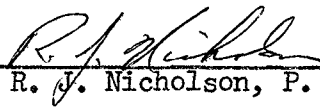
EXPLORATION

WESTERN DISTRICT

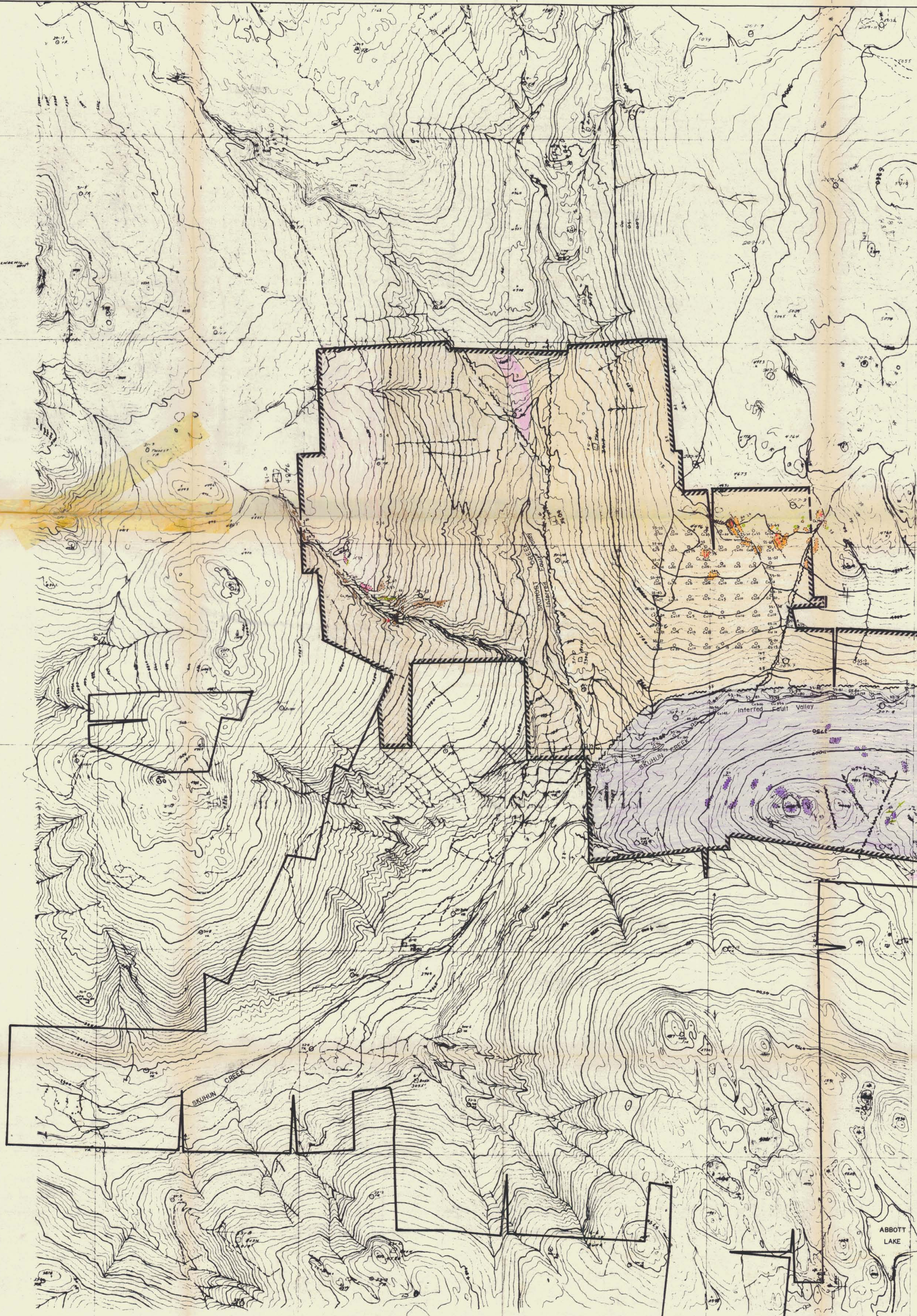
STATEMENT OF QUALIFICATIONS

M. D. McInnis was responsible for carrying out the geological survey on the BIN Property and for the preparation of this report. Mr. McInnis graduated as Bachelor of Science from the University of British Columbia in Honours Geology 1969. He has been working in a responsible capacity with Cominco Ltd since May 5, 1969.

I consider him to be a capable geologist.



R. J. Nicholson, P. Eng.



2085

To accompany Geology Report, dated
October 7, 1969, by M.D.M. Lewis, on the
Bon Appétit, Kamloops, Many Dams,
James McLaughlin, P.E.P.G.

Drawn by: R.J.N.	Trace #:	Sheet #:	Scale:	Date:	Project:
			1" = 1000'	Oct. 8, 1969	

**BIN PROPERTY
GEOLOGY AND GEOCHEMISTRY**

KAMLOOPS, B.C.
N.T.S. 92162

LEGEND

- 5 Guichon Variety
- 4 Chataway Variety
- 3 Skeena Phase
- 2 Witches Brook Phase
- 1 Bethsaida Phase

SYMBOLS

- o Geochemical Samples - assay in p.p.m.
- Shear Zone
- Fault
- Pink Potassic Alteration Mineralization
- Chloritization
- Epidote Stringers
- Geological Contact Inferred



To accompany Geology Report dated
October 7, 1988 by M.D. Wilson, on
the Bin Property, Kingston, N.D.
James Robinson, P.A.

2085

Drawn by R.J.N.	Traced by G.K.T.								
BIN PROPERTY CLAIM TENURE									
Scale: 1" = 1000'									
Date: SEPT. 24, 1989									
N.T.S. 92.16									

