COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 92G 9W/16W

ASSESSMENT REPORT

1981 GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

SLO 1 and 2 MINERAL CLAIMS

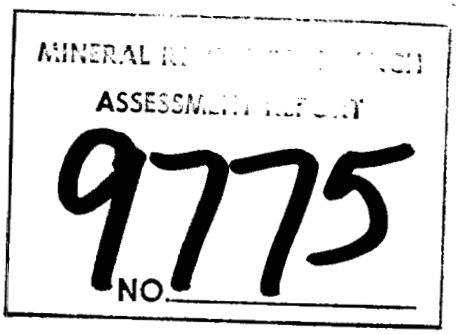
IN THE SLOQUET CREEK AREA

NEW WESTMINSTER MINING DIVISION

BRITISH COLUMBIA

LATITUDE: 49°45'N

LONGITUDE: 122°21'W



OWNER AND OPERATOR: COMINCO LTD.

PERIOD OF WORK: SEPTEMBER 5-29, 1981

24 NOVEMBER 1981

R.J. SHARP

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SUMMARY

The SLO claims are located 95 km northeast of Vancouver and cover copper-lead-zinc anomalies in rock, soil and silt samples.

Work in 1981 consisted of soil and rock geochemistry plus geological mapping. This work confirms the presence of weak lead-zinc mineralization in a Jurassic-Cretaceous volcano-sedimentary pile belonging to the Fire Lake Group.

INTRODUCTION

This report describes the geology, rock and soil geochemistry on Cominco's SLO mineral claims, 95 km northeast of Vancouver, B.C. (see figure 1 for location). This report is based upon field investigations by geologists R.J. Sharp and P.D. Leriche during the period September 5 to 29, 1981; field assistants J. Lavigne and M. Clayton also worked on the property during part of September. The work was supervised by R.Y. Watanabe.

The program this year consited of geological mapping, soil and rock geochemistry. Soil samples were collected along contour lines, rock samples were collected from rock outcrops on the claims. Data are presented at a scale of 1:10,000.

PROPERTY AND OWNERSHIP

The SLO claim group is made up of two claims comprising 40 units, all owned 100% by Cominco Ltd. (see figure 1). This report files credit for SLO 1 (record number 662) and SLO 2 (record number 663).

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LOCATION AND ACCESS

The property is situated in the New Westminster Mining Division at 49°45'N and 122°21'W, NTS: 92G 9W/16W. Access is by helicopter from Pemberton.

The terrain is situated in rugged terrain of the Coast mountains. Thick mature forests and heavily overgrown avalanche chutes cover the property.

SUMMARY OF WORK

A geological map of the SLO claims was prepared using an enlarged 1:50,000 scale topographic map to provide a base map of 1:10,000 scale. A total of 78 soil samples and 35 rock samples were collected from the property and analyzed for Cu, Pb and Zn.

DETAILED TECHNICAL DATA AND INTERPRETATION

Regional Geology:

The regional geology of the area surrounding the SLO claims has been described by Roddick (1966). The claims are underlain by volcano-sedimentary rocks belonging to the Fire Lake Group. This group of rocks forms a roof pendent in the Coast Crystalline Complex and is believed to be of Jurassic to Cretaceous age. The metamorphic grade of rocks on the claims is lower to middle greenschist except near the contacts with intrusive rocks where migmatization occurs.

Detailed Geology:

A map of the detailed geology of the claim group is shown in figure 2. Three mappable volcanic lithologies, one sedimentary and one intrusive rock unit have been outlined. The following sections describe these units.

Unit 1: Rhyolite and Dacite

This unit outcrops mainly in the SLO 2 claim area. Here it consists of a series of felsic tuff, agglomerate, and breccias. A bed of rhyolitic tuff outcrops on SLO 1 and reaches a thickness of up to 75m.

A significant buildup of felsic volcanic rocks is evident in the SLO 2 claim area. These rocks comprise a dominantly pyroclastic sequence of volcanism and often contain disseminated or fracture controlled pyrite. The pyrite content varies between traces to over 3% and in some localities is accompanied by traces of sphalerite, galena and chalcopyrite.

Unit 2: Dacite Tuff

A thin dacite tuff sequence 25 to 40m thick outcrops along the ridgetop in the center of SLO 2. It is dark grey weathering grey to brown, contains crystal tuff sections and is quartz eye bearing. Up to 3% pyrite is present in some outcrops. This unit marks a transition from dominantly sedimentary rock deposition to more active volcanism. No economic sulfides were observed in these rocks.

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Unit 3: Andesite Flows and Tuff

SLO 1 is mainly underlain by a porphyritic andesite. Feldspar phenocrysts 3-4 mm in diameter compose 30% of this rock. Fresh surfaces are green and weather green. The sequence appears monotonous and shows few flow contacts. A bed of rhyolite tuff is enclosed by this unit.

A bed of fine grained andesitic tuff outcrops on SLO 2. This layer is fine grained and occasionally contains sericitized rhyolite lapilli tuff fragments. Up to 8% pyrite is present in some outcrops but commonly only trace to ½% pyrite is present. This andesite tuff bed is completely enclosed by rhyolitic tuff and may not be equivalent to the dominant porphyritic phase exposed on SLO 1.

Unit 4: Siliceous Siltstone

A bed of siliceous siltstone approximately 100m thick forms prominent cliffs along a ridge trending east-west on SLO 2. The rocks are: very siliceous; fine-grained; carry ½-2% pyrite; black and weather black to rusty brown. Fine sedimentary laminae are visible on some weathered surfaces and 1-2m thick rhyolite tuff beds are locally intercalated with the siltstone unit.

Unit 5: Granodiorite, Diorite

Intrusive rocks belonging to the Coast Crystalline Complex cut off the volcano-sedimentary rocks on the south margin of the SLO Claims. In this area the rocks vary from diorite to quartz monzonite but are commonly granodioritic. A significant diorite sill is exposed in the cliffs on the northwest side of SLO 2. Numerous smaller sills outcrop in the cliffs along the ridge that lies in the center of SLO 2, but are only 1-2m thick and are too narrow to map on a 1:10,000 scale.

Structural Geology

A lack of good marker beds make correlation between rocks exposed on SLO 1 and those on SLO 2 difficult. The strike of the rock layers appears to be almost north-south and the dip varies between 20 and 40 degrees east. A fault is postulated to exist along the Simpson Creek valley in order to explain the difference in lithology on either side of the creek valley.

MINERALIZATION

Three localities of low-grade base metal mineralization were found in 1981. In the southern portion of SLO 2 a 1m thick bed of cherty rhyolite tuff contains 17,880 ppm Zn, 3,540 ppm Pb and 4,120 ppm Cu (see figure 2). In the northern portion of SLO 2 traces of galena were observed in a rhyolite tuff. In west central SLO 1 traces of chalcopyrite, galena and sphalerite occur in a cherty rhyolitic tuff.

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GEOCHEMICAL SURVEY

Field and Analytical Techniques

The geochemical survey consisted of silt, soil and rock sampling on the SLO 1 and 2 mineral claims. Several silt samples were taken on the north fork of Sloquet Creek. Soil samples taken were intended to follow-up and confirm anomalous soils gathered in 1980 and also to expand the soil sampling coverage in the southern portion of SLO 2. Due to the ruggedness of the terrain all samples were collected along contour lines on 200m intervals except near the small sphalerite showing in southern SLO 2 where the interval was 25m. Soil samples were taken from the B horizon 5-25cm below surface. Rock samples, consisting of 2 kg amounts, were collected from representative outcrops over a 1m interval; only fresh material was sampled.

All sample sites were marked with orange flagging. Soil and silt samples were stored in large kraft envelopes. Rock samples were stored in heavy plastic sample bags.

The soil and silt samples were dried, the rock samples were crushed; the sample material was then sieved to minus 80 mesh, and the fines retained for analysis. Copper, lead, zinc contents were determined by atomic absorption spectrophotometry of solutions obtained by 20% nitric acid digestion of sieved material.

Results

The concentration ranges, geometric means, and anomaly thresholds for copper, lead, and zinc are listed in Table I. Threshold values were estimated on the basis of probability plots and histograms of the combined 1980 and 1981 data. The anomaly threshold values for soils was also chosen for rocks because: there are relatively few analyses of rocks compared to those for soils; and the soil may be more properly defined as talus fines because of poorly developed residual soil profiles and continued downslope movement of material. In this way much of the soil is comparable to disintegrated rock and, with minor exceptions, the copper-lead-zinc geochemistry will reflect this. Results are plotted in figures 3, 4 and 5.

TABLE I
DATA DISTRIBUTION PARAMETERS
SLO GEOCHEMICAL SURVEY

Element	Range	Geometric Mean (ppm)	Estimated Anomaly Threshold (ppm)
Cu	1 - 4,120	39.0	201
Pb	<4 - 3,600	19.4	149
Zn	10 - 17,880	98.0	412

. . ./5

DISCUSSION OF RESULTS

Few copper anomalies are present on the claims. Values are erratic and most lie far below the anomaly threshold level. A clustering of anomalies in the southern portion of SLO 2, mainly in rocks, indicates a weak copper enrichment in this area. Traces of visible chalcopyrite are occasionally seen in hand specimens collected from outcrops within the anomalous zone.

Lead anomalies in rocks and soils occur in the southern and northwestern portions of SLO 2. Weak galena mineralization in variable amounts (trace to 0.3%) in bedrock accounts for the rock and soil anomalies. One weakly anomalous rock sample from western SLO 1 was obtained but no lead soil anomaly was coincident with it.

Zinc anomalies occur in the same areas as the lead anomalies on both SLO 1 and 2. Similarly the zinc anomalies are related to weak sphalerite mineralization in bedrock (trace to 1.7%).

REFERENCES

Roddick, J.A. (1966): Vancouver North, Coquitlam, and Pit Lake map-areas, British Columbia, Geol. Surv. Canada, Mem. 335

Report by: R.J. Sharp, Geologist

Endorsed by: D.L. Cooke, Senior Geologist

RJS/skg

Distribution:
Mining Recorder (2)
Western District (1)
RJS/DLC (2)

Approved for Release by: G. Harden, Manager Exploration, Western District

APPENDIX "A"

EXHIBIT "A"

STATEMENT OF EXPENDITURES

ON THE SLO 1 and 2 MINERAL

CLAIMS FOR 1981

GEOLOGY					
Salaries:	R.J. Sharp field:	Sept. 5-7, 12-29	(21 days @ $192.87/day)	=	$ 4,050.27
	office:	Report writing	(4 days @ $141.53/day)	=	566.12
	P.D. Leriche:	Sept. 5-29	(25 days @ $105.60/day)	=	2,640.00
	J. Lavigne:	Sept. 5-11	(7 days @ $ 87.12/day)	=	609.84
	M. Clayton field:	Sept. 12-29	(18 days @ $ 87.12/day)	=	1,568.16
	office:	Drafting	(4 days @ $ 66.00/day)	=	264.00
CAMP SUPPORT					
Lumber, camp fuel, supplies				=	843.10
Food ($20/man day x 71 man days)				=	1,420.00
Communications (Radio Rental, B.C. Tel. radio-phone charges)				=	311.06
Drafting Supplies				=	70.84
TRANSPORTATION					
Helicopter (plus fuel)		13.27 hrs. @ $439.00/hr.		=	5,825.53
Fixed Wing				=	1,050.40
Truck Rental 5 ton for camp mobilization				=	207.97
Truck Fuel				=	110.00
GEOCHEMISTRY					
78 Soil Samples @ $3.55/sample				=	276.90
35 Rock Samples @ $5.55/sample				=	194.25
			TOTAL EXPENDITURES	=	$20,008.44

APPENDIX "B"

STATEMENT OF QUALIFICATIONS

I ROBERT J. SHARP, OF THE CITY OF VANCOUVER, BRITISH COLUMBIA, HEREBY CERTIFY:

1. THAT I AM A GEOLOGIST RESIDING AT 2764 WEST SECOND AVENUE, VANCOUVER, BRITISH COLUMBIA WITH A BUSINESS ADDRESS AT 700-409 GRANVILLE STREET, VANCOUVER, BRITISH COLUMBIA.

2. THAT I GRADUATED WITH A B.SC. DEGREE IN MINERAL ENGINEERING FROM THE UNIVERSITY OF ALBERTA IN 1975.

3. THAT I GRADUATED WITH AN M.SC. DEGREE IN GEOLOGY FROM THE UNIVERISTY OF ALBERTA IN 1980.

4. THAT I HAVE PRACTISED GEOLOGY WITH THE UNION OIL COMPANY OF CANADA LTD., MINERALS DIVISION, IN CALGARY ALBERTA FROM 1978 UNTIL 1980.

5. THAT I HAVE PRACTISED GEOLOGY WITH COMINCO LTD. FROM 1980 to 1981.

6. THAT I AM REGISTERED AS AN ENGINEER-IN-TRAINING WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF THE PROVINCE OF ALBERTA: MEMBER NUMBER 18311.

DATED THIS DAY OF , AT VANCOUVER, BRITISH COLUMBIA.

Signed: Robert J. Sharp

Robert J. Sharp, M.Sc.

122°15'

GARIBALDI PARK

SLO CLAIMS (COMINCO)
40 UNITS

SLO 1 20 Units

SLO 2 20 Units

49°45'

NORTH SLOQUET CREEK

SLOQUET CREEK

LILLOOET RIVER

HARRISON LAKE

LEGAL CORNER POST

0 1 2 3 4
KILOMETRES

9775
NO.

SLO CLAIMS

Cominco 92G/9,16

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

LOCATION & CLAIM MAP

Scale: 1:50 000 | Date: NOV. 1981 | Plate: 1

Garibaldi Provincial Park

SLO 1

SLO 2

Simpson Creek

Sloquet Creek

North

Cu, Pb, Zn

Cu, Pb, Zn

Pb

1372
1220
1067
915
762
610
457
305

LEGEND

1 Rhyolite, Dacite

2 Dacite Tuff

3 Andesite, flows & tuffs

4 Siliceous Siltstone

5 Granodiorite, Diorite

SYMBOLS

Geological Contact

Outcrop Boundary

Fault

Dike Contact

50 Bedding Orientation

Cu, Pb, Zn Sulfide Mineralization

0 200 1000
METRES

9775

SLO CLAIMS

92G/9,16

Drawn by:		Traced by: MDC	
Revised by	Date	Revised by	Date

GEOLOGY

Scale: 1:10 000 Date: NOV. 1981 Fig.

MCI - 117 - C.L.

Garibaldi Provincial Park

SLO 1

SLO 2

Simpson Creek

Slocet Creek

North

1372
1220
1067
915
762
610
457
305

LEGEND

△ ROCK SAMPLE
▲ ANOMALOUS Cu > 201 ppm

○ SOIL SAMPLE
● ANOMALOUS Cu > 201 ppm

□ SILT SAMPLE
■ ANOMALOUS Cu > 201 ppm

0 200 1000
METRES

SLO CLAIMS 926/9,16

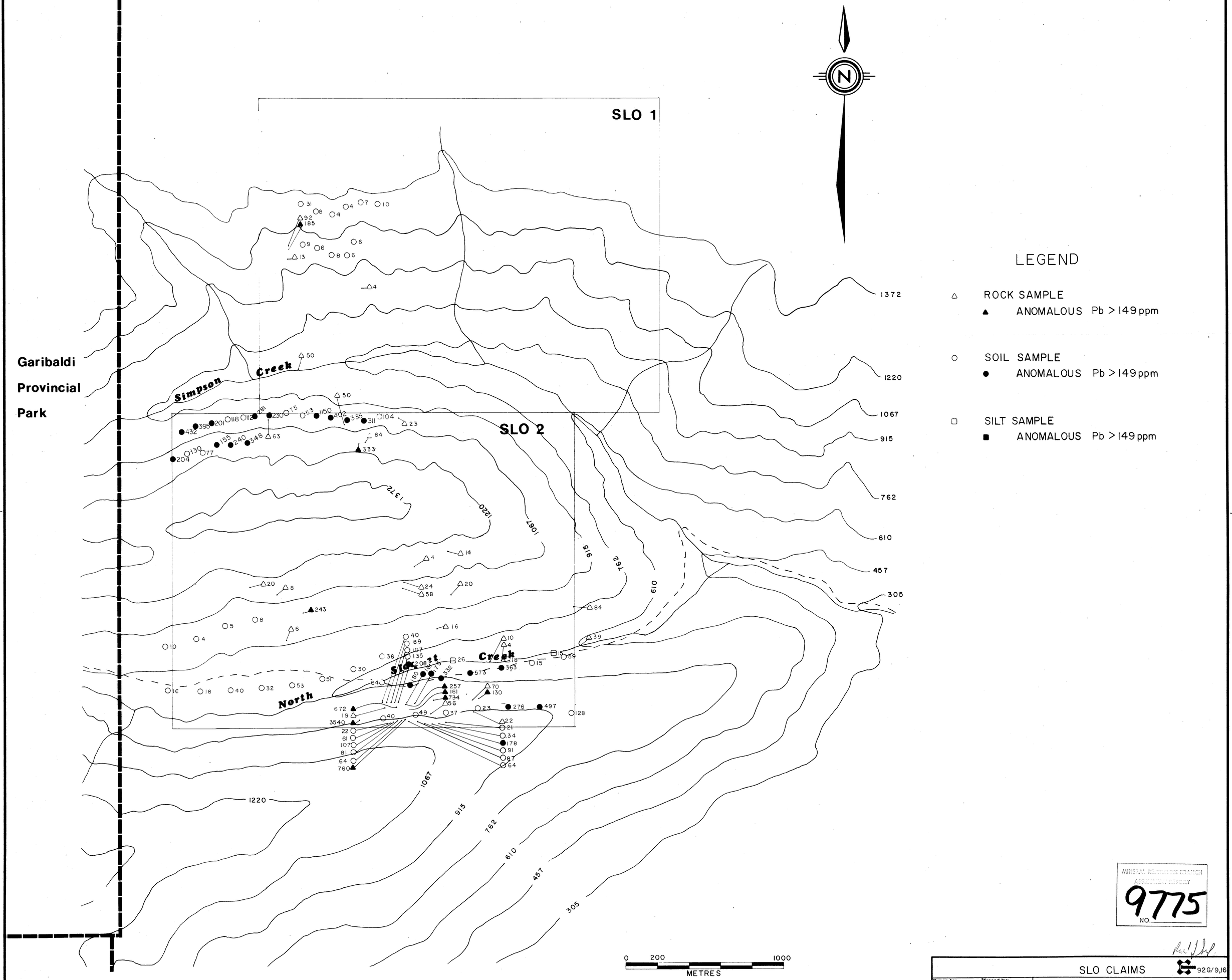
Drawn by:		Traced by: MDC	
Revised by	Date	Revised by	Date

COPPER GEOCHEMISTRY

Scale: 1:10 000 | Date: NOV 1981 | Plate: 3

NCI - 117 - G.L.

Form 210 0650



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9775

SLO CLAIMS 92G/9,16

LEAD GEOCHEMISTRY

Drawn by:		Traced by: MDC	
Revised by	Date	Revised by	Date

Scale: 1:10 000 | Date: NOV 1981 | Plate: 4

NCI - 117 - C.L.

Form 210 0660

FIGURE 4

GOWAN CREEK PROSPECT
GEOLOGY
SKOOKUM 1, 2 AND CHUCK 1 CLAIMS
NEW WESTMINSTER M.D.

LEGEND

- OUTCROP
- 2 SCHISTOSE TUFF
- 3 BLACK SHALE
- 1 MASSIVE DACITE
- 1bx BRECCIA
- 1t TUFF
- X SHOWING
- cp (chalcopyrite), sph (sphalerite).
- FAULT
- FOLIATION
- LCP

MAY 1982 To accompany report by: B. J. PRICE, M.Sc

Livingston

GRANODIORITE

SKOOKUMCHUCK IR 4A
L 5532

MORTEEN IR 9

L 2594A

MINERAL LEASE M-26

2500

GRANODIORITE

SKOOKUM 1
1190(3)
LCP

GOWAN LCP

GOWAN CR.

CONTACT

MASSIVE VOLCS
SCHIST w. Cu

BLACK SHALE

CHUCK 1
1192(3)
LCP

SKOOKUM 2
1191(3)

300

LILLOOET RIVER

SKLAHHESTEN IR 5A

SKLAHHESTEN IR 5

L 5534

N

0 1
0 1000
0 1000

SLO 1

SLO 2

Garibaldi Provincial Park

Simpson Creek

Slocat North Creek

1372
1220
1067
915
762
610
457
305

LEGEND

△ ROCK SAMPLE
▲ ANOMALOUS Zn > 412 ppm

○ SOIL SAMPLE
● ANOMALOUS Zn > 412 ppm

□ SILT SAMPLE
■ ANOMALOUS Zn > 412 ppm

0 200 1000
METRES

ASSESSMENT REPORT
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NO.

SLO CLAIMS 92G/9,16

Drawn by:		Traced by: MDC	
Revised by	Date	Revised by	Date

ZINC GEOCHEMISTRY

Scale: 1:10 000 | Date: NOV 1981 | Plate: 5

Form 210 0660