COMINCO LTD.

EXPLORATION
NTS 94 E/2E

WESTERN DISTRICT
June 1, 1978

ASSESSMENT REPORT

GEOLOGICAL MAPPING AND ROCK AND SOIL GEOCHEMICAL WORK ON THE MEX PROPERTY

(MEX CLAIM; 12 UNITS)

TOODOGGONE RIVER AREA, OMINECA M.D.

LATITUDE: N57°12'

LONGITUDE: W126°39'

WORK PERFORMED: August 18-26, 1977

REPORT BY: J.C. CAELLES

IN THE MATTER OF THE B.C. MINERAL ACT

AND IN THE MATTER OF A GEOLOGICAL AND GEOCHEMICAL PROGRAMME

CARRIED OUT ON MINERAL CLAIM MEX (12 UNITS)

ON THE MEX PROPERTY

LOCATED 75 KM NORTHWEST OF JOHANSON LAKE IN THE OMINECA MINING DIVISION

OF THE PROVINCE OF BRITISH COLUMBIA MORE PARTICULARLY

N.T.S. 94E/2E

A F F I D A V I T

I, JUAN C. CAELLES, OF THE CITY OF VANCOUVER IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY:

1. THAT I AM EMPLOYED AS A GEOLOGIST BY COMINCO LTD. AND, AS SUCH, HAVE A PERSONAL KNOWLEDGE OF THE FACTS TO WHICH I HEREINAFTER DEPOSE;

2. THAT ANNEXED HERETO AND MARKED AS "EXHIBIT A" TO THIS MY AFFIDAVIT IS A TRUE COPY OF EXPENDITURES INCURRED ON GEOLOGICAL MAPPING AND/OR ROCK AND SOIL GEOCHEMICAL SURVEY ON THE MINERAL CLAIMS MEX 1 - MEX 12;

3. THAT THE SAID EXPENDITURES WERE INCURRED BETWEEN THE 18TH OF AUGUST, 1977 AND THE 26TH OF AUGUST, 1977 FOR THE PURPOSE OF MINERAL EXPLORATION ON THE ABOVE NOTED CLAIMS.

Juan C. Caelles

JUAN C. CAELLES

MEX GROUP

ASSESSMENT REPORT

TABLE OF CONTENTS

ATTACHMENTS

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
June 1, 1978

MEX GROUP

ASSESSMENT REPORT

1. SUMMARY AND CONCLUSIONS

The 12-unit Mex Group is a porphyry copper prospect located in the Omineca M.D. Road access from the south is now within 50 km and eventually will be within 15 km.

Estimated expenditures of $4,900 have been incurred in the property in 1977.

The area is underlain by Lower/Middle Jurassic Hazelton Group volcanics, intruded by quartz diorite-granodiorite. A 100 m-wide breccia pipe is exposed on the property, in which vicinity the quartz diorite is intruded by monzonite and syenitic stocks and cut by dacite porphyry and mafic dykes. Zoned hydrothermal alteration is centered at the breccia pipe where a quartz-sericite zone grades outward into zones of silicification and propylitization.

A 1,000 x 500 m gossan is present with disseminated pyrite in amounts of up to 7% in all rock types. Trace amounts of chalcocite and chalcopyrite occur in the strongly-leached breccia and surroundings, in an area about 400 x 250 m. Soil geochemistry on the covered southwestern slope yielded low values of Cu and Mo; rock samples from the ridge assayed very low in Cu and Mo.

2. LOCATION AND ACCESS

Latitude: N57°12' Longitude: W126°39' NTS: 94E/2E

The 12-unit Mex Group is located in northern-central B.C., about 4 km to the northwest of Giegerich Peak and 20 km to the northeast of the northern end of Thutade Lake, in the Omineca M.D. (Plate 1). Access is by fixed-wing aircraft to Johanson Lake airstrip from Smithers (210 km) and by helicopter from Johanson Lake to the property (75 km). Road access from the south is now within 50 km (Moose Valley), and eventually will be within 15 km.

3. PROPERTY

The Mex Group consists of 12 units staked by Cominco in June 1977 (Plate 2). Attention was brought to the area by a conspicuous gossan exposed on a ridge.

The property was part of the originally large Kennco's 1968 Pine Group, now reduced to 4 units located to the north of the Mex Group. Mapping, soil geochemistry and magnetic surveys were carried out on low ground

between the Mex claims and the Finlay River.

4. GEOLOGY

4.1 Regional Geology

The region is underlain by six major rock units:

Tertiary and Upper Cretaceous

Sustut Group: non-marine conglomerate, shale, siltstone, tuff, minor fetid limestone.

Lower and/or Middle Jurassic

"Toodoggone" volcanic rocks: dacite, latite, rhyolite, tuff breccia, flows.

Lower Jurassic (?)

Hazelton Group: volcanic conglomerate, breccia, lahar; pink feldspar porphyry dykes.

Upper Triassic

Takla Group: plagioclase porphyry, augite porphyry, tuff, agglomerate; limestone.

Upper Paleozoic

Asitka Group: chert, argillite, limestone, greenstone.

Intrusive Rocks

Lower Jurassic (?) quartz monzonite and granodiorite.

4.2 Local Geology and Alteration

The property is located at the contact between broadly-coeval Hazelton volcanics and quartz diorite-granodiorite, of Lower Jurassic age. The quartz diorite intrudes the volcanics (Plate 2). A ridge exhibiting a very obvious colour anomaly, where traces of chalcocite and chalcopyrite occur, was mapped in detail (Plate 3).

In the central part of the property, the granodiorite is intruded by monzonite and syenite stocks, and cut by fine-grained mafic and rhyolitic dykes. A brecciated zone approximately 100 m wide with angular and subrounded fragments up to 40 cm in diameter is exposed on top of the ridge, interpreted to be a breccia pipe.

Texturally, the granitoids range from fine- to medium-grained phases. Porphyritic rocks predominate. Quite large variations in texture and composition occur within relatively small areas, especially in places where very fine-grained rocks outcrop. The latter chiefly occur in the central part of the property, in and around the breccia pipe, where a

strong silicification is present; the rock here is so intensely silicified that the primary texture has been obliterated beyond macroscopic recognition. Hydrothermal alteration roughly displays a concentric pattern with a quartz-sericite zone in the center grading outwardly into silicification and propilitization (Plate 4). The quartz-sericite alteration zone is roughly coextensive with the breccia zone. The quartz-sericitic alteration is pervasive; silicification is both pervasive and subordinately along veinlets; propylitization is typical with replacement of mafic minerals by chlorite and epidote.

5. MINERALIZATION

A gossan is present on the property and outcrops for approximately 1,000 x 500 m along the ridge, between 450N and 1500N. Jarositic limonite occurs as fracture-coatings, clots and disseminations, mainly between 500N and 1000N. The "false" colour anomaly is caused by mainly fresh potassic feldspar and stained palgioclase (?).

Pyrite occurs in fracture fillings and disseminations in all rock types up to amounts of 7%.

Copper mineralization was observed on the ridge in an area about 400 x 250 m, and is open to the southwest where bedrock is covered by scree and soil. It is made up of mainly traces ($\ll$1%) of chalcocite on top of the ridge changing to predominant chalcopyrite ($\ll$1%) down the eastern slope, at about 100 m lower elevation. Chalcocite occurs as minute bluish-black specks along fractures, in veinlets, or as disseminations; occasionally coating grains of pyrite or chalcopyrite. The chalcopyrite also occurs as fracture fillings and subordinately as disseminations.

Leaching is variable and is dependent on amounts of sulphides and type of alteration, which controls porosity and permeability. In the breccia zone leaching is very strong and the abundant indigenous and transported limonites suggest the breaking down of abundant sulphides; only traces of chalcocite occur in the fragments and rarely in the matrix of the breccia zone. In areas of strong silicification leaching is weaker and mainly limited to fractures.

6. GEOCHEMISTRY

Chip samples were taken at 50 m intervals along the top of the ridge. All soil samples were collected from B soil horizon (about 25 cm below surface); the samples were screened and the -80 mesh fraction analysed. The samples were processed and analysed at Cominco's Laboratory (Vancouver) according to the following methods:

1. Copper and silver analyses were done by aqua regia digestion (rock samples) and nitric acid digestion (soil samples) and atomic absorption determination.
2. Molybdenum analyses were done by pyrosulfate fusion followed by thiocyanate colourimetric determination.
3. Gold analyses were done by aqua regia digestion followed by organic extraction and atomic absorption determination.

The results were very low, with a highest value determined of 910 ppm Cu, 6 ppm Mo, 4.3 ppm Ag and 480 ppb Au (Plate 5).

Soil geochemistry was carried out over the moss- and Alpine grass-covered

western slope and consisted of 50 m interval samples taken along three 1500 m-long lines approximately parallel to the ridge, and three down-slope, 800 m-long, lines (Plate 7). Using cumulative probability plots the following thresholds were chosen in ppm:

	Anomalous	Possibly Anomalous	Background	Limit of detections
Cu	$\geq$ 130	$\leq$ 130; $>$20	$<$ 20	1 ppm
Mo	$>$ 20	$\leq$ 20; $>$ 4	$<$ 4	2 ppm
Ag				0.4 ppm
Au				10 ppb

Report by:
J.C. Caelles
Geologist

Endorsed by:
D.L. Cooke, P. Eng.
Senior Geologist

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

JCC/pcd

EXHIBIT "A"

GEOLOGICAL MAPPING AND GEOCHEMICAL SURVEY COSTS

ON THE

MEX CLAIMS

located 75 km northwest of Johanson Lake,

Latitude: N57°12' Latitude: W126°39'

Salaries	Person	Item Totals	Grand Total
D. Mehner (9 days x $78.41)	$ 705.69		
R. Boocock (9 days x $64.94)	584.46		
H. Lefebvre (1 day x $63.40)	63.40		
S. Fountain (1 day x $61.78)	61.78		
J. Caelles (2 days x $130.24)	260.48		
D. Mehner: maps & reporting office (4 days x $74.70)	298.80		
		$1,974.61	
Cominco Laboratory (Vancouver)			
23 rock samples (Au) x $3.00	69.00		
46 rock samples (Cu Mo Ag) x $3.50	161.00		
142 soil samples (Cu Mo) x $2.35	333.70		
30 thin sections x $3.50	105.00		
9 polished sections x $6.00	54.00		
		$ 722.70	
Transportation			
HL & SF (2 trips=75 miles: 58m/h x $175)	227.00		
DM & RB (3 trips=219 miles: 58m/h x $175)	661.00		
JCC (1 trip=91 miles: 58m/h x $175)	275.00		
Gas (6.6 hours x 15 gal/h x $1.50/gal)	148.50		
		$1,311.50	
Board			
26 man days x $28.94	752.44		
		$ 752.44	
Mobilization and demobilization			
DM ($359.60 x 77 x 9)	42.03		
RB ($787.60 x 77 x 9)	92.06		
HL ($359.60 x 77 x 1)	4.67		
SF ($395.60 x 77 x 1)	5.14		
JCC ($359.60 x 77 x 2)	9.34		
		$ 153.24	
			$4,914.49

J.C. Caelles

TABLE 1

SOIL GEOCHEMICAL ANALYSES

MEX GROUP

Field Number	Cu	Mo	Field Number	Cu	Mo
RBS-143	279	10	RBS-176	26	-2
RBS-144	550	25	RBS-177	18	-2
RBS-145	82	40	RBS-178	38	4
RBS-146	71	30	RBS-179	42	-2
RBS-147	67	8	RBS-180	130	6
RBS-148	69	18	RBS-181	185	8
RBS-149	44	25	RBS-182	20	-2
RBS-150	39	4	RBS-183	60	-2
RBS-151	22	-2	RBS-184	32	-2
RBS-152	21	6	RBS-185	42	-2
RBS-153	13	4	RBS-186	32	4
RBS-154	15	-2	RBS-187	23	-2
RBS-155	14	4	RBS-188	16	-2
RBS-156	17	-2	RBS-189	17	-2
RBS-157	13	-2	RBS-190	19	-2
RBS-158	5	-2	RBS-191	17	4
RBS-159	7	-2	RBS-192	12	-2
RBS-160	10	-2	RBS-193	16	-2
RBS-161	7	2	RBS-194	16	-2
RBS-162	7	-2	RBS-195	12	-2
RBS-163	26	-2	RBS-196	16	-2
RBS-164	43	-2	RBS-197	12	4
RBS-165	147	13	RBS-198	11	-2
RBS-166	110	17	RBS-199	20	-2
RBS-167	94	17	RBS-200	50	-2
RBS-168	61	20	RBS-201	18	-2
RBS-169	32	15	RBS-202	26	4
RBS-170	43	4	RBS-203	69	-2
RBS-171	69	3	RBS-204	16	-2
RBS-172	54	-2	RBS-205	15	-2
RBS-173	37	-2	RBS-206	28	-2
RBS-174	31	-2	RBS-207	12	-2
RBS-175	20	-2	RBS-208	10	-2

Field Number	Cu	Mo
RBS-209	12	-2
RBS-210	14	-2
RBS-211	16	-2
RBS-212	28	-2
RBS-213	34	-2
RBS-214	19	-2
RBS-215	29	-2
RBS-216	40	-2
RBS-217	52	-2
RBS-218	35	8
RBS-219	12	-2
RBS-220	13	2
RBS-221	21	-2
RBS-222	18	3
RBS-223	13	-2
RBS-224	14	-2
RBS-225	17	-2
RBS-226	48	15
RBS-227	22	4
RBS-228	52	-2
RBS-229	43	12
RBS-230	42	-2
RBS-231	34	6
RBS-232	34	6
RBS-233	37	6
RBS-234	36	4
RBS-235	20	4
RBS-236	25	8
RBS-237	50	18
RBS-238	73	6
RBS-239	71	6
RBS-240	12	4
RBS-241	13	-2
RBS-242	10	-2
RBS-243	8	-2
RBS-244	15	-2
RBS-245	15	-2
RBS-246	8	-2
RBS-247	56	6
RBS-248	77	18
RBS-249	41	12
RBS-250	32	10
RBS-251	52	10
RBS-252	41	8
RBS-253	52	6
RBS-254	71	15
RBS-255	75	20
RBS-256	54	25
RBS-257	73	20
RBS-258	460	10
RBS-259	124	12
RBS-260	47	6
RBS-261	120	-2
RBS-262	46	6
RBS-263	203	10
RBS-264	237	12
RBS-265	226	6
RBS-266	163	4
RBS-267	69	6
RBS-268	39	4
RBS-269	38	4
RBS-270	38	4
RBS-271	52	-2
RBS-272	25	5
RBS-273	20	7
RBS-274	30	2
RBS-275	28	6
RBS-276	26	5
RBS-277	18	6
RBS-278	13	4
RBS-279	27	4
RBS-280	9	-2
RBS-281	23	4
RSB-282	34	-2

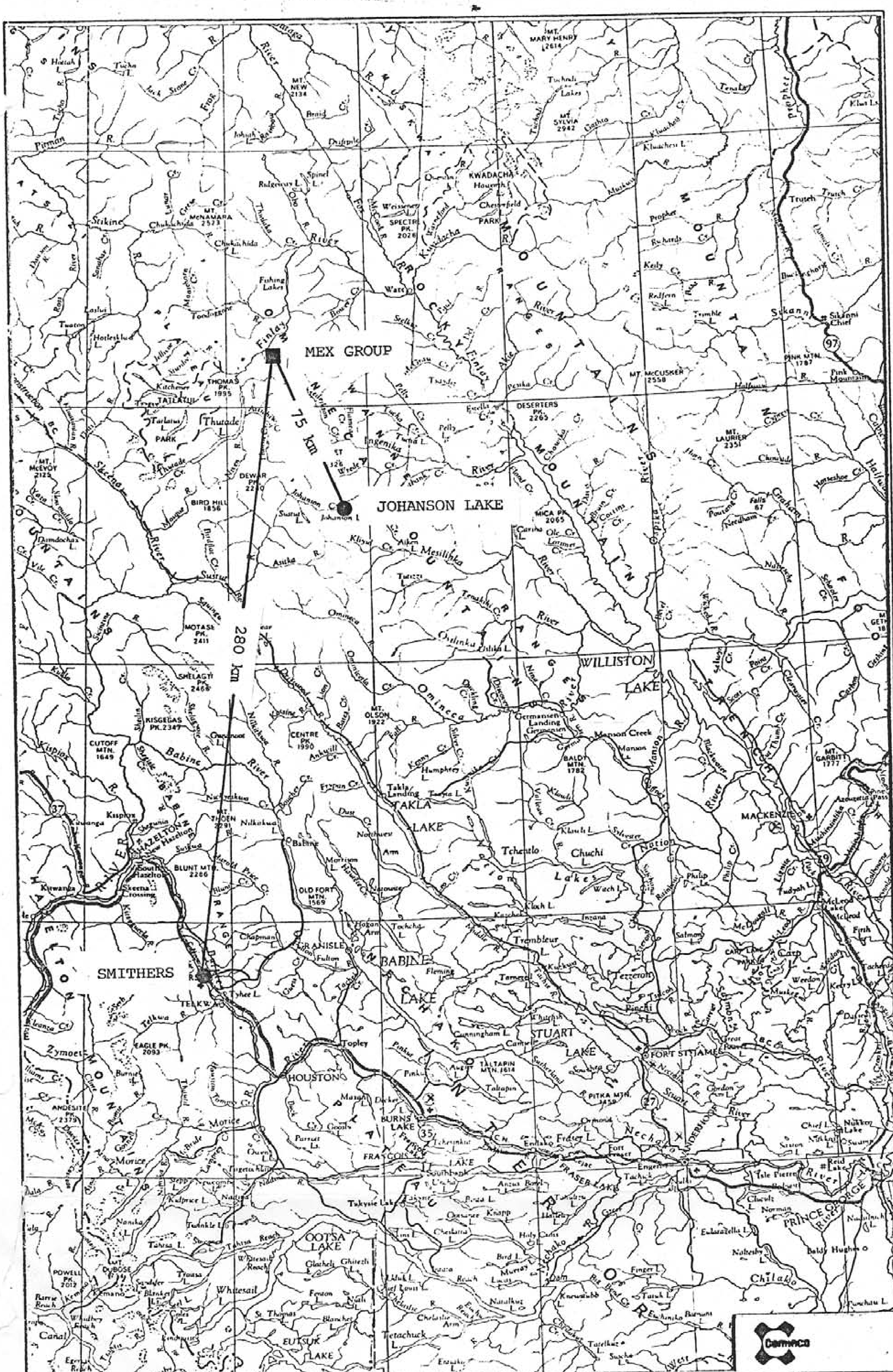
Field Number	Cu	Mo
RBS-283	10	-2
RBS-284	42	-2
RBS-285	28	-2

TABLE 2

ROCK GEOCHEMICAL ANALYSES

ROCK ANALYSES - MEX GROUP

Field Number	Cu	Ag	Mo	Au	Field Number	Cu	Ag	Mo	Au
JCC-R-132	11	<.4	<2	<10	JCC-165	74	0.4	15	
JCC-R-133	12	<.4	<2		JCC-166	92	0.6	18	60
JCC-R-134	5	<.4	4	<10	JCC-167	101	0.4	50	
JCC-R-135	5	<.4	<2	<10	JCC-168	83	0.9	40	780
JCC-R-136	3	<.4	4	<10	JCC-169	65	0.8	30	
JCC-R-137	12	<.4	4		JCC-170	174	0.4	10	60
JCC-R-138	8	<.4	<2	<10	JCC-171	92	0.5	<2	
JCC-R-139	3	<.4	6		JCC-172	75	0.6	7	60
JCC-R-140	12	<.4	<2	<10	JCC-173	72	<.4	8	
JCC-R-141	21	<.4	3		JCC-174	136	1.7	40	490
JCC-R-142	910	4.3	6	410	JCC-175	97	1.1	13	
JCC-R-143	163	2.6	13		JCC-176	75	<.4	8	44
JCC-R-144	238	0.4	6	70	JCC-177	92	0.7	10	
JCC-R-145	198	1.5	16		JCC-178	81	0.5	15	50
JCC-R-146	168	0.8	8	156					
JCC-R-147	80	<.4	10						
JCC-R-148	48	<.4	6	<10					
JCC-R-149	94	0.4	12						
JCC-R-150	73	0.4	25	36					
JCC-R-151	56	0.4	15						
JCC-R-152	62	<.4	15	650					
JCC-R-153	16	<.4	<2						
JCC-R-154	31	0.8	<2	300					
JCC-R-155	58	<.4	22						
JCC-R-156	28	0.5	6	<10					
JCC-R-157	39	<.4	4						
JCC-R-158	77	<.4	4	<10					
JCC-R-159	55	<.4	<2						
JCC-R-160	104	0.6	<2	<10					
JCC-R-161	88	0.4	<2						
JCC-R-162	82	<.4	<2	<10					
JCC-R-163	88	0.6	<2						
JCC-R-164	52	<.4	<2	20					



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

MEX CLAIM GROUP
LOCATION MAP

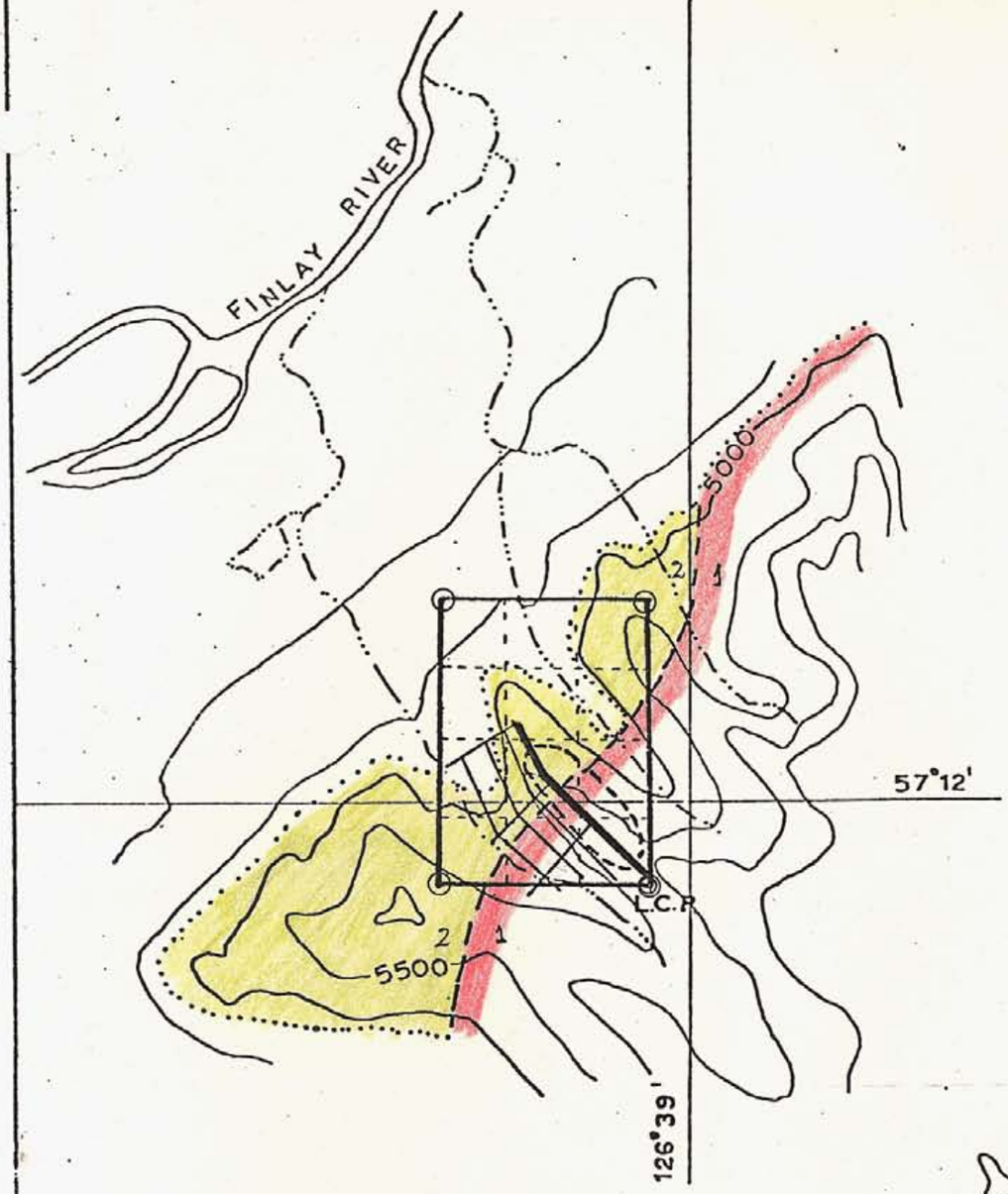
Scale: 1:2,000,000

Date: January, 1978

Plate: 1

BCIL-2187-C

210.061C



Approximate Mex Group boundary

Approximate extent of colour anomaly

Rock geochem line - Sample interval = 50m

Soil geochem line - Sample interval = 50m

2 Lower Jurassic (?) Hazelton volcanics

1 Lower Jurassic (?) quartz diorite-granodiorite

Cominco

Drawn by:	Traced by:	MEX CLAIM GROUP		
Revised by / Date	Revised by / Date			
		Scale: 1:50,000	Date: October 3, 1977	Plate: 2

210 0610

10,200 E

10,150 E

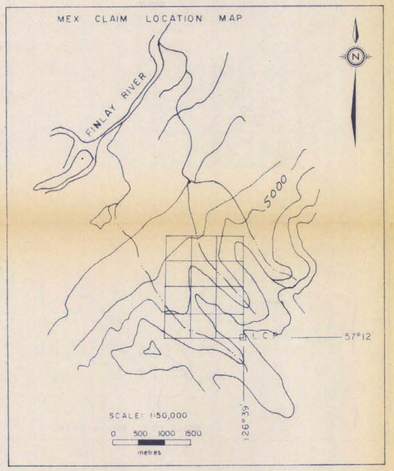
10,100 E

10,050 E

9900 E

9850 E

MEX CLAIM LOCATION MAP



1550 N 1500 N 1450 N 1400 N 1350 N 1300 N 1250 N 1200 N 1150 N 1100 N 1050 N 1000 N 950 N 900 N 850 N 800 N 750 N 700 N 650 N 600 N 550 N 500 N 450 N 400 N 350 N 300 N 250 N 200 N 150 N 100 N 50 N 00

LEGEND

1	Recent conglomerate:	Siliceous cherts up to 4cm; grey; clasts derived from Unit 8; limonite cement.
2	Dacite porphyry:	Medium- to fine-grained; very fresh; bio & hb about 15%; quartz eyes 5-10%; Plag. 10%; locally K-feldspar phenocrysts; disseminated pyrite cubes up to 4mm, 1-2%; traces of chalcocite $\ll$1%.
3	Mafic dykes:	Fine-grained; variously prophylitized; malachite staining
4	Syenite:	Medium-grained; pink; fresh; K-feldspar crystals up to 3mm, hornblende 1-3mm, 10-20%; $<$1% quartz; traces ($<$1%) pyrite weakly magnetic; not hydrothermally altered.
	B:	K-feldspar phenocrysts up to 6mm, 1-2%; hornblende laths, 2mm, 10-15%; pyroxene(?), 3mm, 1-3%; weakly magnetic.
5	Rhyolite:	Fine-grained to aphanitic; pink; quartz eyes, 5%; pyrite cubes, $<$1%.
6	Quartz diorite to granodiorite:	Medium-grained, hornblende, 1-2mm, 15% quartz 10-15%; moderately magnetic.
	B:	Porphyritic with plagioclase phenocrysts, 4-5mm, 20%; weak to moderately magnetic.
	C:	Highly fractured and zeolitized; matics replaced by chlorite; epidote in groundmass.
7	Monzonite:	Fine- to medium-grained; locally porphyritic with K-feldspar phenocrysts, 2-3mm, 10-20%; plagioclase phenocrysts, 3mm 5%; quartz eyes, 1-2mm, 3-5%; strongly magnetic with 5-20% disseminated grains and blebs of magnetite.
	B:	Dykes (?) less altered than #7; biotite and hornblende, 15-20%; plagioclase phenocrysts, 3-6mm, 15-20%; quartz eyes 1.5-2.0mm, 5-10%; weakly to moderately magnetic.
	C:	Porphyrytic, pink monzonite.
8	Monzonite to quartz monzonite:	Varies from a fine-grained, grey, siliceous non-magnetic rock to a medium-grained, chloritized and weakly magnetic rock; this unit is likely #7 strongly altered.

ROCK UNITS NOT NECESSARILY IN CHRONOLOGICAL ORDER

SYMBOLS

- BEDDING
- FAULT
- JOINTING
- LIMIT of OUTCROP
- GEOLOGIC CONTACT: ASSUMED, OBSERVED
- TALUS
- BRECCIA
- LEGAL CORNER POST
- CLAIM BOUNDARY
- GRID STATION
- STREAM

25 0 25 50 75
metres

Mex Claim Group

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

GEOLOGY

Scale: 1:2500 Date: AUGUST 1977 Plate: 3

NCI-116-CL

FORM 213-2(81)

LEGEND

Propyllitic alteration: ≤50% of the mafics replaced by chlorite and/or epidote

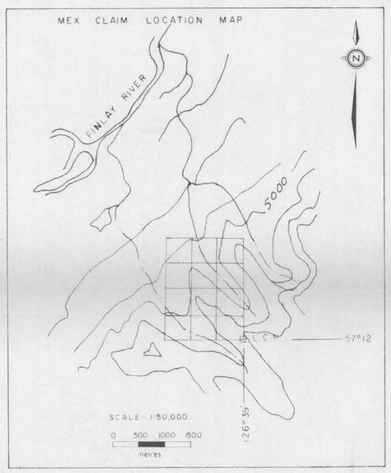
Propyllitic alteration: >50% of the mafics replaced by chlorite and/or epidote

Silicification: specks of sericite, small k-feldspar envelopes and fracture fillings are locally present

- Weak silicification — mafics not recognizable
- Moderate silicification — mafics absent, minor quartz veining and quartz blebs
- Strong silicification — quartz veining is very common — veins up to 3 mm. wide with irregular spacing. Rock may contain up to 80% quartz
- Quartz-sericite — rocks contain up to 30% sericite

10,200 E
10,150 E
10,100 E
10,050 E
9900 E
9850 E

MEX CLAIM LOCATION MAP



SYMBOLS

- BEDDING
- FAULT
- JOINTING
- LIMIT OF OUTCROP
- GEOLOGIC CONTACT: ASSUMED, OBSERVED
- TALUS
- BRECCIA
- LEGAL CORNER POST
- CLAIM BOUNDARY
- GRID STATION
- STREAM

25 0 25 50 75
metres

1500 N 1450 N 1400 N 1350 N 1300 N 1250 N 1200 N 1150 N 1100 N 1050 N 1000 N 950 N 900 N 850 N 800 N 750 N 700 N 650 N 600 N 550 N 500 N 450 N 400 N 350 N 300 N 250 N 200 N 150 N 100 N 50 N 00

Mex Claim Group

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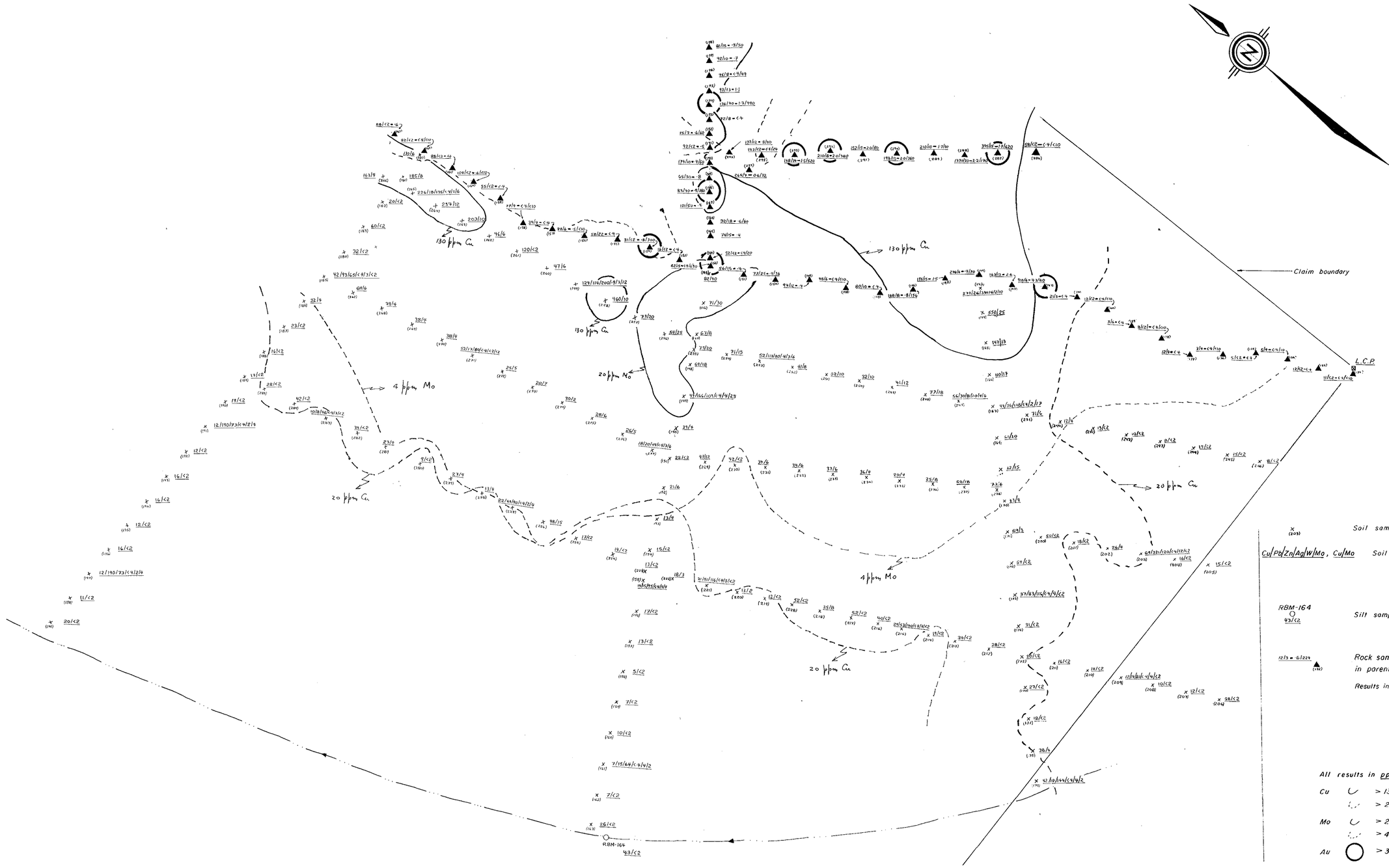
Revised by: Date	Revised by: Date

ALTERATION

Scale 1:2500 Date AUGUST 1977 Plate 4



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6763

LEGEND

(203) Soil sample locations (RBS-203)

Cu/Pb/Zn/Ag/W/Mo, Cu/Mo Soil Sample results

RBM-164
43/<2 Silt sample location and results Cu/Mo

12/3 = 61224
(132) Rock sample location with sample number in parenthesis — JCC-132

Results in ppm (Au in ppb) Cu/Mo = Ag/Au

All results in ppm except those for Au which are in ppb

Cu > 130 ppm.
> 20 ppm.
Mo > 20 ppm.
> 4 ppm.
Au > 300 ppb.

0 50 100 150 200
metres

Mex Claim Group

GEOCHEMISTRY

Drawn by: T. G. | Traced by: T. G.
Revised by: Date | Revised by: Date
Scale: 1:2500 Date: Sheet: 5

MCI - 118 - G.L.