

82-392-10444

NORAD CLAIM 6
GEOLOGY and GEOCHEMISTRY
N.T.S. 93L-5E

J. McClintock May 1982

CLAIM NAME: NORAD 31 JULY 1982

OWNER: RIOCANEX INC.
OPERATOR: RIOCANEX INC.

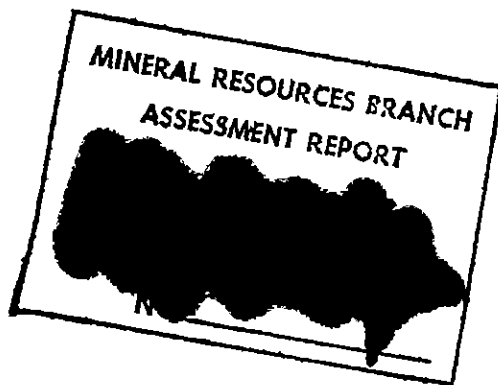


TABLE OF CONTENTS

	<u>PAGE NO.</u>
SUMMARY	1
1. INTRODUCTION	2
2. LOCATION AND ACCESS	2
3. TOPOGRAPHY AND VEGETATION	3
4. HISTORY AND PREVIOUS WORK	3
5. GEOLOGY	4
5.1 Mineralization	5
6. CONCLUSION	7
COST STATEMENT	9

ILLUSTRATIONS

Location and Claim Map	LC-6760
Geology and Sample Location Map	GL-7615

APPENDIX

APPENDIX 1	Assay Results
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SUMMARY

Preliminary reconnaissance geological mapping on the Norad claim has located copper-silver and silver-gold mineralization in silicified and bleached shear zones within early Jurassic Telkwa Formation rocks. These shear zones are up to 10m wide and over 100m in length. A grab sample from the largest shear zone returned an assay of 0.86% Cu and 22.5g/t Ag, while grab samples of the silver-gold mineralization returned values up to 34g/t Ag and 1.6g/t Au.

Rock-chip sampling and geological mapping to date have been insufficient to accurately assess either the grade or dimensions of the mineralization.

A programme of detailed mapping, grid soil sampling, detailed rock-chip sampling and vertical-loop EM is recommended to assess the known copper-silver and silver-gold mineralized shears and to search the Norad claim for additional mineralization.

1. INTRODUCTION

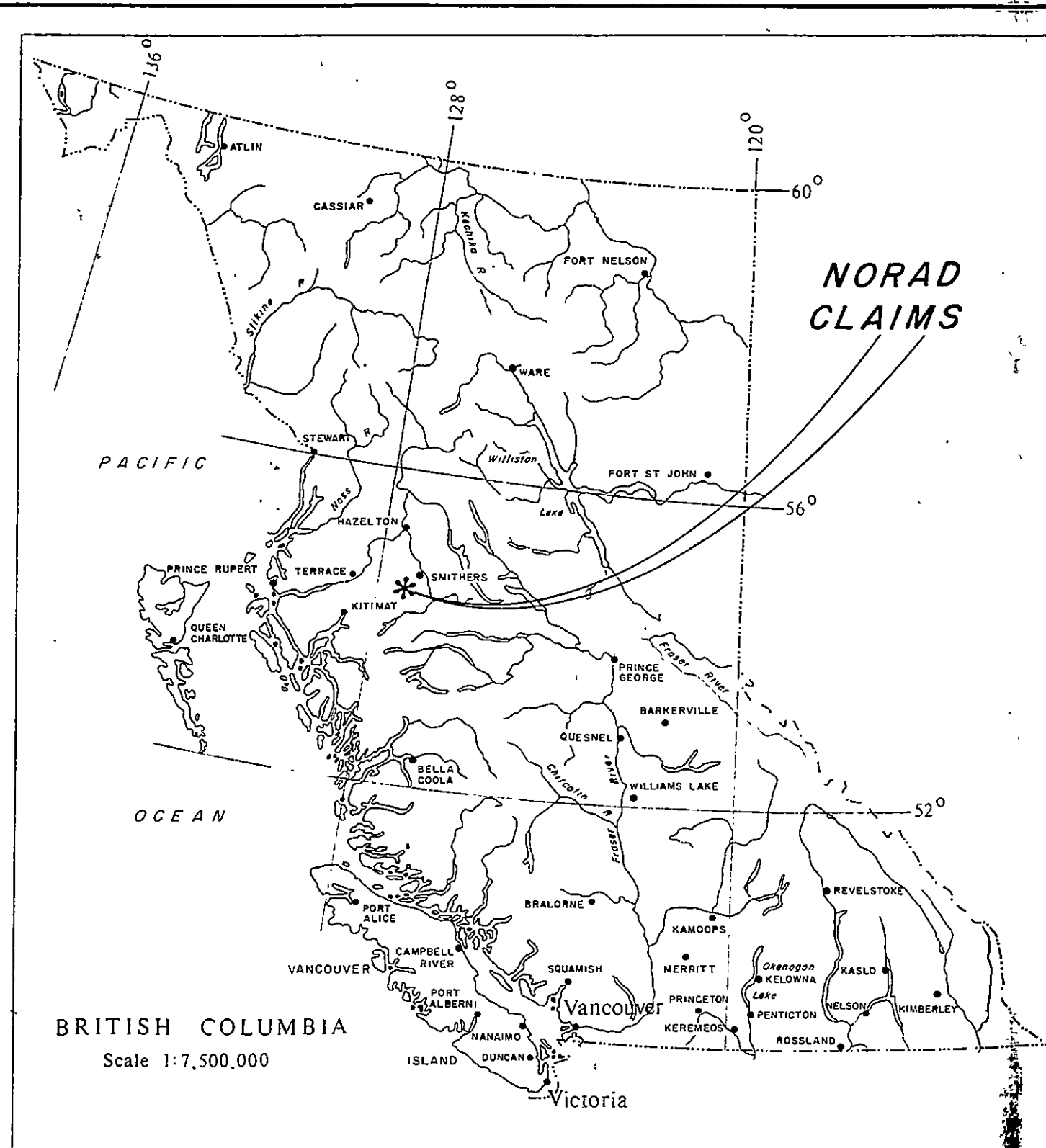
The Norad claim, consisting of 15 units, was staked to acquire a chalcopyrite and bornite mineralized silicified and bleached shear zone in Telkwa Formation tuffaceous rocks. This chalcopyrite and bornite mineralized shear zone was discovered during an examination of a mineral occurrence reported in the B.C. Department of Mines Mineral Inventory File.

Immediately after staking, a day was spent rock-chip sampling the mineralized showing. During the later part of August 1981, a two-man crew spent two days prospecting and mapping the Norad claims. The following report, written by J. McClintock, summarizes the findings of this work.

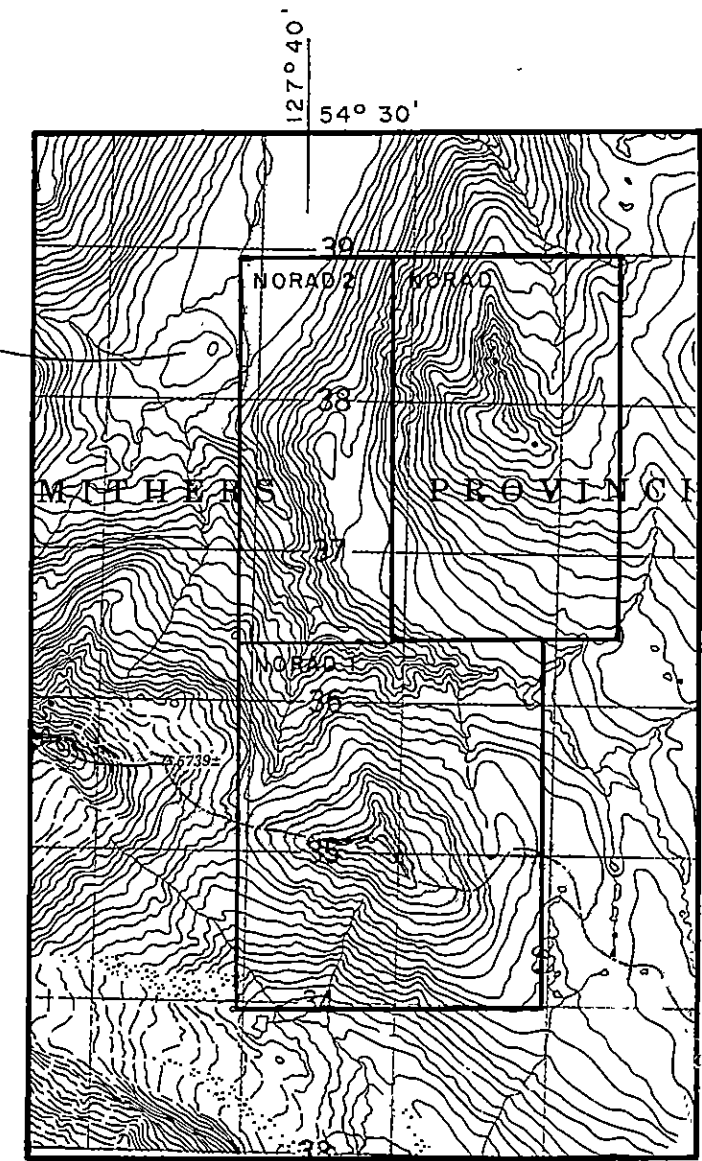
2. LOCATION AND ACCESS

The Norad claim is located at the headwaters of the Telkwa River, 45km southwest of the town of Smithers, centred on latitude $54^{\circ}29'$, longitude $127^{\circ}38'$ (DWG. LC-6760).

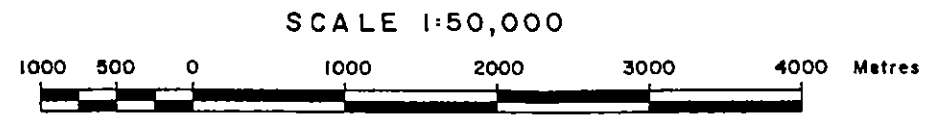
Access to the Norad claims, at present, is limited to helicopters based in either Smithers or Terrace. The closest road is located 14km northeast of the claims. This road is in good repair and can be used as a staging ground during mobilization and de-mobilization of equipment.



CLAIM GROUP



John Mc/d.a.g.



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

WOM

NO

RIO TINTO CANADIAN EXPLORATION LTD.		
NORAD CLAIMS		
LOCATION AND CLAIM MAP		
DATE	DRAWN BY	DWG.
MAY 1982	J.A. Mc/d.a.g.	LC 6760

3. TOPOGRAPHY AND VEGETATION

The Norad claims is situated along the eastern flank of the Bulkly Ranges of the Hazelton Mountains. Here, terrain is moderately rugged with elevation variations between mountain peaks and valley floors in the range of 900m.

Valley bottoms are heavily forested with fir, spruce and cedar thinning with elevation to scrub spruce and stunted fir. Above 1525m asl only grasses and mosses grow.

4. HISTORY AND PREVIOUS WORK

The earliest recorded mention of copper mineralization in the vicinity of the Norad claim was by Phelps Dodge Corporation in 1966. Phelps Dodge discovered copper mineralization during follow-up prospecting of anomalous copper-in-silt values detected during a regional silt sampling programme. After staking 104 claims, called the "A" claims, Phelps Dodge undertook trenching, geochemical surveys, 8 pack-sack drill holes and 4 diamond drill holes totaling 2453 feet. Negative results caused Phelps Dodge to abandon the "A" mineral claims.

In 1972, Tye Lake Resources Ltd. restaked the "A" claims as the Tel claims. Tye Lake Resources carried out grid soil sampling of a small portion of the Tel claims prior to allowing the claims to lapse.

An examination of the region by Riocanex in July 1982 prompted a decision to stake the Norad claim.

5. GEOLOGY

The geology of the region of the Norad claims has been mapped at the scale of 1:125,000 by T.A. Richards of the Geological Survey of Canada (Open File 351). Richards shows the property to be underlain by lower Jurassic Telkwa and Nilkitwa Formations of the Hazelton Group. Geological mapping on the claim block determined Richard's mapping to be accurate.

On the claims, the Telkwa Formation consists of bright red, maroon, purple, grey, green basalt to rhyolite pyroclastics and flows with interbedded volcanoclastic sediments (DWG. GL-7615). Andesitic to dacitic pyroclastic rocks predominate and consist of dense, fine-grained tuffs, crystal-lithic tuffs, lapilli tuffs and fine-to coarse-grained breccia. The Telkwa rocks are well bedded with individual beds ranging from a few cm to over 20m. The average thickness of beds is 2m. Thicker beds are generally composed of coarse fragmental rocks. A number of porphyritic andesite dykes cut the Telkwa Formation and are believed to be feeders to flows higher in the sequence.

Disconformably overlying the Telkwa rocks is the Red Tuff Member of the Nilkitwa Formation. The Red Member is composed of bright red to brick-red,

19. 5

fine-grained, well bedded, calc-alkaline, crystal-lithic tuffs and fine breccias. Individual beds range from a few cm to 1m thick and are generally composed of poorly to unsorted fine feldspar, quartz and lithic clasts in a red hematitic matrix of volcanic ash and mud.

Both the Telkwa Formation and Red Tuff Member rocks are flat lying or gently dipping. Two major faults and one subsidiary fault are present. All faults strike north-south. One fault runs through the centre of the claims and has down-dropped Red Tuff Member rocks against the Telkwa Formation. The second major fault lies at the boundary between the Norad and Norad 2 mineral claims. This fault is marked by a steep cliff. A subsidiary fault or zone of faulting occurs between the two major faults. Off-set of the rocks along the subsidiary fault is minor.

Other than andesitic dykes, no intrusive rocks are present on the claim. Two stocks of Jurassic-age Topley granodiorite are present near the claim block. One stock occurs immediately west of the claims, while a second stock is located 2km to the east of Eagle Peak.

5.1 Mineralization

Two types of sulphide mineralization occur on the claims: most prominent is silver-bearing chalcopyrite and bornite disseminated along veins and in fractures of Telkwa Formation rocks; the second type is auriferous pyrite in silicified and bleached Telkwa rocks.

Silver-bearing chalcopyrite and bornite in fractured volcanic rocks occurs in three separate shear zones. The largest of the three identified shear zones was 10m in width and traceable for over 100m. Microscopic examination of the chalcopyrite and bornite mineralization indicates that there were three stages of hydrothermal fluids. Initial fluids were silica-rich, silicifying the host rock and depositing quartz crystals in fractures. Later fluids introduced silver-bearing chalcopyrite and bornite into open fractures. The third and final stage of hydrothermal fluids filled the remaining voids and fractures with calcite.

Bornite and chalcopyrite occur as fine disseminated blebs less than 1mm in diameter and in fracture fillings averaging 1mm in width. No silver minerals were identified during the examination and all the silver appears to be contained within the chalcopyrite and bornite.

During the July 31st examination, a total of 9 rock-chip samples were collected from rock-outcroppings of Telkwa Group rocks. These samples consisted of composite rock-chips collected from a 1m diameter area of the rock exposure. Rock-chip samples were placed in plastic sample bags and shipped to Chemex Labs in North Vancouver. At Chemex each of the samples was crushed to -10 mesh. A 250g subsample was then taken of the -10 mesh material and pulverized to -100 mesh. The subsamples were then assayed for Au and Ag using a fire assay preparation with the resultant bead being dissolved in aqua regia and then analysed by atomic absorption methods. Those samples

noted in the field to have visible chalcopyrite were also analysed for Cu, Pb and Zn by standard assay techniques. Location and results of the analyses are plotted on DWG. GL-7615.

Grab samples of the copper-silver mineralization returned values up to 0.86% Cu and 22.5g/t Ag. Locations and results of sampling are plotted on DWG. GL-7615.

Auriferous pyrite was only found in a single 5 by 6m location. Here, intensely silicified and bleached volcanic tuff, with narrow veins containing subeuhedral pyrite cubes occur. Assaying of this quartz-veined material returned values of 34g/t Ag and 1.6g/t Au.

6. CONCLUSIONS

Insufficient sampling and prospecting has been carried out on the Norad Claim to determine the exact dimensions and grade of the showing, or if any additional copper-silver or silver-gold showings are present on the claims. It is recommended that the claims be systematically explored by geological mapping and detailed rock and soil sampling.

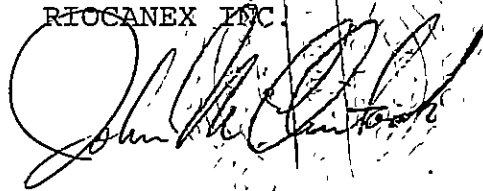
Geological mapping should be focussed on locating and determining controls of the copper-silver mineralization. All showings (both those known and others found in 1982) should be systematically sampled. The better mineralized and wider shears should be tested with a short programme of vertical-loop EM. Grid-soil sampling should be done over those parts of the claims that are overburden covered.

STATEMENT OF QUALIFICATIONS

John A. McClintock

1. I am a geologist residing at 32841 Ashley Way, Clearbrook, British Columbia and am currently employed by Riocanex Inc., of Suite 520-800 West Pender Street, Vancouver, British Columbia.
2. I graduated from the University of British Columbia in 1973 with a B.Sc. (honors) degree in Geology and have practised my profession continuously since that time.
3. I supervised and directed the 1981 geological and geochemical field work carried out on the Norad claims.
4. I am an active member in good standing of the Association of Professional Engineers of the Province of British Columbia.

RIOCANEX INC.



John A. McClintock P. Eng.

COST STATEMENT
 NORAD CLAIMS
 GEOLOGY, GEOCHEMISTRY
 28 AUGUST THROUGH 30 AUGUST

GENERAL COSTS

Food and Accomodation

2 men, August 29&30, 4 Man Days @ \$29.43/day	\$	117.72
1 man, July 30-31, 1 Man Day @ \$29.43/day		29.43

Fixed Wing

PWA 1 Trip Smithers/Vancouver	132.15
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Riocanex Equipment

7 man days @ \$3.00/man day	21.00
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Freight

23.29

Report Preparation

500.00

Helicopter

2 Trips @ \$224/trip	448.00
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TOTAL GENERAL COSTS

\$ 1,271.59

GEOLOGY COSTS

Slaries and Wages

1 Man, 2 man days @ \$80.00/day	\$	160.00
1 Man, 2 man days @ \$64.00/day		128.00

Benefits

At 20 percent	57.60
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General Costs

5/6 x \$1,271.59

\$ 1,059.65

TOTAL GEOLOGY COSTS

\$ 1,405.25GEOCHEMISTRY COSTSSalaries and Wages

1 man, 1 man day @ \$64.00/day

\$ 64.00

Benefits

At 20 percent

3.80

Geochemical Analysis

Chemex Labs

12 rock samples assayed for Ag and Au @ \$10.50

126.00

2 rock samples assayed for Ag, Cu, Zn @ \$21.50

43.00

General Costs

1/6 x \$1,271.59

211.93TOTAL GEOCHEMISTRY COST\$ 448.73COSTS APPORTIONED TO CLAIMS

<u>CLAIM</u>	<u>UNITS</u>	<u>GEOLOGY</u>	<u>GEOCHEMISTRY</u>	<u>TOTAL</u>
NORAD	15	\$ 1,405.25	\$ 448.73	\$ 1,853.98

CERTIFICATE OF ASSAY

Riocanex Ltd.,
Ste. 520 - 800 W. Pender St.,
Vancouver, B.C.
V5C 2V5

CERT. # : A6112837-00
INVOICE # : I8112837
DATE : 22-AUG-21
P.O. # : NONE
9206 SILVER SEARCH

ATTN: A. WINKLER

Sample description	Prep code	Cu percent	Pb percent	Zn percent	Ag (AA) g/tonne	Au g/tonne	
10281	207	--	--	--	<0.3	<0.1	--
10282	207	--	--	--	2.6	<0.1	--
10283	207	--	--	--	<0.3	<0.1	--
10284	207	--	--	--	<0.3	<0.1	--
10285	207	--	--	--	<0.3	<0.1	--
10286	207	--	--	--	<0.3	<0.1	--
10287	207	--	--	--	<0.3	<0.1	--
10288	207	--	--	--	<0.3	<0.1	--
10289	207	--	--	--	<0.3	<0.1	--
10290	207	--	--	--	34.0	1.6	--
10291	207	--	--	--	1.0	<0.1	--
10292	207	1.58	<0.01	0.01	33.5	<0.1	--
10293	207	0.03	--	--	1.3	0.1	--
10294	207	0.01	--	--	0.5	0.1	--
10295	207	0.86	<0.01	0.01	22.5	<0.1	--
10296	207	0.01	--	--	0.5	<0.1	--
10297	207	0.09	--	--	5.5	<0.1	--
10298	207	<0.01	--	--	0.8	<0.1	--
10299	207	<0.01	--	--	0.5	<0.1	--

B. Swaites

Registered Assayer, Province of British Columbia

MEMBER
CANADIAN TESTING
ASSOCIATION

CERTIFICATE OF ASSAY

TO : Riocanex Ltd.,
 Ste. 520 - 800 W. Pender St.,
 Vancouver, B.C.
 V6C 2V6

CERT. # : A8113084-001-A
 INVOICE # : I8113084
 DATE : 31-AUG-81
 P.O. # : 8206
 SILVER SEARCH 8206

ATTN: ALFRED WINKLER

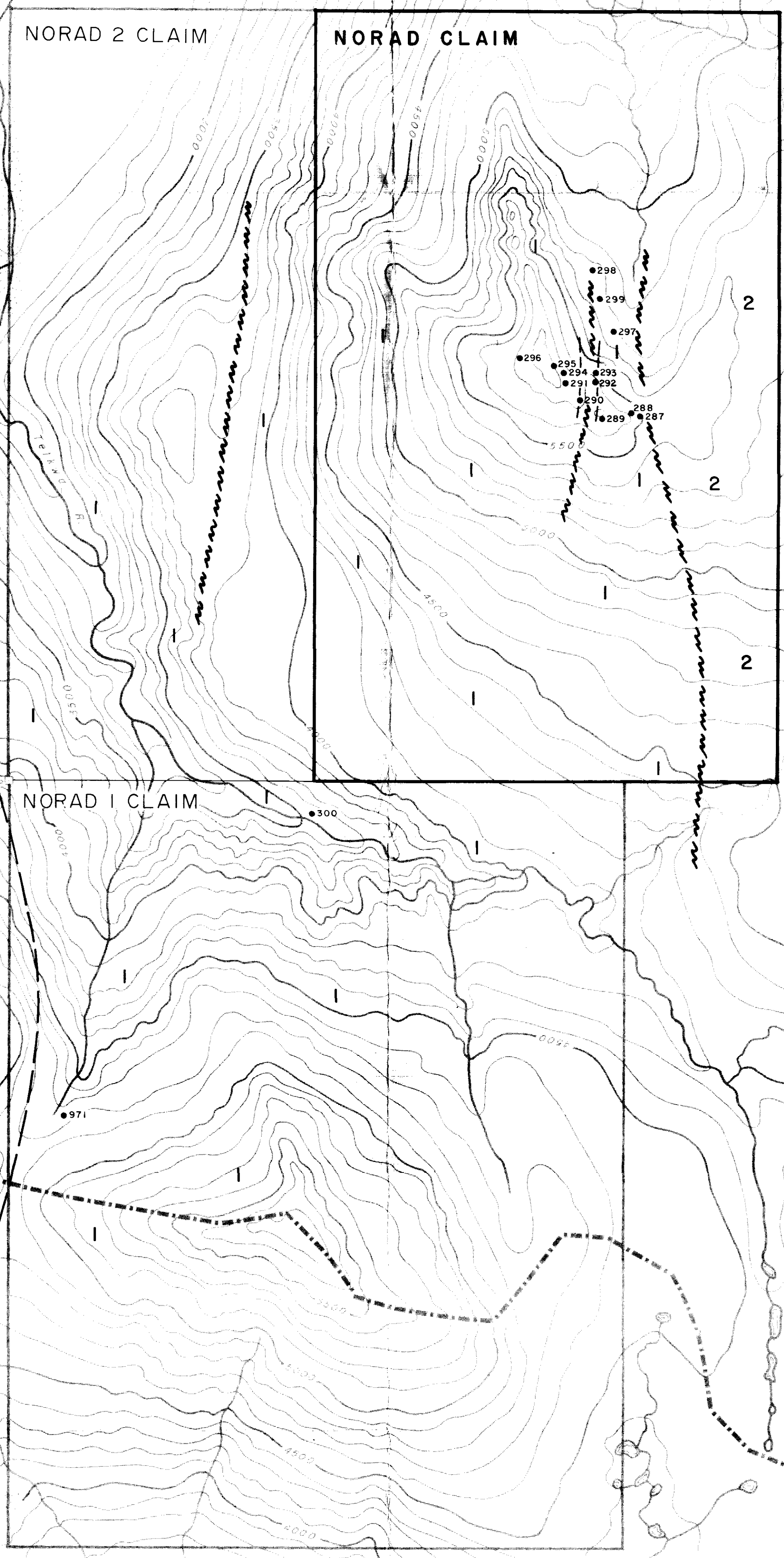
Sample description	Prep code	Cu percent	Pb percent	Zn percent	Ag (FA) c/tonne	Au (FA) c/tonne	
10300	207	1.58	<0.01	0.04	74.7	<0.1	--
10302	207	0.01	<0.01	0.01	3.4	<0.1	--
10303	207	<0.01	<0.01	0.01	3.4	<0.1	--
10304	207	<0.01	<0.01	0.01	0.3	<0.1	--
10305	207	<0.01	<0.01	<0.01	0.3	<0.1	--
10306	207	<0.01	<0.01	0.01	0.3	<0.1	--
10307	207	0.02	3.20	0.06	70.1	0.5	--
10308	207	<0.01	0.08	0.01	16.3	0.1	--
10309	207	<0.01	0.02	0.01	3.4	<0.1	--
10310	207	0.12	1.00	1.24	140.4	1.5	--
10311	207	0.01	0.08	0.13	4.8	0.1	--
10312	207	0.01	0.28	0.35	21.2	0.1	--
10352	207	<0.01	<0.01	0.03	4.1	<0.1	--
10353	207	<0.01	<0.01	<0.01	1.3	<0.1	--
10354	207	<0.01	<0.01	0.01	0.3	<0.1	--
10355	207	<0.01	<0.01	0.02	2.7	<0.1	--
10356	207	<0.01	<0.01	<0.01	0.6	<0.1	--
10357	207	<0.01	<0.01	<0.01	0.3	<0.1	--
10424	207	<0.01	<0.01	0.02	2.0	<0.1	--
10425	207	<0.01	<0.01	0.01	0.4	<0.1	--
10426	207	0.06	<0.01	0.01	0.4	<0.1	--
10427	207	<0.01	<0.01	<0.01	1.3	<0.1	--
10428	207	<0.01	<0.01	<0.01	2.0	<0.1	--
10451	207	2.80	0.01	0.17	524.4	0.1	--
10501	207	0.05	<0.01	0.01	5.5	<0.1	--
10502	207	0.01	<0.01	0.01	2.0	<0.1	--
10503	207	<0.01	<0.01	0.01	0.3	<0.1	--
10504	207	<0.01	<0.01	<0.01	2.0	<0.1	--
10313	207	<0.01	0.09	0.02	6.8	<0.1	--

R. Huate

Registered Assayer, Province of British Columbia

MEMBER
 CANADIAN TESTING
 ASSOCIATION

CLAIM GROUP



SAMPLE NO.	Cu%	Pb%	Zn%	Ag (g/t)	Au (g/t)
10287				0.3	0.1
10288				0.3	0.1
10289				0.3	0.1
10290				34.0	1.6
10291				1.0	0.1
10292	1.58		0.01	33.5	0.1
10293				1.3	0.1
10294				0.5	0.1
10295				22.5	0.1
10296				0.5	0.1
10297				5.5	0.1
10298				0.8	0.1
10299				0.5	0.1
10300	1.58		0.04	74.7	0.1

3 Granodiorite

2 Red Tuff

1 Telkwa Formation

● 294 Chip Sample (Prefixed by 10)

--- Geological Contact (assumed)

--- Fault

--- Copper-Silver bearing shear zone

--- Icefield

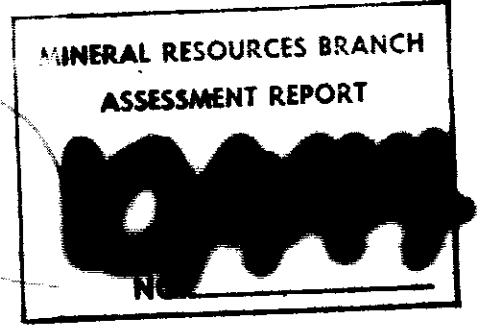
--- Moraine

--- Tree Farm Boundary

--- Contour Interval 100 ft.

NTS 93L/5
SCALE 1:10,000

200 400 600 800 Meters



J. A. Mc/dag