

Geological and Geochemical Report

on the

TROUT #1 and TROUT #2 CLAIMS

in the

SIMILKAMEEN MINING DIVISION

92H/16E

(49°45' and 120°10')

owned and operated by

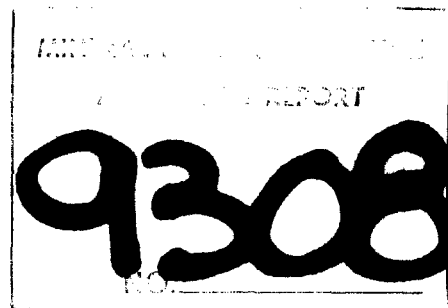
Canadian Nickel Company Limited  
#80 - 10551 Shellbridge Way  
Richmond, B.C.  
V6X 2W8

written by

Peter Peto, Ph.D.

on

July 27, 1981



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## INTRODUCTION

The TROUT #1 and #2 claims are situated some 27 kilometers west of Peachland, or 42 kilometers northeast of Princeton. The claims cover Trout Creek valley which is situated to the west of Mount Kathleen. The TROUT claims occur below treeline, on gently sloping, glaciated, and relatively arid terrain, typical of the interior plateau. They are accessible by recently constructed logging roads from Osprey Lake, or by road running along the south side of Kathleen Creek, from the Camp Creek road.

The property consists of two claim blocks, TROUT #1 and TROUT #2, each consisting of 20 units (5 x 4) having record numbers 1068 (7) and 1069 (7) respectively. The claims were staked by Canico, on July 10, 1980, to cover an epizonal, quartz - feldspar porphyry plug of Eocene age. A prospecting, geological mapping and geochemical sampling program was undertaken by Canadian Nickel Co. during the interval between May 24 to June 6, 1981, in order to evaluate the claims. Work consisted of geological mapping and prospecting along some 15 km. of flagged lines spaced 500 meters apart, silt sampling of the main drainages, detailed geological mapping of old workings, and supplemental soil sampling. A total of 13 rock samples and 80 soil samples were collected for geochemical analysis. Field work was performed by Robert Arthur and Jeff Neufeld under the authors' supervision.

## PROPERTY HISTORY

An old adit driven on a Cu-Mn showing is situated on the southside of Mount Kathleen and presently located on the DISKO claims, was described by Rice (1947). Another adit on a Cu-Mo showing, situated on the east side of Mount Kathleen, indicate that the area has been actively explored since the turn of the century. In recent years, Kelpen Mining Corporation Ltd. (1966) and Pan Ocean Oil (1972), conducted geological and geochemical surveys immediately to the south and north of the present claims respectively. At present, the ground adjacent to the TROUT claims, are held by D. Agur of Summerland, who has maintained an interest in the area for several years.

## REGIONAL GEOLOGY

The TROUT claims are underlain by granodioritic rocks of the Middle Jurassic Okanagan batholith which have been intruded by epizonal, rhyolite porphyry plug was first recognized by Rice (1947) who believed that they were correlative to granites near Otter Lake and Siwash Creek, thought to be of Upper Cretaceous age.

Figure #1  
Location Map  
(1:125,000)

To Summerland - 38 miles

45°



### REGIONAL GEOLOGY - cont'd.

Subsequent K/Ar age determinations by Armstrong and Peto (unpublished) indicate that the Siwash and Trout Creek intrusions yield 52 m.y. age dates. The Siwash Creek intrusion(s) are known to host several Pb-Zn showings with associated precious metal values, in sporadically mineralized shear zones and veins. Mount Kathleen has also been intruded by similar intrusions which have been observed to carry Cu and Mo mineralization locally.

### PROPERTY GEOLOGY

Geological mapping indicates that the TROUT #1 claim is largely underlain by 'Jura' hornblende-biotite granodiorite porphyry whereas the TROUT #2 claim is underlain by the 'Valhalla' biotite-granodiorite, both have been intruded by an elliptical rhyolite porphyry plug, centered on the intersection of the Trout Creek and Spring Creek fault zones. The contact zones between the granodiorites and rhyolite plug are very diffuse and consist of a myriad of quartz-feldspar porphyry dykes which have intensely altered adjacent host rocks. In the vicinity of the old Cu workings, presently situated on the DISKO #3 claim, the veins appear to have formed, siderite, pyrolusite, chalcopyrite fissure fillings, but elsewhere, the host granodiorites have been fractured and filled with milky quartz and minor pyrite. Locally these veins appear to carry Au values as high as 0.5 ounces/ton.

### GEOCHEMICAL SURVEY

A preliminary geochemical sampling survey was undertaken for copper and molybdenum and the results are shown in figure 2. Of the 31 silt samples collected, only samples sx 80004 and sx 80005 yielded anomalous values of 24 Mo/12 Cu and 5 Mo/10 Cu respectively. However, follow-up soil sampling of the drainage basin in the immediate area, shown in figure 3, did not yield anomalous concentrations of either Mo or Cu.

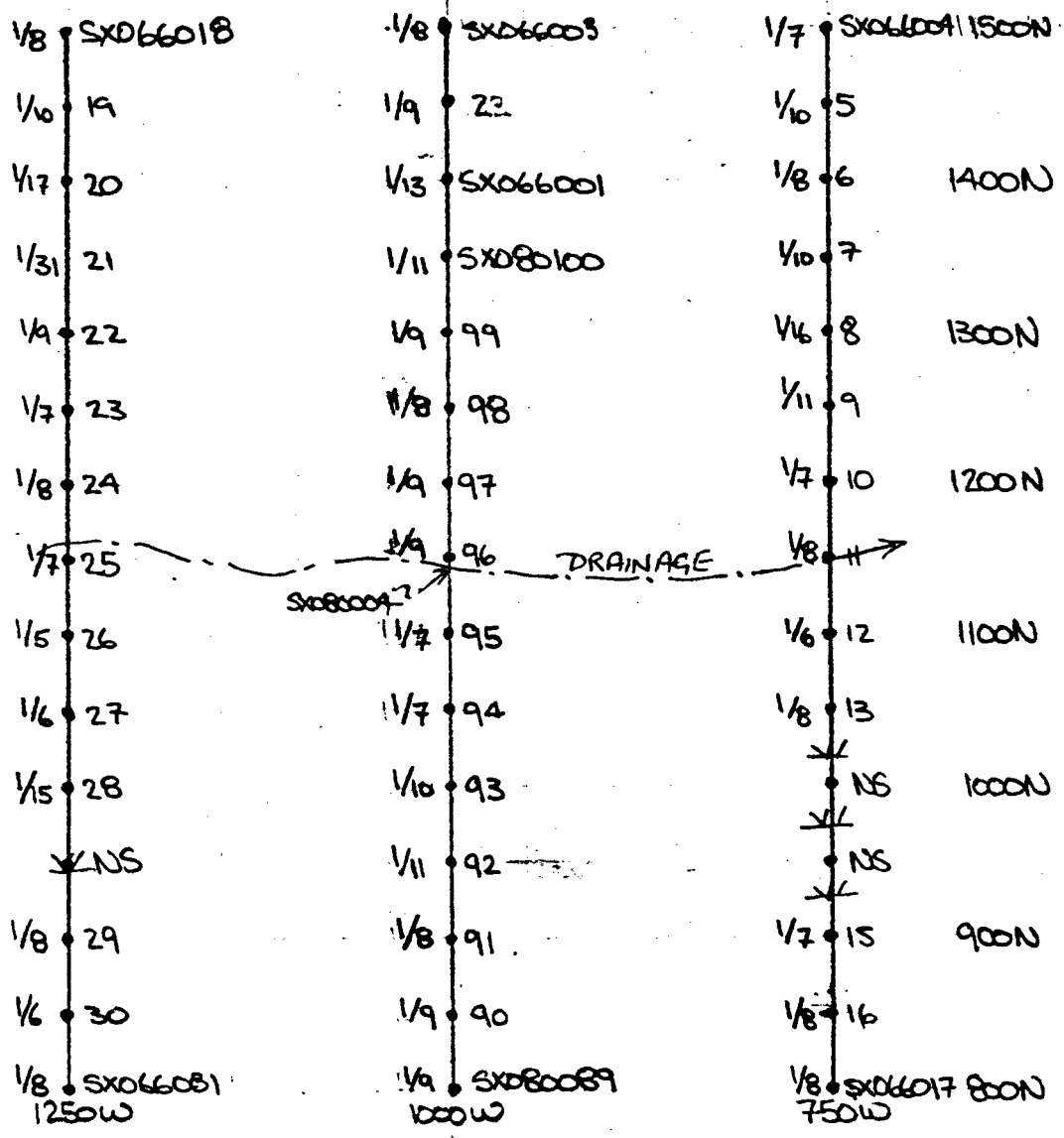
### CONCLUSIONS AND RECOMMENDATIONS

The TROUT claims are underlain by a tertiary rhyolite plug which has intruded middle Jurassic granodiorites. Locally the granodiorites host tactite fissure fillings which carry copper and gold values, elsewhere granodiorites are cut by milky quartz veins which carry traces of Au and molybdenum. No mineralization was observed in the rhyolite porphyry, however the porphyry shows variable alteration to secondary sericite,



# FIGURE 3. DETAIL OF TROUT CREEK

## SOIL SAMPLE GRID



Sample No: SX066017

(PPM) Mo/cu soil concentration

27 June, 1981

50m 1:5000 (JN)

chlorite, epidote and pyrite locally. Further exploration of the claims should concentrate on the rhyolite prophyry-granodiorite contact zone which appears to be largely confined to the western half of TROUT #1 and the eastern half of TROUT #2.

In view of the limited prospecting and geochemical sampling undertaken in these areas, it is recommended that further work is warranted, before final judgement as to the relative merits of the property can be adequately assessed. The work program should consist of soil sampling and geological mapping, on flagged grid lines, spaced 200 meters apart, covering the granodiorite-rhyolite contact zone as defined in this report.

STATEMENT OF COSTS

Wages:

Robert Arthur - 14 days @ \$85/day	\$1190	
Jeff Neufeld - 14 days @ \$64/day	896	
Peter Peto - 1 day @ \$198/day	198	

Report Preparation:

Peter Peto - 1 day @ \$198/day	<u>198</u>	
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Sub total \$2482

Food and Accommodation Costs

Food - 29 mandays @ \$20/day	580	
Tent-trailer rental - 2 weeks @ \$140/week	<u>280</u>	

Sub total 860

Transportation Costs

Truck Rental - 2 weeks @ \$781/month	365	
Gasoline - 400 liters @ \$.35/liter	<u>140</u>	

Sub total 505

Analytical Costs

44 soil samples for Cu & Mo @ \$3.05/sample	134	
36 silt samples for Cu & Mo @ \$3.05/sample	110	
13 rock samples for Cu, Mo, (Au, Ag) @ \$5 sample	<u>65</u>	

Sub total 309

Typing and Reproduction Costs

Airphoto Mosaic	200	
Base Map Enlargement	150	
Manuscript Typing	50	
Photocopying & Map Reproduction	<u>100</u>	

Sub total 400

<u>Administration and Overhead:</u> 12% of \$4556	546	546
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NET COSTS: \$5103



AUTHOR'S QUALIFICATIONS

I, Peter S. Peto, hereby certify as follows:

I am a graduate geologist with B.Sc. and M.Sc. degrees from the University of Alberta and a Ph.D. degree from the University of Manchester in England.

I am a registered member, in good standing, of the Geological Association of Canada.

I am presently employed in the capacity of project geologist with Canadian Nickel Company Limited in the Vancouver district office.

I have been practicing my profession since 1970.

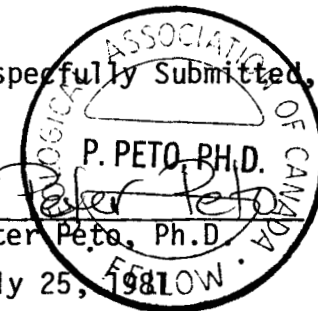
I have prepared this work assessment report on the work performed by Jeff Neufeld and Robert Arthur, under my supervision, as agents for Canico.

Respectfully Submitted,

P. PETO, PH.D.

*Peter Peto*  
Peter Peto, Ph.D.

July 25, 1981





To: Canadian Nickel Co. Ltd.,  
80 - 10551 Shellbridge Way,  
Richmond, B.C.  
V6X 2W8

TROUT CLAIMS

File No. **81-0481**

Attn.: Mr. Peter Peto  
Mr. E.J. Debicki

Type of Samples Soil & Rock

**GEOCHEMICAL ASSAY CERTIFICATE**

Disposition \_\_\_\_\_

Trout Claims c.c. Mr. Robert Arthur, Princeton, B.C. & c.c. J.F. church, Coppercliff, Ont.

SAMPLE No.	Mo	Cu												
SX 080001	1	4												1
080002	1	18												2
080003	1	9												3
080004	24	12												4
080005	5	10												5
080006	2	32												6
080007	2	26												7
080008	1	14												8
080009	1	9												9
080010	1	11												10
080011	1	9												11
080012	1	11												12
080013	1	10												13
080014	1	12												14
080015	1	9												15
080016	2	10												16
080017	1	11												17
080018	1	12												18
080019	1	8												19
080020	1	7												20
080021	1	6												21
080022	1	7												22
080023	1	8												23
080024	1	7												24
080025	1	30												25
080026	1	23												26
080027	1	17												27
														28
RX 041501	1	41												29
041502	1	2												30
041503	1	2												31
041504	1	3												32
041505	1	11												33
041506	43	48												34
041507	1	20												35
041508	4	1500												36
														37
														38
														39
														40

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All results are in PPM.

DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED June 9, 1981

DATE REPORTS MAILED June 15, 1981

ASSAYER DAO

DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER



To: Canadian Nickel Co. Ltd.,  
80 - 10551 Shellbridge Way,  
Richmond, B.C.  
Attn.: Mr. Peter Peto , Mr. E.J. Debicki

File No. 81-0574

Type of Samples Soils and Rock

Disposition

**GEOCHEMICAL ASSAY CERTIFICATE**

c.c. Mr. P. Arthur, Princeton, B.C.

SAMPLE No.	Ag	Au	As	Sb	Cu	Mo	Ag oz/ton	Au oz/ton		
RX 041509	*	*	16	21			1.08	.504	} Trout } claims	1
041510	1.0	.125	4	1						2
RX 041511	10.2	.100	29	1						3
										4

To: Canadian Nickel Co. Ltd.,  
80 - 10551 Shellbridge Way,  
Richmond, B.C.  
V6X 2W9

File No. 81-0639 A

Type of Samples Soil & Rock

Disposition

**GEOCHEMICAL ASSAY CERTIFICATE**

c.c. Mr. Robert Arthur, Penticton & Coppercliff, Ont.,

SAMPLE No.	Mo	Cu	Ag	Au						
RX 041512	R	211	29	.2	.010	<i>Qz veins in Valhalla</i>				35
RX 041513	R	3	3100	20.6	1.340	<i>siderite-pyrolusite-chalcopyrite tactite</i>				36
										37
										38
										39
										40

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DIGESTION:.....

DETERMINATION:.....

\* P = pulverizing.

DATE SAMPLES RECEIVED June 30, 1981

DATE REPORTS MAILED July 8, 1981

ASSAYER *D. Toye*

DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER

										39
										40

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DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED June 22, 1981

DATE REPORTS MAILED June 30, 1981

ASSAYER *D. Toye*

DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER



To: Canadian Nickel Co. Ltd.,  
80 - 10551 Shellbridge Way,  
Richmond, B.C.  
V6X 2W9

TROUT CLAIMS SOIL GRID

File No. 8-0639 B

Type of Samples Soil

Disposition \_\_\_\_\_

**GEOCHEMICAL ASSAY CERTIFICATE**

Attn.: Peter Peto & E.J. Debicki

SAMPLE No.	Mo	Cu																			
SX 80089	1	9																			1
80090	1	9																			2
80091	1	8																			3
80092	1	11																			4
80093	1	10																			5
80094	1	7																			6
80095	1	7																			7
80096	1	9																			8
80097	1	9																			9
80098	1	8																			10
80099	1	9																			11
SX 80100	1	11																			12
																					13
SX 66001	1	13																			14
66002	1	9																			15
66003	1	8																			16
66004	1	7																			17
66005	1	10																			18
66006	1	8																			19
66007	1	10																			20
66008	1	16																			21
66009	1	11																			22
66010	1	7																			23
66011	1	8																			24
66012	1	6																			25
66013	P	8																			26
66014	1	20																			27
66015	1	7																			28
66016	1	8																			29
66017	1	8																			30
66018	1	8																			31
66019	1	10																			32
66020	1	17																			33
66021	1	31																			34
66022	1	9																			35
66023	1	7																			36
66024	1	8																			37
SX 66025	1	7																			38
																					39
																					40

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DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED June 30, 1981

DATE REPORTS MAILED July 9, 1981

ASSAYER *Dean Toye*

DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER



To: Canadian Nickel Co. Ltd.,

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6

phone: 253 - 3158

File No. 81-0639 B

Type of Samples

Disposition

### GEOCHEMICAL ASSAY CERTIFICATE

2

SAMPLE No.	Mo	Cu																			
SX 66026	1	5																			1
66027	1	6																			2
66028	1	15																			3
66029	1	8																			4
66030	1	6																			5
66031	1	8																			6
SX 66032	13	13																			7
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All results are in PPM.

DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED June 30, 1981

DATE REPORTS MAILED July 9, 1981

ASSAYER Dean Toy

DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER

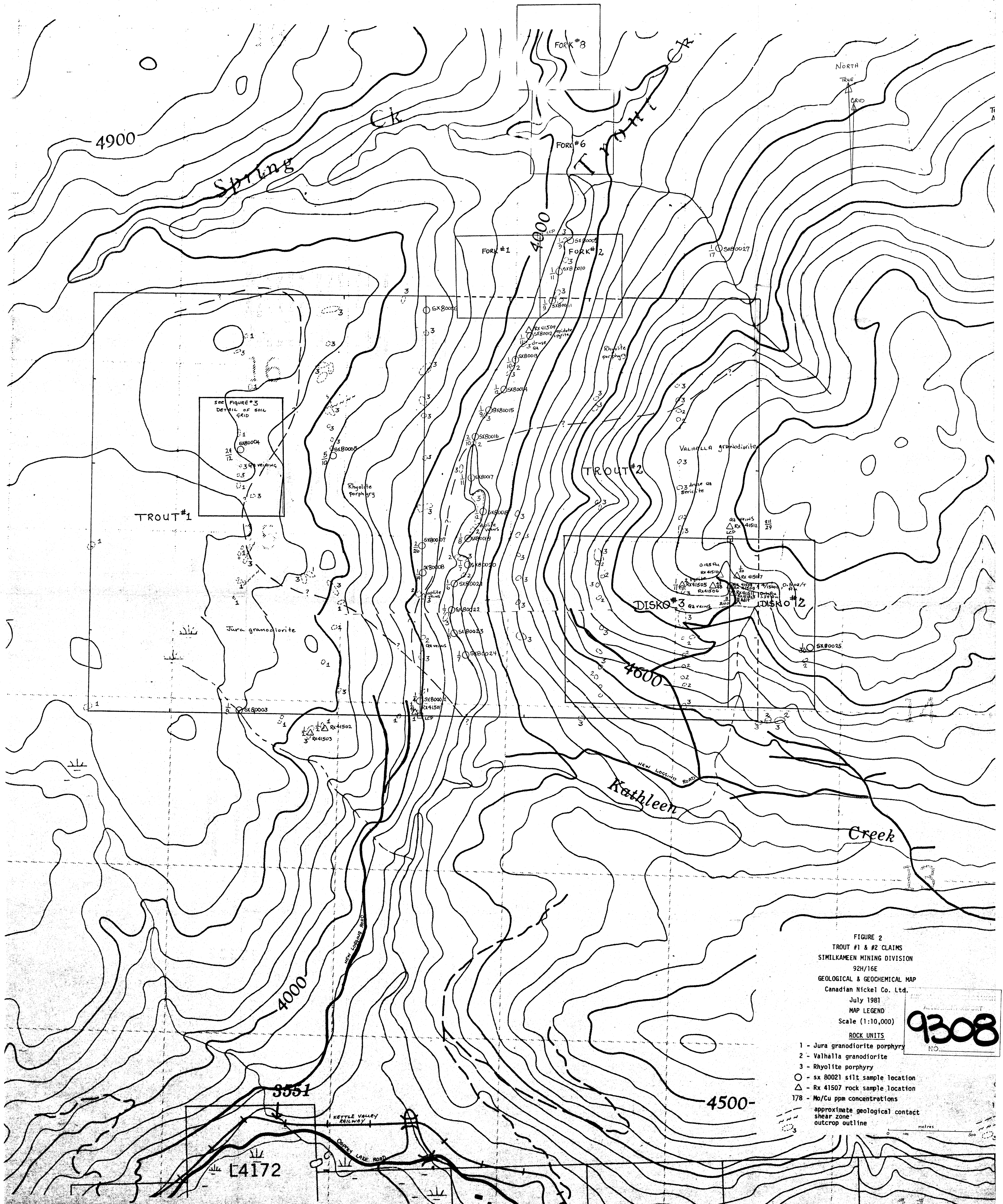


FIGURE 2  
 TROUT #1 & #2 CLAIMS  
 SIMILKAMEEN MINING DIVISION  
 92H/16E  
 GEOLOGICAL & GEOCHEMICAL MAP  
 Canadian Nickel Co. Ltd.  
 July 1981  
 MAP LEGEND  
 Scale (1:10,000)

**9308**  
 NO.

- ROCK UNITS**
- 1 - Jura granodiorite porphyry
  - 2 - Valhalla granodiorite
  - 3 - Rhyolite porphyry
  - - sx 80021 silt sample location
  - △ - Rx 41507 rock sample location
  - 178 - Mo/Cu ppm concentrations
  - - - approximate geological contact
  - - - shear zone
  - - - outcrop outline

