

RECONNAISSANCE GEOCHEMICAL SURVEY OF
THE HOULT CLAIM

Skeena Mining Division

103I/1E

(54°13' North and 128°04' West)

OWNER AND OPERATOR

CANADIAN NICKEL CO. LTD.

#160 - 10451 Shellbridge Way

Richmond, British Columbia

V6X 2W8

by

Peter Peto, Ph.D.

July 18, 1980

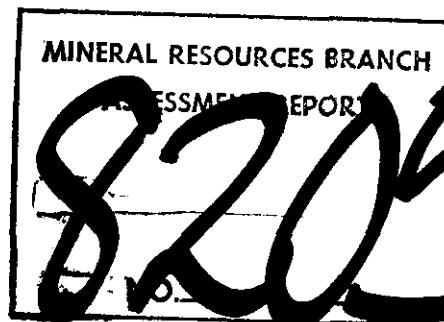
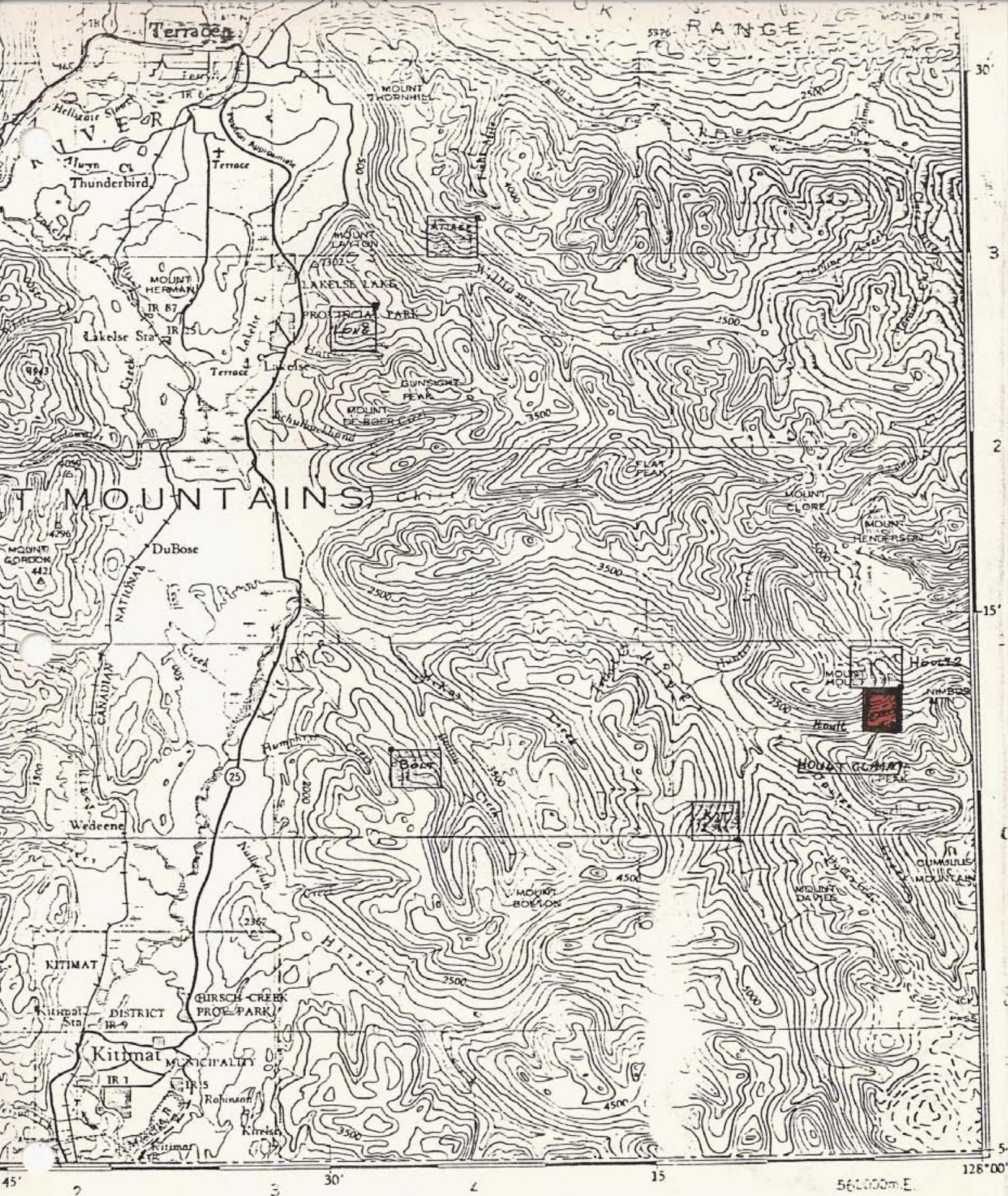


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Établie en 1964, par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE,
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES. Imprimée
en 1967.

La déclinaison magnétique pour 1966 varie de 27°00' Est
au centre de la limite Ouest à 26°47' Est au centre de la
limite Est. Variation moyenne annuelle 3.5' Ouest.

FIGURE 1: PROPERTY
LOCATION MAP
N.T.S. 103 I

1:250,000 Scale



I. INTRODUCTION

The Hoult claim is situated about fifty kilometres southeast of Terrace, immediately north of Hoult Creek, a tributary of the Kitimat River, which is situated in the rugged Kitimat Ranges of the Central Coast Mountains of British Columbia (Fig. 1). Access to the property is about 20 minutes flying time by helicopter from Terrace. The property consists of 20 units, 4 north - 5 west, and covers a drainage area which showed a conspicuous molybdenum stream sediment anomaly indicated by a regional stream sediment survey conducted by the B.C. Ministry of Energy, Mines and Petroleum Resources in 1978. The property was acquired during a staking rush on June 22, 1979 by Kerr, Dawson & Associates on behalf of Canadian Nickel Co. Ltd. A geochemical follow-up survey of the claims was initiated by Canico on September 10, 1979 and continued from June 26 to 29, 1980.

The reconnaissance geochemical sampling program of the Hoult claims consisted of putting in about 6,500 metres of flagged grid and collecting a total of 255 samples consisting of 45 rocks, 148 soils and 45 sediments. This survey appears to be the first evaluation of the prospect as there were no signs or indications of previous discovery.

II. REGIONAL GEOLOGY

According to Duffell and Souther (1964) the Hoult claims are underlain by Lower and Middle Jurassic volcanic rocks belonging to the Hazelton Group. The Hazelton Group is intruded by Upper Cretaceous granites of the Coast Mountains batholith which occur extensively about six miles west of the Hoult claim. The Hazelton Group is subdivided into a lower division consisting almost entirely of volcanic breccias and andesitic flows intercalated with argillaceous sediments. The upper division consists of massive andesitic flows and flow breccias.

III. PROPERTY GEOLOGY

The property appears to be underlain largely by thermally, metamorphosed heterogeneous volcanic rocks belonging to the Hazelton Group and a relatively uniform, leucocratic granite belonging to the Coast Mountain intrusions. The granite occurs at elevations below about 2,500 feet and the granite hornfels contact appears to strike easterly across the claims. Molybdenite-chalcopyrite mineralization occurs predominantly in the contact metamorphic aureole above the granite although some mineralization was also observed in the granite. Preliminary prospecting

along creekbeds indicates that the mineralized area is really extensive, covering an area of some 1,000 metres long, 650 metres wide and over a vertical distance of about 350 metres.

IV. LITHOLOGY

The hornfels unit shows considerable textural and compositional variation ranging in colour from green, greyish-green to dark grey, very fine to fine grained, massive to gneissic textures usually showing pods and segregations of epidote set in a compact, chloritic, siliceous matrix. The leucocratic granitic unit is a beige colour, massive, medium grained, consisting of quartz, feldspar, muscovite, biotite and accessory pyrite.

V. MINERALIZATION

The present description of mineralization is based entirely on a few exposures restricted to creek courses observed during geochemical sampling (Fig. 2). Mineralization occurs as molybdenite, chalcopyrite with associated pyrite occurring in: thin, 1 to 5 mm, quartz veinlets, 5 mm to 20 cm pegmatite veins, hairline chlorite-epidote fractures and as very fine to coarse grained disseminations in hornfels and granite. Vein orientations appear to favour directions ranging from N5°E - with moderate easterly or westerly dips, and N20°W to N50°W with shallow to moderate dips to the east. Vein densities rarely exceed four per metre. Mineralized veins appear to be truncated by post-mineral faults, shears and basic dykes.

VI. GEOCHEMISTRY

The sampling procedure for collecting rocks, sediments and soils are as follows: rock samples consist of several rock chips amounting to about one pound, sediment samples consist of unsieved, detritus taken from stream bottoms, whereas soils were collected from the "B" horizon, wherever possible, at depths ranging from 6 to 12 inches below the surface. Samples were analyzed by Acme Analytical Laboratories Ltd. The analytical technique used involved separating from the crushed sample, the -80 mesh size fraction, partial digestion of this fraction in an aqua regia acid leach, with subsequent analysis of the solution using a model 305 Perkin-Elmer atomic-absorption spectrophotometer.

A series of eleven rock-chip channel samples were taken from creekbed exposures as shown in Fig. 2. Assay values for Mo, Cu, Au, Ag, W, Sn and U are given in

the appendix. The weighted average, as shown in Table 1, is 0.036% Mo or 0.06% MoS₂. The concentrations of the other elements do not appear to be significant with the possible exception of Ag.

TABLE 1. HOULT CLAIM ROCK CHIP GRADES

SAMPLE NO.	SAMPLE LENGTHS (metres)	GRADE % MO	LOCATION
DLD - 91	8.9	0.021	80 m, 2700' ASL
DLD - 92	7.6	0.019	100 m, 2700' ASL
DLD - 93	7.8	0.058	110 m, 2750' ASL
DLD - 94	5.0	0.021	120 m, 2770' ASL
DLD - 95	8.0	0.019	130 m, 2790' ASL
PPR - 13	7.0	0.023	150 m, 2840' ASL
PPR - 14	8.6	0.047	180 m, 2880' ASL
PPR - 15	6.6	0.076	210 m, 2900' ASL
PPR - 16	6.2	0.006	240 m, 2950' ASL
PPR - 17	5.6	0.094	260 m, 3000' ASL
PPR - 18	5.0	0.019	280 m, 3000' ASL

$$\text{WEIGHTED AVERAGE} = \frac{2.764 \text{ metre \%}}{76.3 \text{ metres}} = 0.036\% \text{ Mo} = 0.06 \text{ MoS}_2$$

Five flagged, reconnaissance, grid lines were put in across the claim block along which geochemical samples were collected at 30 metre intervals. The results of this survey are shown on Fig. 3.

Probability plots were constructed from the geochemical data and the following thresholds were determined.

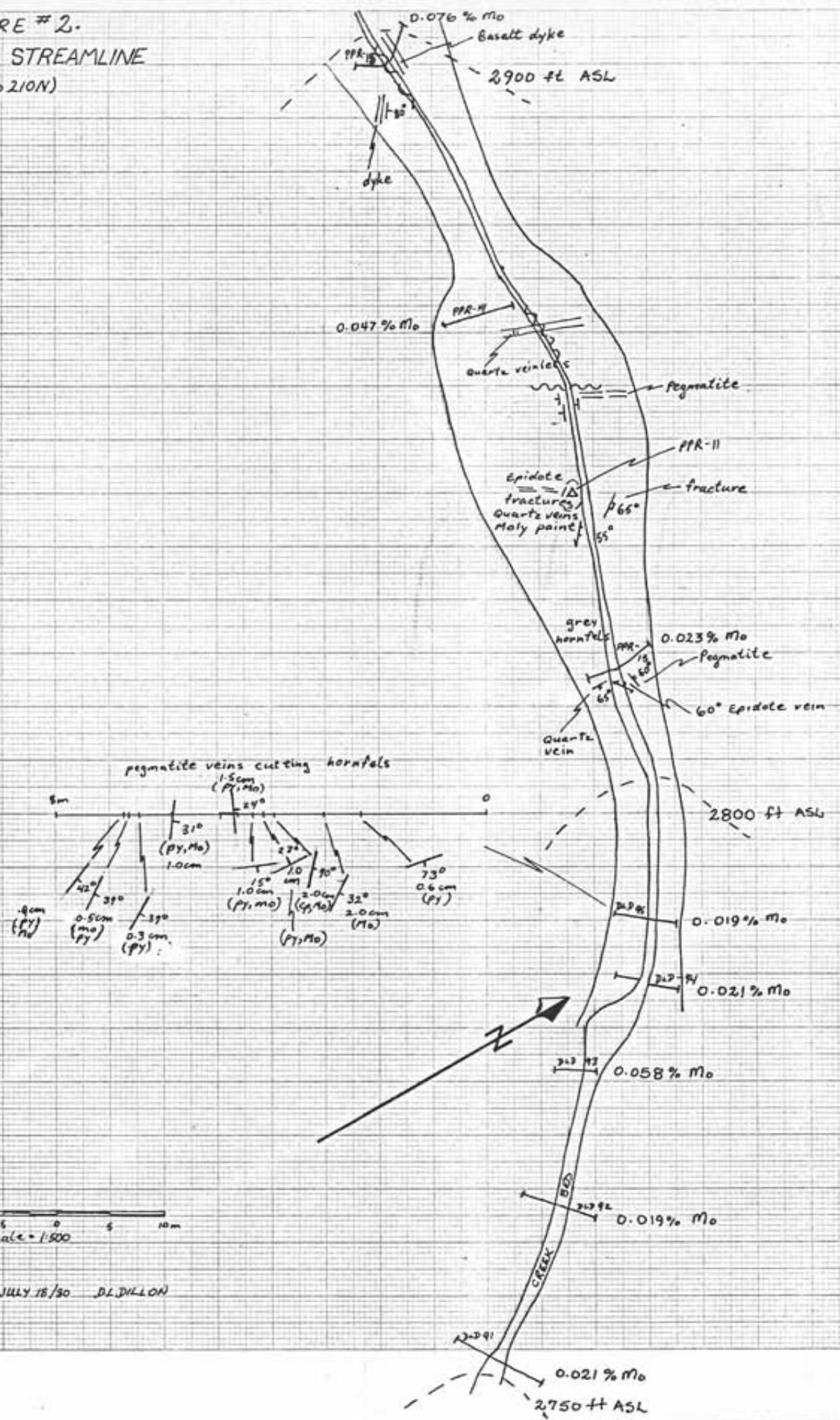
	<u>ROCKS</u>	<u>SEDIMENTS</u>	<u>SOILS</u>
ppm Mo	23	12	80
ppm Cu	75	42	52

According to these values the entire area covered by the grid, some 700 by 1,400 metres, appears to be anomalous. Additional sampling will be required to further delineate the extent of the Mo anomaly.

REFERENCES CITED

Duffel, S. & Souther, J. C. (1964); Geology of Terrace Map-area, B.C.; Geol. Survey Canada Memoir 329.

FIGURE #2.
HOULT STREAMLINE
(80N to 210N)



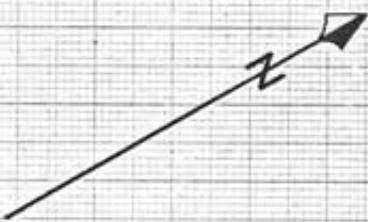
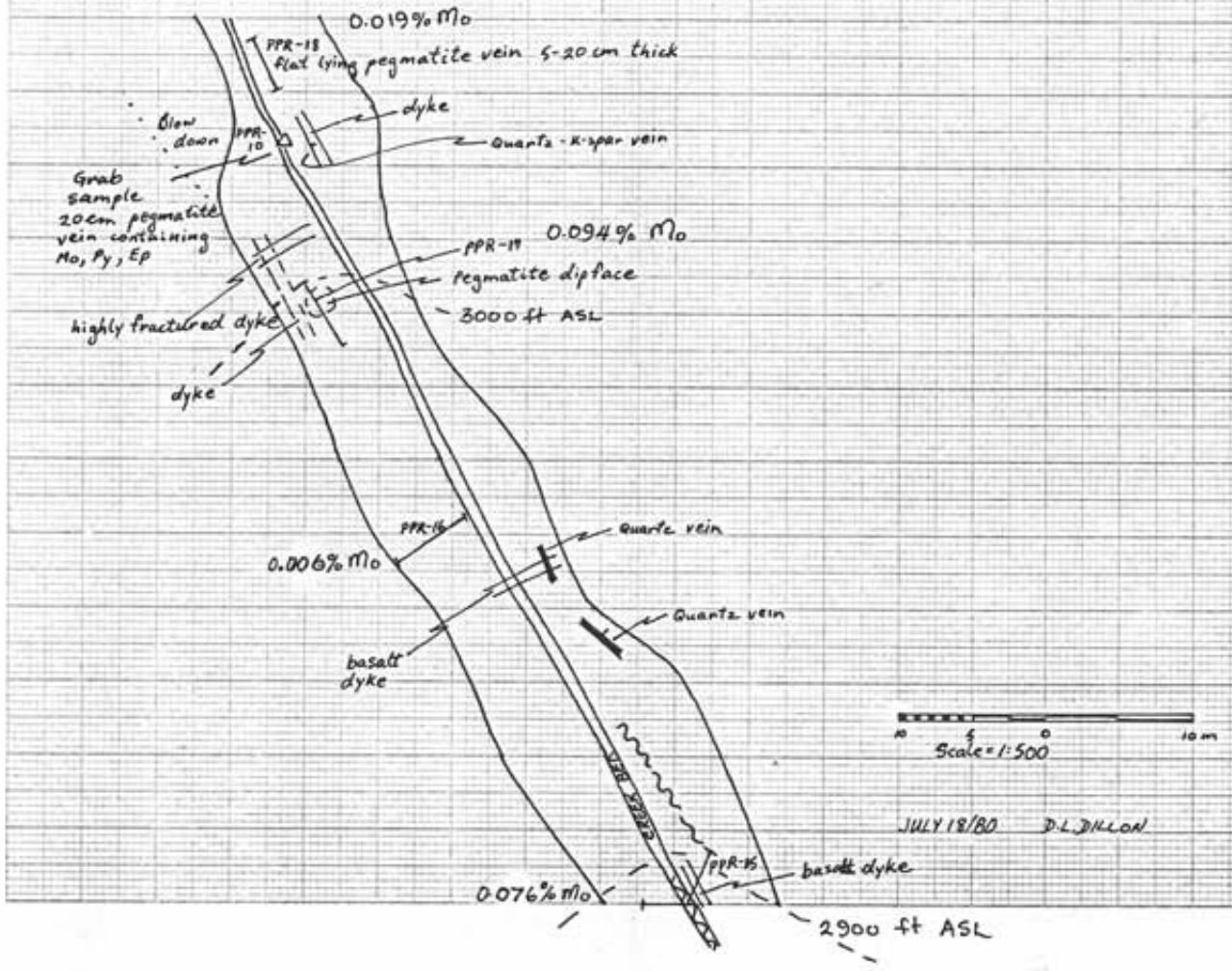


FIGURE #2 (CONT)
HOULT STREAMLINE
(210N to 290N)



COST STATEMENTWAGES

D. Dillon -	4 days @ \$75 =	\$ 300
D. Arndt -	4 days @ \$50 =	200
P. Magnussen -	4 days @ \$46 =	184
P. Peto -	4 days @ \$162 =	648
G. Cooke -	1 day @ \$ 169 =	169
D. Laukadelis -	1 day @ \$50 =	<u>50</u>
		<u>\$1,551</u>

ACCOMMODATION

5 days @ \$52 =	\$ 260
-----------------	--------

FOOD

18 man days @ \$18 =	\$ 324
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TRANSPORTATION

Helicopter -	5.3 hrs. @ \$425 =	\$2,252
	1.2 hrs. @ \$400 =	480
Truck -	4 days @ \$35 =	<u>140</u>
		<u>\$2,872</u>

ANALYTICAL

11 multi-element assays =	\$ 244.75
255 Cu-Mo geochemical analyses =	601.69
16 multi-element geochemical analyses =	<u>123</u>
	<u>\$ 969</u>

REPORT PREPARATION

3 days @ \$162 =	\$1,458
	SUBTOTAL
	<u>\$7,434</u>
<u>OVERHEAD @ 12% =</u>	<u>\$ 892</u>
	TOTAL COST
	<u><u>\$8,326</u></u>

AUTHOR'S QUALIFICATIONS

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

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

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

I am currently employed as project geologist with Canadian Nickel Company Ltd. in the Vancouver district office.

I have been practising my profession intermittently since 1970 and continuously from 1975 to present.

I have prepared this work assessment report on the basis of work performed as an agent of Canico.

Peter S. Peto
Peter S. Peto

July 18, 1980

TABLE 2. HOULT CLAIM GEOCHEMICAL SAMPLE LIST

SAMPLE NO.	PPM MO	PPM CU	REMARKS
DLD 80-R	4	130	Chloritic fspar porph, mafic dyke.
81-R	24	800	Gossen zone.
82-R	3	10	Scree sample from glacial drift.
83-S	2	72	
84-R	21	30	Gossen zone in granodiorite below contact with greenstone.
85-S	3	68	
86-S	2	76	
87-S	1	80	
88-S	2	66	
89-S	2	64	
90-S	2	54	From alluvial fan.
90B-L	3	90	From alluvial fan.
PP 1-R	4	20	Qtz. vlt. in hornfels.
2-S	3	64	
3-L	4	58	Talus fines in rock chute.
4-R	6	58	Mt. seams in hornfels.
5-S	3	50	
6-S	5	58	
7-S	4	45	
8-S	4	68	
9-R	4	33	Pyritic diorite cut by Qtz. vlt.
10-R	2300	43	Pegmatite vn. grab with Mo, Py, Cp.
11-R	8000	25	Moly on fractures in hornfels grab.
12-S	130	58	
64033-S	48	71	
64034-S	57	67	
64035-S	75	60	
64036-S	5	60	
64037-S	12	30	
64038-S	3	53	
64039-S	1	60	
64040-S	1	60	
64041-S	1	76	

TABLE 2. (cont.)

SAMPLE NO.	PPM MO	PPM CU	REMARKS
64110-P	20		
64111-P	45		
64112-P	1		
64113-P	2		
64114-P	<1		
79-8-R	25	11	
79-9-R	<1	7	

S = Stream sediment sample

R = Rock chip sample

P = Pan concentrate

三

To: Canadian Nickel Co. Ltd.,

Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
phone: 253-3158

APPENDIX I

File No. 80-484

Type of Samples Rock, Soil
Disposition & Silt

GEOCHEMICAL ASSAY CERTIFICATE

Disposition _____ & **Silt**

All reports are the confidential property of clients
All results are in PPM

DIGESTION: *the process by which food is broken down into smaller particles*

DETERMINATION:.....

DATE SAMPLES RECEIVED July 2, 1980

DATE REPORTS MAILED July 9, 1980

ASSAYER

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

To: Canadian Nickel Co. Ltd.,

852 E. Hastings St., Vancouver, B.C. V6A 1R6
phone: 253-3158

File No. 80-484

Type of Samples Rock, Silt &
Disposition Soil

GEOCHEMICAL ASSAY CERTIFICATE

All reports are the confidential property of clients
All results are in PPM.

DIGESTION:

DETERMINATION:

DATE SAMPLES RECEIVED July 2, 1960

DATE REPORTS MAILED July 9, 1980

ASSAYER

DEAN TOYE, B.Sc.
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Assaying & Trace Analysis

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phone: 253-3158



To: Canadian Nickel Co. Ltd.,

File No. 80-484

Type of Samples Rock, Silt &
Disposition Soil

GEOCHEMICAL ASSAY CERTIFICATE

6

SAMPLE No.		Mo	Cu																	
PP S 71		60	80	25N- 9W															1	
L 72		8	10	- 6W															2	
L 73		3	7	25N- 3W															3	
L 74		5	5	24N- 3E															4	
R 74		40	10	- 3E															5	
S 75		39	100	- 6E															6	
L 76		5	7	- 9E															7	
L 77		32	30	-12E															8	
L 78		5	11	-15E															9	
L 79		2	6	-18E															10	
L 80		10	12	-21E															11	
L 81		2	8	-24E															12	
L 82		2	6	-27E															13	
R 83		44	7	-30E															14	
R 84		17	9	-33E															15	
S 85		148	23	-36E															16	
S 86		33	58	-39E															17	
R 86		30	16	-39E															18	
L 87		37	21	-42E															19	
L 88		3	9	-45E															20	
L 89		3	7	-48E															21	
S 90		12	48	24N- 51E															22	
L 91		2	9	50N- 51E															23	
S 92		53	40	-48E															24	
S 93		10	44	-42E															25	
L 94		2	6	-39E															26	
S 95		17	54	-36E															27	
L 96		4	8	-33E															28	
L 97		13	10	-30E															29	
L 98		6	70	-27E															30	
L 99		4	52	-24E															31	
L 100		2	4	-21E															32	
R 100		19	92	-21E															33	
R 101		18	27	-18E															34	
R 102		+1500	84	-12E															35	
R 103		11	50	CK															36	
PP L 104		4	5	50N- 9E															37	
																			38	
																			39	
																			40	

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All results are in PPM.

DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED July 2, 1980

DATE REPORTS MAILED July 9, 1980

ASSAYER

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



To: Canadian Nickel Co. Ltd.,

852 E. Hastings St., Vancouver, B.C. V6A 1R6
phone: 253-3158

File No. 80-484

Type of Samples Rock, Silt,
Disposition Soil

GEOCHEMICAL ASSAY CERTIFICATE

7

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DIGESTION:

DETERMINATION:.....

DATE SAMPLES RECEIVED July 2, 1980

DATE REPORTS MAILED July 9, 1980

ASSAYER

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

AA
LL

To: Canadian Nickel Co. Ltd.,

Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
phone: 253-3158

File No. 80-484

Type of Samples - Soils

GEOCHEMICAL ASSAY CERTIFICATE

Disposition.

All reports are the confidential property of clients
All results are in PPM.

DIGESTION: The process by which food is broken down into smaller particles so that it can be absorbed into the body.

DETERMINATION:.....

DATE SAMPLES RECEIVED July 2, 1980

DATE REPORTS MAILED July 9, 1980

ASSAYER

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

AA
LL

To: Canadian Nickel Co. Ltd.,

Assaying & Trace Analysis
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phone: 253-3158

File No. 80-404

GEOCHEMICAL ASSAY CERTIFICATE

Type of Samples Sediments
Disposition _____

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All results are in PPM.

DIGESTION:

DIGESTION

DETERMINATION:.....

DATE SAMPLES RECEIVED July 2, 1980

DATE REPORTS MAILED July 9, 1980

ASSAYER

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

AA
LL

To: Canadian Nickel Co. Ltd.,

Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
phone: 253-3158

File No. 80-484

Type of Samples Soils

GEOCHEMICAL ASSAY CERTIFICATE

Disposition..

All reports are the confidential property of clients
All results are in PPM.

DIGESTION: _____

[View Details](#) | [Edit](#) | [Delete](#)

DETERMINATION:

DATE SAMPLES RECEIVED July 2, 1980

DATE REPORTS MAILED July 9, 1980

ASSAYER

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



To: Canadian Nickel Co. Ltd.,
160 - 10451 Shellbridge Way,
Richmond, B.C.
V6X 2W8

Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
phone: 253 - 3158

File No. 80-484

Type of Samples Rocks

Disposition _____

GEOCHEMICAL ASSAY CERTIFICATE

SAMPLE No.		Mo%	Cu	Au	W	Sn	U	Ag oz/ton						
DLD	91	R	.021	100	.005	5	1	.9	.01					1
	92		.019	30	.005	0	1	.6	.02					2
	93		.058	32	.005	0	1	2.0	.01					3
	94		.021	48	.005	0	1	.9	.01					4
	95	R	.019	58	.005	2	1	1.1	.02					5
														6
PPR	13		.023	32	.005	2	1	.6	.03					7
	14		.047	68	.005	2	2	1.1	.04					8
	15		.076	102	.100	2	2	1.6	.90					9
	16		.006	43	.020	2	2	.7	.09					10
	17		.094	46	.040	0	1	.6	.22					11
PPR	18		.019	31	.030	0	1	.9	.15					12
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														40

All reports are the confidential property of clients
All results are in PPM.

DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED July 2, 1980

DATE REPORTS MAILED July 17, 1980

ASSAYER

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

CANADIAN NICKEL COMPANY LIMITEDGEOLOGICAL FIELD REPORT

Area	Terrace	E.C.
N.T.S.	103 T-1E	
Lat.	54° 13'	Long 128° 04'
U.T.M.	N	E
Project/Traverse No. _____		

Province British ColumbiaMeans of Access HelicopterMining Division Skeena% Overburden 95%

Township/County _____

Timber Heavy Timber below treelineDate Sept. 10 1979Water Supply GoodGeologist G. R. Cooke

Air Photo Nos. _____

Assistant(s) David Loukidelis

Gov't Map or Report No. _____

Topography MountainousClaim Names and Nos. Hault 1 and 2

SUPERVISION REMARKS

Status: _____
Recommendations: _____

Purpose: To do initial follow up on a 52 ppm Mo stream silt anomaly

Interpretation of Results: The initial anomaly was confirmed by both silt and paned concentrate sampling. Proceeding up the creek Mo values became progressively higher, and indicate that the source of the anomaly is in the drainage of the left hand or western branch of the creek. Evidently the anomalous rock sample is not the source of the anomaly as was anticipated.

Recommendations: Detailed sampling of the western branch of the creek with prospecting of the drainage area.

SAMPLE SUMMARY

Sample Nos.	Number	Type	Assayed For	Results (Anomalous Values) ppm
SX 64033-41	9	Silt	Cu, Pb, Zn, Mo, Ag, W	48; 57; 76 Mo
SX 64110-14	5	Panned Concentrate	Mo, W, F	20; 45 Mo
79-8; 79-9	2	Rock	Cu, Pb, Zn, Mo, Ag, W	79-8; 25 ppm Mo

This is a summary of the samples taken and the results obtained. Complete assay result sheets and sample description forms must be attached.

Regional, local, mineralization (modes of occurrence), geological interpretation (environment etc.)

The majority of the anomalous drainage basin is underlain by basic to intermediate volcanics (mainly flows with minor pyroclastic or epicyclic equivalents). The lower part of the drainage is underlain by granite rocks. These granite rocks are probably the source of the Mo anomaly. The granite is a medium to coarse grained, pink, and apparently very homogeneous in composition. Pyrite and molybdate mineralization was observed as discrete blebs disseminated throughout the rock exposures examined. No quartz veining or alteration was observed.

NOTE: Submit a map showing traverse routes, topography, contours, outcrops, strike / dips, sample locations and numbers, contacts, rock types, formations, cultural features and appropriate legend. Geological sections and/or profiles may also be useful.

Date: Oct 9/79 Signed:

G.R. Cooke

Hault Claims

Sift Sample Results

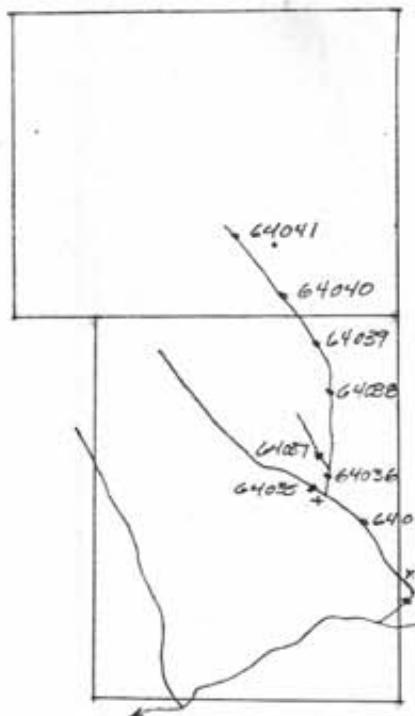
SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	W ppm	F	REMARKS
64033	71	11	95	48	0.3	4	780	"
64034	67	12	81	57	0.4	3	670	"
64035	60	18	79	75	0.4	3	900	"
64036	52	4	53	5	0.2	2	340	"
64037	30	2	71	12	0.2	3	240	"
64038	53	2	56	3	0.2	2	350	"
64039	60	4	61	1	0.2	2	350	"
64040	60	4	63	3	0.2	2	280	"
64041	76	4	56	1	0.2	3	390	"

Panned Concentrate Results

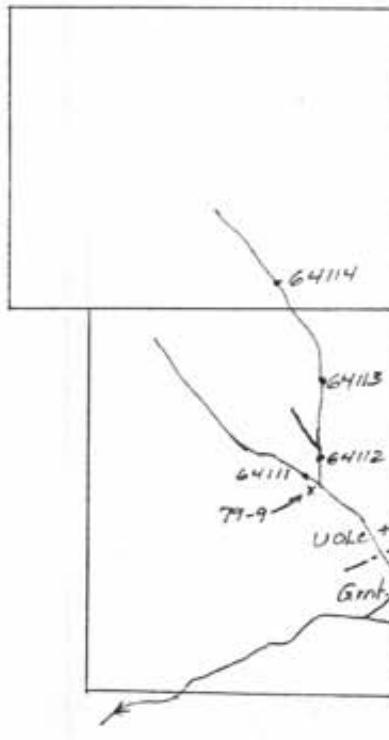
64110	-	-	-	20	-	14	-	Hault 120
64111	-	-	-	45	-	13	-	"
64112	-	-	-	1	-	< 2	-	"
64113	-	-	-	2	-	3	-	"
64114	-	-	-	< 1	-	3	-	"

Rock Sample Results

8	11	33	80	25	-	6	-	-
9	7	13	88	< 1	-	3	-	-



silt Sample Locations



Planned Concentrate Locations

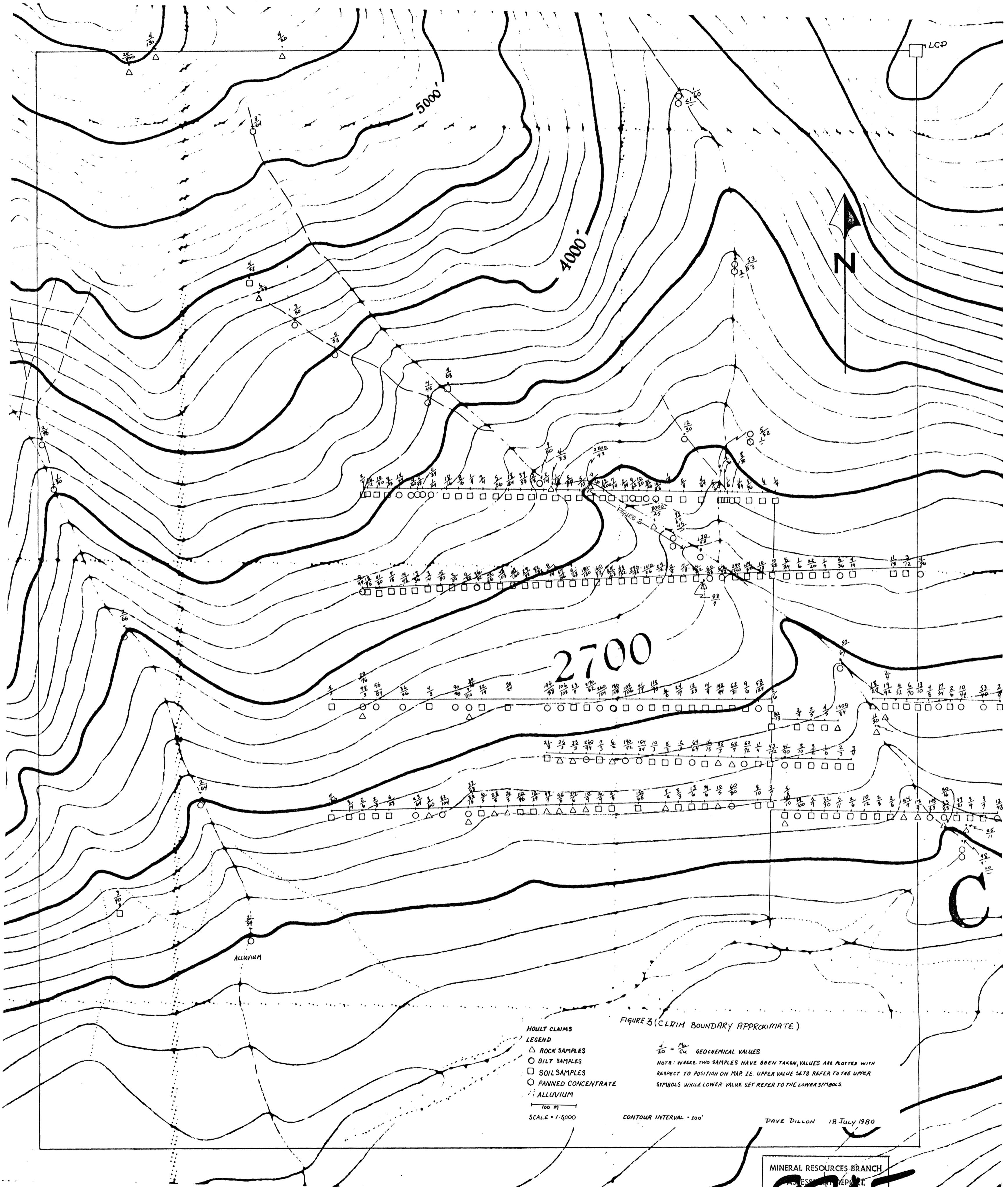
GRID LOCATION MAP

AREA Terrace B.C.

ANOMALY No. Hoult Claims

TOWNSHIP 103I-1E

Scale: 1: 50,000



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8205
NO.