



J.A. CHAMBERLAIN CONSULTANTS LTD.

875 ESQUIMALT AVE.
WEST VANCOUVER
CANADA · 604-926-3078

92I/4E
GEOLOGICAL REPORT

"H" CLAIMS, NAHATLATCH AREA, B.C.

Kamloops Mining Division, bordering
New Westminster Mining Division

G, H
4985
by
J. A. Chamberlain, P.Eng., Ph.D.

41
92I/4E

Claims: H-5, H-7, H-9, H-11 to H-19, Incl.

Location: Approximately 14 miles N.W. of Boston Bar

Date: July 4, 1973

July 26, 1973

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. **4985** MAP

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Statement of Expenditures

Consulting Services

Field examination of subject claim group, mapping, petrography, mineralogy, evaluation, compilation, report

1.5 days @ \$150.00	\$225.00	
5.1 days @ \$100.00	<u>510.00</u>	\$ 735.00

Expenditures

May 23 Vancal reproductions	\$ 7.76	
July 5 Western Tech. Supply	8.03	
July 5 J. A. C. Cash expenses, Nahatlatch	42.00	
July 5 Mileage charge	40.80	
July 5 Field Assistant	45.00	
July 5 Air Photo rental	14.90	
July 6 Xeroxing 10 X 15	1.50	
July 6 Postage	2.65	
July 9 Coats; thin sections	16.00	
July 11 Bondar-Clegg, assays	45.00	
July 12 CRM, pol. sections	24.54	
July 12 Okanagan Helicopters	208.80	
July 23 Western Technical	1.18	
July 25 Xeroxing 70 X 15	10.50	
July 26 Williams Bros.	<u>4.10</u>	<u>472.76</u>

Total \$1207.75

Certified correct



J. A. Chamberlain, Ph.D.

LEGEND

- A TALC
- B PERIDOTITE
- C PHYLLITE
- D QUARTZ DIORITE
- OS SAMPLE SITE
- A OUTLIER CHECK POINT
- CONTACTS: TONK, OVERBURDEN



Department of
 Mines and Petroleum Resources
 A FIELD REPORT
 NO. **4985** MAP **#1**



J.A. Chamberlain

J.A. CHAMBERLAIN CONSULTANTS LTD West Vancouver Canada		
KANATLATCH PROJECT		
<u>Geological Plan</u> MINERAL CLAIMS H-5, H-7, H-9 H-11 to H-15, incl. (EXCLUDING H-6, SINKING NEW WESTMINSTER H-8)		
Scale 1" = 1500'	July 8, 1973	Fig. 1



Introduction

This report describes the results of a geological survey of 12 contiguous mineral claims designated H-5, H-7, H-9, H-11 to H-19, incl. The survey was carried out by the writer personally on July 4, 1973.

Location

The subject claims are located about 14 miles northwest of Boston Bar along a summit ridge separating Log Creek from the Fraser River. The center of the claim group is approximately $121^{\circ}37'W$, $50^{\circ}04'N$. Their elevation ranges between 5300 and 5500 feet. See location insert map included as part of Figure 1.

Access

Access to the claims is best obtained by helicopter, chartered from Okanagan Helicopters at Lytton, some 25 miles north. Other access would be by a jeep road from the junction of the Nhatlatch and Fraser Rivers northwest to an elevation of 4000 feet, then on foot some four miles northwest along the summit ridge to the center of the claim group.

References

Duffel, S. and McTaggart, K.C., 1947, Geological Survey of Canada Map 1010A, "Ashcroft", With Marginal Notes.

General Geology

The area under discussion lies along the eastern margin of the B.C. Coast Range, adjacent to the Interior Plateau to the east. The rocks show a wide range in type, age and degree of metamorphism, but their structural trend remains fairly consistent to the northwest-southeast.

The oldest rocks are phyllites of probable Mesozoic age. Another thick sequence of volcanic and metasedimentary rocks is probably Cache Creek (Permian?). Intrusive into these units are extensive bodies of granodiorite and quartz diorite as well as localized zones of ultramafic rock. The latter group are an extension of the Coquihalla ultramafics which form a semi-continuous belt for some 50 miles to the southeast and which cross the Fraser Canyon in the vicinity of Boston Bar.

Local Geology

A geological map of the subject claims on a scale of one inch to 1500 feet is shown in Figure 1. The principal rock is an ultramafic which underlies all the claims, at least in part. The ultramafic body is at least 12000 feet long and 3000 feet wide with its long axis trending northwest, parallel to the centre-line of the claim group.

The northern extension of the ultramafic is in contact with quartz diorite to the ^{north} southwest. The northeast contact-rock is not known. The southern end of the ultramafic is in probable contact with phyllite to the southwest. In addition, a band of phyllite about 300 feet wide trending northeast is preserved in the ultramafic (Figure 1).

The ultramafic itself is buff to reddish brown on weathered surfaces, and dark green to black on fresh surfaces. The apparent weathering effects are less than $\frac{1}{4}$ inch in depth. The rock is fine grained and generally massive in texture. In thin section, it is observed to be composed mainly of

serpentine with minor patches of carbonate. A single remnant grain of orthopyroxene occurs in one section. Secondary magnetite constitutes about 5 percent of the rock. A few scattered grains of chromite are noted in places in most handspecimens.

Two talc-rich zones were discovered during mapping of the claims, the main zone trending across the larger of the two lakes in the claim group (Figure 1). The talc is described in more detail under Economic Geology.

Economic Geology

General

The area west and southwest of Lytton contains several mineral showings, but no metal production has been achieved from this eastern segment of the coast range. McTaggart (1954; see References) lists the following properties within a few miles of the ultramafic belt discussed herein:

(a) Serpentine and Summit Groups (Gold prospect, about 2 miles northwest of the larger lake, shown in Figure 1).

(b) Paystreak Group (Silver prospect, about 4 miles northwest of the larger lake at Pyramid Mountain).

(c) Glacier Group (Gold-silver prospect, about 11 miles northwest of the larger lake, Figure 1).

(d) Clarke Group (Antimony prospect, south side of Skihist Mountain, about 15 miles northwest of the larger lake, Figure 1).

Nickel

Nine nickel assays were obtained from samples taken in the ultramafic. Results are given in Table 1 along with sample numbers which correspond to numbers shown on the map in Figure 1. The average of the 9 assays is 0.19% Ni.

Talc

Two talc zones were discovered during geological mapping. The south zone appears to occupy a shear zone, indicated at station 1 in Figure 1. Outcrop is scarce at this location, so little additional information was obtained.

The north zone occurs at the larger lake, also shown in Figure 1. The talc zone strikes 110° and dips 55° south. Its apparent width at surface is at least 300 feet, with a known strike length of 700 feet and a possible strike length in excess of 2000 feet.

The north zone talc weathers to a creamy buff. Surface samples are characterized by the presence of disseminations of brown oxide. These seem to decrease with depth and are no doubt related to surface weathering. The fresher talcose samples are pale green to white in colour and contain small quantities of disseminated magnetite as obvious impurities. Scrapings of talc are white to greenish white in colour. Under the microscope, the talc constitutes about 50 percent of the rock, the balance being mainly carbonate, probably magnesite (Figure 2). The talc exhibits a characteristic platy, shredded texture, without development of a schistose fabric. Parts of the talc in outcrop, however, appear to be strongly schistose, parallel to the trend of the body as a whole.

Assuming that the talc zone as a whole contains 50 percent talc and has a conservative strike-length of 700 feet, this suggests talc tonnages on the order of 10,000 tons per vertical foot. The possible strike-length of 2000 feet suggests talc tonnages on the order of 30,000 tons per vertical foot.

The principal uses for talc are as fillers in paints, ceramics, roofing, paper and rubber industries. It is also used as talcum powder, tailor's chalk and in slate pencils. Some slab talc is used as laboratory table tops and sinks. Talc (soapstone) is finding increasing use as a carving medium for both Eskimo and non-Eskimo artists.

Conclusions

The 12 contiguous subject claims are largely underlain by serpentized ultramafic rock. One of two talc zones discovered during mapping has a talc potential from 10,000 tons (probable) to 30,000 tons (possible) per vertical foot available to surface mining methods.

Research should be carried out to determine the extent of the talc market in western Canada and northwestern United States. To the writer's knowledge, no talc is currently being produced in the west, though one company (Black Mastodon Minerals Ltd.) attempted to develop a talc deposit in 1966 at Ruby Creek, west of Hope, B.C. This project was terminated, but whether for reasons of ore or marketing problems is not known.

If the market research is favourable, a bulk sample of several hundred pounds of fresh talc should be obtained and tested for grade, colour and related physical characteristics. This work would be followed by test drilling of the talc zone to prove continuity, after which a decision to proceed with a full scale feasibility study would be undertaken.

In summary, the sequence of contingent studies leading to development of the talc body should be:

- (a) market research
- (b) evaluation of surface samples
- (c) drilling; confirmation of grade and tonnage
- (d) feasibility study

Respectfully submitted



J. A. Chamberlain, P.Eng., Ph.D.

July 25, 1973

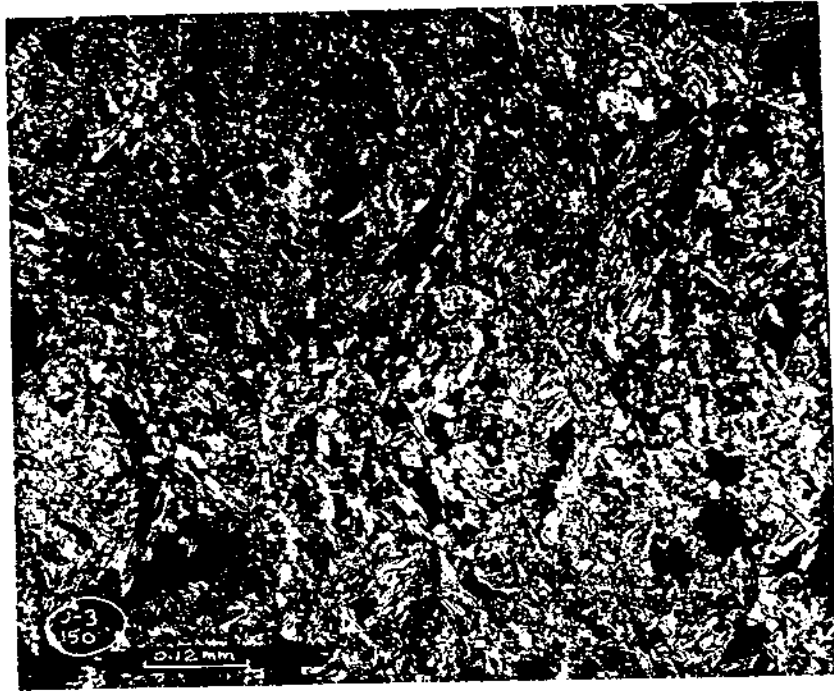


Figure 2. Thin section J3-150, showing typical textures and fabric of talc. Black areas are carbonate or voids in section. Crossed nicols. Mag. = 110 x.

Department of
Mines and Petroleum Resources
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NO. 4985 MAP #2

Table 1

Sample Numbering Key and Nickel Assay Results

Sample No. (Map, Fig. 1)	Sample Tag No.	Thin Section No.	Polished Section No.	Nickel (%)
1	1681	-	-	-
2	1682	-	-	0.21
3	1683	J3-147	-	0.21
4	1684	J3-148	-	0.22
5	1685	-	J3-144	0.18
6	1686	J3-149	-	0.21
7	1687	-	J3-145	0.12
8	1688	-	J3-146	0.21
9	1689	-	-	0.20
10	1690	J3-150	-	-
-	1691	-	-	0.19

Appendix

Nickel Assays, Bondar-Clegg

The following information refers to a programme of bulk sampling and testing of the talc zone passing through G2, H7 and H9 mineral claims of Nahatlatch Resources Ltd. (N.P.L.) - formerly Nahatlatch Nickel Mines Ltd. (N.P.L.).

The sampling was carried out from August 22 to August 27, 1973. The bulk samples were analyzed by Cyprus Industrial Minerals Company of Trenton, New Jersey, of which results are included herein.

The sampling was also carried out on a talc zone which was located from a geological survey performed on the property in July of 1973.

Cyprus Industrial Minerals Company

380 Scotch Road
Trenton, New Jersey 08606
Telephone 609) 883-5111

Post Office Box 1201
Cable Mistron
TWX 510) 685-9585

Mr. J. G. Simpson
Regional Manager-Western Canada
Cyprus Exploration Corporation, Ltd.
510 West Hastings Street
Vancouver 2, British Columbia

Dear Mr. Simpson:

Recently you sent to our attention a sample of a talc ore from British Columbia. At the receipt of the sample we mikropulverized it, determined its' brightness factor and its' mineral content. The results are talc 62%, magnesite 30% and chlorite 8%. Spectrographically we found it contained 5.8% Fe_2O_3 . The brightness was 63.1.

These data show that it is not a very high grade material. It is not suitable as a whitener and the iron content makes it unsuitable as a refractory base. Our conclusion is that it is a low grade filler.

Compared to the materials we generally handle at Cyprus Industrial Minerals Company we feel that this is an inferior material and hardly worth mining.

If you have any material of higher grade talc ore we would be very interested in looking at it.

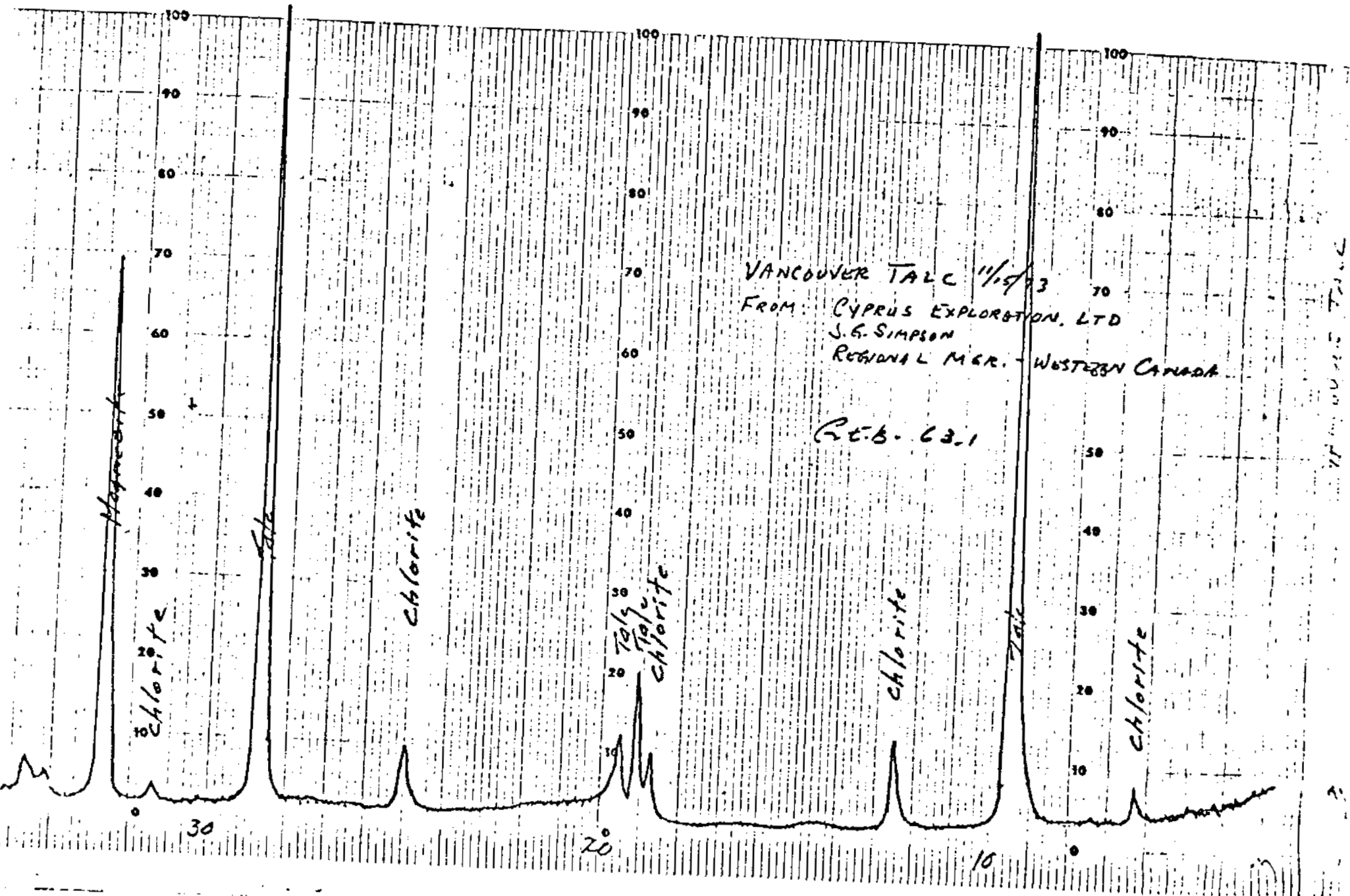
Yours very truly,

Tryggve Baak

Tryggve Baak
Vice President -
Research

RECEIVED
FEB 11 1974
REGULATORY

CYPRUS



VANCOUVER TALL 11/19/73
 FROM: CYPRUS EXPLORATION, LTD
 J.G. SIMPSON
 REGIONAL MGR. - WESTERN CANADA

REB. 63.1

VANCOUVER TALL

STATEMENT OF EXPENDITURES

H. CLAIM GROUP

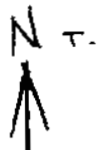
C.R. Saunders - August 22-27, 1973 - 6 days @ \$150		\$ 900.00
E. J. Galajec - 6 days @ \$40		160.00
Report		225.00
Associated field expenses:		
Deekin Equipment	\$ 10.71	
C.R. Saunders expenses (meals etc.)	153.28	
Photocopies	7.20	
Sampling supplies	20.00	
Okanagan Helicopter	235.80	
Okanagan Helicopter	131.00	
Bondar Clegg	74.70	
Fly Camp	50.00	<u>682.69</u>
	Total	<u>\$1,967.69</u>

Certified Correct

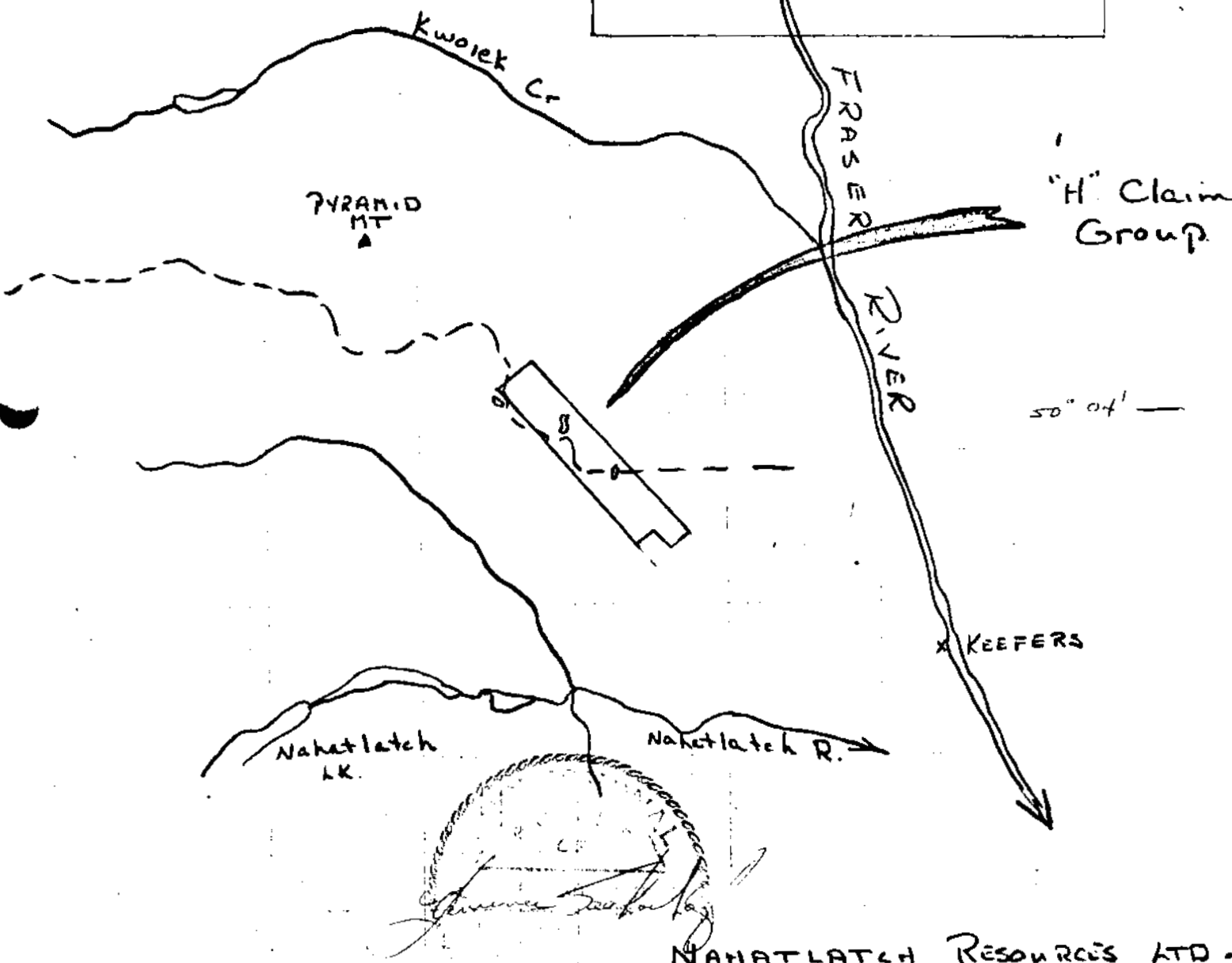
OF


Laurence Sookchoff, P. Eng.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **4985** MAP **#3**



121° 38'



NAHATLATCH RESOURCES LTD.
H. Claim Group.
Kamloops + New Westminster M.D.

INDEX MAP.

Miles 0 2

MAY. 1974



• Approx. location of test samples
 ■ These points located

Assessment Maps, Plans and Reports
 - W. Glenn Gilman
 Property Geology
 P-1500
 May 1973



R. T. L. B. B. B.

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. **4985** MAP **#4**

NAHATLATCH RESOURCES LTD. (N.P.L.)

Geology and Sampling
Log Creek Property
Kamloops M.D. and
New Westminster, M.D.

Work done on the G1, G2, H11 and H12 mineral
claims on September 27, 1974 by T. R. Tough, P. Eng.

May 17, 1974

T. R. TOUGH & ASSOCIATES LTD.

Consulting Geologists

519 - 602 WEST HASTINGS STREET
VANCOUVER 2, B. C.

687-2922

May 17, 1974

Board of Directors
Nahatlatch Resources Ltd. (N.P.L.)
210 - 890 West Pender St.
Vancouver, B.C.

Dear Sirs:

Re: Log Creek Property
- Sampling

A reconnaissance geological survey was carried out on the property on September 27, 1973 to check the geological boundaries established by a previous survey, as well as to obtain additional samples from outcrops not checked during the earlier programme.

Four grab samples and one composite sample were taken from locations as shown on the accompanying map and assayed for nickel and chrome. The results were as follows:

	<u>Sample No.</u>	<u>Location No.</u>	<u>% Ni</u>	<u>% Cr</u>
1.	733V	1	.18	.30
2.	734V	2	.20	.29
3.	735V	3	.20	.30
4.	799V	4	.15	.25
5.	800V	5	.19	.28

Sample

- No. 1 Peridotite - Dark green to black, fine grained, mainly serpentine and pyroxene with occasional olivine.
- No. 2 Same as No. 1.
- No. 3 Composite of 1, 2 and 5.
- No. 4 Talcose rock containing approximately 40% talc in association with black residual pyroxene-serpentine. Patchy brown oxide throughout.
- No. 5 Peridotite - Light green to green, fine grained, mainly serpentine with olivine and disseminated magnetite and chromite.

Continued -

May 17, 1974

- 2 -

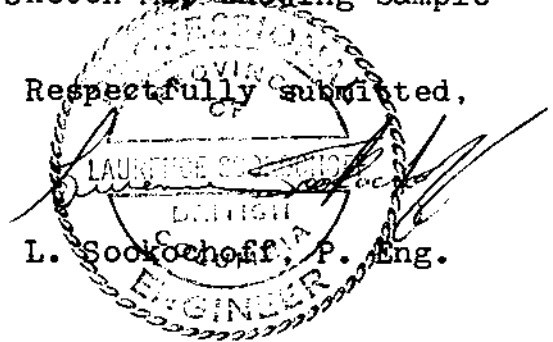
The survey did not disclose any possible zones of higher nickel content. The reconnaissance did confirm the geologic lithological boundaries. The chromite assays were not of any significance.

The sampling was done on the G1, G2, H11 and H12 claims owned by Nahatlatch Resources Ltd. and was paid for by that Company. Access to the claim group is by helicopter from Lytton to some 25 miles to the north. Alternatively, a jeep road could be taken to within four miles of the claims.

The illustrations to accompany this letter report are a Location Map and a Geology Sketch Map showing sample locations.

Respectfully submitted,

L. Sockrohoff, P. Eng.



LS/mlb
Encl:

T. R. TOUGH & ASSOCIATES LTD.

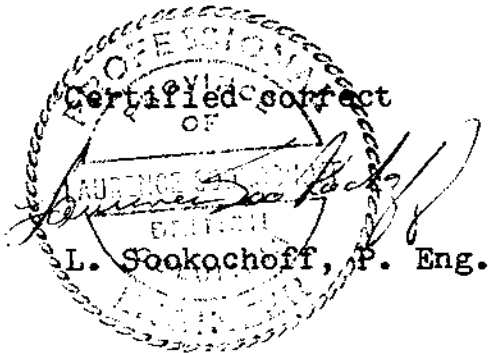
Consulting Geologists

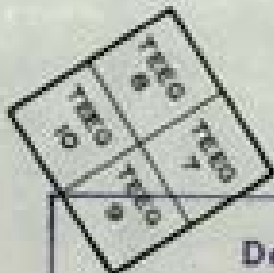
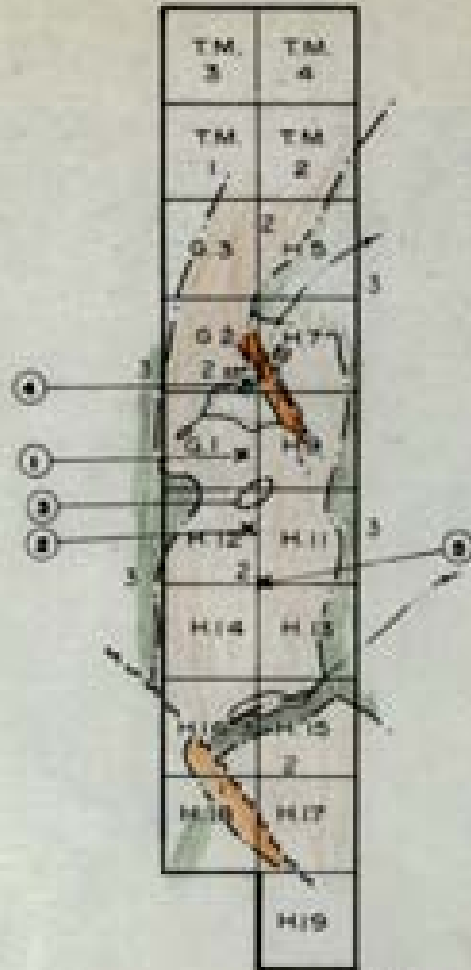
519 - 602 WEST HASTINGS STREET
VANCOUVER 2, B. C.

687-2922

STATEMENT OF EXPENDITURES

Field examination, evaluation and report	\$ 400.00
Drafting and Printing	49.38
Xeroxing	18.40
Motel	18.90
Meals	25.16
Mileage	64.00
Typing	10.00
Assaying	47.50
Helicopter	235.80
Total	<u>\$ 869.14</u>





Department of
 Mines and Petroleum Resources
ASSESSMENT REPORT
 NO. **4985** MAP **#5**



- LEGEND**
- Talc
 - Serpentine
 - Phyllite

- SYMBOLS**
- Geologic Contact (approx.)
 - Fault
 - Stream
 - Sample Location

T.R. TOUGH & ASSOCIATES LTD
NAHATLATCH RESOURCES LTD (N.P.L.)
 LOG CREEK PROPERTY

GEOLOGY SKETCH MAP



519 - 602 West Hastings Street
Vancouver, B. C.

CERTIFICATE OF ASSAY

Samples submitted: May 16, 1974
Results completed: May 21, 1974

I hereby certify that the following are the results of assays made by us upon the herein described ore samples.

MARKED	GOLD		SILVER	Ni	Cr						TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent		
733 V				0.18	0.30						
734 V				0.20	0.29						
735 V				0.20	0.30						
799 V				0.15	0.25						
800 V				0.19	0.28						

Kent W. ...
Registered Assayer, Province of British Columbia

NAHATLATCH RESOURCES LTD
BULK SAMPLING AND
RECONNAISSANCE SOIL SAMPLING

LOG CREEK PROPERTY
KAMLOOPS AND NEW WESTMINSTER M.D.

Claims worked on: H7,H9,H12,H14,G2

Dates: August 22-27, 1973

L. Sookochoff, P.Eng.,

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BULK SAMPLING.....	2
RESULTS.....	3
CONCLUSIONS.....	4

GEOCHEMICAL LAB REPORT

ILLUSTRATIONS

SCALE

INDEX MAP	1" = 2 miles
PROPERTY GEOLOGY SHOWING SAMPLE LOCATIONS	1" = 1500 feet
SOIL SAMPLE RESULTS	1" = 200 feet

INTRODUCTION

At the request of Nahatlatch Nickel Mines Ltd (N.P.L.), Dolmage, Campbell and Associates Ltd was requested to perform a reconnaissance soil sampling programme ^{and} bulk sampling on a talc zone.

The work was carried out from August 22nd to August 27th 1973 and was done on the H12, H14, H7, H9 and G2 mineral claims.

SOIL SAMPLING

A total of 22 soil samples were taken from a grid established on the H12 and H14 mineral claims. The grid was established near the contact of the ultrabasics and the phyllite and was so situated to determine the possibility of a nickeliferous bearing zone in this area.

The samples were taken from a well-developed brown B horizon at 12 to 18 inches in depth. The samples were taken with an auger, were placed in a designated brown wet-strength paper bag and delivered to Bondar Clegg and Co. Ltd of North Vancouver, B.C. for analysis.

In the analysis the sample was first thoroughly dried and sifted through a -100 mesh screen. A hot aqua regia extraction method was used for analysis of the Cu and Ni. The LECO method of analysis was used for the determination of the S content.

BULK SAMPLING

Four large samples of approximately 60 pounds each were taken from a talc zone as indicated on the accompanying map. The samples were taken from cliff faces along the south side of the talc "dike" because outcrops elsewhere were sparse and

quite weathered.

The sampling procedure consisted of digging, with pick and shovel, into the cliff face where less weathered talc could be obtained. The outer, more weathered material was not sampled.

The samples were transported to Lytton, B.C. by helicopter and thence by Vancouver by car.

Approximately 50 pounds of material was randomly selected from the four bags and was given to Cyprus Exploration Corporation Ltd of Vancouver for analysis.

The remaining material is stored in Coquitlam, B.C. at 1711 Eden Street.

RESULTS

The soil sampling programme indicated only one anomalous nickel reading of 2500 ppm N. at station 2N + 2W with a sub-anomalous reading of 1700 ppm N. at 16N 2E. (The number of samples taken was not sufficient for a statistical

study on the results. The two "anomalous" values were considered as obvious deviations from the norm (background).

The copper values were of no significance. The sulphur values indicated that the sulphur content was low in relation to the nickel and thus part of the nickel may be present as a silicate.

The results of the analysis of the bulk samples by Cyprus Industrial Minerals of New Jersey is attached. From the results they conclude that the talc is of low grade and is suitable as a low grade filler.

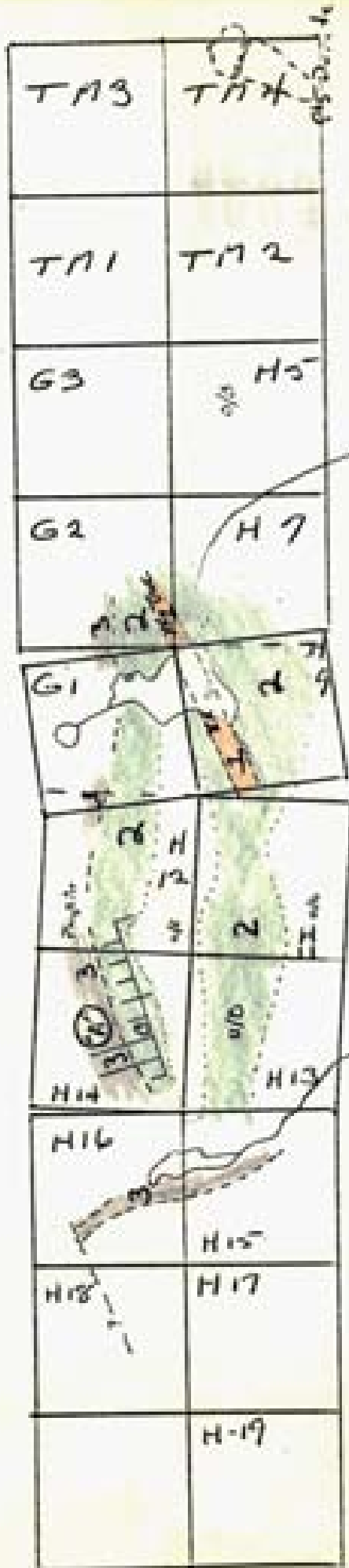
CONCLUSIONS

The area of the two localized nickel values within the ultrabasics should be checked by an additional limited programme of soil analysis to delineate the area of interest.

The analysis of the bulk samples did indicate that the talc, even though a low grade material, may be marketable as a low grade filler.

The talc zone should be traced and checked for any zones of higher grade material.

PROFESSIONAL
PROVINCE
Respectfully submitted,
LAURENCE S. BOCKHOFF
BRITISH
COLUMBIA
Laurence S. Bockhoff, P.Eng.,
ENGINEER

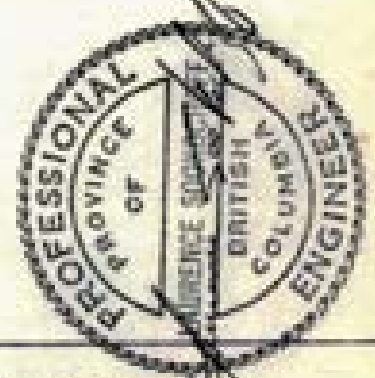


* Approx location of dale (with samples)
 * A* Location of soil sampling

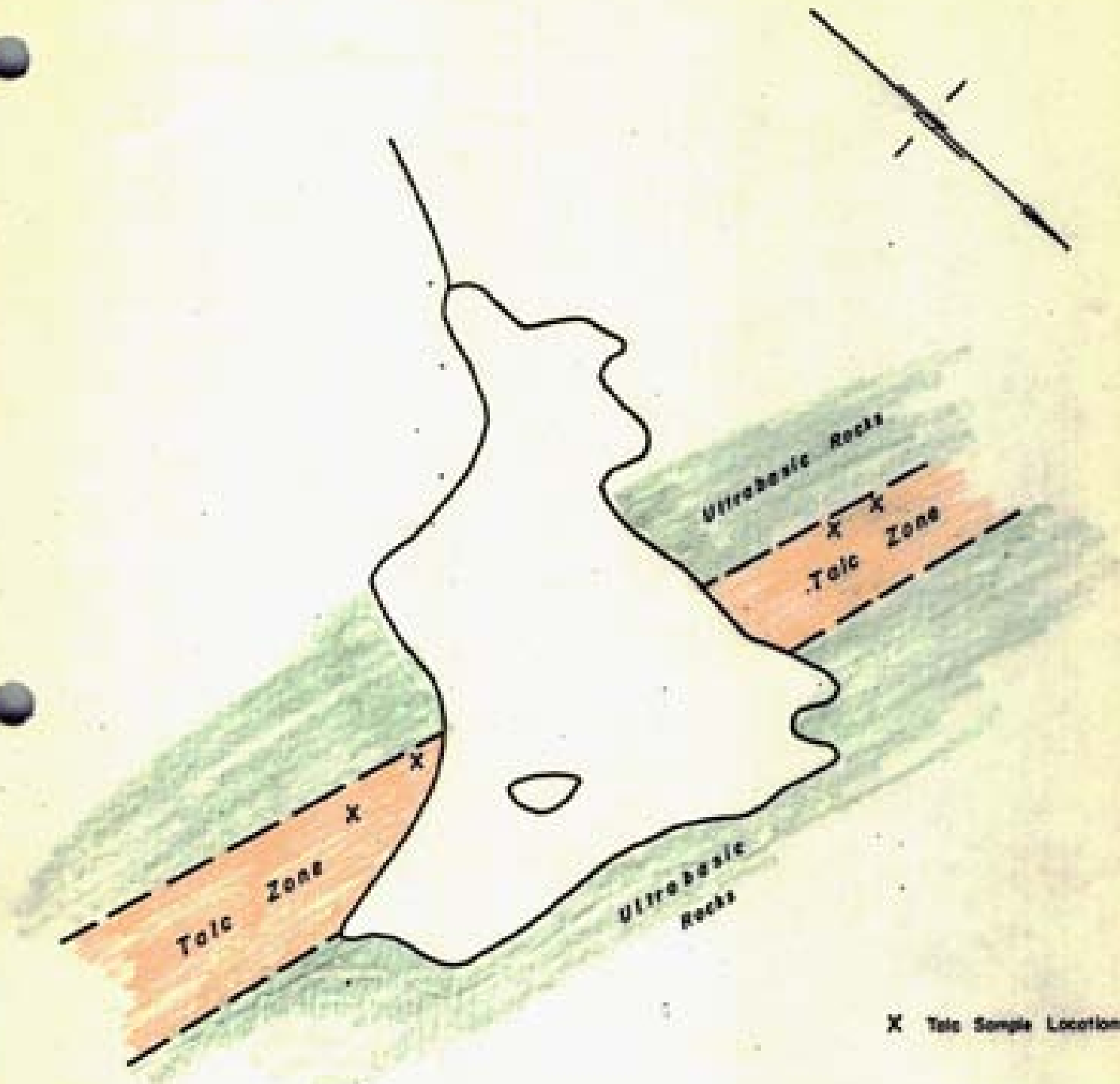
- 1 Talc zone
- 2 mica bases
- 3 phyllite



Approved
 W. Cunningham
 Party Geol
 12.15.68
 Aug 1968



Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 4985 MAP #6



X Talc Sample Locations

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **4985** MAP **#7**

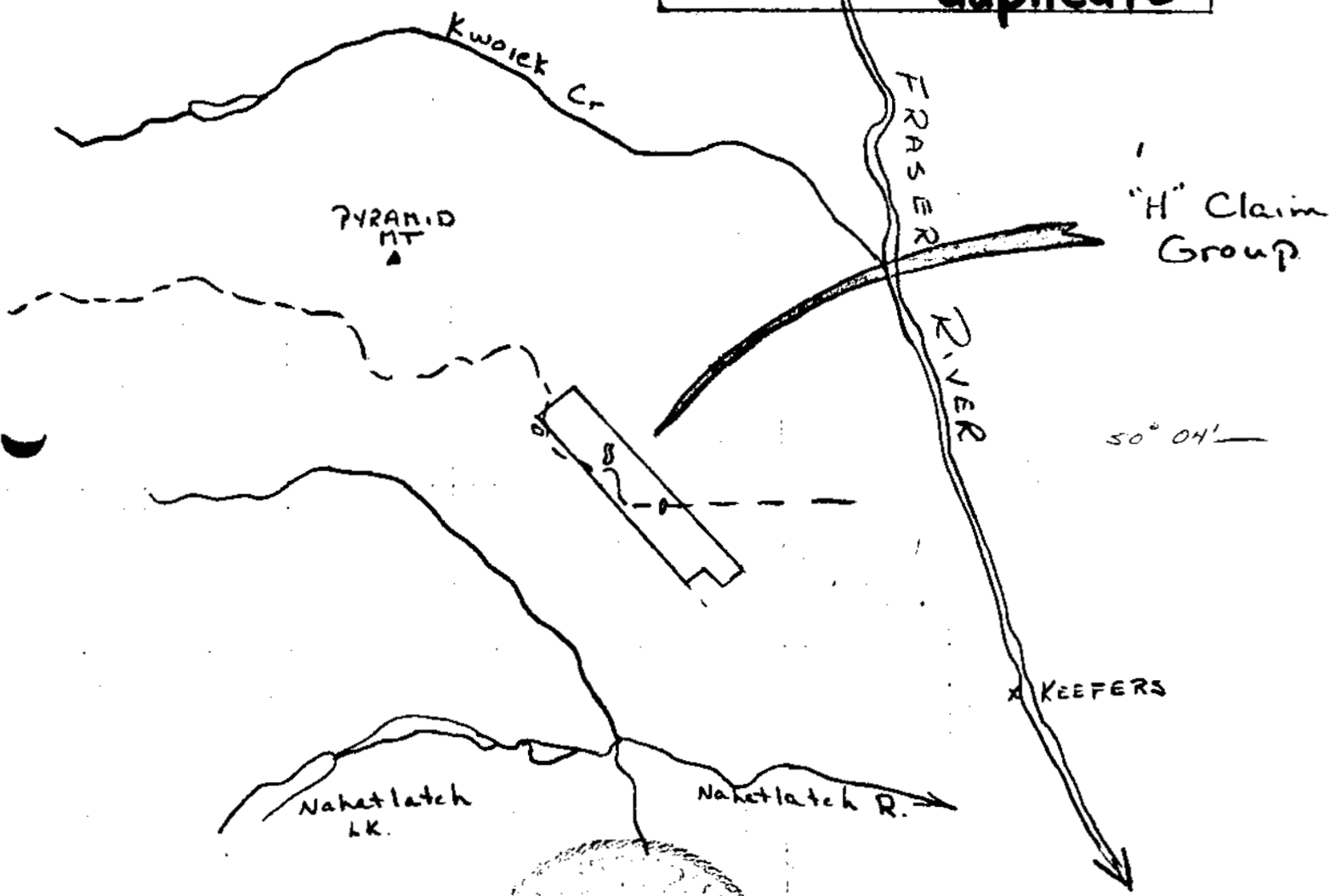
DOLNAGE CAMPBELL & ASSOCIATES LTD
VANCOUVER, CANADA

SCALE: 1" = 300'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **4985** MAP **#3**
duplicate



121° 38' 12"



PROVINCE OF
Quinn S. Ketch

NAHATLATCH RESOURCES LTD.
H. Claim Group.
Kamloops + New Westminster M.D.

INDEX MAP.

Miles 0 2

MAY. 1974