

3376

GEOCHEMICAL REPORT

on the

L.D. Group of claims

located

on Canoe Creek near the Kennedy River

$49^{\circ}11'$ North -  $125^{\circ}19'$ West

in the

ALBERNI MINING DIVISION

November 1971

Heinz Veerman, P. Eng.

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INTRODUCTION

During the summer and fall of 1970 a regional exploration program was carried out by a geologist and two field assistants for the Mount Washington Copper Co. Ltd. of Vancouver, B.C.

Prospecting and stream silt sampling indicated a potentially mineralized area to the East of the Kennedy River on Southern Vancouver Island.

Several claim groups were staked in the fall of 1970, one of which, the L.D. Group, is the subject of this report.

The property was examined in the spring of 1971 by the writer of this report, and a decision was made to undertake a soil survey later in the year to properly evaluate the ground.

The survey was started on July 30, 1971 and completed on August 11, 1971.

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LOCATION, ACCESS

The L.D. Group is located some 30 miles west of Port Alberni in the central part of Vancouver Island.

The claims are situated at the headwaters of Canoe Creek, a tributary of the Kennedy River. This creek runs into the river from the east at a point some 6 miles north of Kennedy Lake.

Access to the property is by paved road from Alberni in the direction of Tofine. A private logging road leads east from the main road up the valley of Canoe Creek to the L.D. Group, a distance of about 4 miles.

The claims cover a heavily wooded area in which logging and roadbuilding was in progress at the time the soil survey was done.

Elevations range from 1200 feet in the south-west corner of the claim group to 4000 feet in the south-east corner.

Precipitous slopes are common in many parts of the property, making it very difficult and even impossible to obtain soil samples in many locations.

Snowfall is heavy during the winter, and snow on the ground may last well into June on the shaded northerly slopes.

CLAIMS

Mount Washington Copper Co. Ltd, was the owner of 23 claims at the time the soil survey was completed.

The claims are the L.D. 1-23, staked on November 14, 1970 and November 16, 1970, and recorded on the 30th of November, 1970.

Additional claims were staked in August and September of 1971.

### GEOLOGY

The area is covered by the "Geological Sketch Map of Vancouver Island" by J.E. Muller, Geological Survey of Canada, 1967.

The area to the east has been mapped on a scale of 1 inch = 2 miles: Preliminary Series, "Alberni Area" by J.E. Muller, Geological Survey of Canada 1964.

The property is underlain by volcanic rocks, mainly andesitic in composition, and presumably part of the Karmutsen Formation of Triassic age.

Intrusive rock, reported to occur to the east of the property is probably part of the Island Intrusions of Jurassic age.

Numerous faults can be observed on aerial photographs. One of the more important faults may be the one following Canoe Creek, which cuts across the property with a strike of approximately North 75° West.

A second fault, following the creek that drains the property in Northerly direction has a strike of North 20° East.

The intersection of the two faults near the centre of the property may be important as a possible factor controlling mineralization.

Mineralization consists of Pyrite and minor chalcopyrite in fractures in the volcanics. Although minor amounts of molybdenum are indicated in the soils, none was found.

### GEOCHEMISTRY

Samples were taken along grid line running North 65° West. The spacing between grid lines was 500 feet initially, but some fill-in lines were run at 250 foot intervals in the more promising areas. Sample stations along the lines were 100 feet apart.

Adverse topography made it difficult to obtain samples in many locations. A total of 621 samples were obtained.

All samples were assayed for copper, molybdenum, zinc and silver. The assay results were plotted on 2 base maps, one for copper and molybdenum, and one for zinc and silver.

## DISCUSSION of RESULTS

### Copper

The background in the general area appears to be in the order of 20-35 parts per million (p.p.m.) copper. Many of the samples taken on the property fall in the range from 35 p.p.m. to 100 p.p.m. which is assumed to be the threshold value.

A definite anomalous area with values ranging from 100 p.p.m. to over 500 p.p.m. is indicated between 108 East and 124 East and between 100 North and 115 N. The anomaly may extend in easterly or northeasterly direction, and possibly in southwesterly direction, or may consist of several anomalies en echelon. More work is needed to prove this thesis.

The anomalous zone as indicated is known to contain heavy pyrite mineralization as well as some minor chalcopyrite.

### Molybdenum

Most of the samples in the anomalous area run slightly in molybdenum.

The correlation between anomalous copper samples and anomalous molybdenum samples appear to be fairly close.

Although no molybdenum was observed in the outcrops examined, a small amount must be present with the copper bearing minerals. Molybdenum could be used as a pathfinder element for copper as well as a check on any high copper values obtained in any further work.

### Zinc and Silver

A few isolated anomalous zinc values were obtained in the survey, together with some low silver values.

The metals do not present the same clear picture however that copper, and to a lesser extent molybdenum, presents. For that reason further assaying for these metals appears to be less desirable in this particular area.

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CONCLUSIONS and RECOMMENDATIONS

A definite copper-molybdenum anomaly is indicated in a soil survey carried out on the L.D. Group of claims.


The anomaly lies mainly between grid co-ordinates 108E-124E and 100N-115N, although further extensions to the northeast are possible. Values obtained for zinc and silver appear to be too low and/or too erratic to be of much further interest.

The property should be explored for copper and molybdenum. Further exploration should be aimed at the discovery of medium to low grade copper ore in the area mentioned as well as to the northeast.

The following program is suggested :

1. Extend soil survey to the east.
2. Prospecting of property in detail.
3. Geological mapping.
4. Trenching, by hand or where possible with a bulldozer of any interesting areas discovered through the soil survey or by conventional prospecting.
5. Follow up with diamond drilling where results warrant the expenditures.

November 9, 1971



Heinz Veerman, P. Eng.

APPENDIX I

STATEMENT of QUALIFICATIONS

DICKEN WOODSWORTH

While going to the University of British Columbia D. Woodsworth worked as a geophysical-geochemical operator, and subsequently as party chief during the summer vacations.

- Summer 1965 :Geophysical Operator, Noranda Exploration Co. Ltd.  
Crone Junior E.M. etc.
- Summer 1966 :Geophysical Operator, Noranda Exploration Co Ltd.  
Crone Junior E.M. etc.
- Summer 1967 :Geophysical-Geochemical Operator and sampler, West Coast Mining & Exploration.  
Sabre Mark II Magnetometer, Ronka E.M. 16, Soil Sampler and Stream Silt Sampler.
- Summer 1968 :West Coast Mining & Exploration,  
Geochemical Sampler.
- Summer 1969 : West Coast Mining & Exploration, Party Chief.  
Geophysical and Geochemical work.
- Summer 1971, West Coast Mining & Exploration, Party Chief.  
Geophysical and Geochemical work.

M. Webb

While a student at the University of British Columbia M. Webb worked in exploration during the summer.

- Summer 1968 : Rio Tinto Co. Geochemistry and geophysics.
- Summer 1969 : Agilis Exploration, Geochemistry.
- Summer 1970 : West Coast Mining & Exploration, Geophysical and Geochemical Operator.  
Ronka E.M. 16 and soil sampler.
- Summer 1971 : West Coast Mining & Exploration, Geophysical and Geochemical Operator.  
Ronka E.M. 16, M.F.1 Magnetometer, soil sampler and stream silt sampler.



GEOCHEMISTRY. SOIL SAMPLING PROCEDURE.

Soil samples were taken at regular intervals of 100 feet along the lines and at the same stations that were used for the E.M. 16 survey, as indicated on the maps.

Samples were taken from shallow holes dug with a short handle mattock, a short handle spade or both.

The samples were taken from the "B" horizon where a proper soil profile could be identified. Where this was impossible the samples were taken from material directly below the humus layer. Where the cover was very thin the material directly above bedrock was used for a sample.

The material was placed in a 3½ by 9½ inch brown paper waterproof envelope which was marked with a sample number on the outside. A numbered paper sample tag was placed inside the envelope at the same time for identification at the laboratory.

The samples were taken to CHEMEX LABS LTD. at 212 Brooksbank Avenue in North Vancouver, B.C.

A description of Chemex procedures follows on the next pages.



CHEMEX LABS LTD. 212 BROOKSBANK AVE., NORTH VANCOUVER, B.C. CANADA • 985-0648

March 26, 1971.

Mr. H. Veerman  
West Coast Mining & Exploration Ltd.,  
205 - 122 E. 14th St.,  
North Vancouver, B. C.

Dear Heinz:

Enclosed is a copy of our geochemical preparation and analytical procedures to be used for assessment purposes. The methods described are copper, molybdenum, zinc and silver.

Should you require further information on additional elements, we will be glad to provide the appropriate details.

Sincerely,

Bruce W. Brown

BWB/gr

West Coast Mining & Exploration Ltd.

GEOCHEMICAL PREPARATION  
AND  
ANALYTICAL PROCEDURES

1. Geochemical samples (soils, silts) are dried at 80°C for a period of 12 to 24 hours. The dried sample is sieved to -80 mesh fraction through a nylon and stainless steel sieve. Rock geochemical materials are crushed, dried and pulverized to -100 mesh.
2. A 0.50 gram portion of the sample is weighed into a calibrated test tube. The sample is digested using hot 70% HClO<sub>4</sub> and concentrated HNO<sub>3</sub>. Digestion time = 2 - 3 hours.
3. Sample volume is adjusted to 25 mls. using demineralized water. Sample solutions are homogenized and allowed to settle before being analyzed by atomic absorption procedures.
4. Detection limits using Techtron A.A.5 atomic absorption unit.
  - Copper - 0.5 ppm
  - Molybdenum - 1 ppm
  - Zinc - 0.5 ppm
  - Silver - 0.2 ppm

March 26, 1971.



# INVOICE

L.D.G.P.

**CHEMEX LABS LTD** 212 BROOKSBANK AVE., NORTH VANCOUVER, B.C. TELEPHONE 985-0648

West Coast Mining & Exploration Ltd.,  
205 - 122 E. 14th St.,  
North Vancouver, B. C.

DATE August 17/71

INVOICE NO. 5791

CERTIFICATE NO. 15858 to 15863

ATTN: Mr. H. Veerman

ITEM	DESCRIPTION	SUB-TOTAL	TOTAL
224	Analyzed for Copper, Molybdenum, Zinc & Silver		
	@ \$2.05	\$459.20	
223	Prepared @ \$0.20	44.60	
1	Prepared @ \$0.75	.75	
			\$504.55
<b>TERMS — NET 30 DAYS</b>			



# INVOICE

L.D. Group

**CHEMEX LABS LTD** 212 BROOKSBANK AVE., NORTH VANCOUVER, B.C. TELEPHONE 985-0648

West Coast Mining & Exploration Ltd.,

205 - 122 E. 14th St.,

North Vancouver, B.C.

DATE August 10/71

INVOICE NO. 5685

CERTIFICATE NO. 15659-15666

ATTN: \_\_\_\_\_

ITEM	DESCRIPTION	SUB-TOTAL	TOTAL
285	Analyzed for Copper, Molybdenum, Zinc & Silver @ \$2.05	\$584.25	
285	Prepared @ \$0.20	57.00	
			\$641.25
<b>TERMS — NET 30 DAYS</b>			



# INVOICE

L. D. Group

**CHEMEX LABS LTD** 212 BROOKSBANK AVE., NORTH VANCOUVER, B.C. TELEPHONE 985-0648

West Coast Mining & Exploration Ltd.,

205 - 122 E. 14th St.,

North Vancouver, B.C.

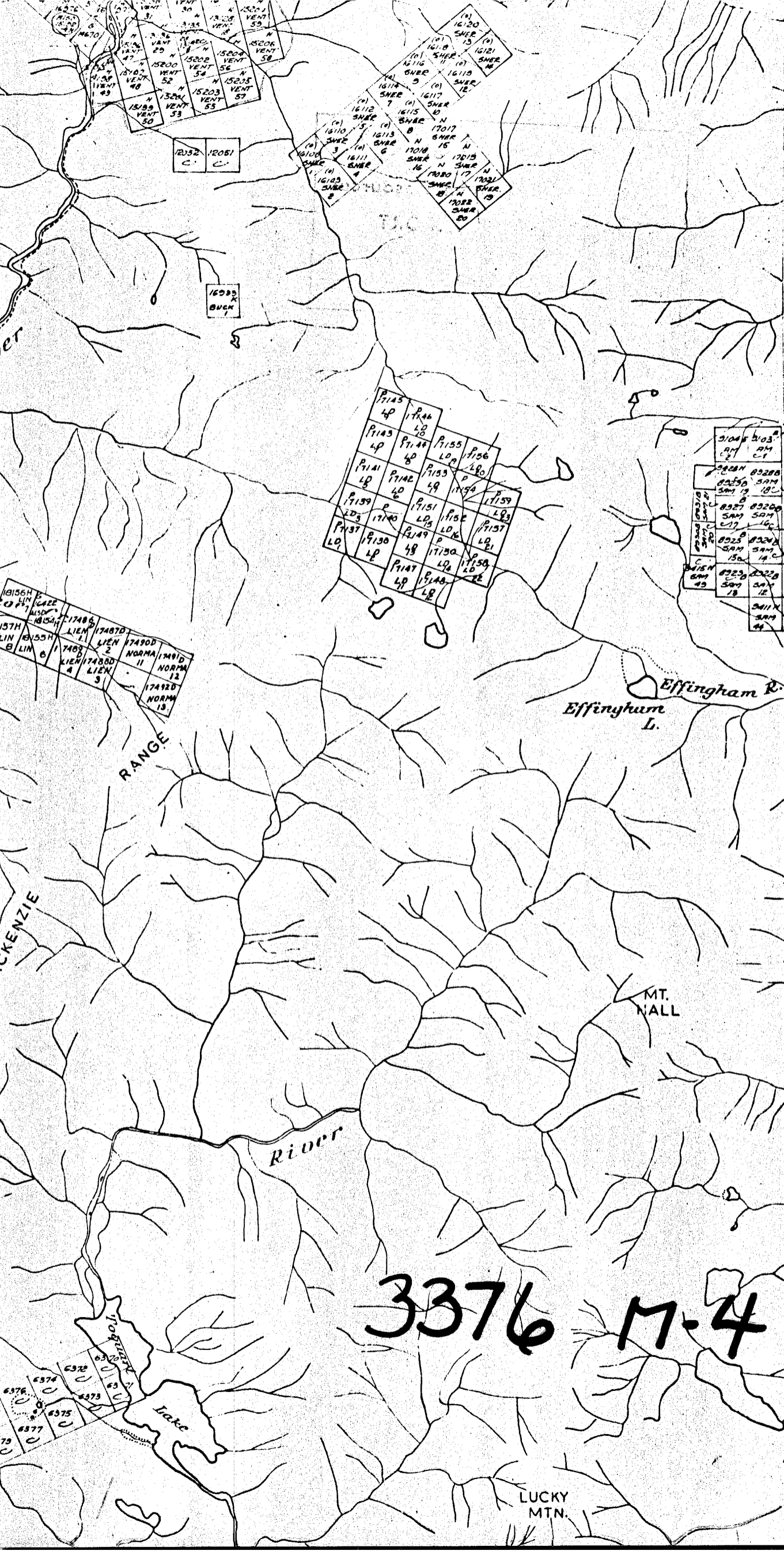
DATE August 12/71

INVOICE NO. 5721

CERTIFICATE NO. 15728-15730

ATTN: Mr. H. Veerman

ITEM	DESCRIPTION	SUB-TOTAL	TOTAL
112	Analyzed for Copper, Molybdenum, Zinc & Silver @ \$2.05	\$229.60	
112	Prepared @ \$0.20	22.40	
		<u>\$252.00</u>	
TERMS — NET 30 DAYS			



3376 M-4

6

5

4

3

TO EAST SEE MAP 92F/3E

LUCKY MTN.

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.

To Wit:

**In the Matter of** Geochemical Survey on the  
L.D. Group of claims in the Alberni Mining Division

I, Heinz Veerman

of North Vancouver, B.C.

in the Province of British Columbia, do solemnly declare that the following is an accurate statement of the expenses incurred in relation to the Geochemical Surveys carried out on the L.D. Group of claims in the Alberni M.D. from July 30, 1971 to August 11, 1971.

Wages and Salaries ; Field costs and Assaying :

H. Veerman, P. Eng. July 30 and August 10, 1971	\$200.-
D. Woodsworth, party chief, July 30 - August 10, 1971	312.50
M. Webb, sampler, July 30 - August 11, 1971	237.50
T.A. Walker, assistant, July 30 - August 11, 1971	187.50
G. Lott, assistant, July 30 - August 11,	200.-
Truck rental, July 29 - August 12, 1971	150.-
Oil, Gas and general supplies,	200.-
Assaying costs, Chemex Labs Ltd.	1397.80
Total	\$ 2885.30

A total of \$2300.- is claimed for assessment work on the 23 claims of the L.D. Group.

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the *City*  
of *Vancouver*, in the  
Province of British Columbia, this *10<sup>th</sup>*  
day of *Nov.* *1971*, A.D.



*Neil Turner*  
A Commissioner for taking Affidavits for British Columbia or  
A Notary Public in and for the Province of British Columbia.

Sub - mining Recorder



## MINERAL ACT

FORM I



## NOTICE TO GROUP

Mining Division Alberni Location Canoe Creek near Kennedy RiverName of group L.D. GroupWe, the undersigned owners\* of the following adjoining mineral claims, desire to group them according to the provisions of the *Mineral Act*:—

NAME OF CLAIM	Record No. or Lot No.	SIGNATURE OF OWNER*	Free Miner's Certificate No.
L.D. # 1	17137	Mt. Washington Copper Co Ltd. F.M.C. 98297	
L.D. # 2	17138		
L.D. # 3	17139		
L.D. # 4	17140		
L.D. # 5	17141		
L.D. # 6	17142		
L.D. # 7	17143		
L.D. # 8	17144		
L.D. # 9	17145		
L.D. # 10	17146		
L.D. # 11	17147		
L.D. # 12	17148		
L.D. # 13	17149		
L.D. # 14	17150		
L.D. # 15	17151		
L.D. # 16	17152		
L.D. # 17	17153		
L.D. # 18	17154		
L.D. # 19	17155		
L.D. # 20	17156		
L.D. # 21	17157		
L.D. # 22	17158		
L.D. # 23	17159		

\* May be signed by agent on behalf of owner.



DEPARTMENT OF MINES  
AND PETROLEUM RESOURCES

MINERAL ACT

(Section 51)

FORM B

**Affidavit on Application for Certificate of Work**

1. I, <b>Heinz Veerman</b> <small>(Name)</small>	Agent for <b>Mt. Washington Copper Co. Ltd.</b> <small>(Name)</small>
<b>205-122 East 14th st.</b> <small>(Address)</small>	<b>610-890 West Pender st.</b> <small>(Address)</small>
<b>North Vancouver, B.C?</b>	<b>Vancouver, B.C.</b>
Free miner's Certificate No. <b>104806</b>	Free Miner's Certificate No.
Date issued <b>June 1st, 1971</b>	Date issued

make oath and say:—

2. I have done, or caused to be done, work on the **L.D. Group of Claims** Mineral Claim(s)

Record No.(s) **17137-17159**  
situate at **near Kennedy River** in the **Alberni** Mining Division,  
to the value of at least **twenty-three hundred** dollars. Work was done from the **30th** day  
of **July**, 19 **71**, to the **11th** day of **August**, 1971

3. The following is a detailed statement of such work:—

(Set out full particulars of the work done in the twelve months in which such work is required to be done. There are three types of work: (1) Physical (trenching, drilling, tunnelling, and overburden removal); (2) road or trail work; (3) geological, geochemical, geophysical (includes line-cutting). The total value of each type of work and the number of years work and type to be applied to each claim must be shown below.)

**Geochemical work. See Geochemical Report attached.**

**\$100.- each to be applied to each of the following claims :**

**L.D. No 1 to L.D. No. 23 inclusive, Record No's 17137 to 17159 inclusive.  
staked on November 14, 1970, Recorded November 30, 1970.**

4. That I have not and will not use the work declared herein in any way for the purposes of obtaining tax exemption on a Crown-granted mineral claim under the terms of the *Taxation Act*.

SWORN and subscribed to at

this \_\_\_\_\_ day of \_\_\_\_\_

19 \_\_\_\_\_, before me—

\*

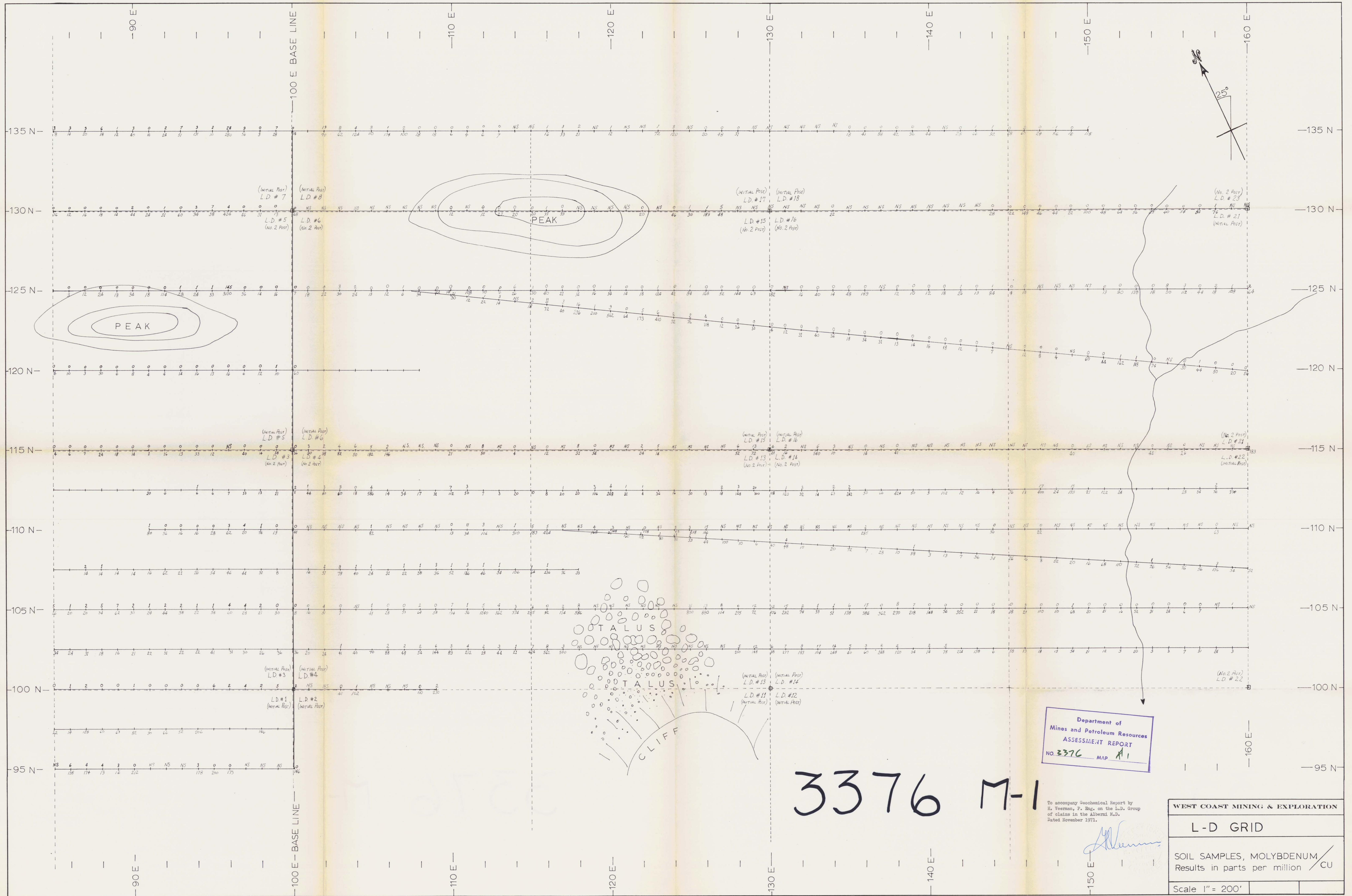


Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3316 MAP #2

To accompany Geochemical Report by  
H. Teerman, P. Eng. on the L.D. Group  
of claims in the Alberni H.D.  
Dated November 1971

*[Signature]*

WEST COAST MINING & EXPLORATION	
L-D GRID	
SOIL SAMPLES, ZINC/SILVER Results in parts per million	
Scale 1" = 200'	



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3376 MAP #1

3376 M-1

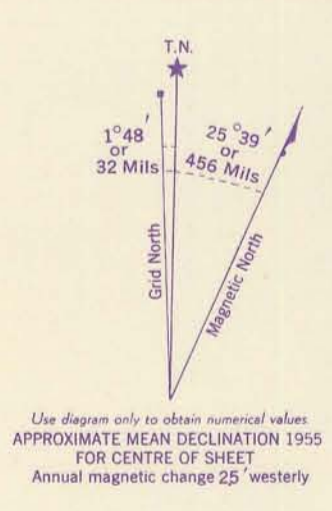
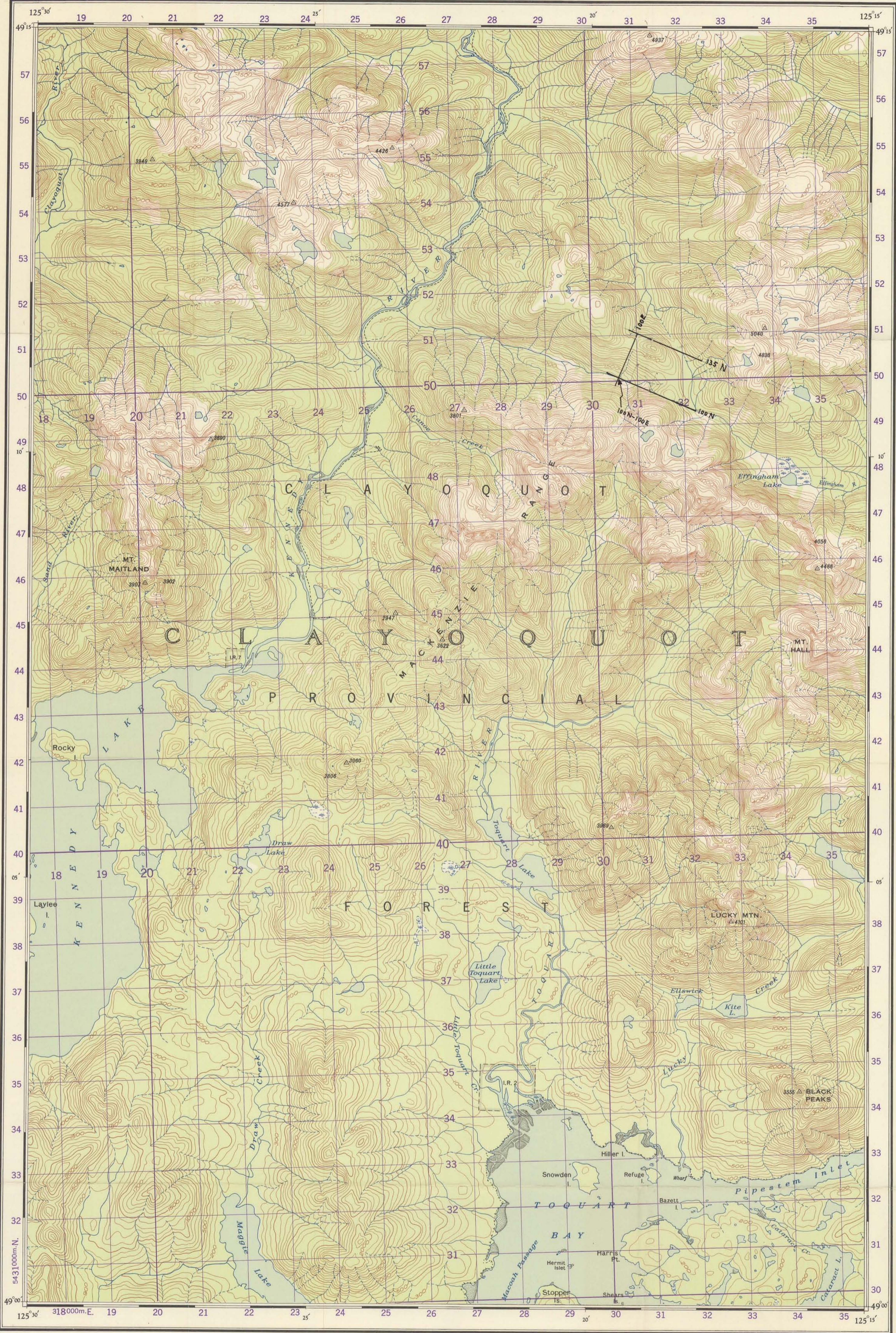
To accompany Geochemical Report by  
H. Veerman, P. Eng. on the L.D. Group  
of claims in the Alberni M.D.  
Dated November 1971.

WEST COAST MINING & EXPLORATION	
L-D GRID	
SOIL SAMPLES, MOLYBDENUM / CU Results in parts per million	
Scale 1" = 200'	

Refer to this Map as: 92 F/3 West Half EDITION 2 ASE SERIES A 721

Department of Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3376 MAP #3

Survey Grid, Geochemical Survey,  
L.D. Group of claims.



Use diagram only to obtain numerical values. APPROXIMATE MEAN DECLINATION 1955 FOR CENTRE OF SHEET. Annual magnetic change 5' westerly.

Surveyed and compiled by the Surveys and Mapping Branch, Department of Lands and Forests, British Columbia, 1938-40-41. Aerial photography by the R.C.A.F. Cartography by the Dept. of Mines and Technical Surveys, 1947. Reproduction by the Army Survey Establishment, R.C.E. 1947. Second edition published by the A.S.E. 1956.

### EFFINGHAM BRITISH COLUMBIA

MAGNETIC DECLINATION 33° 51' EAST AT CENTRE OF MAP, 1955. Annual magnetic change 5.5' westerly.

**TO GIVE GRID REFERENCE ON THIS SHEET**  
FIGURES, IGNORE THE SMALLER FIGURES PRINTED AROUND THE MARGIN OF THE MAP. THESE ARE FOR FINDING THE FULL COORDINATES. USE ONLY THE LARGER FIGURES PRINTED IN THE MARGIN OR ON THE FACE OF THE MAP. VIZ. 318

POINT		HORIZONTAL CONTROL POINT	
FOR STANDARD MILITARY GRID REFERENCE			
East	20	North	45
East	1	North	9
STANDARD MILITARY GRID REFERENCE: 201459 (To nearest 100 Metres)			
Nearest similar grid reference: 100,000 Metres (Approximately 63 Miles)			

**ONE THOUSAND METRE UNIVERSAL TRANSVERSE MERCATOR GRID ZONE 10**

Scale 1:50,000  
1.25 inches to 1 Mile approximately

**REFERENCE**

Roads: hard surface, all weather	more than 2 lanes	Boundary, International	Province
hard surface, all weather	2 lanes	County or District	Township or Parish
loose surface, all weather	less than 2 lanes	City or Town	Reservation, Indian, Military, etc.
Private Road, Trail	Private Road	Power Transmission Line	Telephone or Telegraph, rock tower
Railways: normal gauge, multiple track	Station	Horizontal Control Point	Boundary Marker
normal gauge, single track	Spot	Spot Elevation, (in feet)	Mine or Pit
abandoned, or under construction	Siding		
narrow gauge, single track			
Bridge, underpass or overpass			
Tunnel			

**REFERENCE**

House, Building	Church	Post Office	Tower, Radio Mast, Lookout, etc.	Cemetery	Quarry	Cliff	Coasting	Embankment	Saw Mill
Lighthouse	Wharf or Pier	Swamp or Marsh	Lake or Pond, intermittent	Glacier or Snowfield	Stream, intermittent	Irrigation Canals, Ditches	Barren Land, seasonal	Contour, elevation	depression
Forest, unclassified									

Contour Interval 100 Feet  
Elevations in Feet above Mean Sea Level.

Universal Transverse Mercator Projection  
North American Datum 1927

**CONVERSION SCALE FOR ELEVATIONS**

**INDEX TO ADJOINING SHEETS**

92 F/2	92 F/3	92 F/4
92 F/1	92 F/3	92 F/5
92 C/13	92 C/14	92 C/15
92 D/1	92 D/2	92 D/3

To accompany Geochemical Report on the L.D. Group of claims by H. Veerman, F. Eng. dated November 1971

*H. Veerman*