

738

GEOCHEMICAL REPORT
on the Bay 56 - 59 Claims
located
Eight miles south of Port Hardy
50°, 127° N.W.
Nanaimo Mining Division

by
G.A. Noel, P. Eng., Geologist
Utah Construction & Mining Co.
Feb. 7 - 23, 1966

HRM

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MAPS

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Plate 1 #1 Index Map Scale: 1 in = 30 mi	1
Plate 2 #2 Geology and Topography Scale: 1 in. = 1320 ft.	Map pocket
Plate 3 #3 Soil Geochemical Map Scale: 1 in = 200 ft.	Map pocket

SUMMARY

A soil geochemical survey was conducted from February 7-12, 1966 over the Bay 56-59 claims by a crew of seven men employed by Utah Construction & Mining Co. These claims are about seven miles south of Port Hardy on the north side of Rupert Inlet. The claims are underlain by pyroclastics and flows of the upper Triassic Bonanza group which is intruded by pink granite porphyry in the eastern half of the claim block. Low-grade copper-molybdenite mineralization is exposed in fractured andesite flows near the common boundary between the Bay 56 and the Bay 59 claims. A total copper soil anomaly trending N 70 W across the common boundary between the Bay 56 and the Bay 59 claims probably is a reflection of the fracture-controlled copper mineralization in the underlying volcanic rocks.

A P P E N D I X A

SOIL ANALYSES

INTRODUCTION

A soil geochemical survey was completed between February 7 and February 12, 1966 on the Bay 56 through 59 claims in the Port Hardy area, by a field crew of seven men employed by Utah Construction & Mining Co. These claims are in the northwest corner of a block of 112 claims located by Gordon Milbourne between 1963 and 1965, along the north side of Rupert Inlet, about eight miles south of Port Hardy near the north end of Vancouver Island.

This claim block lies along the west side of the Alice Lake Logging Co's main logging road south of Port Hardy. Access to the claims from Port Hardy provided by three miles of paved highway and five miles of the gravel logging road. A permit for use of this logging road must be obtained from the MacMillan, Bloedel and Powell River Co. office at Port Hardy. The Port Hardy Coal Harbor highway cuts across the northwest corner of Bay 56 claim.

The area covered by the four claims slopes gently to the east-southeast with maximum relief of the order of 100 to 200 feet. The area is fairly well timbered except for the extreme south and east sides which are occupied by swamp and beaver ponds.

FIELD WORK

The soil geochemical survey on the Bay 56 through 59 claims was done by M.J. Young, G.I. Mac Innis, and C.A. Aird, geologists; T. Samoil, geophysical technician; and L. Kaown, E. Mikolasek, and A. Poole, field assistants. Control for this survey was provided by a closed compass and tape survey along the Coal Harbor road, Alice Lake Logging Co. main haul road, and logging side-roads.

Six traverse lines spaced at roughly 500 foot intervals were run across the claim block at a bearing of N 20° E. These lines were tied to the control traverse at one end and to each adjoining line at the other end. The six traverse lines ranged from 2700 to 3500 feet in length due to swamp or beaver ponds and aggregated 19,400 feet.

Soil samples were taken where possible at 100-foot stations along the traverse lines. The soil sample was taken from a rusty colored silt layer directly below the organic cover at depths ranging from six inches to over 20 inches. Over 10% of the soil samples had to be omitted due to thick organic cover or swampy ground. The soil samples were analyzed spectrographically for total copper and these results were plotted and contoured on a 200 feet to one inch base map of the claims. The soil geochemical map is included in the map envelope at the back of this report.

GENERAL GEOLOGY

The Bay 56 through 59 claims are underlain by flows, pyroclastics, and sediments of the Bonanza group of upper Triassic age. These rocks are underlain by limestone of the Quatsino formation about one-half mile northwest of this

claim block and the bedding in this limestone is east-west with dips ranging from 40 to 60 degrees to the south. The Quatsino limestone section in this area is relatively thin and is in turn underlain to the north by a thick section of Karmuteen flows.

The Bonanza group in this area is believed to form the north limb of a broad synclinal structure with an east west axis. The Bonanza rocks have been intruded by quartz diorite just beyond the northeast corner of the claim block. This intrusive contact trends N 45° W and represents the southwest margin of an elongate stock about two miles long (GE1-GE2) by one mile wide.

The only known exposure of bedrock on the Bay 56-59 claims is along the south bank of a small creek which flows in an easterly direction across the Bay 56 and 59 claims, near their common boundary. Here, felsite and andesite tuffs of the Bonanza group apparently strike east-west with a moderate dip to the north. These tuffs are mineralized in places with disseminated pyrite and a little chalcopyrite. Molybdenite is also present as a thin coating along certain fractures.

GEOCHEMICAL RESULTS

The total copper analyses for the 114 soil samples have been plotted and contoured at an interval of 10 parts per million in the range of 20 to 100 parts per million. Above 100 parts per million, the contouring is on an interval of 50 parts per million. The background value for the soil samples on the four claims is roughly 30 parts per million in copper. This background is considered to be about normal for soils overlying flows and tuffs of the Bonanza group.

Several weakly anomalous zones on the Bay 56-59 claims have been indicated by the soil geochemical survey. The maximum values of these zones are in the range of 60-90 ppm copper, which are two to three times background. One soil sample taken in the area west of the Bay 57 claim showed 150 ppm copper. This anomaly is not considered to be significant, since it is based upon a single high reading.

The trend of the weakly anomalous zones delineated by the soil-sampling survey appear to be N 70-80 W. These trends approximately parallel the regional bedding trends of the Bonanza volcanic flows. The geochemical anomalies are believed to be due to weak copper-molybdenite mineralization present in the underlying Bonanza group flows, pyroclastics and sedimentary rocks.

CONCLUSIONS

Low-grade copper-molybdenite mineralization occurring in the volcanic and sedimentary rocks of the Bonanza group probably has caused the several low-intensity total copper anomalies obtained in the soil geochemical survey on the Bay 56-59 claims. The west-north-west trend of the anomalies is approximately parallel with the regional bedding trends of the Bonanza group rocks. The rather insignificant copper anomalies indicated from the soil geochemical survey may represent minor concentrations of copper mineralization within selected bedding units of the Bonanza group rocks.


G.A. Noel



COAST ELDRIDGE

ENGINEERS & CHEMISTS LTD.

125 EAST 4TH AVE., VANCOUVER 10, B.C.

TELEPHONE: 876-4111

REPORT OF: **Spectrographic Analysis**FILE NO. **C.3.U.3-66 (22708)**AT **Vancouver Laboratory**DATE **March 3, 1966**PROJECT: **Soil Samples**

REPORT NO.

REPORTED TO: **Utah Construction & Mining Ltd.
Room 718 - 510 W. Hastings St.
Vancouver, B.C.**

ORDER NO.

We have tested 19 samples of soil submitted by you on February 16, 1966,
and report as hereunder:

RESULTS

<u>Sample No.</u>	<u>Copper (ppm)</u>
305 - 124	40
125	35
126	35
127	35
128	45
129	30
130	35
131	40
132	20
133	35
134	25
310 - 121	40
123	30
124	20
125	50
126	45
127	25
128	30
132	70

RECEIVED
MAR - 4 1966

Ans'd

COAST ELDRIDGE

J. G. Smith
J. G. Smith
CHIEF CHEMIST



COAST ELDRIDGE

ENGINEERS & CHEMISTS LTD.

125 EAST 4TH AVE., VANCOUVER 10, B.C.

TELEPHONE: 876-4111

REPORT OF: **Spectrographic Analysis**FILE NO. **C.3.U.3-66 22706**AT **Vancouver Laboratory**DATE **March 3, 1966**PROJECT: **Soil Samples**

REPORT NO.

REPORTED TO **Utah Construction & Mining Ltd.
Room 718 - 510 W. Hastings St.
Vancouver, B.C.**

ORDER NO.

We have tested 163 samples of soil submitted by you on February 14, 1966
and report as hereunder:

RESULTS

<u>Sample No.</u>	<u>Copper (ppm)</u>	<u>Sample No.</u>	<u>Copper (ppm)</u>
305 - 106	25	, 117	35
108	30	118	30
109	35	119	35
112	40	120	45
113	40	121	35
114	45	122	25
115	30	124	25
116	30	125	60
117	25	290 - 102	50
118	45	103	40
119	40	104	60
120	50	106	70
121	40	107	90
122	30	112	25
123	40	114	40
124	60	120	50
125	50	121	40
126	40	123	50
127	30	124	65
128	60	126	60
310 - 105	40	128	40
106	50	130	30
107	20	131	30
108	30	133	40
109	40	134	40
110	45	135	45
111	50	142	40
112	45		
113	30	315 - 102	60
114	30	103	65
115	40	105	65
116	35	106	70

Utah Construction & Mining Co.

Page 2

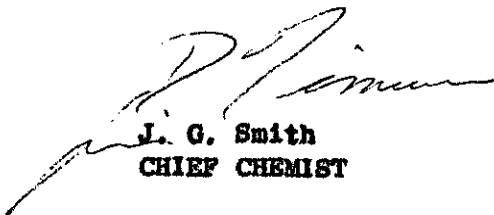
C.3.U.3-86 22706

<u>Sample No.s</u>	<u>Copper (ppm)</u>	<u>Sample No.</u>	<u>Copper (ppm)</u>
107	20	116	30
108	150	117	60
109	30	118	25
110	20	129	40
111	35	130	60
112	40	131	60
113	30	132	50
114	35	133	40
115	20	134	50
116	25	152	65
117	35	155	60
118	25	156	65
119	30	157	70
120	28	158	100
305 -110	30	159	120
111	30	160	70
285 -100	40	119	25
101	30	120	20
102	40	121	28
103	30	122	35
104	30	123	40
105	40	124	20
106	40	125	50
107	50	126	25
108	30	127	25
109	40	300- 102	30
110	30	103	45
111	50	104	35
112	30	105	35
113	30	106	30
114	40	107	25
117	30	108	30
126	50	109	28
128	50	110	35
129	40	111	30
132	30	112	28
133	50	113	45
295- 102	30	114	50
103	25	115	50
114	25	116	65
115	50	117	30
		118	40
		119	40
		120	50
		121	30

<u>Sample No.</u>	<u>Copper (ppm)</u>
122	20
123	40
124	45
125	80
126	35
127	30
128	25
129	40
130	35
131	95
132	30
133	28
151	35
155	40

/lg

COAST ELDRIDGE


J. G. Smith
CHIEF CHEMIST

A P P E N D I X B

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

The fieldwork for this report was done by M.J. Young, G.I. Mac Innis, C.A. Aird, and T.S. Samoil whose qualifications are outlined below:

1. M. J. Young, geologist for Utah Construction and Mining Co., Vancouver, B.C.
completed BSc (Geology) at University of B.C. in 1961;
Employed by Howe Sound Co. from 1952 to 1957 as assistant geologist and underground geologist, at Snow Lake, Manitoba under N. Hogg, P. Eng. Summer seasons 1958 to 1960 worked for Utah Construction and Mining Co. in Alaska mineral exploration.
Permanently employed by Utah Construction & Mining Co. in 1961 and worked as a geologist and senior geologist under G.A. Noel, P. Eng., and E.S. Rugg, P. Eng.
2. G.I. Mac Innis, geologist for Utah Construction & Mining Co., Vancouver, B.C.;
completed B. Sc. (Honors Geology) at University of Western Ontario in 1951; employed by Ontario Dept. of Mines from June 1951 through October 1951 as a junior geologist under Dr. E.W. Nuffield; employed by Kennco Explorations (Canada) Limited from January, 1952 through September 1956 as a field geologist in Ontario, Manitoba, Saskatchewan, Alberta, and Northwest Territories under the supervision of H.W. Fleming & W.J. Dean; employed by Utah Construction & Mining Co. since September, 1956 as a geologist in southwestern U.S., B.C. and Alaska under L.C. Clark, H.G. Peacock, G.A. Noel, and E.S. Rugg.
3. C.A. Aird, geologist for Utah Construction & Mining Co., Vancouver, B.C.
completed B. Sc. (Geology & Mathematics) at University of B.C. in 1959 and spent one additional year at the same University studying geology and geophysics; employed as a junior field geologist for MacKenzie Syndicate during the summers of 1958 and 1959 in the Yukon, B.C. & N.W.T. under supervision of L.G. White, P. Eng; employed as a project geologist by Canada Tungsten Mining Corporation in 1960 in the N.W.T. under the supervision of C.J. Brown; employed as a project geologist by Utah Construction & Mining Co. from 1960 to the present in Alaska and B.C. under the supervision of H.G. Peacock, E.S. Rugg, P. Eng. and G.A. Noel, P. Eng.
4. T.S. Samoil, survey-draftsman for Utah Construction & Mining Co., Vancouver, B.C; completed two years of University (University of Alberta and U.B.C.); 1951-1952, employed as instrumentman on road surveys by Alberta Dept. of Highways; 1952-1953 employed as instrumentman on highway construction by Hielop Construction Co. Ltd; 1953-1954 employed as instrumentman on quantity surveys at Kitimat by N.W. Millah Construction Co. Ltd; 1956-present employed by Utah Construction & Mining Co. as surveyor-draftsman on exploration project in B.C. and Alaska--work included running topographic and geophysical surveys as well as all forms of drafting.

APPENDIX C

STATEMENT OF COSTS

STATEMENT OF COSTS

SALARIES:

(25 working days/month)

G.A. Noel	1 office day at \$1160/month Feb. 21, 1966	\$ 46.00
M.J. Young	4 days at \$705/month 2 days in field Feb. 7 & 9, 1966 2 days in office Feb. 21-22, 1966	114.00
G.I. Mac Innis	2 field days at \$840/month Feb. 8-9, 1966	67.00
C.A. Aird	4 field days at \$705/month Feb. 7-9 & 12, 1966	114.00
T.S. Samoil	1 field day at \$555/month Feb. 8, 1966	22.00
L. Keown	2 field days at \$400/month Feb. 8 & 12, 1966	32.00
E. Mikolasek	1 field day at \$400/month Feb. 8, 1966	16.00
A. Poole	2 field days at \$400/month Feb. 8-9, 1966	32.00

TOTAL SALARIES		<u>\$ 443.00</u>
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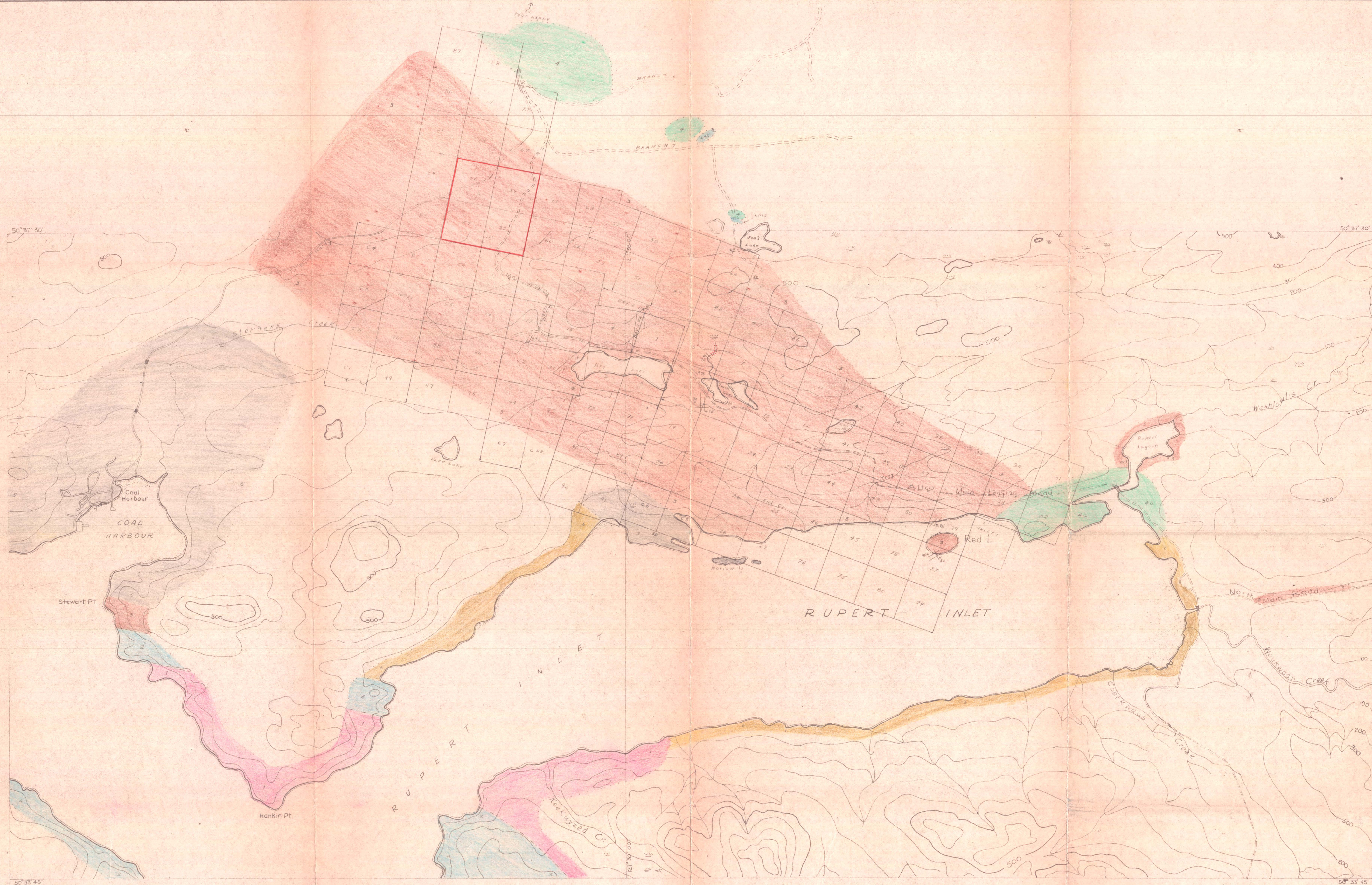
<u>FIELD EXPENSES:</u>	(14 man/days at \$7.75/day)	\$ 108.00
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<u>ANALYSIS OF SOIL SAMPLES:</u>	(114 at \$1.50)	171.00
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<u>MISCELLANEOUS:</u>	(maps, secretarial and etc.)	<u>20.00</u>
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<u>TOTAL COSTS:</u>		<u>\$ 742.00</u>
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G.A. Noel, P. Eng.



RECENT
Alluvium & glacial drift

CRETACEOUS
Sediments

JURASSIC OR LATER
Granodiorite & diorite
Granite & gneiss

BONANZA
Numerous volcanics
with sediments

QUATSINO
Mainly limestone

TRIASSIC
KARMUTSEN
Mainly volcanics
with minor sediments

Fracture or shear planes

Bouding

Claims covered by soil geochemical survey

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 738 MAP #2

Contour Interval: 100ft
Scale: 1 inch = 20 chains

TOPOGRAPHY & GEOLOGY

BAY CLAIMS
PORT HARDY AREA BC

738
MI

1981

