

731

GEOCHEMICAL REPORT

on the Bay 31 - 36 and 38 Claims

located

Eight Miles south of Port Hardy

50° , 127° N E

Nanaimo Mining Division

by

G.A. Noel, P. Eng., Geologist

Utah Construction & Mining Co.

February 2-23, 1966

4/10

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4/20

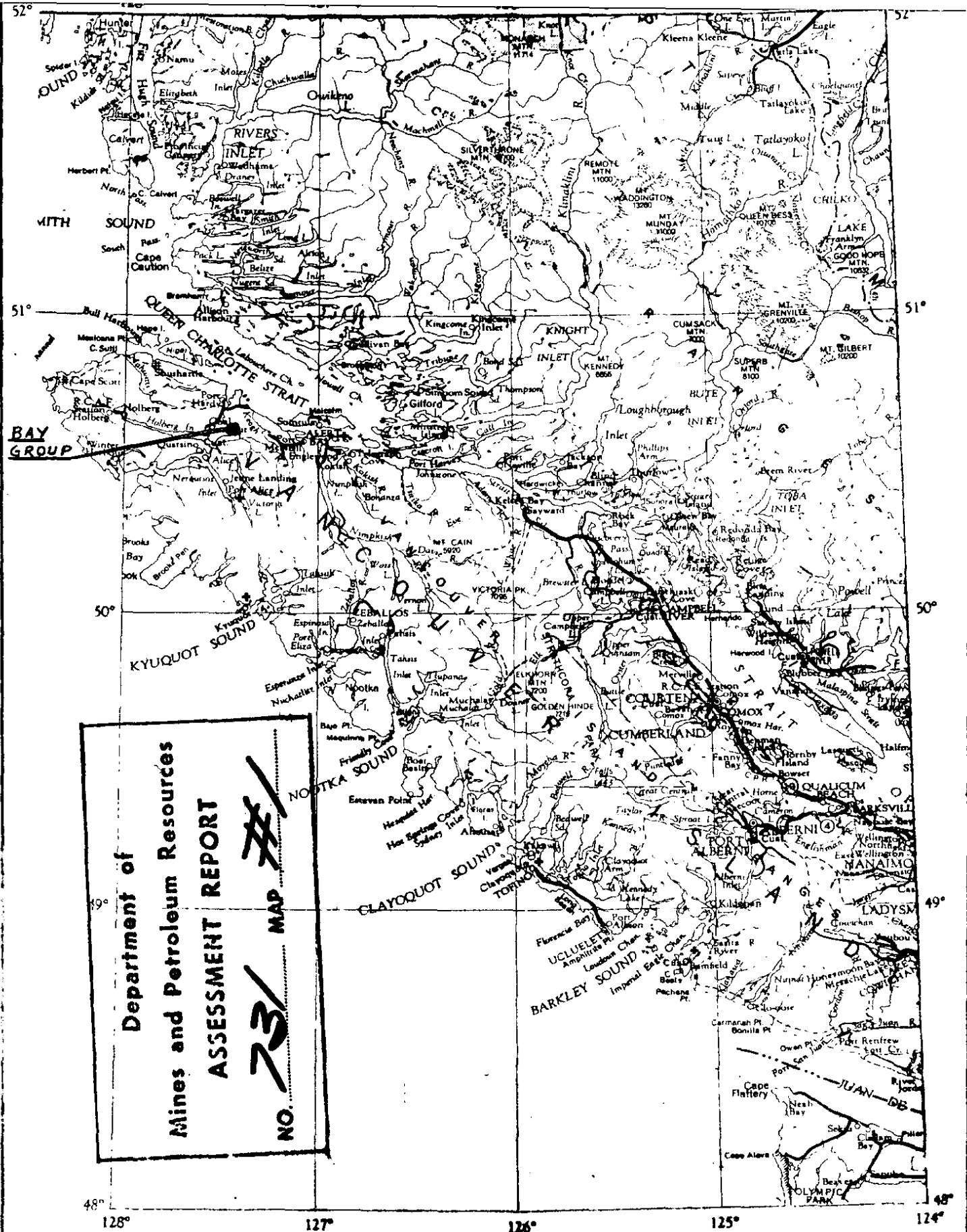


PLATE 1
SCALE: 1 INCH = 30 MILES

INDEX MAP

BAY CLAIMS
PORT HARDY AREA, B.C.

MOM

S U M M A R Y

From February 2-7, 1966 a soil geochemical survey was conducted over the Bay 31-36 and Bay 38 claims by a crew of seven men employed by Utah Construction & Mining Co. These claims are about eight 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-magnetite mineralization occurs along the south boundary of Bay 35 claims in fractured and silicified andesite tuffs and flows. A total copper soil anomaly trending N 30° E across the south boundary of Bay 35 claim probably reflects the fracture-controlled copper mineralization in the volcanics.

INTRODUCTION

From February 2 to 7, 1966, a soil geochemical survey was conducted over the Bay 31-36 and Bay 38 claims by a field crew of seven men working for Utah Construction & Mining Co. These claims are at the east end 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 on northern Vancouver Island. The fieldwork was done by: G. A. Noel, C. Aird, and G. I. Mac Innis, geologists; T. Samoil, geophysical technician; and L. Keown, E. Mikolasek and A. Poole as field assistants.

The Bay 31-36 and Bay 38 claims straddle the Alice Lake Logging Co. main logging road, extending south to the north shore of Rupert Inlet. This area is generally open timbered terrain which rises gently to the north. The slopes are quite steep along Rupert Inlet, in places forming rock cliffs up to 50 feet high. Bay No's 36 and 38 claims cover several rather large areas of swampy ground.

Access to the Bay 31-36 and Bay 38 claims from Port Hardy is provided by three miles of paved highway south to the Quatse River bridge; then nine miles south and west via the Alice Lake Logging Co. main haul road. A permit to use this latter road must be obtained from the McMillan Bloedel and Powell River Co. office at Port Hardy.

FIELDWORK

The soil geochemical survey on the Bay 31-36 and Bay 38 claims was based on N 20° E traverse lines spaced at 500-foot intervals. For control, a Brunton compass and tape traverse was run along the main logging road which cuts across the southern half of the claim block. Each of the N 20° E traverse lines was marked on the north side of the road. These traverse lines were numbered from 7000 NW at the east end of this claim block to 12,000 NW at the west end, and were designated as follows: 70, 75, 80, 85, etc. The traverse lines were run with compass and tape with each 100-foot station marked with orange flagging. The stations were designated by numbers increasing to the northeast and on this claim block generally ran from station 75 at Rupert Inlet to station 107 beyond the north edge of the claims. Thus station 78 on line 8500 NW would be marked: 85-78. Each traverse line was tied at the baseline and also at its northeast and southwest ends to the adjoining lines. A total of eleven traverse lines varying from 1200 to 3500 feet in length were run across this claim block for a total of 28,900 feet of traverse line.

Soil samples were taken where possible at the 100-foot stations along the traverse lines. A mattock was used to obtain the soils which were generally taken from the horizon directly below the organics cover. This horizon was generally a somewhat rusty colored silt layer with very few cobbles or boulders, and varied from six to over 20 inches in depth. In some places the peat cover was greater than 36 inches in depth. About 10% of the soil samples were omitted due to thick organic cover or swamp location. A rusty soil horizon is exposed in places along roads in this area as a two to three foot thick layer above five to ten feet of grey brown boulder clay. This is apparently the horizon sampled in this survey and may represent a heavily

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weathered section of the boulder clay. A series of samples were taken across each of these horizons for purposes of comparison.

The soil samples were analyzed spectrographically for total copper content and these results in parts per million were plotted and contoured on a 200 feet to one inch base map of the claims. This soil geochemical contour map is included in the map envelope at the back of this report.

GENERAL GEOLOGY

The east end of Rupert Inlet is underlain by pyroclastics and sediments of the Bonanza group of upper Triassic age and pink granite of probably Jurassic age. The Bonanza group rocks include felsite and andesitic tuffs, flows, and breccias with minor argillite, limestone and limestone breccia.

The Bonanza group rocks are intruded by pink granite porphyry at the east end of Rupert Inlet. The western contact of this intrusive cuts diagonally across Bay No. 33 claim striking roughly N 50° E

The Bonanza pyroclastics and flows have been intensely sheared and fractured along the north shore of Rupert Inlet near the intrusive contact. This shearing and fracturing mainly strikes N 10° - 45° E and dips steeply but some steeply dipping northwest shearing is also present. These sheared and fractured volcanics have been extensively silicified and mineralized to a varying degree with pyrite, magnetite and a little chalcopyrite.

GEOCHEMICAL RESULTS

The total copper analyses for the 239 soil samples have been plotted and contoured at an interval of 10 parts per million on the soil geochemical map included in the map envelope. The background value for the soil samples on Bay 35, 36 and 38 claims is roughly 30 parts per million in copper whereas the background value for the soils on Bay 31, 32, 33 and 34 claims is about 20 parts per million in copper. This lower background is believed a reflection of the granite underlying the eastern part of the claim block. The higher background is more normal for soils over the Bonanza flows and pyroclastics and Bay 35, 36 and 38 claims are believed underlain by Bonanza rocks.

A weakly anomalous area is indicated along one traverse line on Bay 35 claim. This area includes a number of small anomalies which are aligned in a roughly N 30° E direction. The maximum value shown is 90 ppm copper, which is about three times background. This anomaly is believed due to the weak copper magnetite mineralization in silicified tuffs associated with northeast fracturing which occurs on Red Island and along the north side of Rupert Inlet adjacent to Red Island. The geochemical anomalies in the southeast corner of Bay 33 claim and on the south border of Bay 32 claim are not considered significant since each of these anomalies is based on a single high reading.

CONCLUSIONS

The low grade copper-magnetite mineralization in well fractured and silicified andesitic volcanics is apparently the cause of the low total copper anomaly obtained in the soil geochemical survey on the Bay 31-36 and Bay 38 claims. The results of this geochemical survey suggest that this mineralization is quite limited in the area covered. No significant copper anomaly was obtained over the area underlain by the granite or along the inferred granite-volcanic contact.

G.A. Noel

G.A. Noel

GAN/do

VANCOUVER, B.C.

February 25, 1966

Sample No.

Copper (ppm)

Sample No.

Copper (ppm)

75-75

70

70-89

25

76

30

90

23

77

20

91

25

78

30

92

29

79

25

93

15

80

38

95

40

81

45

96

20

82

15

97

30

83

10

98

22

84

45

99

25

85

20

100

27

86

15

102

25

87

10

107

37

88

20

104

30

89

25

105

35

90

20

106

40

91

10

85-79

55

94

20

80

100

95

20

81

30

96

25

84

20

97

25

85

15

98

33

86

15

99

28

89

20

100

30

90

20

101

25

91

18

102

27

92

25

103

28

93

25

104

25

94

30

105

30

95

30

106

27

96

15

107

25

97

30

75-81

25

98

20

82

28

99

25

83

30

100

30

84

30

101

20

85

35

102

10

86

20

103

25

87

25

104

12

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Sample No.

Copper (ppm)

Sample No.

Copper (ppm)

85-105	25	/
106	25	/
107	15	/
90-79	15	/
80	20	/
81	20	/
82	15	/
83	20	/
84	15	/
85	25	/
86	20	/
87	15	/
89	10	/
90	20	/
91	20	/
92	15	/
93	17	/
95	25	/
96	19	/
97	22	/
98	18	/
99	15	/
100	10	/
101	10	/
102	12	/
103	28	/
104	35	/
125-67	30	/
68	30	/
69	30	/
70	30	/
71	28	/
73	35	/
74	30	/
75	32	/
76	20	/
77	25	/
78	27	/

125-81	30	/
84	20	/
85	20	/
86	10	/
87	25	/
88	25	/
89	15	/
90	20	/
91	25	/
93	20	/
94	25	/
95	25	/
96	20	/
97	15	/
98	20	/
99	35	/
100	17	/
101	25	/
102	35	/
110-71	22	/
73	25	/
74	30	/
75	40	/
76	20	/
77	30	/
79	25	/
80	20	/
81	10	/
82	38	/
83	25	/
84	33	/
85	38	/
86	40	/
87	25	/
88	25	/
89	28	/
90	30	/
91	25	/

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Sample No

Copper (ppm)

110-92	30	✓
93	15	✓
94	28	✓
98	35	✓
99	15	✓
100	25	✓
101	20	✓
102	30	✓
103	20	✓
104	20	✓
105	20	✓
120-68	95	
69	25	
70	30	
71	33	
73	23	
76	28	
77	30	
78	25	
79	35	
80	25	
82	30	
83	25	
84	30	
85	25	
86	30	
87	40	
88	35	
89	22	
90	20	
91	28	
92	20	
94	25	✓
95	30	✓
96	35	✓
97	25	✓
98	25	✓
99	30	✓

Sample No

Copper (ppm)

120-100	35	✓
101	40	✓
102	30	✓
103	25	✓
104	40	✓
105	35	✓
100-78	30	✓
79	30	✓
80	20	✓
81	25	✓
83	20	✓
84	25	✓
85	45	✓

49

Sample No Copper (ppm)

Sample No Copper (ppm)

110- 92 30
 93 15
 94 28
 98 35
 99 15
 100 25
 101 20
 102 30
 103 20
 104 20
 105 20
 120 - 68 95
 69 25
 70 30
 71 33
 73 23
 76 27
 77 30
 78 25
 79 35
 80 25
 82 30
 83 25
 84 30
 85 25
 86 30
 87 40
 88 35
 89 25
 90 20
 91 27
 92 20
 94 25
 95 30
 96 35
 97 25
 98 25
 99 30

120- 100 30
 101 40
 102 30
 103 25
 104 40
 105 35
 100 - 78 30
 79 30
 80 30
 81 25
 82 20
 84 25
 85 45
 86 35 ✓
 87 50 ✓
 88 40 ✓
 89 45 ✓
 90 35 ✓
 91 55 ✓
 92 70 ✓
 93 25 ✓
 94 25 ✓
 95 28 ✓
 96 30 ✓
 97 32 ✓
 98 30 ✓
 99 35 ✓
 100 30 ✓
 101 37 ✓
 102 25 ✓
 103 32 ✓
 104 36 ✓
 95 - 79 20 ✓
 80 25 ✓
 81 35 ✓
 82 25 ✓
 83 20 ✓
 85 22 ✓

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<u>Sample No</u>	<u>Copper (ppm)</u>	
85-86	28	✓
87	25	✓
88	25	✓
89	30	✓
91	30	✓
92	27	✓
93	25	✓
95	28	✓
99	25	✓
100	25	✓
101	25	✓
102	30	✓
103	25	✓
104	27	✓
80 / 75	10	✓
76	20	✓
77	25	✓
78	20	✓
79	38	✓
80	40	✓
81	35	✓
82	30	✓
83	40	✓
84	40	✓
87	35	✓
88	40	✓
89	55	✓
91	10	✓
92	25	✓
93	20	✓
94	20	✓
95	25	✓
96	30	✓
97	30	✓
98	40	✓
99	40	✓
100	38	✓
101	35	✓

<u>Sample No</u>	<u>Copper (ppm)</u>	
100 80-102	40	✓
103	50	✓
104	15	✓
105	50	✓
106	45	✓
107	38	✓
115-69	20	✓
70	20	✓
71	25	✓
72	25	✓
73	30	✓
74	20	✓
75	25	✓
76	28	✓
78	25	✓
79	28	✓
80	20	✓
81	30	✓
82	25	✓
83	30	✓
84	40	✓
85	20	✓
86	25	✓
87	20	✓
88	25	✓
89	30	✓
90	35	✓
91	30	✓
92	20	✓
96	30	✓
97	35	✓
98	30	✓
99	20	✓
100	30	✓
101	30	✓
102	45	✓

9/20

Sample No

@ Copper (ppm)

105-75	9.5	✓
76	50	✓
77	60	✓
78	100	✓
79	30	✓
80	80	✓
81	65	✓
82	75	✓
83	35	✓
84	60	✓
85	40	✓
86	50	✓
87	45	✓
88	55	✓
89	40	✓
90	35	✓
91	35	✓
92	15	✓
93	30	✓
94	25	✓
95	30	✓
96	35	✓
97	20	✓
100	40	✓
101	30	✓
102	35	✓
103	35	✓
104	40	✓

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STATEMENT OF QUALIFICATIONS

The field work for this report was done by G.A. Noel, C.A. Aird, G.I. Mac Innis, and T.S. Samoil, whose qualifications are outlined below:

1. G.A. Noel, P. Eng. geologist for Utah Construction & Mining Co., Vancouver, B.C.; completed B.A. Sc. (Geology) at University of B.C. in 1950 and M.A. Sc. (Geology) at University of Toronto in 1951; employed by Kennco Explorations (Canada) Limited from May 1951 through March 1956 as a field geologist in B.C. and Yukon, Territory under the supervision of J.S. Scott; employed by Utah Construction & Mining Co. from March 1956 to the present in B.C. and Alaska mineral exploration as a project geologist, acting district geologist and senior project geologist under L.C. Clark, W. Bourret, H.G. Peacock and E.S. Rugg.
2. 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.
3. 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 and 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.
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 Hislop Construction Co. Ltd; 1953-1954 employed as instrumentman on quantity surveys at Kitimat by N.W. Mullah 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.

STATEMENT OF COSTS

SALARIES:

(25 working days/month)

G.A. Noel	5 days at \$1160/month 3 days in field Feb. 2-4/66 2 days in office Feb. 22-23/66	\$232.00
C.A. Aird	3 office days at \$705/month Feb. 21-23/66	73.00
G.I. Mac Innis	2 field days at \$840/month Feb. 4-5, 1966	67.00
T.S. Samoil	4 field days at \$555/month Feb. 4-7/66	89.00
L. Keown	3 field days at \$400/month Feb. 2-4/66	48.00
E. Mikolasek	4 field days at \$400/month Feb. 4-7/66	64.00
A. Poole	2 field days at \$400/month Feb. 4-5/66	32.00
Total Salaries		<u>\$ 605.00</u>

FIELD EXPENSES:

(18 man/days at \$7.75/day)

139.00

ANALYSIS OF SOIL SAMPLES:

(239 at \$1.50)

358.00

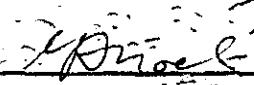
MISCELLANEOUS:

(maps, secretarial and etc.)

\$ 30.00

TOTAL COSTS:

\$ 1132.00



G.A. Noel, P. Eng.

A P P E N D I X C

S T A T E M E N T O F C O S T S

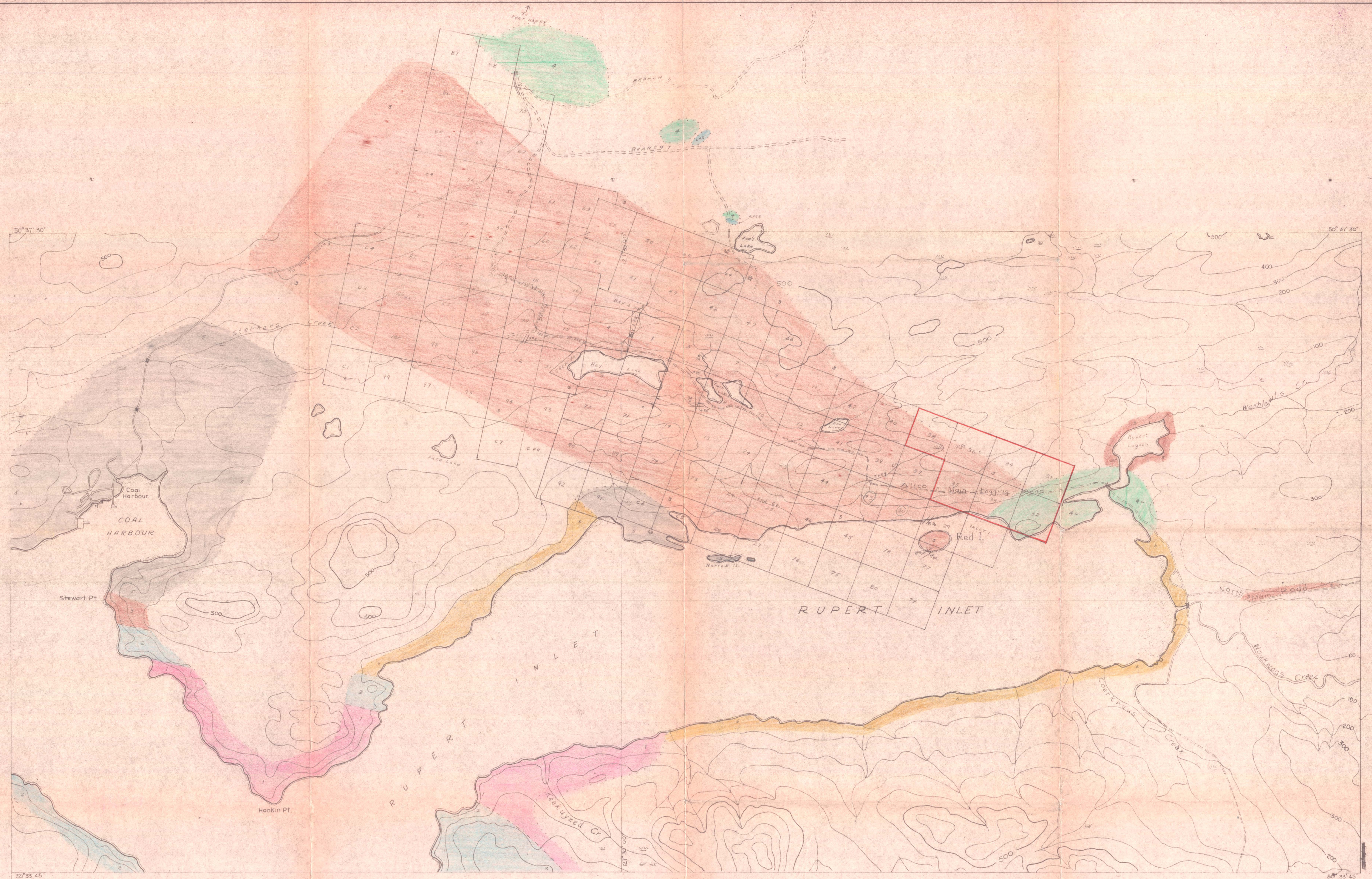
A P P E N D I X B
STATEMENT OF QUALIFICATIONS

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APPENDIX A

SOIL SAMPLES

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- 50° 37' 30"
- 50° 55' 45"
- RECENT
6 Alluvium & glacial drift
- CRETACEOUS
5 Sediments
- JURASSIC OR LATER
4 Granite & diorite
Granite #a
- BONANZA
3 Numerous volcanics
with sediments
- QUATSING
2 Mainly limestone
- TRIASSIC
KARMUTSEN
1 Mainly volcanics
with minor sediments

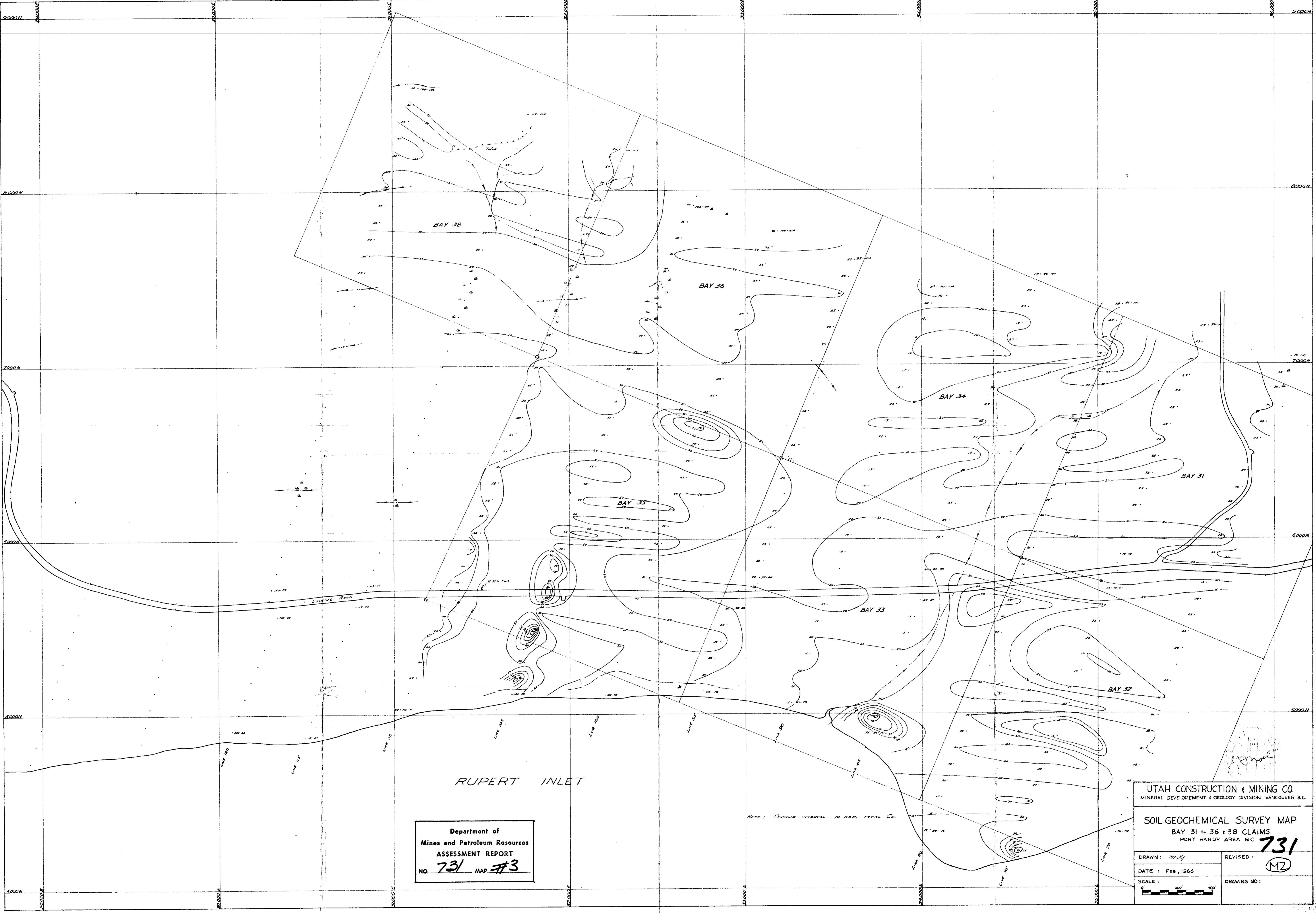
- Fracture or shear planes
- Budding

Claims covered by soil geochemical survey

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

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 731 MAP #2

731
TOPOGRAPHY & GEOLOGY
BAY CLAIMS
PORT HARDY AREA BC (MI)



RUPERT INLET

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 731 MAP #3

NOTE: CONTOUR INTERVAL 10 FEET TOTAL CU.

UTAH CONSTRUCTION & MINING CO.
MINERAL DEVELOPMENT & GEOLOGY DIVISION VANCOUVER B.C.

SOIL GEOCHEMICAL SURVEY MAP
BAY 31 + 36 + 38 CLAIMS
PORT HARDY AREA B.C. **731**

DRAWN: <i>mmh</i>	REVISED:
DATE: Feb, 1966	(M2)
SCALE:	DRAWING NO: