REPORT OF ASSESSMENT WORK
ON THE H&W CLAIMS
1 - 8 inclusive

MINING DIVISION - NANAIMO

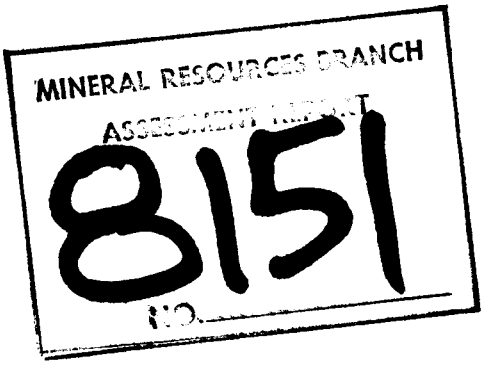
NTS - 92L/12E

Recording Date: July 19, 1979

Record No.: 423 - 430 inclusive

Lat. 50° 36' 30" N

Long. 127° 41' W



Owner of Claims: Doug Blender FMC #192797

Operator: Inland Cement Industries Limited

Author: Doug Blender

Date: June 19, 1980

TABLE OF CONTENTS

I. INTRODUCTION

The H&W Claims are located on the north side of Holberg Sound, approximately eight (8) kilometers west of Coal Harbour, B. C. Coal Harbour is approximately twenty (20) kilometers south of Port Hardy, which is located on the east side at the north end of Vancouver Island.

The H&W Claims were recorded on July 19, 1979, and consist of a block of eight (8) claims for a total of one hundred and sixty seven (167) hectares. This area was previously staked by Canada Cement Lafarge in the late 1960's, as possible silicious raw material for their cement plant. Diamond drilling was carried out and approximately four thousand (4 000) tonnes was quarried and shipped by barge to Vancouver. The Claims, when staked in July, 1979, were registered in the name of the surveyor who staked them, David Bazett, of Port Hardy, B. C. The Claims were subsequently sold to myself, and Inland Cement Industries Limited, for whom I work, paid for all of the work done on the property.

II. SUMMARY OF WORK

A. LINECUTTING AND GRID ESTABLISHMENT

Once David Bazett of Wright, Hillyard & Parry had staked the Claims, linecutting commenced to establish a grid over the Claims. A total of ten thousand (10 000) meters of line was cut to define all claim boundaries. Once done, an additional nine (9) north-south running grid lines were cut to give a further eight thousand, two hundred and thirty (8 230) meters. Once all of the lines were cut, David Bazett carried out a topographic survey with elevations taken every one hundred (100) feet and marked on ribbons tied to trees. Finally, a topographic map was prepared and is attached as Appendix II.

B. GRINDABILITY

David Bazett obtained a one hundred and nine (109) kilogram sample of silica rock from a pit located in H&W 8, which was sent to Allis Chalmers In Oak Creek, Wisconsin, for hardness and grindability tests. A copy of Allis Chalmers' report on the silica is attached as Appendix III.

C. PRELIMINARY EXPLORATION AND FEASIBILITY REPORT

Inland Cement Industries Limited contracted Wright Engineers to carry out a Preliminary Exploration and Feasibility Study on this property as well as another industrial mineral property on the mainland. In their final report, Wright Engineers Limited decided to combine both projects, although unrelated, into one (1) report. In order to maintain confidentiality, it was necessary to remove all reference to this other property in the documentation which is presented as assessment work. From Wright Engineers Limited's covering letter, very little work was done on this other property. In submitting their invoices, these two projects were not separated so I have arbitrarily reduced their invoices by 20% to cover the costs associated with the other property.

Wright Engineers Limited contracted W. G. Stevenson & Associates Limited, of Vancouver, to complete the geological mapping, prepare a map and report. This was done and is included in the assessment work in Appendix IV. A total of eleven (11) samples were collected and analyzed at Inland Cement Industries Limited's plant. The results of the analysis are presented in the Geological Report.

D. PETROGRAPHIC EXAMINATION

To complete our study of the silica, a microscopic examination of this silica was done by Vancouver Petrographics Limited, a copy of which is attached as Appendix V.

III. ITEMIZED COST STATEMENT

Linecutting, elevation control, topographic mapping		$10,070.00
Sample collection and shipment		182.00
Preliminary Exploration and Feasibility Report (Wright Engineers), Less 20%		14,584.60
Chemical Analysis of eleven (11) samples (Inland's laboratory)		
72 hours @ $12.11/hour	= 871.92	
1 day @ $156.00/day	= 156.00	
	$1,027.92	1,027.92
Grindability Tests (Allis Chalmers)		2,436.00
Petrographic analysis (Vancouver Petrographic)		71.50
		$28,372.02

Appendix I

Appendix I

AUTHOR'S QUALIFICATIONS

I, DOUGLAS B. BLENDER, of the City of Richmond, in the Province of British Columbia, do hereby certify that:

1. I am an employee of INLAND CEMENT INDUSTRIES LIMITED, a subsidiary of GENSTAR LIMITED;

2. I am a Senior Project Engineer - Geology for Inland Cement Industries Limited, Technical Services Department;

3. I am a graduate of the University of Saskatchewan in Geological Engineering, having graduated in 1972;

4. I am a registered Professional Engineer of the Province of Alberta;

5. I have practised my profession continuously since 1972 in Industrial Minerals - Exploration and Development in the Provinces of British Columbia, Alberta, Saskatchewan and Manitoba and the States of Montana and Washington;

6. I have reviewed the data carefully and have compiled and written this report.

DATED at the City of Richmond, in the Province of British Columbia, this 19th day of June, 1980.

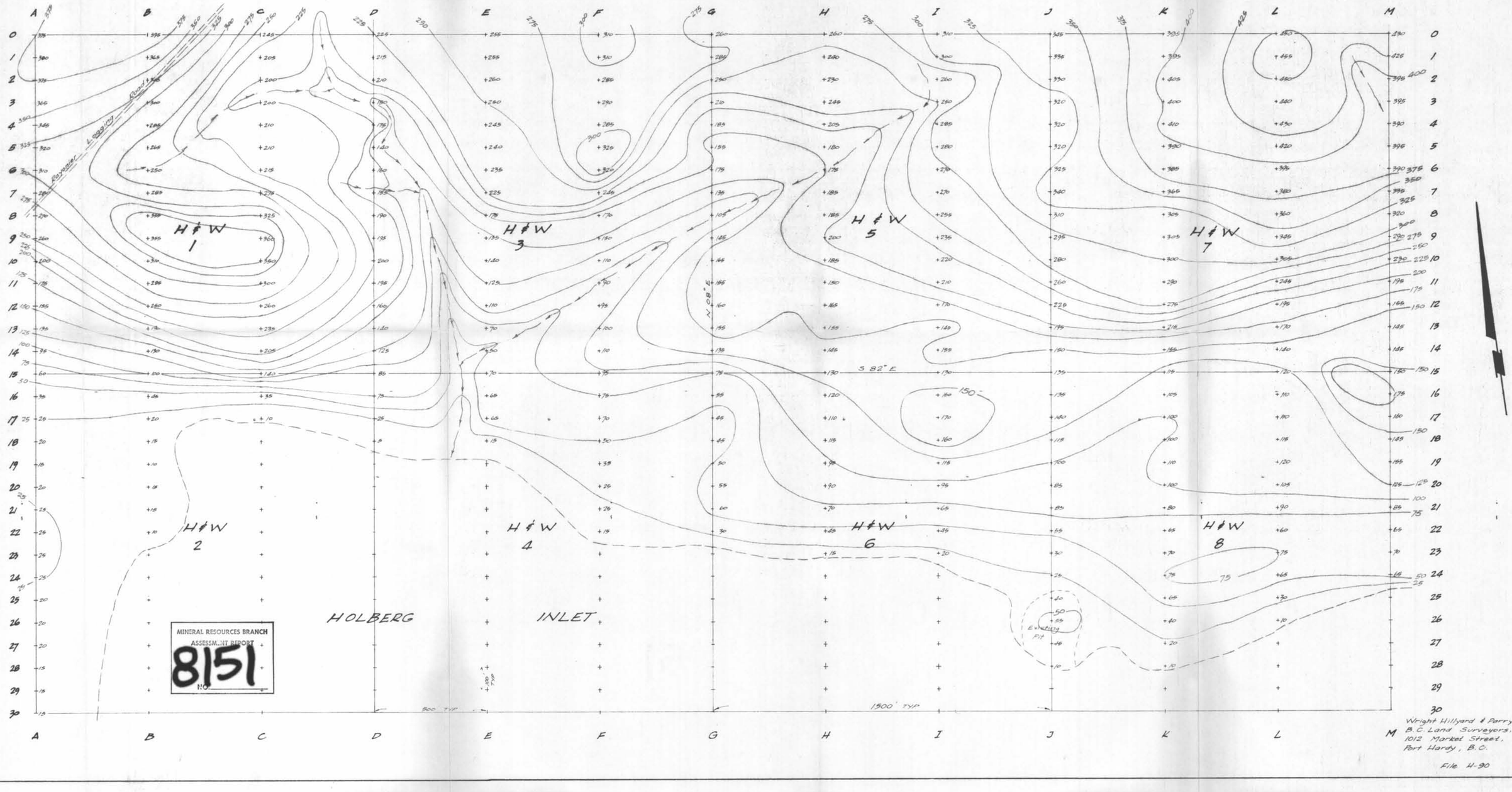
DOUGLAS B. BLENDER
Senior Project Engineer

Appendix II

TOPOGRAPHIC PLAN OF 2-POST CLAIMS H#W 1-8 (INCLUSIVE.)

Scale 1 inch = 200 feet

DATE JULY-AUG / 1979



Wright Hillyard & Parry,
B.C. Land Surveyors,
1012 Market Street,
Port Hardy, B.C.

File H-90

Appendix III

FORM 4038-2
LITHO IN U.S.A.-A-C

ALLIS-CHALMERS
PROCESS RESEARCH AND TEST CENTER

TEST REPORT

Test No. 79-134 Charge No. 07-0236-09419 Date Reported 10/12/79

Submitted by (customer) A-C Canada (Vancouver, B.C.)

for Inland Cement Company

Test Requested by Mr. D. R. Olson Div. C.M & MS

References

SAMPLE AS RECEIVED

Weight 109 kg (240 lb) gross shipping Date Rec'd. 9/12/79

Description Three bags of silica rock received from British Columbia Cement Co., Barberton Plant, Mill Bay, British Columbia. The samples are further identified as Holberg Silica.

TEST PROCEDURE

Type of Test

Bond Closed Circuit Grindability Tests in Rod Mill at 14 Mesh and in Ball Mill at 65, 150, and 200 Mesh
Bond Abrasion Test
Bond Impact Crushability Test

Equipment Used

.3 m x .6 m Rod Mill; .3 m x .3 m Ball Mill
Pennsylvania Abrasion Tester
Bond Twin Pendulums Impact Apparatus

Test Results

Test	Bond Work Index	(Metric)	
Rod Mill at 14 Mesh	14.1	15.5	
Ball Mill at 65 Mesh	15.3	16.8	
Ball Mill at 150 Mesh	15.5	17.1	
Ball Mill at 200 Mesh	14.7	16.2	
Impact	4.4	4.9	
Abrasion Index			.2235
Specific Gravity			2.63

Samples to be discarded unless advised.

By Diane L. Schoenike

D. L. Schoenike/BHB

BH-13

ALLIS-CHALMERS
BOND ROD MILL CLOSED CIRCUIT GRINDABILITY TEST
AT 1180 MICRO-METERS (14 TYLER MESH)

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134 DATE 10-3-79

PERIOD	REVOLUTIONS OF MILL	GRAMS OF PRODUCT	GRAMS IN FEED	NET GRAMS PRODUCED	NET GRAMS PER REV.
1	30.0	585.0	324.0	261.0	8.700
2	106.0	989.0	94.0	895.0	8.440
3	101.0	1037.0	158.0	879.0	8.700
4	97.0	1147.0	166.0	981.0	10.110
5	82.0	951.0	184.0	767.0	9.350
6	92.0	994.0	152.0	842.0	9.150
7	93.0	1016.0	159.0	857.0	9.210

LAB MILL FEED IS 1.62 KG/LITER, PACKED (=101.1 LB/FT**3)
EQUIVALENT TO 2025 GRAMS (1250 CC.) IN MILL
IDEAL POTENTIAL PRODUCT = 1012.0 GRAMS SPECIFIC GRAVITY = 2.63
AVERAGE OF LAST 2 PERIODS, 101.5 PER CENT CIRCULATING LOAD
GRINDABILITY AT 1180 MICRO-METERS = 9.180 NET GRAMS PER REV.

SIZE OF SIEVE EQUIV. T.MESH	ASTM MU-M	LAB.MILL FEED PERCENTAGE ON	PASSING	CIRCULATING LOAD PERCENTAGE ON	PASSING	LAST PER.PRODUCT PERCENTAGE ON	PASSING
1/2	13200	0.	100.00	0.	100.00	0.	100.00
3/8	9500	16.89	83.11	.54	99.46	0.	100.00
3	6700	27.10	56.02	0.	*00.00	0.	100.00
4	4750	11.66	44.36	.29	99.17	0.	100.00
6	3350	8.17	36.19	1.13	98.04	0.	100.00
8	2360	9.27	26.92	6.12	91.92	0.	100.00
10	1700	6.56	20.36	26.70	65.21	0.	100.00
14	1180	4.36	16.00	58.35	6.86	.33	99.67
20	850	3.78	12.22	6.52	.34	30.82	68.85
28	600	2.76	9.45	0.	*00.00	20.34	48.51
35	425	2.04	7.42	0.	*00.00	11.45	37.06
48	300	1.59	5.82	0.	*00.00	8.80	28.26
65	212	1.30	4.52	0.	*00.00	6.89	21.37
100	150	1.00	3.52	0.	*00.00	5.31	16.06
150	106	.71	2.81	0.	*00.00	3.45	12.62
200	75	.59	2.22	0.	*00.00	2.33	10.29
270	53	0.	*00.00	0.	*00.00	0.	*00.00
325	45	0.	*00.00	0.	*00.00	0.	*00.00
400	38	0.	*00.00	0.	*00.00	0.	*00.00
500	26	0.	*00.00	0.	*00.00	0.	*00.00
PAN	0	2.22	0.	.34	0.	10.29	0.

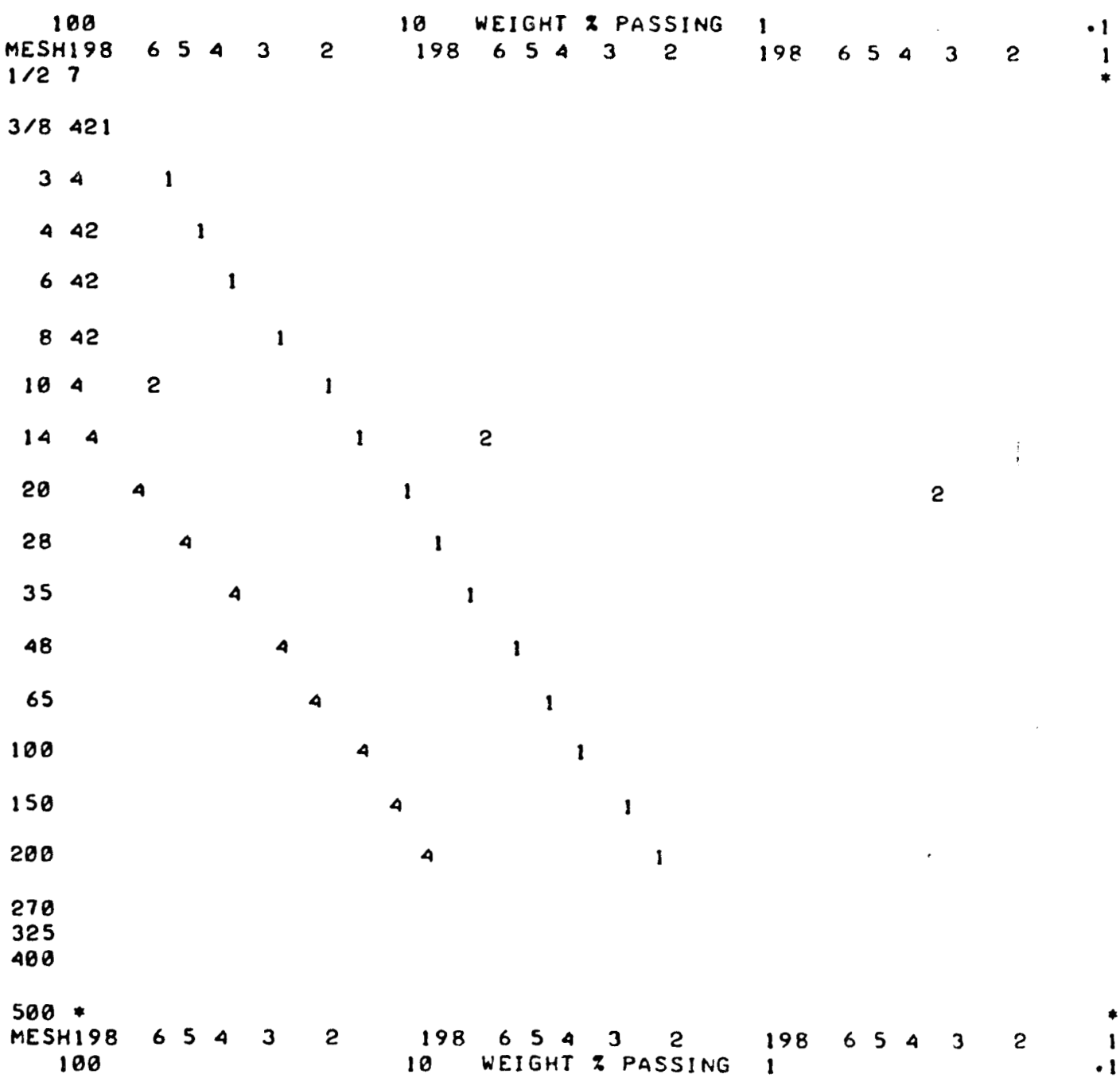
SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

80 PCT.PASSING FEED SIZE EQUALS 9184.3 MICRO-METERS
80 PCT.PASSING PRODUCT SIZE EQUALS 971.0 MICRO-METERS
BOND WORK INDEX FROM ABOVE TEST EQUALS 14.1
WORK INDEX METRIC = 15.5

Fig. 1

ALLIS-CHALMERS

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134 AT 1180 MICRO-METERS DATE 10-3-79



FEED=1 CIRC.LD.=2 PRODUCT=4 F+C=3 F+P=5 C+P=6 ALL=7
SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

Fig 1a

ALLIS-CHALMERS
BOND BALL MILL CLOSED CIRCUIT GRINDABILITY TEST
AT 212 MICRO-METERS (65 TYLER MESH)

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134 DATE 10-4-79

PERIOD	REVOLUTIONS OF MILL	GRAMS OF PRODUCT	GRAMS IN FEED	NET GRAMS PRODUCED	NET GRAMS PER REV.
1	100.0	239.0	86.0	153.0	1.530
2	188.0	300.0	19.0	281.0	1.490
3	189.0	324.0	24.0	300.0	1.590
4	176.0	320.0	26.0	294.0	1.670
5	168.0	312.0	26.0	286.0	1.700
6	165.0	309.0	25.0	284.0	1.720
7	163.0	308.0	25.0	283.0	1.740
8	161.0	307.0	25.0	282.0	1.750
9	161.0	304.0	25.0	279.0	1.730

LAB MILL FEED IS 1.53 KG/LITER, PACKED (= 95.5 LB/FT**3)
EQUIVALENT TO 1071 GRAMS (700 CC.) IN MILL
IDEAL POTENTIAL PRODUCT = 305.8 GRAMS SPECIFIC GRAVITY = 2.63
AVERAGE OF LAST 3 PERIODS, 249.6 PER CENT CIRCULATING LOAD
GRINDABILITY AT 212 MICRO-METERS = 1.740 NET GRAMS PER REV.

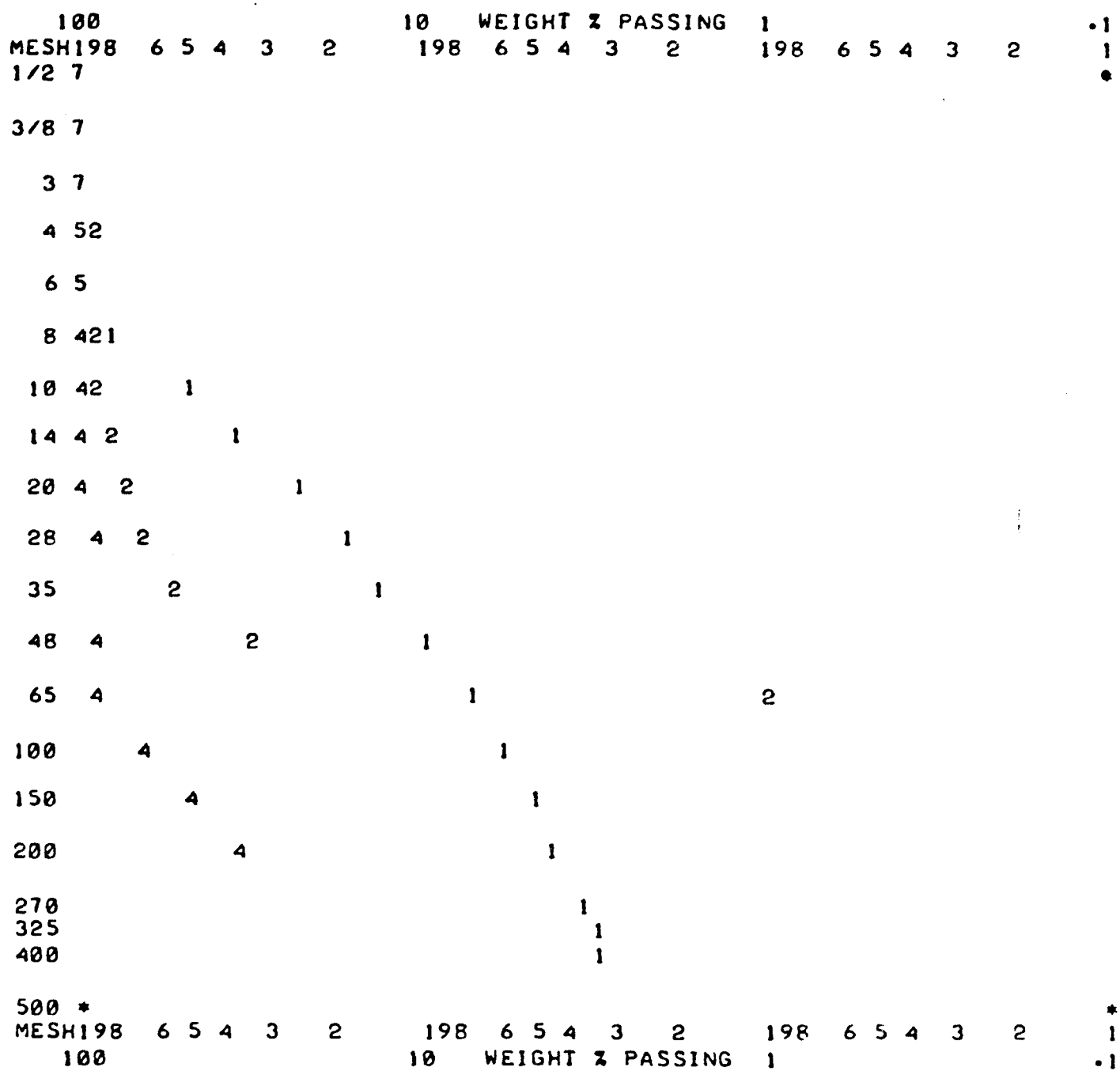
SIZE OF SIEVE EQUIV. T.MESH	ASTM MU-M	LAB.MILL FEED PERCENTAGE ON	PASSING	CIRCULATING LOAD PERCENTAGE ON	PASSING	LAST PER.PRODUCT PERCENTAGE ON	PASSING
1/2	13200	0.	100.00	0.	100.00	0.	100.00
3/8	9500	0.	100.00	0.	100.00	0.	100.00
3	6700	0.	100.00	0.	100.00	0.	100.00
4	4750	0.	100.00	.25	99.75	0.	100.00
6	3350	0.	100.00	0.	*00.00	0.	100.00
8	2360	15.81	84.19	3.07	96.68	0.	100.00
10	1700	31.78	52.41	6.26	90.43	0.	100.00
14	1180	15.81	36.60	5.88	84.54	0.	100.00
20	850	11.76	24.84	6.95	77.60	0.	100.00
28	600	7.01	17.83	9.82	67.77	.14	99.86
35	425	3.89	13.94	13.27	54.51	0.	*00.00
48	300	3.35	10.59	21.78	32.73	.07	99.79
65	212	2.57	8.02	31.73	1.00	4.35	95.44
100	150	1.64	6.39	.94	.06	28.17	67.26
150	106	1.25	5.14	0.	*00.00	18.62	48.64
200	75	.78	4.36	0.	*00.00	10.77	37.87
270	53	.47	3.89	0.	*00.00	0.	*00.00
325	45	.39	3.50	0.	*00.00	0.	*00.00
400	38	.23	3.27	0.	*00.00	0.	*00.00
500	26	0.	*00.00	0.	*00.00	0.	*00.00
PAN	0	3.27	0.	.06	0.	37.87	0.

SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

80 PCT.PASSING FEED SIZE EQUALS 2278.1 MICRO-METERS
80 PCT.PASSING PRODUCT SIZE EQUALS 178.1 MICRO-METERS
BOND WORK INDEX FROM ABOVE TEST EQUALS 15.3
WORK INDEX METRIC = 16.8

ALLIS-CHALMERS

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134 AT 212 MICRO-METERS DATE 10-4-79



FEED=1 CIRC.LD.=2 PRODUCT=4 F+C=3 F+P=5 C+P=6 ALL=7
SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

Fig. 2a

ALLIS-CHALMERS
BOND BALL MILL CLOSED CIRCUIT GRINDABILITY TEST
AT 106 MICRO-METERS (150 TYLER MESH)

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134 DATE 10-4-79

PERIOD	REVOLUTIONS OF MILL	GRAMS OF PRODUCT	GRAMS IN FEED	NET GRAMS PRODUCED	NET GRAMS PER REV.
1	150.0	171.0	55.0	116.0	.773
2	384.0	340.0	9.0	331.0	.862
3	335.0	352.0	17.0	335.0	1.000
4	288.0	327.0	18.0	309.0	1.073
5	270.0	323.0	17.0	306.0	1.133
6	255.0	305.0	17.0	288.0	1.129
7	257.0	322.0	16.0	306.0	1.190
8	243.0	300.0	17.0	283.0	1.165

LAB MILL FEED IS 1.53 KG/LITER, PACKED (= 95.5 LB/FT**3)
EQUIVALENT TO 1071 GRAMS (700 CC.) IN MILL
IDEAL POTENTIAL PRODUCT = 305.8 GRAMS SPECIFIC GRAVITY = 2.63
AVERAGE OF LAST 3 PERIODS, 246.6 PER CENT CIRCULATING LOAD
GRINDABILITY AT 106 MICRO-METERS = 1.161 NET GRAMS PER REV.

SIZE OF SIEVE EQUIV. T.MESH	ASTM MU-M	LAB.MILL FEED PERCENTAGE ON	PASSING	CIRCULATING LOAD PERCENTAGE ON	PASSING	LAST PER.PRODUCT PERCENTAGE ON	PASSING
1/2	13200	0.	100.00	0.	100.00	0.	100.00
3/8	9500	0.	100.00	0.	100.00	0.	100.00
3	6700	0.	100.00	0.	100.00	0.	100.00
4	4750	0.	100.00	0.	100.00	0.	100.00
6	3350	0.	100.00	0.	100.00	0.	100.00
8	2360	15.81	84.19	2.00	98.00	0.	100.00
10	1700	31.78	52.41	4.59	93.41	0.	100.00
14	1180	15.81	36.60	3.90	89.50	0.	100.00
20	850	11.76	24.84	4.43	85.07	0.	100.00
28	600	7.01	17.83	4.64	80.43	0.	100.00
35	425	3.89	13.94	5.75	74.68	0.	100.00
48	300	3.35	10.59	9.55	65.14	0.	100.00
65	212	2.57	8.02	17.04	48.10	0.	100.00
100	150	1.64	6.39	23.68	24.42	0.	100.00
150	106	1.25	5.14	23.47	.95	6.83	93.17
200	75	.78	4.36	.74	.21	20.48	72.69
270	53	.47	3.89	0.	*00.00	13.39	59.30
325	45	.39	3.50	0.	*00.00	7.76	51.54
400	38	.23	3.27	0.	*00.00	5.35	46.18
500	26	0.	*00.00	0.	*00.00	12.05	34.14
PAN	0	3.27	0.	.21	0.	34.14	0.

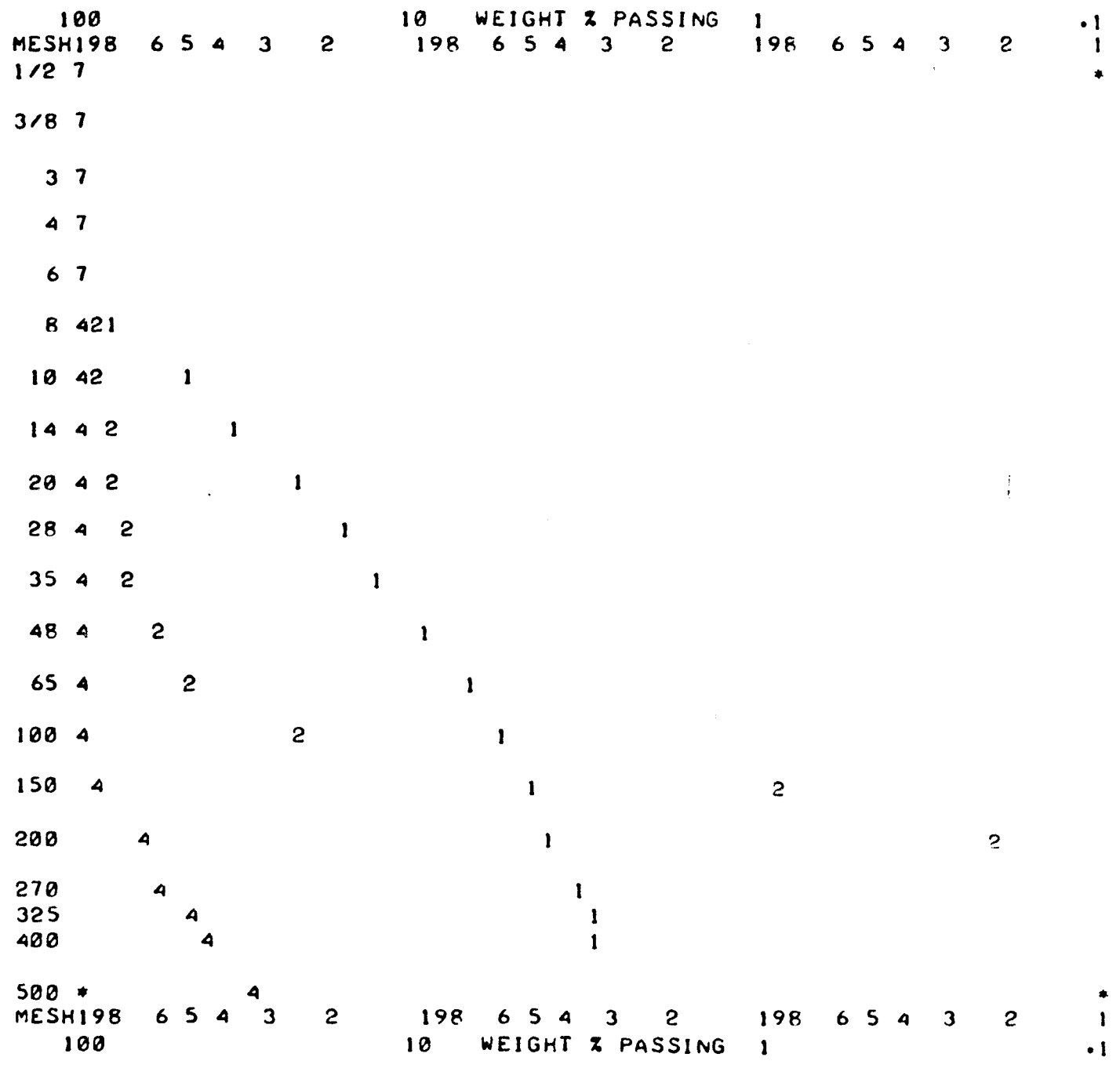
SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

80 PCT.PASSING FEED SIZE EQUALS 2278.1 MICRO-METERS
80 PCT.PASSING PRODUCT SIZE EQUALS 85.7 MICRO-METERS
BOND WORK INDEX FROM ABOVE TEST EQUALS 15.5
WORK INDEX METRIC = 17.1

Fig. 3

ALLIS-CHALMERS

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134 AT 106 MICRO-METERS DATE 10-4-79



FEED=1 CIRC.LD.=2 PRODUCT=4 F+C=3 F+P=5 C+P=6 ALL=7
SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

Fig. 3a

ALLIS-CHALMERS

BOND BALL MILL CLOSED CIRCUIT GRINDABILITY TEST
AT 75 MICRO-METERS (200 TYLER MESH)

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUNVER, BRITISH COLUMBIA
TEST NO. 79-134 DATE 10-2-79

PERIOD	REVOLUTIONS OF MILL	GRAMS OF PRODUCT	GRAMS IN FEED	NET GRAMS PRODUCED	NET GRAMS PER REV.
1	100.0	113.0	47.0	66.0	.660
2	456.0	331.0	5.0	326.0	.715
3	408.0	365.0	14.0	351.0	.860
4	337.0	327.0	16.0	311.0	.923
5	316.0	319.0	14.0	305.0	.965
6	303.0	302.0	14.0	288.0	.950
7	308.0	305.0	13.0	292.0	.948
8	309.0	310.0	13.0	297.0	.961

LAB MILL FEED IS 1.53 KG/LITER, PACKED (= 95.5 LB/FT**3)
EQUIVALENT TO 1071 GRAMS (700 CC.) IN MILL
IDEAL POTENTIAL PRODUCT = 305.8 GRAMS SPECIFIC GRAVITY = 2.63
AVERAGE OF LAST 3 PERIODS, 250.4 PER CENT CIRCULATING LOAD
GRINDABILITY AT 75 MICRO-METERS = .953 NET GRAMS PER REV.

SIZE OF SIEVE EQUIV. T.MESH	ASTM MU-M	LAB.MILL FEED PERCENTAGE ON	LAB.MILL FEED PERCENTAGE PASSING	CIRCULATING LOAD PERCENTAGE ON	CIRCULATING LOAD PERCENTAGE PASSING	LAST PER.PRODUCT PERCENTAGE ON	LAST PER.PRODUCT PERCENTAGE PASSING
1/2	13200	0.	100.00	0.	100.00	0.	100.00
3/8	9500	0.	100.00	0.	100.00	0.	100.00
3	6700	0.	100.00	0.	100.00	0.	100.00
4	4750	0.	100.00	0.	100.00	0.	100.00
6	3350	0.	100.00	0.	100.00	0.	100.00
8	2360	15.81	84.19	1.11	98.89	0.	100.00
10	1700	31.78	52.41	2.16	96.74	0.	100.00
14	1180	15.81	36.60	1.33	95.41	0.	100.00
20	850	11.76	24.84	1.33	94.09	0.	100.00
28	600	7.01	17.83	1.60	92.48	0.	100.00
35	425	3.89	13.94	2.38	90.11	0.	100.00
48	300	3.35	10.59	4.98	85.13	0.	100.00
65	212	2.57	8.02	11.00	74.13	0.	100.00
100	150	1.64	6.39	18.41	55.72	0.	100.00
150	106	1.25	5.14	26.87	28.86	0.	100.00
200	75	.78	4.36	25.32	3.54	1.22	98.78
270	53	.47	3.89	0.	*00.00	18.18	80.60
325	45	.39	3.50	0.	*00.00	10.99	69.61
400	38	.23	3.27	0.	*00.00	7.87	61.74
500	26	0.	*00.00	0.	*00.00	15.88	45.86
PAN	0	3.27	0.	3.54	0.	45.86	0.

SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

80 PCT.PASSING FEED SIZE EQUALS 2278.1 MICRO-METERS
80 PCT.PASSING PRODUCT SIZE EQUALS 52.6 MICRO-METERS
BOND WORK INDEX FROM ABOVE TEST EQUALS 14.7
WORK INDEX METRIC = 16.2

Fig. 4

ALLIS-CHALMERS

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUNVER, BRITISH COLUMBIA
TEST NO. 79-134 AT 75 MICRO-METERS DATE 10-2-79

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   100                      10   WEIGHT % PASSING  1                      .1
MESH198  6 5 4  3   2      198  6 5 4  3   2      198  6 5 4  3   2      1
1/2 7                                                                     *

3/8 7

  3 7

  4 7

  6 7

  8 421

 10 42     1

 14 42       1

 20 42         1

 28 42           1

 35 42             1

 48 4 2              1

 65 4  2               1

100 4    2              1

150 4       2             1

200  4                    1 2

270    4                   1
325     4                  1
400      4                 1

500 *       4                                                             *
MESH198  6 5 4  3   2      198  6 5 4  3   2      198  6 5 4  3   2      1
   100                      10   WEIGHT % PASSING  1                      .1
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FEED=1 CIRC.LD.=2 PRODUCT=4 F+C=3 F+P=5 C+P=6 ALL=7
SCREEN ANALYSES DO NOT REPRESENT PLANT OPERATION RESULTS

Fig. 4a

SIEVE ANALYSIS — ALLIS-CHALMERS

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134 — DATE 10-1-79

A= ABRASION PRODUCT
B=

SIEVE SIZE EQUIV. T.MESH	ASTM MU-M	A PERCENTAGE ON	A PERCENTAGE PASSING	B PERCENTAGE ON	B PERCENTAGE PASSING	C PERCENTAGE ON	C PERCENTAGE PASSING	D PERCENTAGE ON	D PERCENTAGE PASSING
.75	19000	0.	100.00						
.53	13200	17.95	82.05						
.375	9500	20.31	61.74						
M=3	6700	13.47	48.27						
4	4750	9.18	39.08						
6	3350	4.87	34.21						
8	2360	4.59	29.62						
10	1700	3.58	26.03						
14	1180	2.65	23.38						
20	850	2.13	21.25						
28	600	1.78	19.47						
35	425	1.50	17.97						
48	300	1.71	16.26						
65	212	1.94	14.32						
100	150	2.44	11.88						
150	106	2.23	9.65						
200	75	1.43	8.22						
270	53	0.	*00.00						
325	45	0.	*00.00						
400	38	0.	*00.00						
500	26	0.	*00.00						
PAN	0	8.22	0.						

	A	B	C	D
80 PCT. SIZE (LOG-LOG) =	12819			
SLOPE, 80% SIZE TO SMALLEST DATUM	.442			
SPECIFIC GRAVITY	2.63			
ESTIMATED SP.GR. FOR 40% VOIDS	*000.00			
VOIDS FRACTION	*000.00			
BULK WEIGHT (LBS/FT**3)	*0000.0			

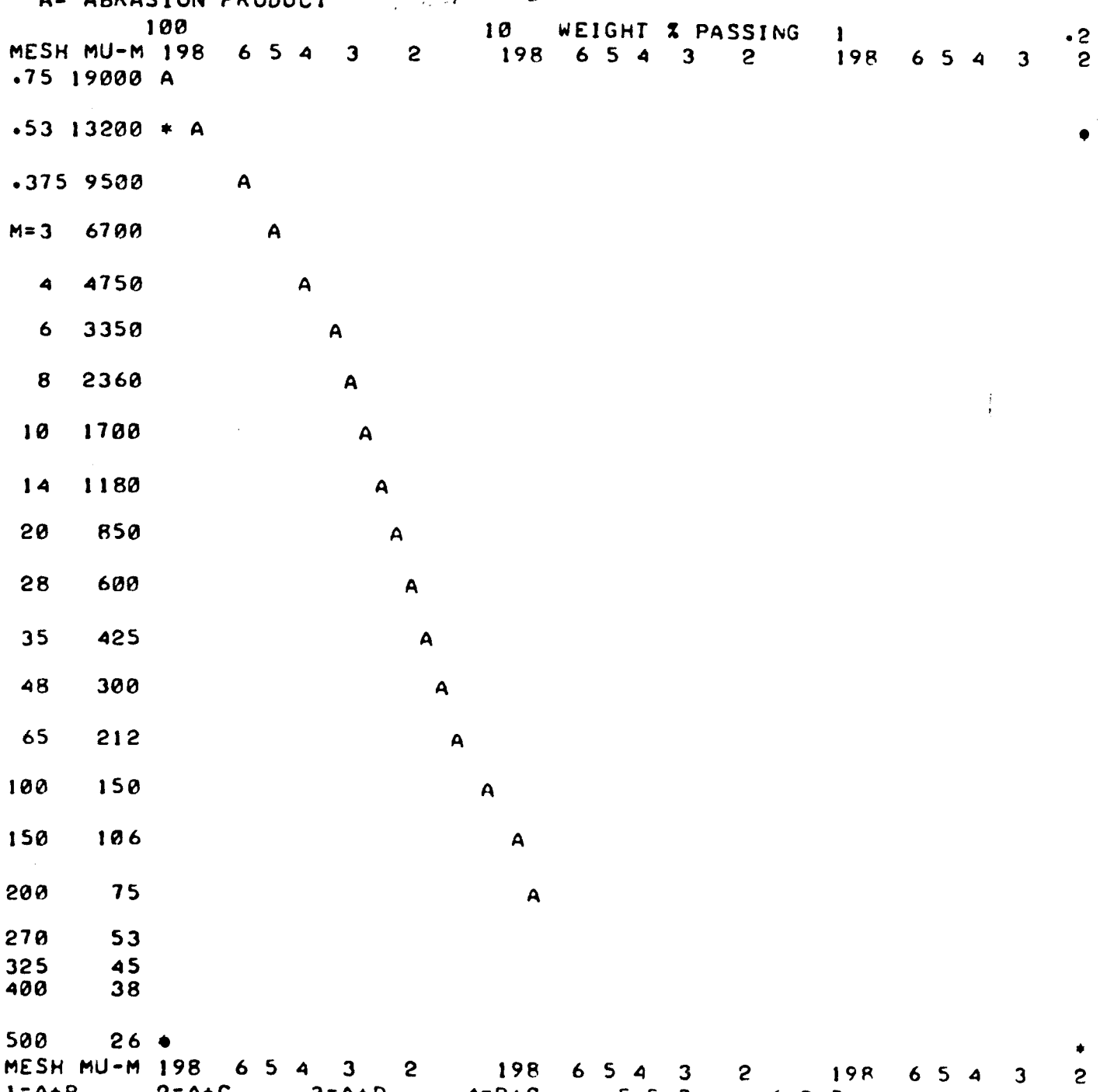
Fig. 5

SIEVE ANALYSIS — ALLIS-CHALMERS

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA

TEST NO. 79-134 DATE 10-1-79

A= ABRASION PRODUCT



1=A+B 2=A+C 3=A+D 4=B+C 5=B+D 6=C+D
7=A+B+C 8=A+B+D 9=A+C+D 0=B+C+D +=A+B+C+D

Fig. 5a

ALLIS-CHALMERS
BOND TWIN PENDULUMS IMPACT CRUSHING TEST

MATERIAL CEMENT RAW MATERIAL
SUBMITTED BY A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA

TEST NO. 79-134 DATE 10-1-79

SPECIMEN NO.	RANK	THICKNESS MM	INCH	WEIGHT GRAMS	PRODUCT PIECES	ANGLE AT BREAKAGE	FT*LB PER INCH	WORK INDEX
1	23	61	2.40	704	3	40	8.0	7.9
2	24	65	2.56	1010	2	50	11.4	11.3
3	13	61	2.40	983	2	30	4.6	4.5
4	6	60	2.36	652	2	25	3.3	3.2
5	10	45	1.77	301	4	25	4.3	4.3
6	7	60	2.36	673	2	25	3.3	3.2
7	12	43	1.69	495	2	25	4.5	4.5
8	1	56	2.20	616	3	15	1.3	1.2
9	16	41	1.61	290	3	25	4.8	4.7
10	22	47	1.85	339	3	30	5.9	5.8
11	4	47	1.85	548	3	20	2.7	2.6
12	9	67	2.64	462	2	30	4.2	4.1
13	19	54	2.13	411	3	30	5.2	5.1
14	18	56	2.20	926	2	30	5.0	4.9
15	8	57	2.24	505	2	25	3.4	3.4
16	3	50	1.97	686	2	20	2.5	2.5
17	20	54	2.13	820	4	30	5.2	5.1
18	2	71	2.80	727	4	20	1.8	1.7
19	5	44	1.73	303	2	20	2.9	2.8
20	11	63	2.48	1110	2	30	4.4	4.4
21	14	42	1.65	685	2	25	4.6	4.6
22	17	57	2.24	658	4	30	4.9	4.8
23	15	59	2.32	650	2	30	4.7	4.7
24	21	51	2.01	638	5	30	5.5	5.4
AVERAGE			2.15	633.00	2.7		4.51	4.4
MAXIMUM			2.80	1110.00	5.0		11.45	11.3
MINIMUM			1.61	290.00	2.0		1.27	1.2
STD.DEVIATION			.32	221.73	.9		2.01	2.0
95% CONF.INTRVL.			.13	88.71	.4		.81	.8
OMIT MAX AND MIN VALUES								
AVERAGE			2.15	626.91	2.6		4.34	4.3
STD.DEV.			.29	194.70	.8		1.31	1.3
95% CONF.INTRVL			.12	81.36	.3		.55	.5

SPECIFIC GRAVITY= 2.63

BOND WORK INDEX (W.I.)= 4.4 +/- .8
=2.59*(FT*LB/INCH)/SPGR +/- 95% CONFIDENCE INTERVAL
W.I.METRIC (W.I.M.) = 4.9 +/- .9 =1.1023*(W.I.)

WHEN RANKED AND PLOTTED AS LOG(W.I.) VS. PROBABILITY,
THE BEST FIT STRAIGHT LINE HAS A PROBABILITY OF
84.1% WITH W.I. LESS THAN OR EQUAL TO 6.3
50.0% WITH W.I. LESS THAN OR EQUAL TO 4.0
15.9% WITH W.I. LESS THAN OR EQUAL TO 2.6

Fig. 6

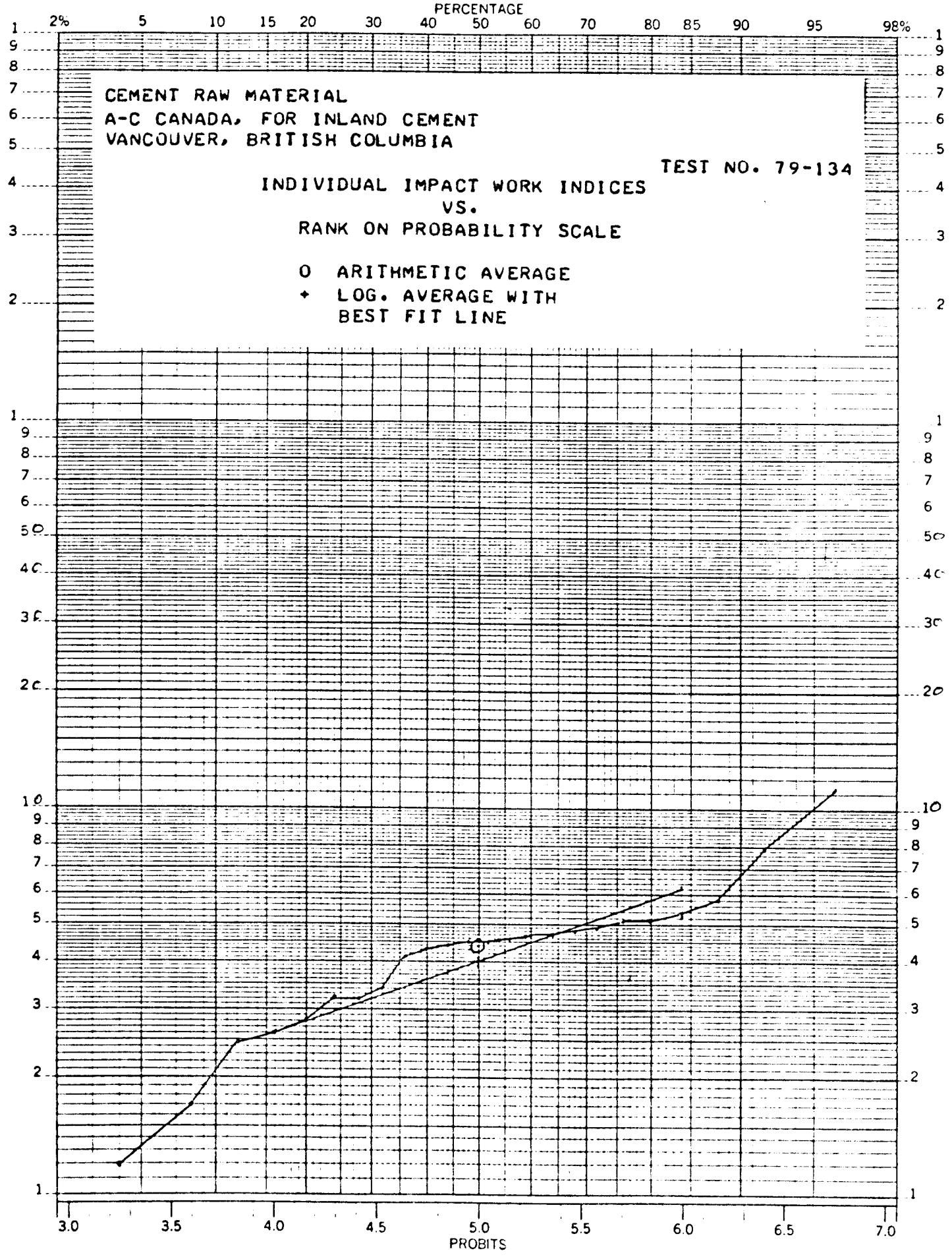

PERCENTAGE
2%
5
10
15
20
30
40
50
60
70
80
85
90
95
98%
CEMENT RAW MATERIAL
A-C CANADA, FOR INLAND CEMENT
VANCOUVER, BRITISH COLUMBIA
TEST NO. 79-134
INDIVIDUAL IMPACT WORK INDICES
VS.
RANK ON PROBABILITY SCALE
O ARITHMETIC AVERAGE
+ LOG. AVERAGE WITH BEST FIT LINE
BOND WORK INDEX
PROBITS
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0

Fig. 6a

Appendix IV

INLAND CEMENT INDUSTRIES LTD.

HOLBERG QUARRY PROJECT

HOLBERG SOUND B.C.

PRELIMINARY EXPLORATION & FEASIBILITY REPORT

PROJECT 1033·100 JANUARY 1980

WRIGHT ENGINEERS LIMITED
Vancouver Canada

IGHT ENGINEERS LIMITED

APPENDIX IV

Phone 684-9371 • Cable WRIGHTENG • Telex 04-54367

1444 Alberni Street, Vancouver, British Columbia, Canada V6G 2Z4

File No. 1033-100

January 15, 1980

B.C. Cement Co. Ltd.
Bourberton Road,
R.R. 1
Mill Bay, B.C.

Attention: Mr. D.B. Blender

Dear Sir:

PRELIMINARY REPORT HOLBERG QUARRIES

In accordance with the the Terms of Reference contained in our Proposal of August 15, 1979 which was subsequently accepted and modified to provide for a Preliminary Report on Phase I as set out in the Scope of Work, enclosed please find two copies of our Preliminary Report.

The report contains the results of preliminary exploration and order of magnitude capital and operating costs for the development of a silica rock quarry at Holberg Sound, Vancouver Island to deliver 200,000 tones of minus 5/8 inch material to the dock at Inland Cement's Tilbury Plant on the Fraser River.

Shortly after preliminary mapping commencement on the Wright Engineers Limited was advised to suspend the work by ICIL. The only results submitted on this property are therefore an incomplete geologic map and a brief estimate of transportation costs.

We trust the preliminary report fulfills your requirements at this time and we will be pleased to discuss it with you at your convenience.

Yours Sincerely,

WRIGHT ENGINEERS LIMITED

K. N.

K. Nielsen
Project Manager

KN/gd

c.c. Mr. Salvador Sala
Inland Cement Industries Ltd.
1111 West Hastings St., Suite 800
Vancouver, B.C. V6E 2J3

encl.

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INTRODUCTION AND TERMS OF REFERENCE

On July 20, 1979 Wright Engineers Ltd. were requested by Inland Cement Industries Ltd. to submit a Proposal for engineering services covering the exploration and feasibility of two potential quarry operations, one for SiO_2 on Holberg Inlet, Vancouver Island

Both quarries were to produce 200,000 tons each of product to be delivered to the Tilbury Cement Plant dock on the Fraser River, and the SiO_2 product to be - 5/8 inch.

On August 15. 1979 a Proposal was submitted by Wright Engineers Limited and on October 9, 1979 the proposal accepted by ICIL with the understanding that an order of magnitude study be submitted for the complete operation as part of the Phase I program before subsequent work was to be done.

Field geology work on the Holberg property was completed by - October 19, 1979 and a preliminary report submitted to Wright Engineers Limited October 25, 1979 without sample assay results. Assays were obtained from ICIL in early December and the final geological report finalized by December 19, 1979.

Field geology work on the commenced in early December but before completion, notification was received from ICIL to suspend further field work on these claims, but to complete whatever portion of Phase I feasibility was possible.

This report contains the results of preliminary exploration and order of magnitude estimates for the Holberg quarry,

Recommendations are also made regarding further work if the evaluations are to be taken to a further Phase of study.

HOLBERG QUARRY

Preliminary Phase I results for the Holberg Quarry are briefly presented under the following headings.

Exploration

Mr. Harold Jones of W.G. Stevenson and Associates Ltd. has prepared a geological report on the area of interest based on field mapping. The results of this work are presented in his report included in the appendix and are considered self exploratory.

Further more detailed sampling of outcrops followed by a drill program will be required in order to establish reserves in the potential east quarry area. Further sampling will also be required to establish quality adequacy of the western quarry area.

On the basis of the limited sampling done, it would appear that a quarry reserve of some 2,000,000 tons would be available from the east quarry with an average SiO_2 content as shown in the geology report of some 95% (See Samples 86151-58). Two anamalous and unacceptable values occur in this area 86156-7. Further sampling would help to identify the significance of these values and help pin point some drilling requirements to establish thickness of the deposit.

The three samples taken in the western area, 86159-61, although somewhat lower in SiO_2 are still in the acceptable range. The tonnage in this area appears to be more than adequate to projected needs.

Mining

On the basis of certain depth assumptions as shown on cross sections in the geological report, preliminary capital and operating costs have been estimated for a 200,000 ton per year quarry operation in the eastern quarry.

Based on the use of new equipment the capital cost of plant and quarry preparation has been estimated to be $3,600,000 and the operating cost of such a quarry to be $4.67 per ton of - 1/2" to - 5/8" product. For comparision purposes a second alternative at 400,000 TPY has been determined as $5,800,000 capital and $3.22 operating cost per ton.

Detailed costs are shown in the Appendix.

Transportation

The movement of crushed silica rock from Holberg Inlet to Tilbury Island will be undertaken by a tug/barge operation, the barge having a carrying capacity of about 4,500 tonnes (5,000 short tons). An estimate prepared by Rivtow Straits Ltd. indicates that the freight rate for this movement, based on 200,000 tonnes per year, will be on the order of $5.85/ton; barge loading and unloading not included. Free loading time: 8 hours; free unloading time: 8 hours. The estimate was prepared in October, 1979, and does not reflect recent increases in fuel costs. To accomplish the loading and unloading operation during an eight hour period the equipment must be capable of maintaing an average loading/unloading rate of not less than 563 tonnes/hour. This means that the equipment must have a design capacity of 900 to 1,000 tonnes/hour.

Capital costs for a conveyor barge loader and dock structure have been estimated at $500,000 and the operating reclaim barge loading and barging costs for material delivered to the Tilbury Plant dock as $6.60 per ton.

Summary of Estimated Costs

For the establishment of a producing 200,000 ton per year SiO_2 quarry operation based on new equipment at January 1980 producing - 1/2" to - 5/8" material and a contract barging price for material delivered to the ICIL Tilbury Plant dock on the Fraser River, the following costs have been estimated:

Total Preproduction Cost	$4,100,000
Total Operating Cost/Ton	$ 11.27

In our opinion the above costs are in the order of ± 20% of actual costs.

Recommendations

It is recommended that if further consideration is given to the development of this property that a Phase II study be carried out including the following:

- Further geologic mapping and sampling of the east and west quarry areas.

- If drill results already carried out on the property are not available, that a limited drill program be carried out in order to better establish tons and quality of reserves, particularly in the eastern quarry, and plan a quarry operation including pit, equipment and services. This would allow for either an owner controlled operation or establish a sound negotiating basis with a contractor.

- Carry out a more precise feasibility study as outlined in Wright Engineers Limited's proposal dated August 15, 1979 as Phase II work.

APPENDIX

- Report on the H. & W. Claims
  Coal Harbour Area
  Holberg Inlet, V.I.
  - by H.M. Jones dated Oct. 25/79

- Summary Capital and Operating Cost Estimates - alternatives 1 and 2.

- Preliminary Geology Map - by B. Taylor of G. Noel and Association for W.G. Stevenson.

Project No. 1033-100

January 51, 1980

INLAND CEMENT PROJECT

HOLBERG QUARRY

SUMMARY CAPITAL AND OPERATING COST ESTIMATE

1. Capital costs

* Logging		-
Access Road		250,000
Dump Road		50,000
Quarry Preparation		200,000
2 - Front-end Loaders	(988B)	649,000
2 - 35-ton Trucks	(769C)	644,000
2 - Air Tracks		283,000
1 - Grader	(140G)	151,000
1 - Dozer	(D-8)	253,000
Two-Stage Crusher and Screen Plant		890,000
Power Plant		85,000
Shop and Office		50,000
Light Vehicles		25,000
Service Truck		25,000
Shop Equipment		25,000
Services		10,000
Conveyor System		100,000
Barge Loader		200,000
Dock Structure		200,000
TOTAL - CAPITAL COSTS		$4,090,000

* Note: Logging - assume that value of timber will pay for the cost of logging.

SUMMARY CAPITAL AND OPERATING COST ESTIMATE - Cont'd.

ALTERNATIVE 1 - 200,000 Tonnes Per Year

2. Operating Costs

a) Quarry Operations	$/Tonne
Drilling	0.32
Blasting	0.93
Loading	0.22
Hauling	0.49
Road Maintenance	0.14
Crushing and Stockpiling	0.55
Power	0.04
Miscellaneous	0.06
Labour	1.92
	$ 4.67

b) Transportation	
Reclaiming and Barge Loading	0.25
Barging to Tilbury Island	5.85
Overhead and Administration	0.50
	$ 6.60

TOTAL - OPERATING COSTS	$ 11.27

Project No. 1033-100

January 8, 1979.

INLAND CEMENT PROJECT

HOLBERG QUARRY

SUMMARY CAPITAL AND OPERATING COST ESTIMATE

ALTERNATIVE 2 - 400,000 Tonnes Per Year

1. Capital Costs

* Logging		-
Access Road		250,000
Dump Road		50,000
Quarry Preparation		200,000
2 - Front-End Loaders	(988B)	649,000
4 - 35-ton Trucks	(769C)	1,288,000
1 - Production Drill	(6")	240,000
1 - Air Track		141,000
1 - Grader	(140G)	151,000
1 - Dozer	(D-8)	253,000
Two-Stage Crusher		1,780,000
Power Plant		170,000
Shop and Office		50,000
Light Vehicles		25,000
Service Trucks		25,000
Shop Equipment		25,000
Services		10,000
Conveyor System		100,000
Barge Loader		200,000
Dock Structure		200,000
TOTAL - CAPITAL COSTS		$5,807,000

* Note: Logging - assume that value of timber will pay for the cost of logging.

SUMMARY CAPITAL AND OPERATING COST ESTIMATE - Cont'd.

ALTERNATIVE 2 - 400,000 Tonnes Per Year

2. Operating Costs

a) Quarry Operations	$/Tonne
Drilling	0.16
Blasting	0.86
Loading	0.09
Hauling	0.41
Road Maintenance	0.07
Crushing	0.55
Power	0.04
Miscellaneous	0.06
Labour	0.98
	$ 3.22

b) Transportation	
Reclaiming and Barge Loading	0.25
Barging to Tilbury Island	5.85
Overhead and Administration	0.50
	$ 6.60

TOTAL - OPERATING COSTS	$ 9.80

REPORT ON THE H & W CLAIMS
COAL HARBOUR AREA
HOLBERG INLET, VANCOUVER ISLAND
NANAIMO M. D.

Location: 50°36'30" north latitude
127°41' west longitude

by

HAROLD M. JONES, P.Eng.

W. G. STEVENSON & ASSOCIATES LTD.

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LIST OF ILLUSTRATIONS

SUMMARY

An examination was made from October 14-19, 1979 of the H & W claims, located near Coal Harbour on Holberg Inlet, northern Vancouver Island.

Two definitely silica-rich zones are present on the claims. The smaller zone, from which a small tonnage was previously mined, has reserves estimated at 2,200,000 tons grading 93.45% SiO_2. The second zone is considerably larger and has reserves estimated at 17,000,000 tons grading 91.97% SiO_2.

Additional sampling is recommended to confirm the size and grade of each deposit. It is also recommended that an attempt be made to obtain results of work performed on the property during the short period it was mined and explored

INTRODUCTION

W. G. Stevenson and Associates Ltd., at the request of Wright Engineers, examined the H & W mineral claims located on Holberg Inlet five miles west of Coal Harbour, Vancouver Island.

The purpose of the examination was to investigate the silica potential of the claims. One area of silica-rich rocks was already known and partially explored by others.

The writer examined the claims from October 14-19, 1979. During this period he mapped the geology and sampled various areas.

LOCATION AND ACCESS

50°36'30" north latitude
127°41' west longitude

The H & W claims are located on the north shore of Holberg Inlet, northern Vancouver Island, five miles due west of Coal Harbour. They extend from sea level to approximately 450 feet elevation.

Good road access is available from Port Hardy to the northwest corner of the claims. Total distance by road is approximately 15 miles, the last 5.5 miles of which are along Rayonier Logging Company's CH and Wanakana logging roads.

Water access is also readily available by water taxi from Coal Harbour. Deep water at the old silica quarry permits boats to come right into the shore.

If access is required only to the old silica quarry, the latter mode

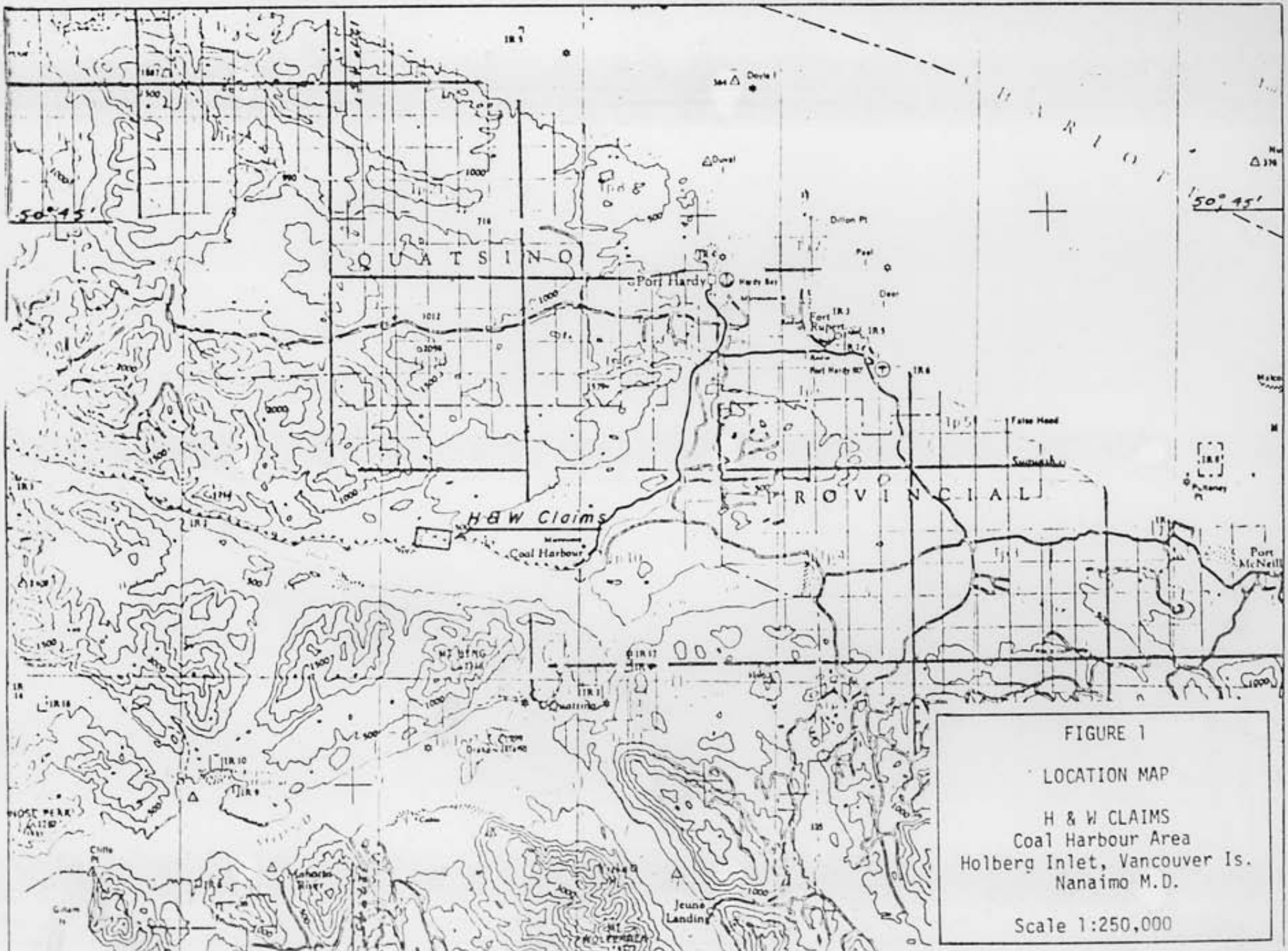


FIGURE 1

LOCATION MAP

H & W CLAIMS
Coal Harbour Area
Holberg Inlet, Vancouver Is.
Nanaimo M.D.

Scale 1:250,000

of travel is recommended. From the road to the quarry is an approximate one hour walk.

TOPOGRAPHY AND VEGETATION

The claims lie along the base of a low rounded hill, the slopes of which are mostly gentle near the shore but become steeper away from it. Cliffs are common at the northwest end of the claims, on H & W 1, and also occur sporatically at the northeast end of the property on H & W 7.

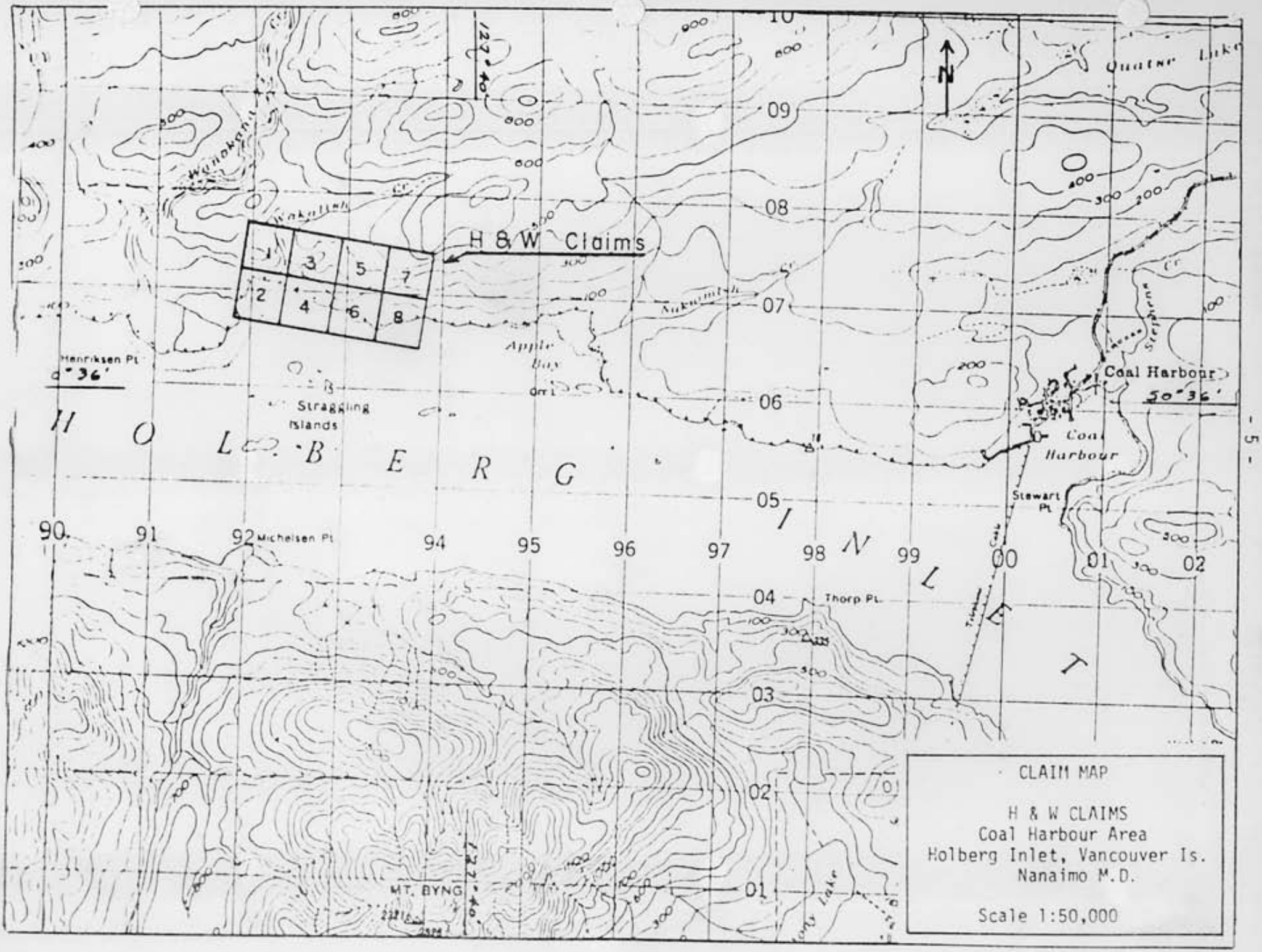
The claims are covered with commercial-sized timber with, in most areas, little or no underbrush. The only areas of dense brush occur on the southwestern part of H & W 1 and as a narrow fringe along the shoreline.

Large areas of windblown timber occur on H & W 5 and 7. Traversing through these areas is difficult.

PROPERTY

The property consists of eight claims located by the two post staking method. The following information on the claims was obtained from the Nanaimo Mining Recorder's Office October 24, 1979:

Claim Name	No. of Units	Record No.	Recording Date
H & W 1	1	423	July 19, 1979
H & W 2	1	424	"
H & W 3	1	425	"
H & W 4	1	426	"
H & W 5	1	427	"
H & W 6	1	428	"
H & W 7	1	429	"
H & W 8		430	"


H & W Claims
1
2
3
4
5
6
7
8
Henriksen Pt
Straggling Islands
Michelsen Pt
Coal Harbour
Stewart Pt
Thorp Pt
MT. BYNG
HOLBERG INLET
90
91
92
94
95
96
97
98
99
00
01
02
01
02
03
04
05
06
07
08
09
10
CLAIM MAP
H & W CLAIMS
Coal Harbour Area
Holberg Inlet, Vancouver Is.
Nanaimo M.D.
Scale 1:50,000

The claims are registered in the name of Mr. David Bazett, Port Hardy, B. C.

HISTORY

Little is known about previous work on and in the vicinity of the H & W claims. La Farge Cement had at least part of the area staked in 1965. At that time they mined and shipped 5 barge loads of material from a small quarry located on what is now H & W 8. They also explored to the north and east of the quarry with seven 100 foot drill holes.

La Farge Cement may have also conducted more detailed exploration in the immediate area. A well cut and surveyed grid was noted by the writer when mapping the claims. These lines are marked with La Farge Cement survey posts.

Utah Mines explored the area during 1969-73. Their Expo claims covered the western part of what is now the H & W claims. Three of their X-ray diamond drill hole sites were located while mapping on H & W 1.

FIELDWORK

The H & W claims were located by Wright, Hillyard and Parry, Surveyors, in July 1979 using the two-post staking method. (See Figure 2). The location line was laid out using a transit and chain survey. It was well cut and flagged.

They also laid out a grid, with lines run perpendicular to the baseline and at 500 foot separations. (See Figure 3). These lines were also well marked with flaggin' blazing and cutting where necessary. Each

100-foot station along each line was marked with flagging as well as with a blaze on the closest tree. The station number and its elevation was recorded on each blaze.

The surveyors' also prepared a map of the claims plotted on a scale of one inch equals 200 feet, showing the claims and grid lines. Elevations were shown for each 100 foot station on each grid line. Elevations were contoured in 25 foot intervals.

Between October 14-19, 1979 the writer conducted a geological mapping project on the claims, using the grid for control. Mapping was done on a scale of one inch equals 200 feet (see Figure 3).

When mapping the claims it soon became apparent to the writer that the contoured map supplied did not adequately represent the ground. Using field observations the writer revised the contours to better suit the ground traversed.

Eleven rock samples were collected from outcrops on the property. All were taken from silica-rich rock types.

GEOLOGY

GENERAL GEOLOGY

Geology of northern Vancouver Island is shown on a map by Muller (1974). It indicates all but the extreme southeast corner of the claims to be underlain by Lower Jurassic Bonanza Volcanics. The remaining part is underlain by Lower Cretaceous Longarm Formation sediments which are in

fault contact with the volcanics.

The Bonanza Volcanics include andesitic to rhyodacitic lava, tuff and breccia; the Longarm Formation includes greywacke, conglomerate and siltstone. Geology in the area is complicated due to an abundance of faults.

LOCAL GEOLOGY

Outcrop is sparse on most of the property. This is due to a thin mantle of moss and organic-rich soil. The latter includes roots and decayed vegetation. Decaying windfalls and very old logging slash add to the surface accumulation of organic material.

The only large outcrops, other than in the old silica quarry, are in the form of cliffs. These commonly are partially obscured by moss.

Two areas of siliceous rocks were observed. The first includes the old quarry and its immediate vicinity. (See Figure 3). Here, all the rocks are white to very light gray, hard, and intensely fractured. They are all rhyolitic and include tuffs, breccias and possibly flows. Almost all rocks are clastic, with fragments ranging in size from 1/16 to 1 inch in diameter.

These rocks are well exposed in the old quarry and along the shoreline to the east. Several other good outcrops were found to the northeast of the pit where the rhyolitic rocks form small knolls and ridges.

At the west edge of the quarry abundant pyrite occurs in irregular dark gray vesicular masses within the rhyolitic rocks. These vary from several inches to several feet or more in diameter. These sulfide-bearing masses may represent a layer of rhyolitic pillows or bombs.

The pyritic zone trends N30W and dips 30-45° southwest. It does not have clearly defined contacts. While it appears to trend northwesterly, remnant bedding(?) at the west end of the quarry trends northeasterly and dips at 20° SE.

Local areas of iron staining occur on top of the knoll to the north above the pit. Outcrops seen beyond the pit area were not iron stained.

No contacts of this rhyolitic zone were seen. Its west end is inferred to terminate against an east-northeast fault (shows as a strong lineament on an airphoto and a continuous linear stream on the ground). Its north contact is poorly defined by several scattered outcrops.

A second silica-rich area was mapped at the west end of the property. Here, dacitic to rhyodacitic clastic rocks, similar in texture to those in the quarry area, are exposed in cliffs and scattered outcrops on the south half of H & W 1 and small parts of H & W 2, 3 and 4. (See Figure 3). While the rocks appear similar, they are probably much more feldspathic than those in the quarry area. Their weathered surfaces are yellow-brown and soft as compared to those in the quarry area which are white and hard. The rocks in this area may be lower in silica content than those in the first area.

No sulfides or iron staining was noted in this second area.

No geologic contacts were observed in this area. The east end of the dacitic rocks is inferred to terminate against a northeast trending fault. (The fault shows as a lineament both on airphotos and the ground). The north contact of the dacite zone can only be inferred from meagre outcrop information.

The remaining parts of the property appear to be underlain entirely by andesite porphyrys and andesitic tuffs. These rocks probably occur in repetitive beds and flows. Because of the scarcity of outcrop and the presence of at least two significant faults, no attempt was made to trace out individual flows or beds.

One small exposure of diorite was seen along the north boundary of H & W 5. If a sizeable intrusive is present, it must lie to the north off the claims.

SAMPLING & ASSAYING

Eleven rock samples were collected, six of which were taken from the large outcrop at the old quarry site. Nine samples were taken as chips along or across the various outcrops while two were taken as grabs of broken material essentially in place. A description of the samples is as follows:

Sample Number	Width (feet)	Type	Description	ASSAYS											
				% Fe_2O_3	% CaO	% SiO_2	% MgO	% Al_2O_3	% Na_2O	% K_2O	% SO_3	% $CaCO_3$	Total	S/R	% C_3S
86151	10	chip	White, hard, rhyolite tuff breccia	0.83	0.92	94.76	0.25	3.10	0	0.03	0.12	1.65	100.74	24.2	-738
86152	12	chip	" " " " "	1.07	0.47	96.32	0.11	2.62	0	0.01	0.08	0.80	101.01	26.1	-749
86153	15	grab	Grabs of fine broken rhyolitic tuff breccia, rock only slightly disturbed by bulldozing.	1.17	0.94	96.52	0.15	2.37	0	0	0.04	1.69	101.94	27.2	-749
86154	25	chip	Rhyolite tuff breccia, may be some dacite.	0.91	0.37	96.46	0.11	2.62	0	0	0.03	0.67	100.80	27.4	-750
86155	15	chip	Rhyolite tuff breccia ridge	3.05	0.50	93.56	0.11	2.78	0	0.02	0.22	0.89	100.63	16.0	-732
86156	20	chip	Vertical sample across dark grey, vesicular, pyritic, rhyolitic pillows(?) in rhyolitic tuffs.	3.49	0.47	**63.82**	0.24	**23.41**	0	0.04	**8.03**	0.86	99.89	2.37	-646
86157	-	chip	Random chips over exposed top of small ridge.	2.75	0.78	**79.53**	0.14	**11.22**	0	0.04	0.86	1.41	95.95	5.69	-680
86158	15	chip	Rhyolitic tuffs & breccia, sample across north end along cliff face.	1.21	0.37	97.01	0.16	2.18	0	0	0.08	0.66	100.93	28.4	-752
86159	50	chip	Random chips along base of north-facing dacitic tuff breccia cliff	2.07	0.37	93.39	0.25	2.91	0	0	0.28	0.66	99.56	18.8	-731
86160	-	grab	Grab of sluffed dacitic tuffs in cavern on south-east side of same outcrop sampled above (86159)	3.24	0.40	90.08	0.25	3.54	0	0	5.28	0.71	103.10	13.3	-712
86161	10	chip	Near base of dacitic tuffs sampled above (86159-60). Approximately 150 feet lower in elevation than previous two samples.	0.98	0.36	92.44	0.25	4.01	0	0.01	0.40	0.65	98.74	18.5	-729

* Total calculated using $CaCO_3$ not CaO

SILICA RESERVES

Sections were drawn across the rhyolitic zone in the vicinity of the old quarry and the volume of material calculated. A liberal estimate based on the inferred geology indicates approximately 2,200,000 tons of rhyolitic material grading 93.45% SiO_2. Calculations were based on the pit bottom being at 20 feet above the high water level of Holberg inlet and that the limits of the rhyolitic rocks are as shown on the geology map. (See Figures 3, 4 & 5).

Grade was estimated using samples 86151-55 and 85157-58. Sample 86156 was not used because it came from the sulfide-rich zone which, in mining, would be easily distinguished and put in to the waste dump.

A similar calculation was made for the dacitic zone at the west end of the property. This area is estimated to contain 17,000,000 tons grading 91.97% SiO_2.

CONCLUSIONS

Two areas of interest were located. The first area includes the old silica quarry. Rocks here are definitely high in silica content. However, abundant pyrite is exposed in the old quarry as a mineralized bed or flow. It is not known whether any other high pyritic areas are present in this area. If they are, the tonnage of high grade silica would be reduced. The potential tonnage of silica-rich material in this area is estimated to be 2,200,000 tons grading 93.45% SiO_2.

The second area of interest contains rocks which have a slightly lower silica content. It has potential reserves of 17,000,000 tons grading 91.97% SiO_2.

It is concluded from this initial examination that two silica deposits are located on the H & W claims. The silica content of each appears to be above the minimum required by the cement industry. Some local variations in silica content are apparent in the assays, as are variations in other constituents of the rock. Further work is required to confirm the grade of each deposit.

RECOMMENDATIONS

The property has been partially explored by limited mining and diamond drilling. An attempt should be made to obtain the results of this work.

It is also recommended that additional sampling be conducted on each silica deposit. Initially, surface chip samples should be taken from a number of outcrops to give good sample coverage of each deposit. Due to moss and organic cover, some hand work will be required to obtain good exposures of bedrock.

Any variations in geology should be noted when collecting the samples. Lower grade sections of the deposits should correlate with changes in geology.

If the above surface sampling confirms the deposits to be of economic grade, then a program of percussion drilling should be undertaken to test the continuity of the deposit with depth.

Respectfully submitted,

HAROLD M. JONES, P.Eng.

REFERENCES

Muller, J. E., (1974) - Geology, Alert Bay-Cape Scott, British Columbia, map 4-1974, accompanys G.S.C. paper 74-8.

Merrett, J.E., (1965) - Min. of Mines Ann. Report, 1965, pp 276.

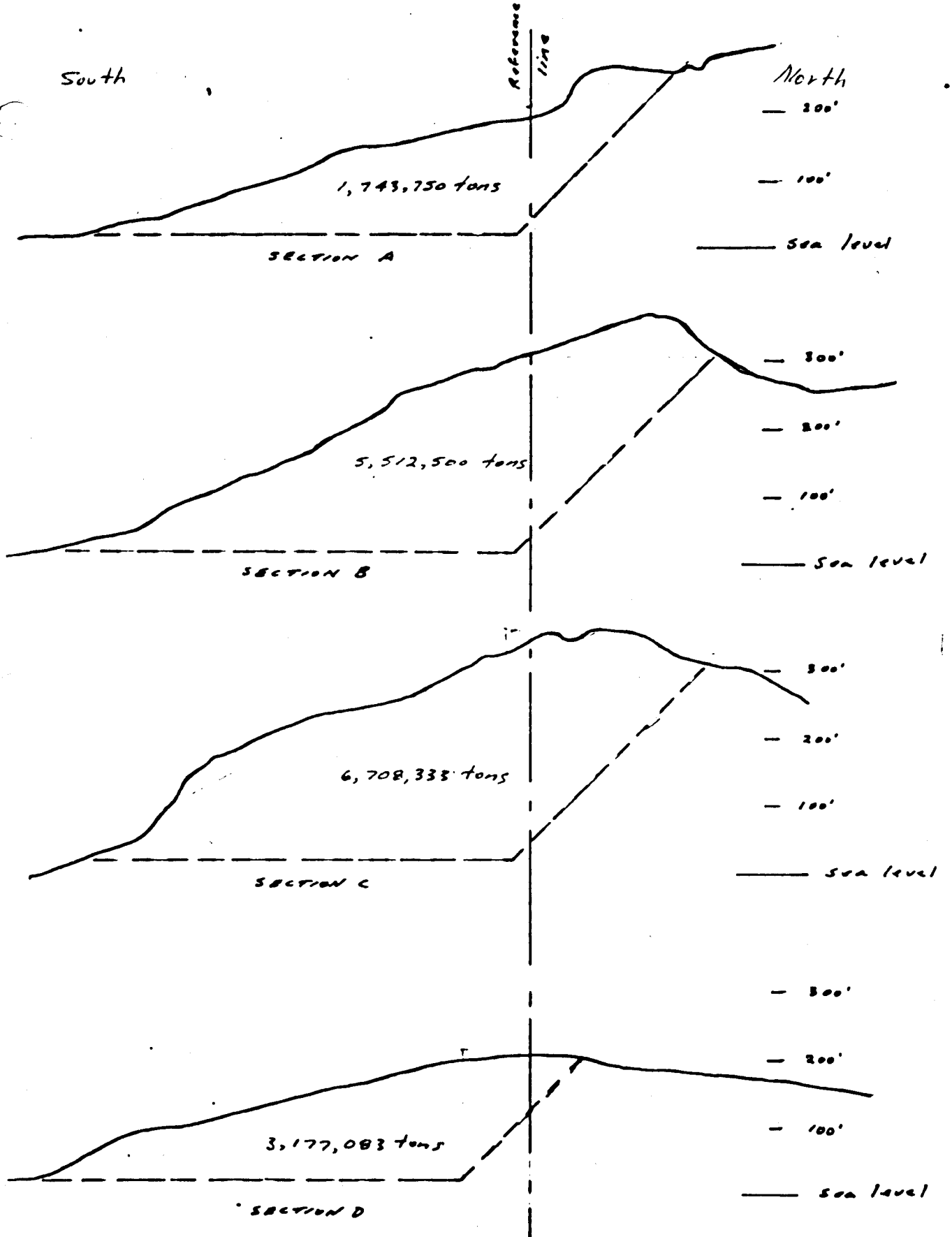
CERTIFICATE

I, Harold M. Jones, of the City of Vancouver, British Columbia, do hereby certify that:

1. I am a Consulting Engineer, and a partner in the firm of G. A. Noel & Associates.
2. I am a graduate of the University of British Columbia in Geological Engineering, 1956.
3. I am a registered Professional Engineer of the Province of British Columbia and also a member of the Canadian Institute of Mining and Metallurgy.
4. I have practised my profession continuously since 1956 in mining exploration in British Columbia, Saskatchewan, Yukon and Northwest Territories, Alaska, Arizona and Australia.
5. I examined the H & W claims from October 14-19, 1979 mapping the geology and collecting rock samples.
6. I have reviewed the data listed under References in this report.
7. I have no interest, nor do I expect to receive any interest,in the H & W claims.

DATED at VANCOUVER, B. C. this 25th day of October, 1979

HAROLD M. JONES, P.Eng.



Sections Across Dacitic Zone, H & W Claims
Profile of Potential Silica Pit

Total Possible Tons 17,141,666
say 17x10 6 tons.

Scale: 1 inch = 200 Feet
N.M.S. Dec 18, 1979

FIGURE 5

Appendix V

APPENDIX V

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D., Geologist

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
V0X 1J0

PHONE (604) 888-1323

Invoice 1735

Report for: Tom Gibson,
B.C. Cement Co., Ltd.,
R.R. 1, Mill Bay, B.C.,
V0R 2P0

Sample: 2 pieces of high silica rock

Sample 2 Chert

cherty silica groundmass	80-85%
coarser patches of cherty silica	7-10
veins of quartz	5- 7
semiopaque, opaque	2
kaolinite	2
zircon	trace

The sample consists of patches of chert of grain size 0.02-0.05 mm with some finer grained zones (0.01-0.02 mm) which appear to be interstitial to the slightly coarser patches, and possibly represent the matrix of a poorly developed breccia.

Scattered patches of coarser, probably recrystallized silica, are up to 1 mm across; grain size here ranges 0.05-0.1 mm.

Veins are probably also of recrystallized silica; they are irregular in distribution and discontinuous. They range from 0.05 to 0.15 mm in width, with grains commonly oriented perpendicular to vein walls.

Semiopaque (Ti-oxide?) and lesser opaque form scattered grains and veinlets, with grain size up to 0.2 mm. Dusty semiopaque occurs through the finer grained chert (less than 0.05 mm in size).

Kaolinite forms an interstitial patch with very irregular outlines within the finer grained chert; grain size is relatively uniform at about 0.02 mm.

Zircon forms a few tiny rounded grains up to 0.02 mm across either in fine chert or with opaque.

Silica Chert Breccia

The sample has a very irregular texture, with rounded to angular fragments of a wide variety of texture in a variable groundmass. In parts of the sample, finer grained fragments occur in a coarser grained groundmass, while elsewhere the opposite is true.

Fragments are mainly 0.2-1 mm in size. Grain sizes range from 0.002 to 0.03 mm, with grain size relatively uniform in a given fragmen Finer grained chert generally contains much more abundant dusty semi-opaque to opaque than coarser grained chert. In much of the sample contacts between fragments? or zones of different grain size are not sharp, but are gradational over a width of 0.02-0.05 mm. One fragment 0.3 mm across consists of light brown, extremely fine grained chert.

Opaque forms scattered grains (1% of sample) from 0.1-0.2 mm in size. Dusty opaque forms from 0 to 15% of the chert. Semiopaque is common in very fine grained chert as very fine grained disseminations.

Coarser patches of recrystallized chert or quartz occupy 5-7% of the rock. Some patches consist of intergrown aggregates of radiating chert 0.1-0.15 mm in size; patches are up to 3 mm long. In the cores of some is mosaic quartz averaging 0.05-0.15 mm in grain size. Some radiating chert appears to form on the walls of cavities, with collofor structures from 0.03 to 0.2 mm in size; the centers of these cavities are commonly filled with mosaic quartz.

A few patches contain quartz grains with euhedral terminations growing into cavities. Some of the cavities are partly filled with kaolinite and fine grained(?) creque; perhaps other cavities were filled with these minerals, but because of their very fine grain size and softness, were plucked from the section during grinding.

Zircon forms a few angular grains 0.05-0.12 mm in size in very fine grained chert (0.02-0.05 mm).

Kaolinite forms a few veins up to 0.1 mm wide and patches up to 0.3 mm across; grain size averages 0.02 mm.

A few veinlets of recrystallized silica cut the fine chert; these are distinguished by a slightly greater grain size and lack of dusty opaque and semiopaque minerals.

John Payne

John Payne,
September, 1979