SQ-SUQUASH 74(10)A

DOLMAGE CAMPBELL & ASSOCIATES LTD.
CONSULTING GEOLOGICAL & MINING ENGINEERS
1000 GUINNESS TOWER
VANCOUVER 1, B.C.

British Columbia Hydro and Power Authority

Summary Report

1974 SUQUASH COAL DRILLING PROJECT

Northern Vancouver Island, B.C.

15 January, 1975

C. R. Saunders, P.Eng. Dolmage Campbell & Associates Ltd. Vancouver, Canada.

00214

NTS 92L/11

C O A L A C T

(Section 19 & B.C. Reg. #436/75)

Exploration & Development Work Report Cover Sheet

Property name: Suquash Coalfield Coal Map No. 3A

Location: NE Vancouver Island Land District Rupert

Coal Licence No.(s) 2110-2111

Licensee: Cobre Exploration Ltd

Operator: B.C. Hydro and Power Authority

Title of Report: Assessment Report for the Suquash Drilling Project conducted by B.C. Hydro & Power Authority by C.R. Saunders,P.Eng. of Dolmage Campbell & Associates Ltd., Aug 25/75.

Period covered by Report: Sept 17 - Oct 19, 1974

Category of work covered in report

Geological Mapping	$ 375.00
Surveys: Geophysical	
Geochemical	
Other	2,532.65
Road Construction	8,763.77
Surface work	
Underground work	
Drilling	51,115.49
Logging	
Sampling	1,201.80
Testing	
Reclamation	
Other work	
Support Costs	27,502.63
Total value of work reported	$ 91,491.34

Comments:

Value of work approved $ 91,491.34

Signature: A.R. James Date Dec 9, 1975

Senior Inspector of Mines

Accepted: E.C. Bawlf Date

Chief Gold Commissioner
Mineral Resources Branch

(To be prepared in duplicate: Original to be filed with report
Duplicate to be filed on Plan of Operations file)

TABLE OF CONTENTS

APPENDICES

LIST OF ILLUSTRATIONS

LIST OF TABLES

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SUMMARY

The 1974 Suquash Coal Drilling Project was undertaken to determine the thermal coal potential of the Upper Cretaceous Suquash Basin. The basin, some $2\frac{1}{2}$ miles wide and 40 miles long, is located in the Pt. McNeill - Pt. Hardy area on the northeastern coast of Vancouver Island. The exploration was conducted on two coal leases held by Cobre Exploration Ltd. and on Crown land for which leases or exploration rights were obtained by B.C. Hydro and Power Authority.

The Suquash Basin consists of an erosional remnant of Upper Cretaceous sedimentary rocks of the Nanaimo Group which rest unconformably on Jurassic and Triassic volcanic rocks. The sedimentary strata, which are nearly flat-lying, consist of sandstone and shale with some coal and clay. There has been little structural disturbance of the basin, the major deformation being a broad, northeast-plunging syncline.

The exploration, as the project name suggests, consisted primarily of diamond drilling. Ancillary work comprised surveying, constructing access trails and geological mapping. Drill-site access was a major problem because several of the sites are in a cedar swamp where water and mud conditions are such that only specialized equipment can work. Ten holes, (NQ size), were drilled for a total footage of 6266 ft. of which 922 ft. were in overburden. Productivity was quite good considering the very difficult access and travel conditions. Overall project costs were approximately as estimated.

The drill holes intersected numerous thin coal seams and thicker coaly zones in the vicinity of the old Suquash Mine. A total of nine zones can be correlated in three or more holes. These zones generally contain considerably less than 50% coal and consequently the average proximate analysis of the zones is that of high ash coal: moisture = 6.15%; ash = 47.92%; volatile matter = 22.64%; fixed carbon = 23.29%; sulphur = 2.01%; calorific value = 5564 Btu/lb.

Reserves have been calculated for the nine zones. A minimum mining thickness of three feet has been employed, along with strike and dip projections similar to those employed for the Comox reserve calculations: 800 ft., 1600 ft., 3200 ft.; proven, probable, possible. All of the coal is mineable only by underground methods. The results are (in round numbers):

A) All correlated intersections
300 million short tons @ 4500 Btu/lb and 60% Ash

B) Correlated intersections containing over 4000 Btu/lb and under 60% Ash
150 million short tons @ 5500 Btu/lb and 50% Ash

C) Correlated intersections containing over 6000 Btu/lb and under 50% Ash
50 million short tons @ 6900 Btu/lb and 44% Ash

These results indicate that the coal in the Suquash Basin has limited potential as an immediate source of thermal coal because its relatively low calorific value makes it uneconomic to mine from underground at the present time.

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INTRODUCTION

During the last four months of 1974, British Columbia Hydro and Power Authority conducted exploration for thermal coal in the Suquash area of northeastern Vancouver Island. The exploration, termed the "1974 Suquash Drilling Project" consisted of diamond drilling and attendent work; all fieldwork was completed before year-end. This report contains all of the data, observations and conclusions pertaining to this project.

While the project was in operation it was divided into two sub-projects on the basis of coal lease ownership. Work done on Lots 15 and 16, Township 3, Rupert Land District, was termed the "1974 Suquash-Cobre Drilling Project" because the coal leases on these lots are held by Cobre Exploration Ltd. Work done on all other areas of the basin was termed "1974 Suquash-Crown Drilling Project" because the coal leases were obtained from the Crown by B.C. Hydro & Power Authority. However, this report is concerned with the total project rather than the two sub-projects.

The project was administered and supervised by Dolmage Campbell & Associates Ltd., with Mr. C. R. Saunders, P.Eng., as project manager and Dr. R. K. Germundson as field supervisor. A field assistant was employed during the month of October.

EXPLORATION OBJECTIVES

The Suquash drilling project was designed to test, by diamond drilling, the potential for thermal coal, and in particular for strip-mineable coal, in the Upper Cretaceous rocks that form the Suquash Basin. The project was initiated as a result of a study of all the potential coal-bearing areas on Vancouver Island that indicated that the Suquash Basin, located in the Port Hardy - Port McNeill area, was the only area in which appreciable tonnages of near-surface coal might be present on the island. However, as well as a potential for strip-mineable coal, the basin also appeared to have a potential for large tonnages of more deeply buried coal. The basin was, therefore, on the basis of limited but reasonable information, a favourable area for thermal coal exploration.

LOCATION

The Suquash Basin is located on the northeast coast of Vancouver Island adjacent to Queen Charlotte Strait, (Fig. 1). It is an Upper Cretaceous erosional remnant approximately twenty miles long by two to three miles wide that forms a coastal plain between the towns of Port Hardy and Port McNeill, (Fig. 3). The basin encompasses an area of generally low relief and very gentle slopes in which marshy and swampy ground conditions are predominant. It is thickly forested, except for open marshes, with stunted cedar and hemlock; undergrowth is heavy.

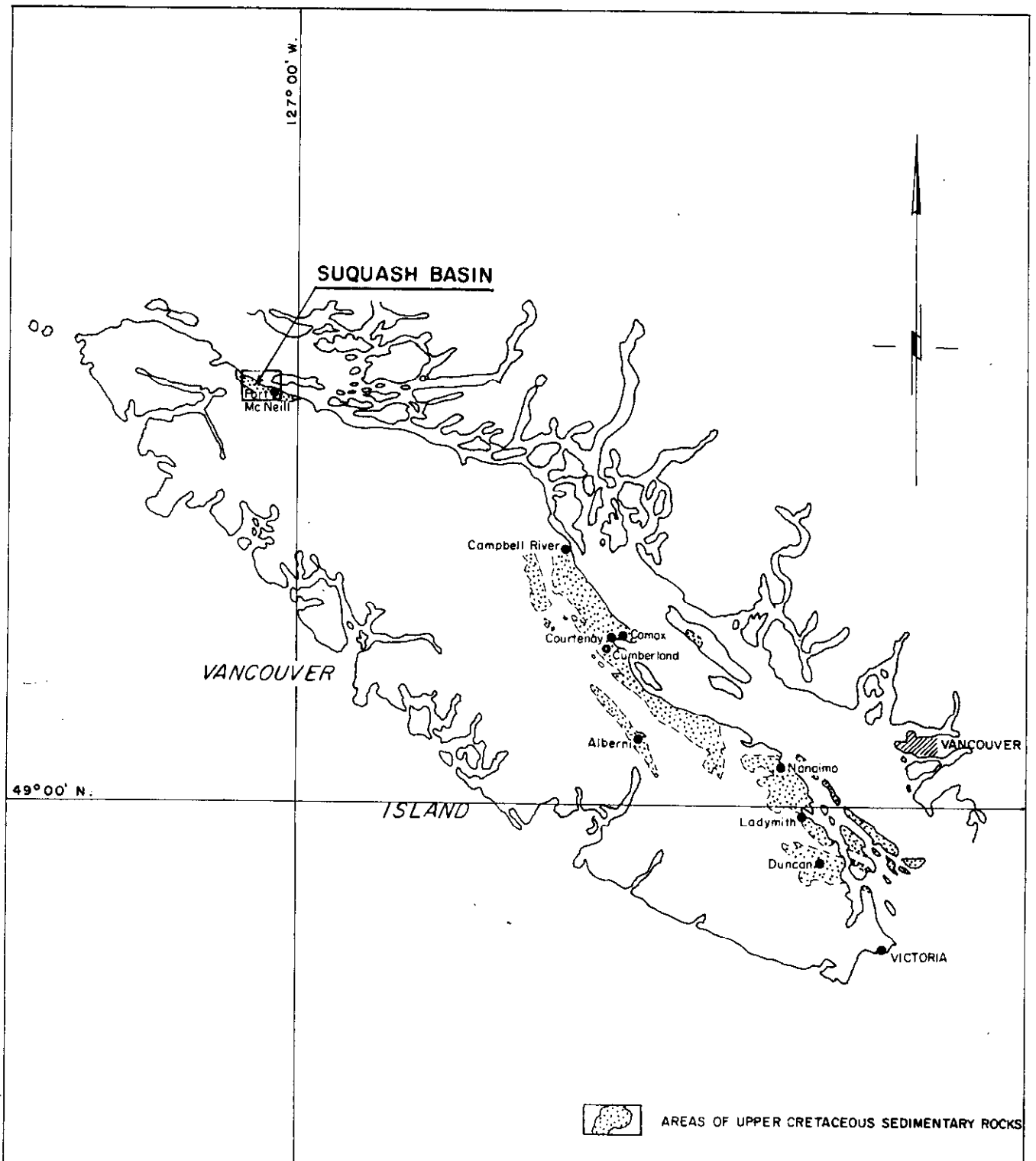
The climate is mild but wet, the average annual precipitation being about 65 inches

HISTORY

The first recorded discovery of coal in what is now British Columbia was made at Suquash on Vancouver Island. Indians of the Beaver Harbour area brought specimens of coal to Dr. W. F. Tolmie of the Hudson's Bay Company at Fort McLoughlin (Bella Bella) in the year 1835. In 1847 the Hudson's Bay Company decided to open a mine in this area to supply steamships with bunker fuel. A party of miners arrived from England in 1849, and mining was carried out on a limited scale until 1852. It is beleived that the workings were in outcrops at Suquash, and that about 10,000 tons of coal were mined. The workings were abandoned after the discovery of richer deposits at Nanaimo.

In 1908, Pacific Coast Coal Mines Ltd. became interested in the area. Their operations were at the mouth of Suquash Creek immediately southeast of Single Tree Point. Drill holes were put down, intersecting No. 2 seam at a depth of 173 feet where it was found to be 5 feet $5\frac{1}{2}$ inches thick, but heavily interbedded with shale and inferior coal. A shaft was sunk 200 feet inland from the shore-line and, between 1909 and 1914, about 12,000 feet of lateral development work was done in the seam.

A longwall face 800 feet in length was opened up to the south of the shaft on the landward side but was only worked on a very limited scale. A start was made on the sinking of a large new shaft 1,500 feet southeast of the original one when all work was suspended on the outbreak of World War I. Work was resumed again in 1920; the original shaft was dewatered and a considerable amount of location work was done on the surface with a view to handling a large production. However, in 1922 all operations ceased. According to reports, 12,000 to 16,000 tons of coal were mined in the period from 1909 to 1914 by Pacific Coast Coal Mines Ltd.



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VANCOUVER, CANADA

B. C. HYDRO & POWER AUTHORITY
VANCOUVER, CANADA

1974 SUQUASH DRILLING PROJECT

LOCATION MAP

SQ - SUQUASH 74 (2) A.

SCALE: 1" = 40 miles	JAN. 1975	FIG. 1

In 1952 Suquash Collieries Ltd. acquired the licences and dewatered the longwall portion of the old workings and commissioned a feasibility report on the deposit by Hope Engineering Ltd. of Vancouver. However, no mining was undertaken.

No further work has been done on the deposit until that recently completed by B.C. Hydro and Power Authority.

PROPERTY

B.C. HYDRO AND POWER AUTHORITY COAL LEASES

British Columbia Hydro and Power Authority applied for coal leases for the entire Suquash Basin, realizing at the time of application that some land was already leased, some could not be leased because it formed parts of villages or Indian Reserves, and that for some sections or lots, the coal rights were alienated from the Crown. Following is a list of the leases finally obtained. Their locations are shown on Figure 2; all are within the Rupert Land District. There are 51 leases with a total area of approximately 22,603 acres.

Licence Number	Description	Acreage (More or Less)
2851	Township 1, Section 4	628
2852	Township 1, Section 5	541
2853	Township 1, Section 6	520
2854	Township 1, Section 7, Northwest Quarter	160
2855	Township 1, Section 9	617
2856	Township 1, Fractional Section 16	102
2857	Township 2, Section 1, South Half	200
2858	Township 2, Section 2	550
2859	Township 2, Section 3	570
2860	Township 2, Section 10, South Half	320
2861	Township 2, Section 11, South Half	320
2864	Township 2, Section 17	640
2865	Township 2, Section 18	640
2866	Township 2, Fractional Section 19, West Half	306
2867	Township 2, Fractional Section 20 excepting thereout that part included in Lot 9 and that part included in Indian Reserve Number 7	475
2868	Township 2, Fractional Section 22	453
2869	Township 2, Fractional Section 23	372
2870	Township 2, Fractional Section 24	167
2871	Township 2, Fractional Section 26	98
2872	Township 2, Fractional Section 27	62
2874	Lot 17	284
2875	Lot 22	160
2876	Lot 22 A	36

Licence Number	Description	Acreage (More or Less)
2877	Township 3, Section 22	640
2878	Township 3, Section 23	640
2879	Township 3, Section 29	640
2880	Township 3, Section 31	640
2881	Township 3, Section 32	640
2882	Township 3, Section 33	640
2883	Township 3, Section 34	640
2884	Lot 11	640
2885	Lot 12	640
2886	Lot 13	640
2887	Township 4, Section 36	640
2888	Township 5, Fractional Section 2	131
2889	Township 5, Fractional Section 3	500
2890	Township 5, Section 4	640
2891	Township 5, Section 5	640
2892	Township 5, Section 6	640
2893	Township 5, Section 7 excepting thereout that part included within the boundaries of the municipality of Port Hardy.	316
2894	Township 5, Fractional Section 8	550
2895	Township 5, Fractional Section 9	237
2896	Township 5, Fractional Section 10	19
2897	Township 5, Fractional Section 17	6
2898	Township 6, Section 1	640
2899	Township 6, Theoretical Section 2	640
2900	Township 6, Theoretical Section 10	640
2901	Township 6, Section 11	640
2902	Township 6, Fractional Section 12 excepting thereout that part included within the boundaries of the municipality of Port Hardy.	560
2903	Township 6, Section 14, Fractional South half excepting that part thereout included within the boundaries of the municipality of Port Hardy.	223
2904	Township 6, Section 15, South half excepting thereout that part included within the boundaries of the municipality of Port Hardy.	320

OTHER COAL LEASES

Leases held by other parties comprised only lots 15 and 16, Township 3, Rupert Land District. These two lots, encompassing an area of 943 acres in the vicinity of the Suquash mine, (Fig. 2), are held by Cobre Exploration Ltd., a mineral exploration company based in Vancouver. Because of the importance of this ground to exploration of the Suquash Basin, the Authority obtained an agreement with the owners permitting it to explore on the two lots. The two Cobre leases are numbered 2110 and 2111.

ALIENATED COAL RIGHTS

A number of sections and lots within the basin have coal rights alienated from the Crown. No attempt was made to obtain exploration privileges or leases for any of these properties because they were not essential to the type of reconnaissance exploration program undertaken.

GEOLOGICAL SETTING

The Suquash Basin consists of an erosional remnant of Upper Cretaceous sedimentary rocks of the Nanaimo Group. The Nanaimo Group sediments form several such remnant basins on Vancouver Island, the two most notable with regard to coal content being the Comox and the Nanaimo basins. The sedimentary sequence comprising the Nanaimo Group has been studied in some detail in the Comox and Nanaimo basins and consequently the various rock units in these two basins can be correlated with confidence. The sediments of the Suquash Basin have not been studied in the same detail as yet and thus correlation of Suquash rock units with those of the Comox and Nanaimo basins is somewhat tentative at this time.

The Nanaimo Group has been subdivided into five depositional cycles. In the Comox Basin, the coal of the Cumberland and Tsable River deposits occurs in the first depositional cycle. In the Nanaimo Basin, the coal deposits occur in the second depositional cycle. In the Suquash Basin, very recent work suggests that the coal seams in the Suquash Mine area, and thus probably all seams encountered in the B.C. Hydro & Power Authority drilling project, occur in the third depositional cycle of Nanaimo Group sediments. It thus appears that the age equivalents of the economic coal deposits of Comox or Nanaimo are not present in the Suquash Basin. As with the Comox and Nanaimo coal deposits, the Suquash coal is of an age specific to that basin.

The Nanaimo Group rocks of the Suquash Basin rest unconformably on Jurassic and Triassic volcanics, (Bonanza and Karmutsen Formations), and to a lesser extent on sediments of the Triassic age Parson Bay Formation, (Fig. 3).

Structurally, the basin appears to form a broad syncline with a northeast striking axis and gentle plunge in the same direction. In detail, the bedding is deformed by broad secondary folds and thus exhibits local anticlinal structures within the overall synclinal trend. Dips are rarely over 10° and generally less than 5°. Most of the basin is bounded by faults but the amount of internal faulting is essentially unknown due to the paucity of rock exposures and marker horizons. However, general basin configuration and results of the recent drilling suggest that faulting within the basin is not severe.

EXPLORATION CONDUCTED

SURVEYING

McElhanney Associates, professional land surveyors, were contracted to establish Lot boundaries and provide location control for the drilling in and about the two Lots held by Cobre Exploration Ltd., (Fig. 4). A two-man crew spent approximately two weeks at this work. Because it was possible to locate old posts and boundary lines, albeit with some difficulty, only a "compass and chain" survey was undertaken. With these old posts and lines established, and after the initial period of getting the project underway, further location work elsewhere in the basin was done by the project field assistant.

Elevations of the drill hole collars were obtained by use of a barometric altimeter. The instrument used provided an accuracy of $\pm$ 5 feet.

DRILLING SITE ACCESS

Primary access to the drilling area is via the Island Highway, (No. 19), and a main logging road, (Rupert Main), of Rayonier Canada Ltd., (Figs. 2 & 3). Access to individual drilling sites, other than those located on logging roads, was obtained only with considerable difficulty and expense. A bulldozer (Caterpillar, model D6) with extra-wide tracks, a "swamp dozer", was employed to push tote-roads to the drilling sites. Even this equipment had considerable difficulty in working in the swampy conditions of the basin and on two occasions a second "swamp dozer" was employed to extricate the original one which had become mired in deep mud. As well, local by-pass roads had to be built when sections of the original tote-roads became impassable after only limited use. In total, approximately 33,300 ft. (6.3 miles) of tote-road were constructed, (Figs. 2 & 3). To transport the drill crew, drilling supplies, core, etc., a Bombardier "swamp buggy" was obtained in Vancouver and shipped to the project site. Although it was the most suitable vehicle for the conditions which prevailed, it was costly to operate and resulted in some program delays due to breakdowns brought on by the severe conditions in which it was operated.

The access and travel difficulties caused numerous delays to the primary job of diamond drilling and thereby resulted in rather slow progress for the overall project.

PLAN SHOWING OLD WOOD POSTS REPLACED BY CAPPED IRON POSTS IN SEC. 28, 33 AND 34, LOTS 12, 13, 14, 15 AND 16 TOWNSHIP 3, RUPERT DISTRICT.

SCALE : 1 INCH = 2000 FEET

92 L/11 g and f

50° 37'± N 127°15'± W

QUEEN CHARLOTTE STRAITS

TOWNSHIP 5

L 3 L 2

SEC 33 SEC 34 L 15 L 16

SEC 28 L 14 L 13 L 12 L 17

TOWNSHIP 2

OP CIP

OBT 16" HEMLOCK N 22° E 15 LINKS
14" CEDAR S 66° W 40 LINKS

OP CIP
OBTs 28" SPRUCE N 36° W 12 LINKS
40" HEMLOCK N 66° E 2 LINKS

OP CIP
OBT 18" HEMLOCK SNAG S 85° E 10 LINKS

FD. OBT. 9" CEDAR S 84° W 11 LINK

5280.0 NORTH

1667.16 NORTH

2640.0 NORTH

OBTs:
4 1/2 ft. CEDAR S 24° W 4 LINKS
17" HEMLOCK N 31° E 43 LINKS

OP CIP 2640.0 EAST

OP, CIP OBT's: 5 ft CEDAR S 11° W 15 LINKS

2640.0 EAST OP CIP

OBTs:
3 ft CEDAR N 47° E 21 LINKS
14" HEMLOCK S 140° W 4 LINKS

OP CIP 2640.0 EAST

OBTs:
24" CEDAR S 45° E 29 LINKS
10" HEMLOCK S 60° W 34 LINKS

SET CIP OBT. 3 ft HEMLOCK S 14° W 2 LINKS

OBTs:
18" W. PINE S 64° W 12 LINKS
12" CEDAR N 68° W 23 LINKS

OBTs
10" PINE SNAG S 66° E 7 LINKS
30" CEDAR N 69° E 15 LINKS

2640.0 EAST OP CIP

OBTs 30" CEDAR SNAG N 46° W 23 LINKS

COBRE EXPLORATION LTD.

NOTE : BEARINGS AND DISTANCES ARE SHOWN FROM THE ORIGINAL SURVEY BY W. RALPH IN JULY 1887.

CERTIFIED CORRECT Robert G. Ryga

DATED THIS 7th DAY OF OCTOBER 1974

McELHANNEY ASSOCIATES
Professional Land Surveyors
1200 West Pender Street
Vancouver 1, B.C.
Job No. 13067 - 0

THIS PLAN LIES IN WITHIN THE MOUNT WADDINGTON REGIONAL DISTRICT.

DOLMAGE CAMPBELL & ASSOCIATES LTD. CONSULTANTS
VANCOUVER, CANADA

B.C. HYDRO & POWER AUTHORITY
VANCOUVER, CANADA

1974 SUQUASH DRILLING PROJECT

SURVEY PLAN

SQ - SUQUASH 74 (2) A.

SCALE 1" = 2000'	JAN. 1975	FIG. 4

BC(L 5378b MSEL

DIAMOND DRILLING

Diamond drilling was contracted to D. W. Coates Enterprises Ltd. of Vancouver. The Contractor provided one drill (Longyear, model 38) and two crews of two men each. The drilling was conducted on a two-shift, seven-day-per-week basis and, considering the difficult access problems encountered, productivity was good. Core size was NQ (1.875 inches diameter; hole size 2.98 inches diameter); core recovery was excellent, averaging well over 95 percent, even in the coal zones.

Drilling productivity has been determined on the basis of drill-crew shifts, a reasonably accurate although not precise method. The results are shown in Table No. 1 below.

TABLE NO. 1 - DRILLING PRODUCTIVITY

DRILL-CREW SHIFTS				FOOTAGE DRILLED		
Available	Drilling	Moving	Delay	Overburden	Rock	Total
164.5	63.0	64.5	37.0	922'	5344'	6266'
100%	38.8%	39.2%	22.5%	14.7%	85.3%	100%
Productivity per Drilling Shift				38.8'	136.2'	99.5'
Productivity per Available Shift				14.9'	52.2'	38.1'

In all, ten holes were drilled, four on the Cobre leases and six elsewhere in the basin. Total footage was 6266 feet of which 922 feet were in overburden. Hole S74-7, the last hole drilled, did not reach bedrock although it was drilled to a depth of 357 feet in overburden (60 feet below sea level). Hole S74-2 intersected basement volcanic rocks at a depth of 358 feet (253 feet below sea level); there was no coal present in the overlying sediments. All other holes intersected one or more coal zones.

Table No. 2, Drill Hole Record, contains details of all of the holes drilled during the 1974 project and of the four boreholes drilled in 1907-08. Lithologic logs of all drill holes, 1974 and 1907-08, are contained in Appendix No. 1. All core was photographed and the photos are on file.

TABLE NO. 2 - DRILL HOLE RECORD

Hole No.	LOCATION (All within Rupert Land District)	Collar Elev.	HOLE LENGTH O/B	Rock	Total Depth	No. Samples
S74- 1	NW Cor. L 15, Twp. 3	130'	11'	627'	638'	9
S74- 2	2100'N, 1350'W of SE Cor. Sec. 12, Twp. 3	105'	50'	369'	419'	0
S74- 3	Approx. centre L 15, Twp. 3	160'	16'	642'	658'	13
S74- 4	2500'W, 660'S of NE Cor. Sec. 20, Twp. 2	90'	110'	858'	968'	13
S74- 5	1000'E of SW Cor. L 15, Twp. 3	185'	12'	766'	778'	7
S74- 6	50'N of SW Cor. L 16, Twp. 3	165'	23'	705'	728'	11
S74- 7	1350'N, 2650'E of SW Cor. Sec. 12, Twp. 2	297'	357'	-	357'	0
S74- 8	Not drilled					
S74- 9	Not drilled					
S74-10	4300'N of SW Cor. L 14, Twp. 3	228'	78'	520'	598'	11
S74-11	Not drilled					
S74-12	SW Cor. L 12, Twp. 3	222'	117'	421'	538'	1
S74-13	SW Cor. Sec. 19, Twp. 2	390'	148'	436'	584'	3
	Totals 1974 Drilling		922'	5344'	6266'	68
BH-1	3750'E, 30'S of NW Cor. L 15, Twp. 3	10'	7'	1207'	1214'	-
BH-2	1390'E, 550'S of NW Cor. L 16, Twp. 3	10'	13'	388'	401'	-
BH-3	1290'W, 1710'N of SE Cor. L 16, Twp. 3	10'	5'	361'	366'	-
BH-4	2080'E, 1190'N of SW Cor. Sec. 2, Twp. 5	10'	5'	160'	165'	-
	Totals 1907-08 Drilling		30'	2116'	2146'	-
	TOTALS ALL DRILLING		952'	7460'	8412'	68

SAMPLING

A total of 68 samples were taken from eight of the ten drill holes and sent to Commercial Testing and Engineering Co. in Vancouver for proximate analyses. Sample lengths ranged from one to ten feet and averaged 2.8 feet. Samples were selected on the basis of coal content and lithology wherever possible, although often the lack of significant discrete coal seams in a zone resulted in a general "zone" sample being collected. Occassionally, short sections of waste (shale) within a zone were omitted from a sample (as might occur in a cleaning plant). A lithologic description, quantified where possible, was made for each sample. Sample data is listed on the first page of the 1974 drill hole logs; analyses certificates are contained in Appendix No. 2.

GEOLOGICAL MAPPING

Virtually all rock exposures within the Suquash Basin were examined during the geological mapping of the basin. However, there are very few exposures because of the till cover, lack of incised streams, gentle topography and easily weathering nature of the sedimentary rocks. Where the sedimentary rocks are exposed they generally consist of the more durable sandstone portions of the sequence. The best exposures are along the shoreline of Queen Charlotte Strait, between Beaver Harbour and the Cluxewe River, (Figure 3). A few small patches of sandstone are exposed along logging roads and tote roads but these are usually so weathered (crumbly, slumped) or small that it is not possible to determine bedding attitudes. No outcrops or other exposures are present in the southeasterly end of the basin where drilling indicates several hundred feet of overburden cover.

PROJECT COSTS

Total costs for the proposed project were estimated, before the program began, to be $215,000.00 for 7000 feet of drilling, an overall unit cost of $30.71 per foot. Actual costs will be approximately $188,000.00, (final figures were not available at time of writing), for 6266 feet of drilling, a unit cost of $30.00 per foot. One major item, geophysical surveys, was not undertaken. If the $12,000 estimated for this item had been expended, the total cost would have been approximately $200,000 and the unit cost $31.92 per foot.

The major item of over-expenditure in the budget was for access roads; conditions were much worse than anticipated. Additional expense for some items such as drilling (on a per foot basis), maintenance, engineering and consulting were due to a more lengthy field-time than was projected, the extra time being a result of the difficult access and travel conditions which prevailed. Unit drilling costs were inflated, ($16.50 per foot est.; $18.35 per foot act.), by delays, excessive travel and moving time, and swamp buggy charges, all of which were also a direct result of the difficulty encountered in working in the cedar swamp which comprised much of the exploration area.

EXPLORATION RESULTS

ROCK TYPES

The sedimentary rocks comprising the Upper Cretaceous coal measures of the Suquash Basin consist, for the most part, of sandstone, conglomerate and shale. Sandstone is the most abundant single rock type; conglomerate is the least abundant of the major rock types. Also present, but in comparatively minor amounts, are coal, fireclay and bentonite.

Conglomerate - Conglomerate units are massive and range between 2 and 37 feet in thickness. They are primarily composed of pebbles one to two inches in diameter, imbedded in a coarse sandstone matrix. The pebbles are commonly composed of chert, sandstone, argillite and basalt. The overall color is light to medium grey.

Sandstone - Sandstone, which forms the thickest units, (as much as 200 feet), ranges in texture from conglomeratic through coarse-grained to silty and shaly. The coarser sandstones are mainly light to medium grey, massive and feldspathic. They correlate, in part, with conglomerate and thus are probably an example of lateral facies changes. Thin bedding, comprised of alternating light and dark grey beds, occurs in the finer grained sandstone; turbid, fine grained sandstones, where the thin beds have been mixed and are mottled light to dark grey in color, are also common.

Shale - Shale beds form the thinnest of the three major sedimentary units, varying from fractions of an inch to rarely more than ten uninterrupted feet. They are medium to predominantly dark grey and are not uncommonly silty or even sandy in texture. Bedding is only rarely discernable. Shale beds are associated with the majority of the coal zones.

Coal - Clean coal is shiny black and has a vitreous lustre; it does not appear to have a high inherent ash content (bone coal), but fine shale partings are common. The coal is commonly pyritic, often containing over 5 percent pyrite; this is no doubt the major source of sulphur in the coal since pyrite contains slightly more than 50 percent sulphur. Quite often the coal is fragmental or crumbly.

Fireclay - The clay beds range from fractions of an inch to several feet in thickness. They are composed of a cohesive, somewhat plastic, medium to light grey mud which in the past, when presumably appropriate tests were carried out, was termed "fireclay". These beds are usually associated with coal zones.

Bentonite - Bentonite is occassionally present in both shale and sandstone beds. It occurs in distinct seams up to one-quarter inch in thickness, or mixed with the sedimentary constituents. It has a greasy texture and is very light cream in color.

CORRELATION

Correlation of the sedimentary units in the Suquash Basin from drill hole to drill hole can be done with reasonable confidence on a gross scale. However, in more detail, correlation is generally tenuous or impossible. Correlation difficulties are due to (i) a lack, although not absence, of distinctive marker horizons, (ii) to similar rock units repeated throughout the stratigraphic sequence, (iii) to vertical gradation among the major sedimentary units, and (iv) to lateral gradation along sedimentary units. Features which contribute to the gross or broad correlation are: (i) some (incomplete) marker horizons; (ii) reasonably distinct conglomerate - conglomeratic sandstone horizons of appreciable thickness (in the order of 20 to 40 feet); (iii) generally persistent beds containing coal and/or fireclay; and (iv) an apparent absence of complicating structural feature such as faulting, severe folding and sediment slumping.

The most persistent beds are those which contain coal and fireclay, their continuity indicating that the basin of deposition stabilized for short periods of time; there were few, and then only minor, environmental disruptions, conditions favourable for swamp and peat bog formation. Coal zones No. 1 and 2, with their associated fireclay, are the best examples of this type of deposition. In some contrast to these quiescent conditions, the rapid lateral facies changes, most evident in the conglomerate-sandstone units, suggest a more active basin and multiple sedimentary sources. Probably a number of streams in close proximity to one another contributed to the basin sedimentation during such periods.

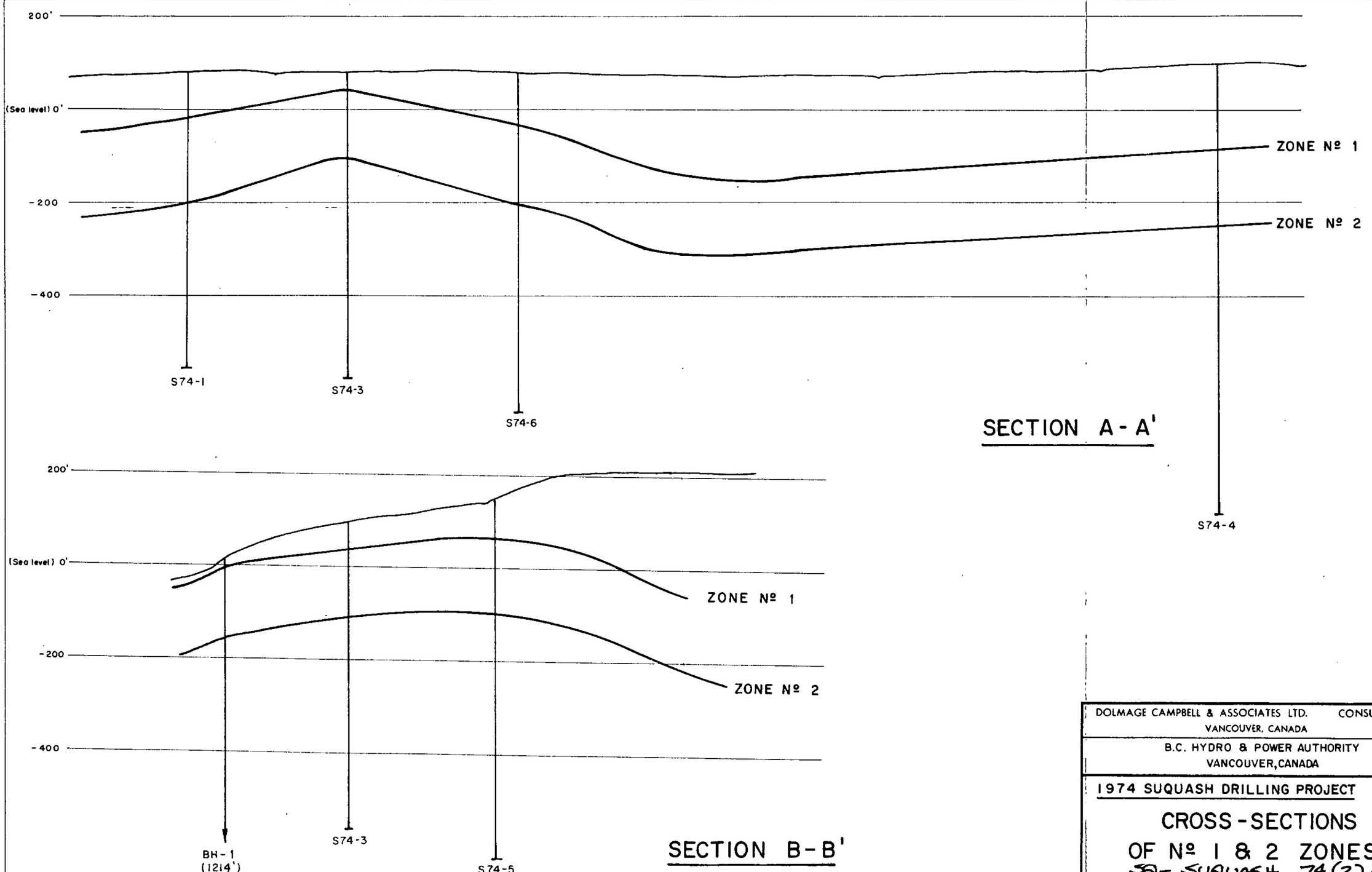
The coal zones consist of coal, shaly coal, coaly shale, carbonaceous shale, shale, fireclay and occassionally sandy shale or sandstone. The proportion of coal or coaly material can change considerably within a zone from place to place, and consequently it is often difficult to firmly correlate a particular zone in any one drill hole with that in another hole. A further complication is the presence of other, often similar, coaly and carbonaceous sections in the stratigraphic column which do not appear to correlate from hole to hole. The confidence of correlation of the coal zones in the holes as presently spaced ranges from high to low for different zones and even within a single zone. Correlation in the No. 1 zone is generally good, locally excellent, and rarely in doubt. No. 2 zone correlation is either excellent or moderate. For most other zones the confidence of correlation can be classed as moderate, to sometimes low, and only rarely high.

COAL ZONE CONFIGURATION

A lack of distinctive marker horizons in the sedimentary rocks of the Suquash Basin, combined with the wide spacing of the drill holes in some areas and

the paucity of surface exposures, make it extremely difficult to determine the configuration of the sedimentary beds throughout the basin. There is the suggestion, from general basin features such as shape of the basin and topographic expressions, that the original concept of a very broad gentle syncline with a northeasterly-striking and plunging axis is still valid. However, results of the 1974 drilling indicate that gentle flexures occur within the syncline such that, locally, anticlinal structures are present. These features become apparent when structural contours and sections are drawn for the most persistent and easily correlated coal zones, zones No. 1 and No. 2, (Figures 6 and 7). Presumably the other coal zones have similar configurations although some change could occur with increasing stratigraphic depth.

The areal extent of the zones, as indicated by drill hole intersections, is shown on Figure 8.



SECTION A-A'

SECTION B-B'

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1974 SUQUASH DRILLING PROJECT

CROSS-SECTIONS OF Nº 1 & 2 ZONES

SQ-SUQUASH 74(2)A.

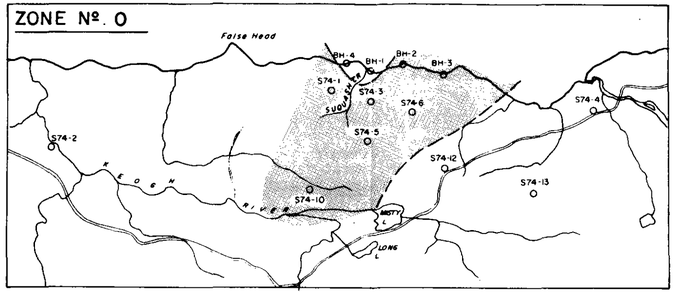
SCALE: HOR. 1" = 2000'
VERT. 1" = 200'

JAN. 1975

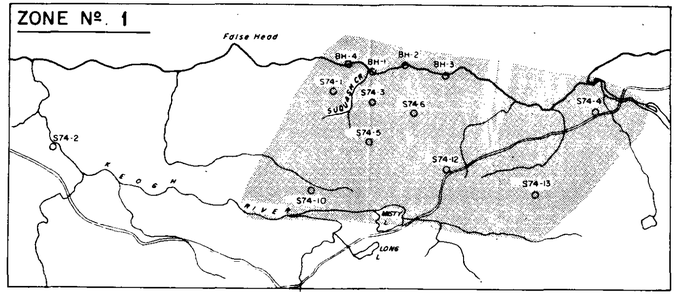
FIG. 7

DWG. B

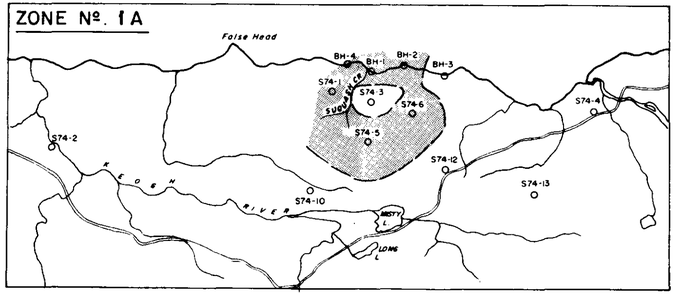
ZONE Nº. 0



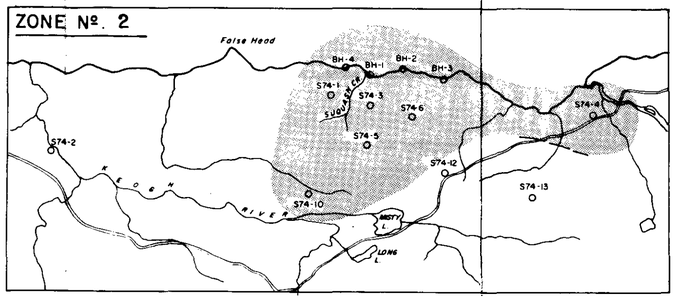
ZONE Nº. 1



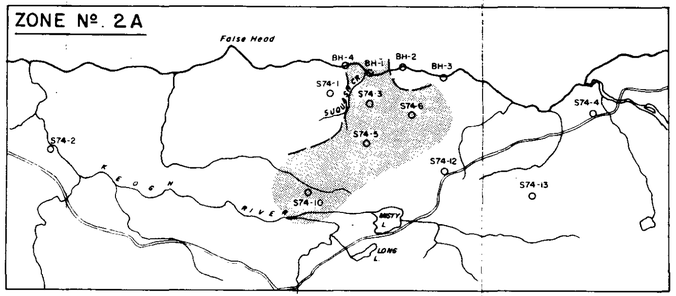
ZONE Nº. 1A



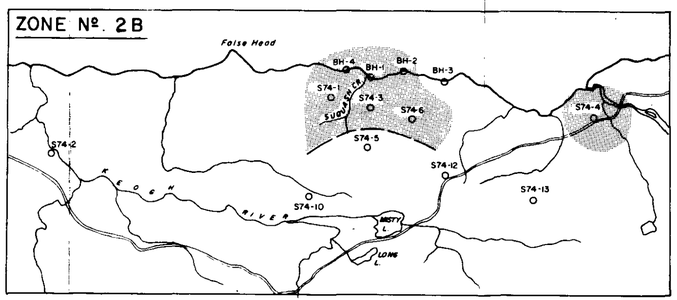
ZONE Nº. 2



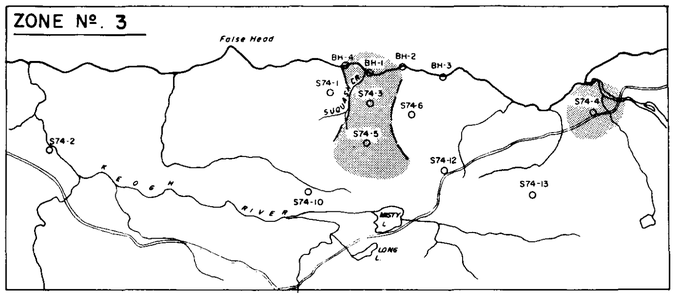
ZONE Nº. 2A



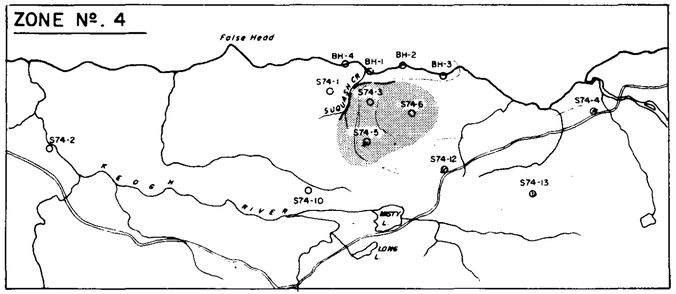
ZONE Nº. 2B



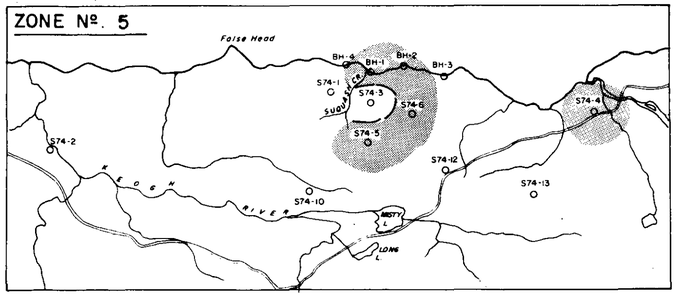
ZONE Nº. 3



ZONE Nº. 4



ZONE Nº. 5



S74-4 ○ DRILL HOLE (1974)

BH-1 ○ DRILL HOLE (1908)

COAL ZONE

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1974 SUQUASH DRILLING PROJECT

AREAL EXTENT OF COAL SEAMS

sq. SUQUASH 74(2)A

SCALE 1:100,000	JAN. 1975	FIG 8

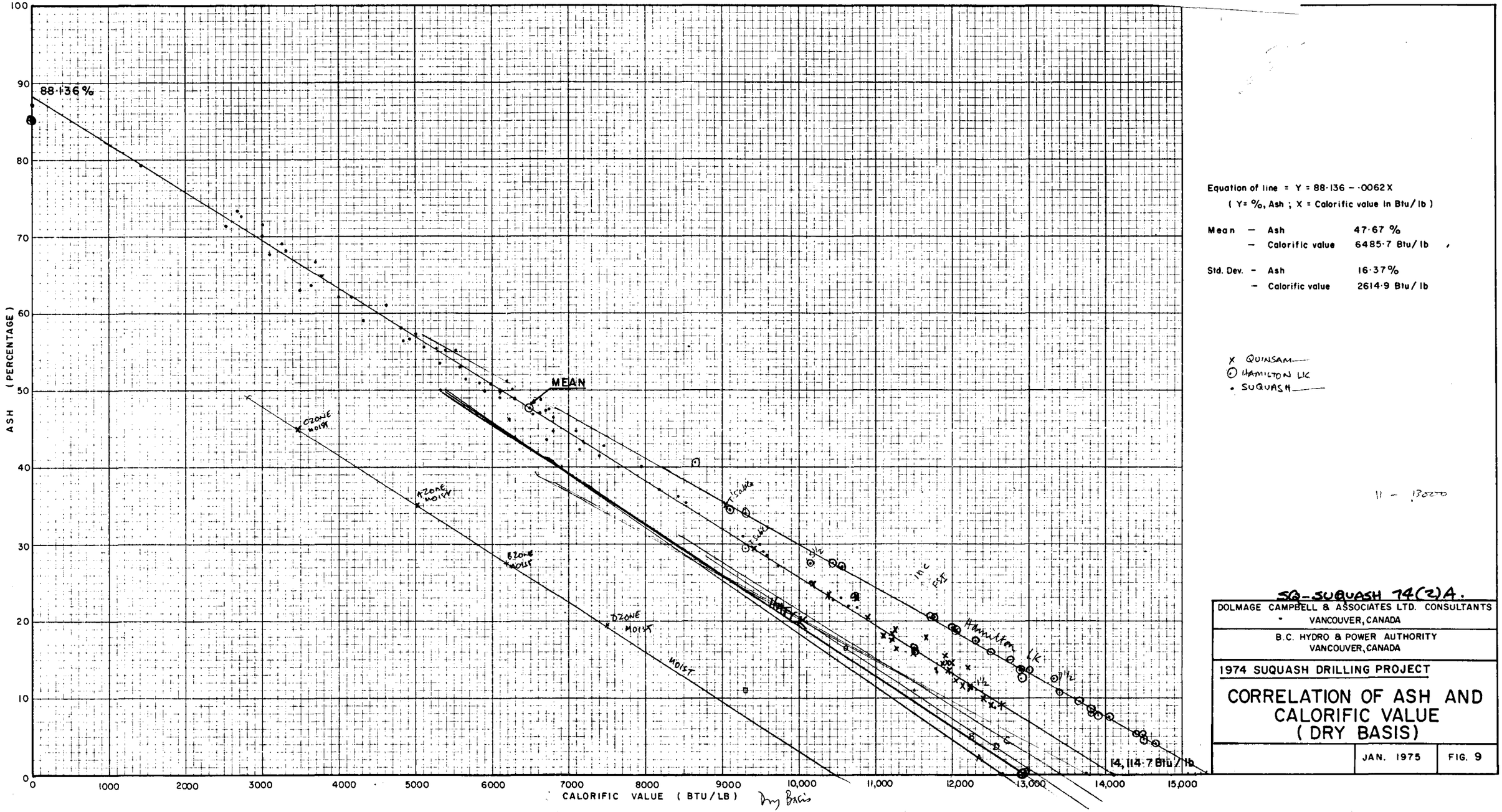
ASSESSMENT OF ANALYTICAL RESULTS

Proximate analyses of the variety of samples collected from the drill core provide a good measure of the coal quality, the coal zones and the coalfield potential. Results are presented, in part, in Table No. 3; only calorific value and ash content are included in the table because they are the simplest indications of zone quality. The ranges and averages for all proximate analyses of samples (not zones) are as follows, ("as received" basis):

Item	High	Low	Range	Average
Zone thickness - (ft.)	21.0	1.0	20.0	4.7
Aggregate clean coal - (ft.)	7.1	0	7.1	0.6
Sample length - (ft.)	12.1	1.0	11.1	3.6
Moisture - (%)	9.25	3.67	5.58	6.15
Ash - (%)	74.59	8.26	66.33	47.92
Volatile Matter - (%)	41.17	13.57	27.60	22.64
Fixed Carbon - (%)	54.00	5.85	48.15	23.29
Sulphur - (%)	6.15	0.16	5.99	2.01
Calorific Value - (Btu/lb)	11,840	1,348	10,492	5,564

A number of factors are apparent upon inspection of these figures. The amount and proportion of "clean" coal in the coal zones is small and this is reflected in the analytical results. The ash content, also because of the small proportion of clean coal, is very high even though samples of probably unmineable thickness (1-3 feet) with a higher-than-average coal content have been included in the average. Calorific value is correspondingly low. Sulphur content is high. Moisture content is not high, (6%).

Table No. 4 presents average thickness, ash and calorific values for sampled portions of the correlated zones. Figure 9 shows the relationship between calorific value and ash content.



Equation of line = Y = 88·136 − ·0062X
(Y = %, Ash ; X = Calorific value in Btu/lb)

Mean	–	Ash	47·67 %
	–	Calorific value	6485·7 Btu/lb
Std. Dev.	–	Ash	16·37 %
	–	Calorific value	2614·9 Btu/lb

× QUINSAM
⊙ HAMILTON LK
• SUQUASH

SQ-SUQUASH 74(2)A.

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1974 SUQUASH DRILLING PROJECT

CORRELATION OF ASH AND CALORIFIC VALUE (DRY BASIS)

JAN. 1975 | FIG. 9

DRILL HOLE Nº	S 74-1		S 74-2	S 74-3		S 74-4		S 74-5		S 74-6		S 74-7	S 74-10		S 74-12		S74-13		BH-1		BH-2		BH-3		BH-4	
COLLAR ELEV.	130'		105'	160'		90'		185'		165'		297'	228'		222'		390'		10'		10'		10'		10'	
O.B. DEPTH	11'		50'	16'		110'		12'		23'		357'	78'		117'		148'		7'		13'		5'		5'	
HOLE LENGTH	638'		419'	658'		968'		778'		728'		357'	598'		538'		584'		1214'		401'		336'		165'	
ZONE Nº 0	67·0	5·5						17·0	1·0	114·5	1·5		99·0	3·3							51·0	1·0	109·0	1·0		
	1·0	1·0		NR		(NR)		1·0	0·5	–	0·7		2·3	0	NR		NR		(NR)		–	1·0	–	0·6	NR	
	10,962	12·61						9885	21·56	–	–		6064	46·17							–	–	–	–		
ZONE Nº 1	159·5	2·2		117·5	2·0	175·8	2·1	116·0	1·3	182·0	2·5		199·0	5·5	341·0	1·0	508·2	1·5	12·0	1·8	116·0	1·0	178·0	2·0	78·0	6·0
	1·8	1·0		2·0	0·9	2·1	0·3	1·8	0·6	–	0		5·5	0	1·0	0·5	1·5	0	–	1·8	–	1·0	–	1·6	–	2·4
	9795	21·41		10,401	16·30	6071	43·19	9893	20·43	–	–		4027	59·83	9832	19·83	6316	44·60	–	–	–	–	–	–	–	–
ZONE Nº 1A	276·0	12·0						245·0	4·0	320·0	2·0		286·0	8·9					129·0	3·0	231·0	1·0	282·0	1·0		
	10·0	0·5		NR		NR		–	0	1·8	0·8		8·9	0	NR		DNR		–	0	–	1·0	–	–	DNR	
	2796	71·51						–	–	9100	25·39		4522	55·30					–	–	–	–	–	–		
ZONE Nº 2	343·0	1·5		259·0	7·0	362·0	6·0	276·0	2·0	347·0	12·1		362·7	2·8					156·0	16·0	254·0	21·0	323·0	7·0		
	–	0		4·0	0·6	2·5	0·5	–	0	12·1	0·8		2·8	0·5	NR		DNR		–	7·0	–	5·1	–	2·7	DNR	
	–	–		5726	42·46	6254	42·73	–	–	3238	71·92		5345	48·51					–	–	–	–	–	–		
ZONE Nº 2A	NR			364·0	4·0	NR		375·5	4·5	466·0	6·5		465·0	4·0					267·0	2·0	NR		DNR		DNR	
				2·3	1·1			1·5	0·5	6·5	0·4		3·8	1·0	DNR		DNR		–	1·0						
				9413	23·19			6343	45·91	5841	55·75		5990	47·96					–	–						
ZONE Nº 2B	481·0	5·0		430·0	1·3	519·0	3·5			508·0	10·0								256·0	4·0						
	4·0	0		1·3	0	3·5	0	NR		1·9	1·0		NR		DNR		DNR		–	0·5	DNR		DNR		DNR	
	3216	64·19		8797	27·79	6560	41·24			5511	46·69								–	–						
ZONE Nº 3	DNR			536·0	2·0	600·0	13·5	535·0	13·0										3420	1·0						
				2·0	1·3	6·9	0	8·0	1·3	NR			DNR		DNR		DNR		–	1·0	DNR		DNR		DNR	
				9025	26·99	2946	65·11	7031	46·73										–	–						
ZONE Nº 4	DNR			591·6	6·0			582·0	5·0	651·0	6·0															
				4·2	0	NR		5·0	0·8	–	0		DNR		DNR		DNR		NR		DNR		DNR		DNR	
				6235	44·88			4626	53·25	–	–															
ZONE Nº 5	DNR					720·0	5·0	637·0	16·0	703·0	8·0								553·0	2·0						
				NR		4·9	0·5	10·0	1·2	5·5	3·0		DNR		DNR		DNR		–	2·0	DNR		DNR		DNR	
						3278	62·24	3403	59·40	8081	33·27								–	–						
OTHER INTERSECTIONS	415·0	7·5		294·0	1·2	160·0	2·7	391·0	2·0	671·5	1·5		168·0	5·0			522·0	5·0								
	7·5	0·5		1·2	0·6	1·7	0	1·8	0·4	1·5	0		4·0	0			3·7	0								
	3402	63·29		6841	40·56	7130	37·37	5028	52·89	6710	40·32		5948	46·08			2924	63·70								
	541·3	2·0		341·0	4·0	340·5	4·1	449·1	2·2	681·0	10·0		229·0	4·0			535·0	5·0								
	1·7	0		2·4	0	4·1	0	2·2	0·4	2·0	0·5		4·0	0			3·8	0								
	6311	41·55		5054	50·75	5738	47·54	8604	28·84	8837	26·90		5233	52·16			4000	54·71								
	623·0	3·0		373·0	4·0	416·0	3·0			723·0	5·0		592·0	4·0												
	2·7	0		2·5	0	1·2	0			5·0	0		4·0	0												
	3151	64·83		4585	55·11	6788	38·93			3093	65·33		2431	68·65												
				462·0	1·8	750·0	6·0																			
				1·8	0·2	6·0	0·5																			
				6428	41·61	5007	52·74																			
				5260	5·0																					
				2·6	0·2																					
				4869	52·92																					
				552·5	5·5																					
				3·4	0																					
				3606	64·42																					
				610·5	7·5																					
				2·5	0																					
				5806	46·68																					

NR - Zone 'Not Recognised' in drill core.

(NR) - Zone theoretically above subcrop.

DNR - Hole 'Did Not Reach' the zone.

KEY

DEPTH TO TOP OF ZONE
SAMPLE LENGTH
BTU/LB

THICKNESS OF ZONE
TOTAL CLEAN COAL IN ZONE
**ASH (%)

* May include some sampled internal waste.

** For sampled length, including internal waste.

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1974 SUQUASH DRILLING PROJECT

TABLE Nº. 3
COAL ZONE INTERSECTIONS

JAN. 1975

TABLE NO. 4

COAL ZONE QUALITY

ZONE	SAMPLE + INTERNAL WASTE THICKNESS			MINIMUM 3 FT. THICKNESS		
	Average Thickness (ft.)	% Ash	Calorific Value (Btu)	Average Thickness (ft.)	% Ash	Calorific Value (Btu)
0	1.4	32.66	8092	3.0	67.82	3866
1	2.2	39.75	6941	3.4	61.03	4489
1A	6.9	60.53	4086	7.3	62.69	3862
2	5.4	59.94	4331	5.5	61.28	4194
2A	3.6	51.03	5788	4.1	56.33	5161
2B	2.2	40.18	6697	3.2	57.81	4723
3	5.6	51.90	5599	6.0	54.59	5286
4	4.6	49.43	5361	4.6	49.43	5361
5	6.8	53.04	4634	6.8	53.04	4634
Average	4.3	52.33	5201	4.9	57.79	4608

Examination of Tables 3 and 4 indicates that for a minimum three-foot zone thickness, calorific value is mostly in the range of 4000 to 5000 Btu per pound with occassional individual intersections containing up to 8000 Btu per pound. Ash content is generally in the 50 to 60 percent range but locally drops to 35 to 45 percent. Average values for the deposit or even for individual seams cannot be determined with confidence because of the irregular nature of the sampling and the discrepancy between numbers of samples for different seams. However, it appears that the average calorific value (dry basis) for zones three feet or greater in thickness is approximately 4500 Btu per pound. The corresponding ash content is 59%.

The rank of the Suquash coal is "High Volatile C Bituminous".

COAL RESERVES

The criteria employed in calculating reserves for the Suquash deposit are similar to those used previously for the Comox reserve calculations. The main criteria are:

Minimum zone thickness of three feet.

Tonnage factors:

Ash (%)	Specific Gravity	Tonnage Factor (cu.ft./ton)
10	1.43	22.4
20	1.56	20.5
30	1.69	19.0
40	1.82	17.6
50	1.95	16.4
60	2.08	15.4
70	2.21	14.5

Proven Reserves - coal occurring in three or more boreholes spaced not more than 1600 feet apart, and for which there is a relatively high degree of confidence in the correlation of the seam or zone between holes; a maximum projection of 800 feet.

Probable Reserves - coal projected a maximum of 1600 feet beyond proven coal, or, coal occurring in three or more boreholes spaced not more than 3200 feet apart, and for which there is a moderate degree of confidence in the correlation of the seam or zone between holes.

Possible Reserves - coal projected beyond probable coal or beyond one or more borehole intersections for a maximum distance of 3200 feet. Reserves for isolated drill intersections of coal seams or zones for which correlation cannot be established.

Reserves have been calculated only for the nine defineable zones, (0, 1, 1A, 2, 2A, 2B, 3, 4, 5). Where sample thickness is less than three feet, the calorific value and ash content have been determined for the minimum three feet thickness by assuming the non-sampled portion to contain zero calorific value and 100 percent ash. This should give conservative results.

The reserves have been calculated for three different conditions:

1. No heat or ash quantity limits.

2. Only those portions of the zones with calorific values greater than 4000 Btu per pound and ash content less than 60 percent.

3. Only those portions of the zones with calorific values greater than 6000 Btu per pound and ash content less than 50 percent.

The results are shown in Table No. 4. It must be realized that these figures are based on somewhat sparse and irregularly spaced data and consequently averages, (which in most cases are weighted), could contain considerable bias in some instances. However, they do serve to indicate the general coal zone quality and quantity in the Suquash Basin.

In rounded-off figures, the Suquash Basin contains the following coal zone reserves:

(A) All correlated intersections regardless of grade

300 million short tons @ 4500 Btu per pound and 60 percent ash.

(B) Correlated intersections containing over 4000 Btu per pound and under 60 percent ash

150 million short tons @ 5500 Btu per pound and 50 percent ash.

(C) Correlated intersections containing over 6000 Btu per pound and under 50 percent ash

50 million short tons @ 6900 Btu per pound and 44 percent ash.

For a minimum three feet thickness the highest calorific value is 8080 Btu per pound and the lowest ash content is 33.3 percent.

TABLE NO. 5

SUQUASH COAL ZONE RESERVES

SUMMARY

Zone	A) ALL COAL ZONE Tonnage	Calorific Value	Ash	B) >4000 Btu; <60% ASH Tonnage	Calorific Value	Ash	C) >6000 Btu; <50% ASH Tonnage	Calorific Value	Ash
PROBABLE									
1	9,360,000	5620	54.8	7,570,000	6410	48.5	4,010,000	6930	44.2
POSSIBLE									
0	18,490,000	4200	64.9	5,870,000	5350	53.2	-	-	-
1	38,840,000	4100	53.2	24,920,000	4420	58.2	1,930,000	6930	44.2
1A	54,570,000	3860	62.4	34,400,000	4680	55.3	-	-	-
2	42,690,000	4160	61.8	21,330,000	5210	50.4	-	-	-
2A	24,930,000	5340	56.2	11,780,000	6300	46.1	11,780,000	6300	46.1
2B	23,540,000	5090	53.4	6,460,000	6560	41.2	6,460,000	6560	41.2
3	32,310,000	4830	56.6	17,310,000	6880	47.4	15,420,000	7030	46.7
4	15,080,000	5040	51.1	15,080,000	5040	51.1	7,310,000	6240	44.9
5	38,130,000	4420	54.4	7,630,000	8080	33.3	7,630,000	8080	33.3
Sub-Total	288,580,000	4430	59.0	144,780,000	5440	51.1	50,530,000	6840	43.5
PROBABLE + POSSIBLE									
Total	297,940,000	4470	58.9	152,350,000	5490	50.9	54,540,000	6850	43.5

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CONSULTING GEOLOGICAL & MINING ENGINEERS
1000 GUINNESS TOWER
VANCOUVER 1, B.C.

CONCLUSIONS

Results of the 1974 Drilling Project in the Suquash Basin have generally confirmed the previously presumed geological setting of the basin and have indicated the presence of a low grade thermal coal reserve.

The basin is comprised of poorly lithified sandstone-shale sediments in which some coal is present. The sediments are essentially flat-lying, probably representing a very broad, open syncline plunging at a low angle to the northeast. Some gentle bedding undulations are apparent which locally tend to confuse the overall structural setting. Overburden is not excessive, 5-150 feet, except in the southern end of the Basin where it is, at least locally, over 350 feet deep.

Thin coal seams and thicker coaly zones are common within the upper 600 feet of the sedimentary section; in the explored area, nine coal zones are correlatable in three or more drill holes. However, none of the zones contains a high percentage or significant quantity of clean coal; they are better described as "coaly zones" consisting of coal, shaly coal, coaly shale, carbonaceous shale and some pure shale. The pure coal has a "High Volatile C Bituminous" rank.

The coal reserves calculated from the results of the 1974 program indicate that no appreciable reserve exists with a calorific value over 8000 Btu or an ash content less than 35 percent. The tonnage of near-surface reserve has not been determined but the drilling has established that it is not significant.

Considering the quality and configuration, (depth, thickness), of the Suquash coal it is apparent that the potential of the Suquash Basin as an immediate source of thermal coal has been adequately explored and found to be uneconomic at this time.

No further exploration is recommended.

Respectfully submitted,

DOLMAGE CAMPBELL & ASSOCIATES LTD.

C. R. Saunders, P.Eng.

Appendix 1

Drill Hole Logs

PACIFIC COAST COAL MINES

DRILL RECORD—DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. -
Elev. 10' (approx.)
Core Size ?
Length 1214'
Azimuth -
Dip -90°
Project Suquash Mine
Location 3750' E, 30' S of NW Cor. L. 15, Twp. 3
Purpose Coal Exploration
Hole No. B.H.-1
Date 1907
Logged by C.H. Clapp
Notebook #5 (G.S.C. 163)

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	7.0	Surface wash				
7.0	12.0	Clay				
12.0	13.7	COAL	Old seam opened by Hudson's Bay Co. ZONE No. 1			
13.7	15.0	Slate				
15.0	46.0	Sandstone	Grey.			
46.0	77.0	Shale	Black.			
			(56.0'- 64.0'), Sandstone, thin-bedded and shaly, with coal markings.			
			(61.0'- 61.3') COAL			
			(64.0'- 65.0'), Shaly sandstone, with coal lenses.			
			(67.0'- 77.0'), Shaly sandstone with sandy shale.			
77.0	85.0	Sandstone	Coarse, grey; close-grained, dark; hard, grey.			
85.0	91.0	Conglomerate				
91.0	145.0	Sandstone	Fine and coarse-grained, light-grey.			
			(91.0'- 93.0') (98.0'- 99.0') (107.0'-108.0') (112.0'-114.0') (129.0'-132.0') -			
			Shale, black, coal markings and lenses.			
145.0	154.0	Shale	Black and grey.			
154.0	156.0	Fireclay				
156.0	168.0	COAL	(157.3'-159.0') Sandstone, soft, grey.			
			(159.0'-162.0') Shale, brown.			
			(165.0'-166.0') Shale, carbonaceous.			

Project Suquash Mine Hole No. B.H.-1

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
168.0	194.0	Sandy Shale	Light Brown.			
			(167.0'- 171.0') Carbonaceous.			
			(171.0'- 173.0') Shale, carbonaceous with coal lenses.			
194.0	209.0	Sandstone	Coarse.			
209.0	256.0	Conglomerate	Coarse.			
256.0	260.0	Shale	Brown.			
			(256.0'- 256.6') COAL.			
260.0	267.0	Sandstone				
267.0	269.0	Shale	(268.0'- 269.0') COAL.			
269.0	283.0	Sandstone	Black.			
283.0	329.0	Shale and Sandstone	Some with alternate layers.			
			(313.0'- 315.0') Shale with COAL, mixed.			
			(327.6'- 329.0') COAL, mixed with some shale.			
329.0	340.0	Sandstone				
340.0	368.0	Shale	Brown and with coal lenses.			
			(342.0'- 343.0') COAL.			
			(349.0'- 359.0') With sandstone.			
368.0	430.0	Sandstone				
430.0	464.0	Shale	(430.0'- 431.0') Fireclay.			
			(441.0'- 445.0') (451.5'- 453.0') Coal with shale.			
464.0	518.0	Sandstone	(492.0'- 498.0') Shale.			
518.0	539.0	Shale	(530.0'- 532.0') Sandstone.			
539.0	547.0	Sandstone				

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
547.0	590.0	Shale	(549.0'- 551.0') With clay.			
			(551.0'- 553.0') (564.0'- 564.5') COAL.			
			(559.0'- 561.0') (564.5'- 566.0') Sandstone.			
590.0	613.0	Sandstone				
613.0	750.0	Shale	(613.0'- 619.0') (630.0'- 637.0') With coal markings and small coal lenses.			
			(637.0'- 645.0') Sandstone.			
			(678.0'- 681.0') Clay.			
			(681.0'- 750.0') Sandy in places.			
750.0	789.0	Sandstone				
789.0	901.0	Shale	Sandy in places.			
			(789.0'- 798.0') Coal markings.			
901.0	937.0	Sandstone	Grey.			
937.0	950.0	Shale	Dark.			
			(947.0'- 950.0') Blue.			
950.0	1100.0	Sandstone	Mostly coarse-grained.			
1100.0	1105.0	Shale				
1105.0	1121.0	Sandstone				
1121.0	1144.0	Shale and Sandstone				
1144.0	1152.0	Shale	Light brown; 3" COAL at top.			
1152.0	1164.0	Shale	Dark.			
1164.0	1170.0	Sandstone	Shaly.			
1170.0	1203.0	Sandstone	Coarse, green.			

Project [illegible] Hole No. B.H.-1 Page 3

DH B.H.-1 Page 4

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
1203.0	1214.0	Shale	Blue, soapy feel.			
	1214.0	End of Hole.				

Project [illegible] Hole No. [illegible] Page 1

PACIFIC COAST COAL MINES

DRILL RECORD—DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. _____

Elev. 10' (approx.) ?

Core Size _____

Length 401'

Azimuth --

Dip -90°

Project Suquash Mine

Location 1390' E & 550' S of N.W. Cor., L. 16, Twp. 3

Purpose _____

Hole No. B.H.-2

Date 1908

Logged by C.H. Clapp

Notebook #5 (G.S.C. 163)

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	13.0	Surface Wash				
13.0	42.0	Sandy Shale				
42.0	60.0	Shale	(51.0'- 52.0') COAL.			
60.0	107.0	Sandy Shale	(84.0'- 84.5') (94.5'- 96.0') COAL.			
			(97.0'- 102.0') Sandstone.			
107.0	116.0	Fireclay				
116.0	117.0	COAL				
117.0	157.0	Sandstone	(117.0'- 119.0') Shaly.			
157.0	176.0	Conglomerate				
176.0	190.0	Shale	(176.0'- 184.0') Sandy.			
190.0	198.0	Sandstone	(191.0'- 192.0') Conglomerate.			
			(192.0'- 194.0') Shaly with coal markings.			
198.0	202.0	Conglomerate				
202.0	215.0	Sandy Shale	With coal markings.			
			(202.0'- 204.0') Shale, dark.			
			(206.0'- 207.0') COAL.			
			(207.0'- 208.0') Coal and sand mixed.			
215.0	228.0	Sandstone	(218.0'- 224.0') Sandy shale.			

Project Suquash Mine Hole No. B.H.-2

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
228.0	236.0	Shale	(229.5'- 231.0') COAL.			
			(231.0'- 233.0') Sandstone.			
236.0	254.0	Sandstone				
254.0	296.0	Shale	(254.0'- 258.0') (259.5'- 260.0') With COAL mixed.			
			(258.0'- 259.5') (266.0'- 268.5') (271.0'- 272.0') (274.0'- 274.6') COAL.			
			(260.0'- 265.0') (272.0'- 274.0') Fireclay.			
296.0	321.0	Sandstone				
321.0	365.0	Conglomerate	(334.0'- 337.0') (339.0'- 341.0') (342.0'- 345.0') Sandstone.			
365.0	401.0	Shale	(368.0'- 369.0') Sandstone.			
			(373.0'- 374.0') (383.0'- 401.0') Mixed with coal lenses.			
			(374.0'- 383.0') With sandstone.			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
213.0	237.0	Shale	Dark and light.			
			(230.0'- 237.0') Sandy.			
237.0	269.0	Sandstone	(251.0'- 252.0') Conglomerate.			
			(259.0'- 262.0') Shale.			
			(262.0'- 269.0') Coarse, and conglomerate.			
269.0	287.0	Shale	(282.0'- 283.0') COAL.			
			(283.0'- 285.0') Fireclay.			
287.0	319.0	Sandstone	(296.0'- 297.0') (306.0'- 310.0') Shale.			
319.0	351.0	Shale	Some dark.			
			(323.0'- 323.6') (326.0'- 326.5') (328.0'- 329.0') (329.4'- 330.0')			
			(331.0'- 331.5') COAL.			
			(326.5'- 328.0') (330.0'- 331.0') (333.5'- 336.0') Fireclay.			
			(329.0'- 329.4') Sandy.			
351.0	363.0	Sandstone				
363.0	366.0	Conglomerate	(363.0'- 365.0') Sandstone.			

PACIFIC COAST COAL MINES

DRILL RECORD—DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. —
Elev. 10' (approx.)
Core Size ?
Length 366'
Azimuth —
Dip -90°
Project Suquash Mine
Location 1290' W & 1710' N of S.E. Cor. L.16, Twp. 3
Purpose
Hole No. B.H.-3
Date 1908
Logged by C.H. Clapp
Notebook #5 (G.S.C. 163)

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	5.0	Gravel				
5.0	13.0	Sandy Shale				
13.0	18.0	Sandstone				
18.0	22.0	Shale	Shades of coal.			
			(21.0'- 22.0') Sandy.			
22.0	30.0	Sandstone				
30.0	64.0	Shale	Dark.			
			(30.0'- 41.0') (42.0'- 50.0') Sandy.			
			(51.0'- 52.0') Sandstone.			
64.0	100.0	Sandstone				
100.0	114.0	Shale	Light and dark.			
			(109.0'- 109.6') COAL.			
114.0	130.0	Sandstone				
130.0	134.0	Shale				
134.0	158.0	Sandstone	(142.0'- 145.0') Sandy shale.			
			(155.0'- 155.6') COAL.			
158.0	186.0	Shale	(168.0'- 170.0') (181.0'- 186.0') Sandy.			
			(177.4'- 179.0') COAL.			
186.0	213.0	Sandstone	(209.0'- 210.0') Shale.			

Project Suquash Mine Hole No. B.H.-3

PACIFIC COAST COAL MINES

DRILL RECORD—DOLMAGE, CAMPBELL & ASSOCIATES LTD.

Coord. -
Elev. 10' (approx.)
Core Size ?
Length 165.0'
Azimuth -
Dip -90°
Project Suquash Mine
Location 2080' E & 1190' N of S.W. Cor., S 22, Twp. 5
Purpose
Hole No. B.H.-4
Date 1908
Logged by C.H. Clapp
Notebook #5 (G.S.C. 163)

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	5.0	Surface Wash				
5.0	22.0	Sandstone	Shaly, and sandy shale.			
22.0	38.0	Shale	Carbonaceous with coal lenses.			
38.0	58.0	Sandstone	Soft, grey (some light).			
58.0	62.0	Shale	(59.0'- 62.0') Brown.			
62.0	71.0	Shale Sandstone	Grading down into sandy shale with coal markings.			
71.0	88.3	Shale	(77.6'- 78.0') (82.0'- 84.0') (87.8'- 88.3') COAL. (78.5'- 82.0') Fireclay. (84.0'- 87.4') Sandy.			
88.3	121.0	Sandstone	(113.0'- 121.0') Shaly.			
121.0	126.0	Shale	(121.5'- 122.0') Fireclay.			
126.0	136.0	Shale	Sandy.			
136.0	165.0	Shale	(139.0'- 143.0') With coal lenses. (143.0'- 145.0') Sandy. (153.0'- 154.0') Shaly, sandstone. (154.0'- 155.0') Sandstone, coarse-grained. (155.0'- 165.0') Brown.			

Project Suquash Mine Hole No. B.H.-4

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74- 1

LOCATION: At, but within the N.W. corner of Lot 15, Twp. 3, Rupert Land District.

COLLAR ELEV. 130' AZIMUTH -- DIP -90° LENGTH 638'

CORE SIZE NQ DATE DRILLED October 13 to 18, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION FROM	LOCATION TO	LOCATION LENGTH	LITHOLOGY AND REMARKS
S1- 1	67-5286	67.0	68.0	1.0	Coal, shaly, pyritic, crumbly.
S1- 2	67-5287	159.5	161.3	1.8	One foot coal, pyritic, in coaly shale.
S1- 3	67-5288	278.0	279.5	1.5	0.5 feet coal, fragmental; 0.7 feet coaly shale; 0.3 feet carbonaceous shale.
S1- 4	67-5289	285.5	288.0	2.5	1.5 feet coaly shale 1.0 foot carbonaceous shale.
S1-5to9					No samples.
S1-10	67-6043	415.0	422.5	7.5	0.5 feet coal, fragmental, pyritic 1.2 feet shaly coal; 1.5 feet coaly shale 3.3 feet carbonaceous shale. 1.0 foot shale, light grey - not sampled.
S1-11	67-6044	427.8	429.0	1.2	0.6 feet shaly coal; 1.3 feet coaly shale 0.3 feet slightly carbonaceous sandstone.
S1-12	67-6045	481.0	485.0	4.0	2.0 feet coaly shale, pyritic 1.4 feet carbonaceous shale. 0.6 feet brown sandstone - not sampled.
S1-13	67-6046	541.3	543.0	1.7	0.9 feet shaly coal; 0.5 feet carbonaceous shale; 0.2 feet carbonaceous sandstone.
S1-14	67-6047	623.6	626.3	2.7	0.6 feet shaly coal; 0.1 foot coaly shale 2.0 feet carbonaceous shale.

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	11.0	Overburden	Boulder clay.			
11.0	67.0	Sandstone	Medium-grained, light to medium grey; bedded mainly at 85°-90°.			
			(13') Six inches shale, dark-grey.			
			(14' - 17') Shale, dark grey.			
			(25' - 26') Shale, dark grey.			
			(45' - 47') Shale, dark grey.			
			(53' - 58') Grades down to coarse-grained with massive sections.			
			(58' - 65') Coarse-grained, light to medium-grained; massive, feldspathic.			
			(63' - 65') Conglomeratic.			
			(65' - 67') Medium and coarse-grained, medium and dark grey; turbid, very minor carbonaceous material.			
67.0	72.5	Shale	Medium and dark grey; silty beds.			
			(67' - 68') Shaly COAL			
			(68' - 72.5') Carbonaceous.			
72.5	156.0	Sandstone	Coarse-grained, light to medium grey, massive; feldspathic; cross-bedded 75°-90°.			
			(129' -133') Shale, dark grey, sandy.			
			(138' -140') Fine-grained, medium and dark grey; thin-bedded 85°-90°.			
			(140' -145') Shale, dark grey.			
			(152' -153') Minor carbonaceous material.			
156.0	159.5	Fireclay	Medium grey, soft; minor bentonite at base.			
159.5	161.8	COAL and Shale	One foot COAL, fragmental, pyritic; between coaly shale beds. ZONE No. 1 = Hudson's Bay Company No. 1 seam at mouth of Suquash Creek.			
161.8	200.0	Sandstone	Coarse-grained, light to medium grey, minor shale partings; minor carbonaceous partings at 87°.			
			(161.8'-163') Bedded.			
			(190' -196') Shale, dark grey, very slightly carbonaceous; minor sandstone beds to ¼"; silty; locally turbid.			
200.0	227.0	Shale and Sandstone	(200' -206') Shale, dark grey, sandy at top.			
			(204' -206') Soft, muddy, bentonitic.			

Project SUQUASH Hole No. S74-1 Page 2

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(206' -210') Sandstone, fine-grained, medium grey; and shale, dark grey; interbedded, cross-bedded, turbid.			
			(210' -213') Sandstone, coarse-grained, medium to dark grey, massive.			
			(213' -216.5') Sandstone, fine-grained, and shale, dark grey; turbid.			
			(216.5'-217.5') 0.2 feet COAL and 0.8 feet carbonaceous shale.			
			(217.5'-220') Sandstone, coarse-grained to conglomeratic, light to medium grey.			
			(220' -227') Shale, dark grey, very minor carbonaceous material. Bedding at 60°			
227.0	254.0	Sandstone	Very coarse-grained to conglomeratic, light to medium grey; broken sections; beds at 45° and 70°.			
			(231' -232') Conglomerate.			
			(235' -235.5') 0.2 feet COAL.			
			(240' -240.5') Bentonitic, soft.			
			(241' -242') Carbonaceous.			
254.0	276.0	Conglomerate	Pebble to ¼ ft; light to medium grey, sandy matrix. Pebbles composed of chirt, argillite, amygdaloidal basalt, and conglomerate.			
276.0	293.0	Shale	Dark grey, sandstone sections, ZONE No. 2.			
			(276' -278') Coaly sandstone grading down to shale.			
			(278' -279.5') COAL, coaly and carbonaceous shale.			
			(279.5'-285') Sandstone, very slightly carbonaceous; shale, dark grey; shale, medium grey.			
			(285.5'-288') Coaly and carbonaceous.			
			(288' -293') Medium grey grading down to dark grey and becoming sandier. Very slightly carbonaceous; bedded at 80°-90°.			
293.0	308.0	Sandstone	Coarse-grained, medium-grey, massive; 80°-90°.			
			(297') ¼" thick bentonite partings.			
			(299' -308') Conglomeratic.			
308.0	313.0	Conglomerate	Pebble, light to medium grey; sandy matrix.			
313.0	352.0	Sandstone	Fine to coarse-grained, light, medium and dark grey; bedded, turbid, massive; 80°-90°.			

Project [illegible] Hole No. S74-1 Page 3

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(315' -316') Shale, dark grey, carbonaceous.			
			(323' -324') Shale, dark grey.			
			(326' -328') Carbonaceous.			
			(328' -331') Shale, dark grey, carbonaceous; 0.6' COAL.			
			(333' -334') Shale, dark grey.			
			(334' -343') Conglomeratic.			
			(339.5'-340') Shale, dark grey; ½" of bentonite; minor carbonaceous material.			
			(343' -344') Shale, dark grey, carbonaceous.			
			(350') Bedded at 70°.			
352.0	361.0	Shale	Dark grey, minor carbonaceous material, muddy.			
361.0	386.0	Sandstone	Coarse-grained, massive and medium to coarse-grained, light to dark grey.			
			(373' -374') Bentonitic, soft, crumbly.			
			(374' -386') Minor carbonaceous material.			
386.0	402.0	Shale	Dark grey.			
			(386' -388') Carbonaceous.			
			(391' -395') Sandstone, medium-grained, medium and dark grey.			
			(394' -395') Shaly, carbonaceous.			
			(400' -402') Sandy.			
400.0	415.0	Sandstone	Medium to coarse-grained, medium to dark grey; very minor carbonaceous material.			
			(410') 0.5 feet bentonite and coaly shale.			
			(410' -415') Grades down to sandstone, fine-grained.			
415.0	435.0	Shale	Dark grey.			
			(415' -420') Carbonaceous and coaly.			
			(425' -428') Sandstone and sandy shale.			
			(428' -429') Carbonaceous.			
			(432' -435') Carbonaceous; grades down to sandstone.			
435.0	443.0	Sandstone	Coarse-grained, light grey, massive grading down to fine-grained, bedded at 90°.			
443.0	452.0	Shale	Dark grey; sandy locally; grades down to sandstone.			

Project ... Hole No. ... Page ...

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
452.0	474.0	Sandstone	Fine to very coarse-grained, light to dark grey, faintly bedded to massive to turbid.			
			(461' -474') Conglomeratic.			
			(461' -465') Minor shale and shaly sandstone.			
474.0	489.0	Shale	Dark grey.			
			(476' -478') Carbonaceous and sandy.			
			(478' -481') Sandstone, medium to coarse-grained, medium and dark grey; turbid at base.			
			(481' -486') Coaly and carbonaceous shale.			
			(483' -483.5') Sandstone, brown.			
			(483.5'-486') Sandy, carbonaceous.			
			(486' -489') Sandy.			
489.0	545.0	Sandstone	Fine to medium-grained, medium to dark grey; turbid; faint bedding at 88°.			
			(502' -504') Coarse-grained, light to medium grey.			
			(516' -521') Shale, dark grey; very minor carbonaceous material.			
			(526' -536') Conglomeratic, light to medium grey.			
			(541' -542') Shaly coal, sandy.			
			(543' -544') Shale, dark grey.			
545.0	562.0	Sandstone	Very coarse-grained, light to medium grey, massive; quartz.			
562.0	572.0	Shale	Dark grey; grades down through sandy shale, to shaly sandstone to sandstone.			
572.0	638.0	Sandstone	Fine to coarse-grained, light to dark grey. Mainly turbid and massive but bedded at 85°-90°.			
			(585' -586') Shaly.			
			(623' -626') Shale, dark grey, carbonaceous.			
			(630' -631') Shaly.			
	638.0		END OF HOLE.			
			Dip Test: 88° at 500'			

Project [illegible] Hole No. S74-1 Page 5

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74- 2

LOCATION: End of a spur road off Rayonier branch road N-200. 2,100' N. and 1,340' W. of the S.E. corner of Section 12, Twp. 6, Rupert Land District.

COLLAR ELEV. 105' AZIMUTH -- DIP -90° LENGTH 419'

CORE SIZE NQ DATE DRILLED Nov. 10 & 11, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION FROM	LOCATION TO	LOCATION LENGTH	LITHOLOGY AND REMARKS
					No samples were taken.

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	50.0	Overburden	Gravel; section of sand near base.			
50.0	105.0	Sandstone	Coarse-grained, medium grey, massive.			
			(83' - 86') Some thin beds at 65°-75°.			
			(90' -100') Some turbid sections.			
			(100' -105') More thin bedded at 75°.			
105.0	133.0	Sandstone	Very coarse-grained and conglomeratic; grain size to 3/8"; light to medium grey; massive, minor soft, crumbly; minor beds at 75°.			
133.0	145.0	Sandstone	Coarse-grained, medium grey; minor dark grey beds at 75°.			
145.0	266.0	Sandstone	Very coarse-grained to conglomeratic (3/8"), light to medium grey, massive; minor dark grey bands.			
			(190' -191') Conglomerate (2" pebbles).			
			(208' -212') Lathe-like texture.			
			(236' -241') Coarse-grained, medium grey, turbid.			
266.0	280.0	Shale	Dark grey, bottom 1' is sandy.			
280.0	327.0	Sandstone	Very coarse-grained to conglomeratic, light to medium grey; minor beds at 60°-70°.			
327.0	336.0	Shale	Dark grey, very minor carbonaceous material; 70°.			
336.0	358.0	Sandstone	Conglomeratic to 3/8", light to medium grey.			
358.0	361.0	Mixed soil zone	Angular basalt boulders, sandstone, shale.			
361.0	419.0	Volcanics	Basalt, dark grey, rare amygdules; broken sections, fractures at 60° common. Maybe Karmutsen Formation or Tertiary sill (?).			
	419.0		END OF HOLE			
			Dip Test: 87° at 400'			

Project [illegible] Hole No. S74-2 Page 2

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74-3

LOCATION: Approximate center of Lot 15, Twp. 3, Rupert Land District.

COLLAR ELEV. 160' AZIMUTH -- DIP -90° LENGTH 658'

CORE SIZE NQ DATE DRILLED Oct. 8 to 11, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION FROM	LOCATION TO	LOCATION LENGTH	LITHOLOGY AND REMARKS
S3- 1	67-5138	117.5	119.5	2.0	Coal; upper 6" and lower 4" coaly. ZONE No. 1
S3- 2	67-5139	430.0	431.3	1.3	Shaly coal
S3- 3	67-5140	262.0	266.0	4.0	0.6 feet coal; 0.5 feet shaly coal, pyritic. 1.2 feet coaly shale; 0.1 foot carbonaceous sandstone; 1.6 feet carbonaceous shale. ZONE No. 2.
S3- 4	67-5285	364.4	366.7	2.3	1.1 foot coal; carbonaceous and coaly shale
S3- 5	67-6069	612.0	614.5	2.5	Carbonaceous and coaly shale
S3- 6to9	--	--	--	--	No Samples
S3-10	67-6065	527.0	529.6	2.6	Coaly and carbonaceous shale
S3-11	67-6066	536.0	538.0	2.0	1.3 feet coal, a bit shaly; coaly shale. ZONE No. 3.
S3-12	67-6067	554.6	558.0	3.4	1.5 feet coaly shale; 1.3 feet carbonaceous shale; 0.6 feet bentonite not sampled
S3-13	67-6068	591.5	595.7	4.2	1.1 feet shaly coal; 3.1 feet coaly and carbonaceous shale. ZONE No. 4.
S3-14	67-6070	294.0	295.2	1.2	0.6 feet shaly coal; coaly shale
S3-15	67-6071	342.8	345.2	2.4	Coaly shale
S3-16	67-6072	373.0	375.5	2.5	Coaly and carbonaceous shale
S3-17	67-6073	462.0	463.8	1.8	Coaly shale, bentonite, minor coal

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	16.0	Overburden	Boulder clay.			
16.0	30.0	Sandstone	Fine to medium-grained, medium to dark grey; turbid, thin-bedded at 87°-90°; cross-bedded.			
			(18' - 19') Sandy shale and shale, dark grey.			
30.0	34.0	Shale	Dark grey.			
			(31') seven inches COAL			
			(33') two inches COAL			
34.0	58.0	Sandstone	Medium to coarse-grained, medium and dark grey; turbid and bedded (87°-90°) and cross-bedded to 70°.			
			(35' - 36') Sandy shale.			
			(49' - 53') Coarse-grained, light-grey with dark grey banding, massive.			
			(53' - 58') Mainly turbid.			
58.0	94.0	Sandstone	Coarse-grained, light to medium grey, feldspathic; massive; thin, dark grey beds to 90°; cross-bedding to 50°.			
			(58' - 63') Shale, dark grey and sandstone, fine-grained; bedded 80°-90°.			
			(63' - 64') Medium-grained - turbid.			
94.0	115.0	Shale and Sandstone	(94' - 97') (103' -115') Shale, dark grey, sandy with sandstone, fine-grained, bedded.			
			(95') Two inches COAL			
			(97' -103') Sandstone, fine-grained, medium and dark grey, turbid and thin-bedded at 85°-90°.			
115	117.5	Fireclay	Light to medium grey; gritty locally.			
117.5	119.5	COAL	Upper six inches and lower six inches coaly shale.			
			ZONE number one.			
119.5	165.0	Sandstone	Medium and coarse-grained; light to medium grey, massive; medium and dark grey, turbid to bedded at 87°-90°; minor carbonaceous partings.			
			(123.5') Six inches brown shale.			
			(141' -146') Shale, dark grey; minor sandy sections; badly broken.			

Project ... Hole No. ... Page 2

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
165.0	181.0	Shale	Dark grey with sandy sections.			
			(165' -168') Mainly fine-grained sandstone with minor shale.			
			(168') Three inches carbonaceous shale.			
			(178') Two inches COAL.			
181.0	222.0	Sandstone	Very coarse-grained to conglomeratic, massive; minor conglomerate pebbles to $2\frac{1}{2}$ inches.			
			(205' -207') Fine-grained at 90°; cross bedding to 60°.			
			(212' -216') Fine-grained with some brown coloration.			
222.0	237.0	Sandstone	Coarse-grained, light to medium grey, massive; 2' shale at top.			
237.0	278.0	Sandstone and Shale	(237' -240') Shale, dark grey.			
			(240' -245') Sandstone, fine and coarse-grained, light and dark grey, thin-bedded at 80°-90°.			
			(245' -247') Sandstone, coarse-grained, light grey, massive.			
			(247' -260.5') Shale, dark grey and sandstone light grey, interbedded at 84°-90°.			
			(248' -249') Four inches COAL, and carbonaceous shale.			
			(251.5'-253') Six inches COAL, and coaly shale.			
			(259.0'-260.5') Six inches shaly coal, and carbonaceous shale.			
			(260.5'-266') Shale, dark grey, ZONE number 2.			
			(262' -266') Total 7 inches COAL, and coaly and carbonaceous shale.			
			(266' -274') Shale and sandstone thin bedded at 90°.			
			(274' -278') Sandstone, fine to medium grained, medium and dark grey, turbid; with shale and sandy shale.			
278.0	337.0	Sandstone	Medium to coarse-grained, medium grey, minor dark grey bedding at 87°-90°; mainly massive; locally carbonaceous to minor carbonaceous partings.			
			(283' -288') Conglomerate, pebble to $2\frac{1}{2}$ inches, sandy matrix.			
			(294' -295') Seven inches COAL; coaly shale.			
			(295' -301') Fine-grained, medium and dark grey; turbid and bedded at 87°.			
			(312' -321') Fine to medium-grained and minor shale, dark grey.			
			(326' -327') Interbedded with shale, dark grey.			
337.0	364.0	Sandstone	Coarse-grained, light and medium grey, massive.			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(341' -345') Shale, dark grey; coaly and carbonaceous.			
			(357' -357.9') Coaly shale.			
364.0	368.0	Shale	Dark grey; 1.1 feet COAL; coaly and carbonaceous shale.			
368.0	388.0	Sandstone	Fine-grained, medium to dark grey, thin-bedded at 88° and massive.			
			(373' -379') Shale, dark grey; minor coaly, and carbonaceous.			
388.0	407.0	Sandstone	Coarse-grained, light to medium to dark grey; mainly massive with some bedding at 87°-90°. Minor brown sections.			
			(393' -395.5') Shale, dark grey, carbonaceous.			
407.0	421.0	Sandstone and Shale	Mainly fine-grained sandstone, sandy shale and shale; dark grey; turbid where sandstone.			
			(407' -408.5') Fireclay.			
			(411' -413') Shale; coaly and carbonaceous.			
			(414.5'-415.1') Shaly COAL, crumbly.			
421.0	505	Sandstone	Coarse-grained, light to medium, and medium grey; mainly massive; minor carbonaceous areas and dark grey bedding at 87°-90°; with cross-bedding.			
			(430' -431.3') Shaly COAL.			
			(440' -442.5') Shaly coal and carbonaceous shale.			
			(462' -463.8') Coaly shale, three inches bentonite; minor COAL.			
505.0	519.0	Shale	Dark grey, clayey.			
			(509' -515') Sandstone, fine-grained, bedded; with 3/8" shale and clay beds.			
			(518' -519') Fireclay.			
519.0	526.0	Sandstone	Coarse-grained, medium-grained; minor fine-grained and shale beds.			
526.0	561.0	Shale and Sandstone	(526' -531') Shale, dark grey, carbonaceous and coaly.			
			(531' -536') Sandstone, fine-grained, light to dark grey; bedded at 87° and turbid.			
			(536' -543') Shale, dark grey; grading down to sandy shale.			
			(536' -538') 1.3 feet COAL, shaly and coaly shale.			
			(543' -548') Sandstone, coarse-grained, light to medium grey, massive; scattered carbonaceous material.			

Project [illegible] Hole No. [illegible] Page 7

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(548' -561') Shale, dark grey, carbonaceous.			
			(551' -552.5') Fireclay.			
			(558' -560') Mainly sandstone fine-grained, dark grey.			
561.0	581.0	Sandstone	Fine to coarse-grained, light to dark grey; massive, turbid and thin-bedded.			
			(572' -575') Shale, dark grey, carbonaceous.			
581.0	598.0	Shale	Dark grey.			
			(581' -583') (591' -595') (596' -598') Carbonaceous.			
			(594' -594.5') Shaly.			
598.0	610.0	Sandstone	Coarse-grained, with fine-grained, medium to dark grey, massive to thin-bedded; minor $\frac{1}{4}$" shale beds at 80°-90°.			
610.0	658.0	Sandstone and Shale	(610' -619') Shale, dark grey; coaly and carbonaceous sections.			
			(610' -610.5') Fireclay.			
			(619' -627') Sandstone, fine-grained, turbid, thin-bedded at 90°.			
			(627' -632') Shale, dark grey, very slightly carbonaceous.			
			(632' -637') Sandstone, coarse-grained, minor fine-grained, light to dark grey.			
			(637' -648') Shale, dark grey, $\frac{1}{4}$" sandstone beds common.			
			(648' -658') Sandstone, fine-grained, medium and dark grey, thin-bedded and turbid.			
	658.0		END OF HOLE			
			Dip Test: 87° at 500'			

Project ____ Hole No. S74-3 Page 5

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74- 4

LOCATION: 2,500' W. and 660' S. of N.E. corner of Section 20, Twp. 2, Rupert Land District. (Also - 100' N. of Highway 19 and at N. edge of Rupert Main (Rayonier) logging road.)

COLLAR ELEV. 90' AZIMUTH -- DIP -90° LENGTH 968'

CORE SIZE NQ DATE DRILLED Nov. 14 to 17, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION FROM	LOCATION TO	LOCATION LENGTH	LITHOLOGY AND REMARKS
S4- 1	67-6333	161.0	162.7	1.7	Shaly coal and coaly shale, pyritic
S4- 2	67-6334	175.8	177.9	2.1	0.3 feet coal; 0.5 feet shaly coal; 1.3 feet coaly and carbonaceous shale. ZONE No. 1 (?)
S4- 3	67-6335	340.5	344.6	4.1	0.3 feet shaly coal; 1.3 feet coaly shale; 2.5 feet carbonaceous shale
S4- 4	67-6336	364	366.5	2.5	0.5 feet coal; 0.5 feet coaly shale 1.5 feet carbonaceous shale.
S4- 5	67-6337	417	418.2	1.2	Shaly coal and coaly shale
S4- 6	67-6338	519	522.5	3.5	2.5 feet coaly shale; 1.0 feet carbonaceous shale.
S4- 7	67-6339	600.5	602.2	1.7	0.9 feet carbonaceous shale 0.8 feet shaly coal - Part of ZONE No. 3.
S4- 8	67-6340	602.2	607.5	5.2	Carbonaceous shale except 3 beds of bentonite totalling 0.7 feet; 0.8 feet shale not sampled. Part of ZONE No. 3.
S4- 9	67-6341	612.0	613.5	1.5	Carbonaceous shale with 2 coal beds totalling 0.2 feet. Part of ZONE No. 3.
S4-10	67-6342	720.0	721.5	1.5	Shaly coal and coaly shale. ZONE No. 5.
S4-11	67-6343	721.5	724.9	3.4	Carbonaceous shale.
S4-12	67-6344	750.0	752.2	2.2	Carbonaceous shale and sandstone
S4-13	67-6345	752.2	756.0	3.8	0.5 feet coal; and coaly shale

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	110.0	Overburden	Gravel, mainly pebble-sized boulders.			
110.0	160	Sandstone	Coarse-grained, light to medium-grey, minor dark grey banding; cross-bedded to 75°; bedded at 90°; mainly massive; feldspathic.			
			(135' -137') Slightly carbonaceous.			
			(137' -138') Thin-bedded, minor carbonaceous material.			
			(138' -139') Shale, dark grey.			
			(147' -151') Conglomeratic (3/8" to ½" rare).			
160.0	188.0	Sandstone	Fine to coarse-grained, light, medium and dark grey; interbedded with shale, dark grey locally; cross-bedded; bedded (80°-90°) and turbid.			
			(160.0'-162.7') Shale, dark grey; top foot bentonitic. 1.7 feet of shaly coal and coaly shale, pyritic.			
			(175.8'-177.9') Shale, dark grey; COAL, coaly and carbonaceous shale. ZONE No. 1 (?).			
			(179.3'-181') Coaly and carbonaceous shale.			
188.0	292.0	Sandstone	Coarse to very coarse-grained, light to medium grey; feldspathic; rare bedding at 85°-90°.			
			(219' -221') Conglomeratic.			
			(233' -245') Broken locally.			
			(247' -281') Conglomeratic to 2½".			
			(281' -292') Fine-grained, thin-bedded at 80°; grades down to coarse-grained, massive.			
292.0	318.0	Conglomerate	Sandy matrix.			
			(312' -312.5') Clay.			
318.0	324.0	Shale	Dark grey.			
			(322' -323') Carbonaceous with 2" COAL.			
324.0	376.0	Sandstone	Fine to medium-grained, medium and dark-grey; turbid, massive and bedded at 80° to 85°.			
			(340.5'-344.6') Shaly coal; coaly and carbonaceous shale.			
			(346' -347') Slightly carbonaceous.			
			(364' -366.5') COAL and coaly shale.			

Project [illegible] Hole No. S74-4 Page 2

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(366.5'-369') Shale, dark grey.			
			(373') Brown bands.			
			(374' -376') Shaly, dark grey with 0.6 feet of fireclay.			
376.0	388.0	Sandstone	Coarse-grained to very coarse-grained, light to medium grey; massive, feldspathic.			
			(381') Minor shaly coal.			
388.0	460.0	Sandstone	Fine to medium-grained, medium to dark grey; with sandy shale, shaly sandstone and shale beds at 85°.			
			(405' -416') Coarse-grained, light to medium grey grading down to fine-grained.			
			(416' -419') Organic mud, shaly coal and coaly shale.			
			(425') Shearing at 45°-50°.			
			(429' -431') Carbonaceous shale and sandstone.			
			(436' -443') Shale, dark grey; 60° shears.			
460.0	515.0	Sandstone	Medium to coarse-grained, light to medium grey, massive.			
			(500' -501') Shaly sandstone and shale with minor carbonaceous material.			
			(508' -515') Medium and dark grey (distorted at 10°-45°).			
			(510' -513') Shale, dark grey.			
515	522	Shale	Dark grey.			
			(519' -522.5') Coaly and carbonaceous.			
522.0	600.0	Sandstone and Shale	(522' -541') Sandstone, fine to coarse-grained, light to dark grey; massive, turbid and bedded at 65°-70°; minor carbonaceous shale.			
			(528' -541') Minor bedding at 80°-90°.			
			(541' -551') Shale, medium and dark grey; locally sandy and brecciated.			
			(551' -565') Sandstone, coarse-grained, light to medium grey; massive. Minor beds at 80°-90°.			
			(565' -578') Shale, dark grey; sandy locally.			
			(565' -565.5') COAL. Other minor carbonaceous sections.			
			(578' -590') Sandstone, fine to coarse-grained, light to medium grey; shaly, bedded at 85°-90°, massive.			
			(584') 1 inch bentonite.			
			(590' -600') Sandstone, coarse-grained to conglomeratic, light to medium grey; massive.			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
600.0	614.0	Shale	Dark grey. ZONE No. 3.			
			(600.5'-602.2') Shaly coal and carbonaceous shale.			
			(602.2'-607.5') Carbonaceous shale with 1 to 3" beds of bentonite.			
			(612.0'-613.5') Carbonaceous.			
614.0	703.0	Sandstone	Coarse-grained, light to medium grey; mainly massive; minor thin beds at 90°; minor shale, dark grey and carbonaceous sections.			
			(618.5'-619.1') Fireclay.			
			(634.0'-642.0') Minor brown beds.			
			(688.0'-671.0') Shale, dark grey, sandy.			
			(679.0'-690.0') Fine to medium-grained, medium and dark grey; turbid; interbedded with shale, dark grey at 88°.			
			(679.0'-680.0') Shaly coal and coaly shale.			
703.0	725.0	Shale	Dark grey, minor brown; some sandy sections.			
			(720.0'-725.0') Carbonaceous shale with minor coal beds. ZONE No. 5			
725.0	814.0	Sandstone and Shale	(725.0'-739.0') (757.0'-775.0') Sandstone, fine-grained, medium to dark grey; turbid, bedded at 90°. Minor shale and coarse-grained sandstone.			
			(764.0'-766.0') Fireclay and coaly shale.			
			(739.0'-745.0') (750.0'-757.0') (781.0'-788.0 ') (800.0'-814.0') Shale, dark grey; sandy sections.			
			(741.0'-744.0') Coaly and carbonaceous shale with 4" bentonite.			
			(750.0'-756.0') Carbonaceous and coaly shale and sandstone and 5" of COAL .			
			(745.0'-750.0') (775.0'-781.0') Sandstone, medium to coarse-grained; light to medium grey, massive. Minor beds at 90°. Locally bentonitic.			
814.0	853.0	Sandstone	Coarse-grained to conglomeratic, light grey, quartz-rich. Locally fine-grained, bedded at 90°.			
			(833.0') 4" fireclay.			
853.0	887.0	Shale	Dark grey, sandy with shaly sandstone and sandstone beds. Increased sandstone to base at 90°.			
887.0	947.0	Sandstone	Fine to coarse-grained, light to dark grey, bedded at 80°-90°; massive. Minor shale beds.			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(910.0'-916.0') Conglomeratic.			
947.0	968.0	Shale	Dark grey.			
			(958.0'-961.0') Sandstone, medium to coarse-grained; massive; minor beds at 90°.			
	968.0		END OF HOLE			
			Dip Test: 86° at 900'			

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74- 5

LOCATION: 1,000 feet East of the S.W. corner of Lot 15, Twp. 3, Rupert Land District.

COLLAR ELEV. 185' AZIMUTH -- DIP -90° LENGTH 778'

CORE SIZE NQ DATE DRILLED Sept.30-Oct.3, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION FROM	LOCATION TO	LOCATION LENGTH	LITHOLOGY AND REMARKS
S5- 1	67-4952	17.0	18.0	1.0	Coal, shale partings, pyritic
S5- 2	67-4953	116.0	117.3	1.3	Coal, shale partings. ZONE No. 1.
S5- 3	67-4954	375.5	377.0	1.5	0.7 feet coal; 1.8 feet shaly coal
S5- 4	67-4955	535.0	543.0	8.0	1.3 feet coal; 5.3 feet shaly coal and coaly shale; 1.4 feet shale - not sampled. ZONE No. 3.
S5- 5	67-4956	638.0	648.0	10.0	1.2 feet coal; 8.8 feet carbonaceous and coaly shale. ZONE No. 5.
S5- 6	67-5137	582.0	587.0	5.0	0.8 feet coal; 4.2 feet carbonaceous and coaly shale. ZONE No. 4.
S5- 7to9	--	--	--	--	NOT SAMPLED
S5-10	67-6064	391.2	393.0	1.8	0.4 feet coal; 1.4 feet coaly shale

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	9.0	Overburden	Boulder clay.			
9.0	107.0	Sandstone	Medium to coarse-grained, light to medium grey; thin-bedded at 86°-90° and massive, feldspathic.			
			(9.0'- 17.0') Fine-grained, medium and dark grey, thin-bedded.			
			(17.0'- 18.0') Shaly coal.			
			(18.0'- 22.0') Shale, dark grey grading down to shaly sandstone.			
			(32.0') 0.5 feet coaly sandstone.			
			(65.0') 0.3 feet COAL.			
			(85.0'- 86.0') Shale, dark grey.			
			(94.0'-96.0') Fine-grained, dark grey.			
			(96.0'-100.0') Shale, dark grey.			
			(100.0'-107.0') Medium grey, banded; grading down to sandy shale.			
107.0	114.0	Fireclay	Medium grey; sandy sections.			
114.0	121.0	Sandstone and Shale	Sandstone, fine-grained and shale, dark grey; banded at 86°-90°.			
			(116.0'-117.3') Shaly coal with fireclay is ZONE No. 1			
121.0	161.0	Sandstone	Medium to coarse-grained, medium grey; feldspathic; mainly massive.			
			(138.0'-142.0') Shale, dark grey; grading down to sandy shale; very minor coaly shale.			
			(159.0'-160.0') Coaly sandstone.			
161.0	178.0	Shale	Dark grey.			
			(161.0'-163.0') Sandstone, fine-grained; medium and dark grey, bedded at 86°-90°; grading down to sandy shale.			
178.0	219.0	Sandstone	Medium to coarse-grained, light to medium-grained; feldspathic; mainly massive but minor 86°-90°.			
			(197.0'-199.0') Conglomerate to 2 inches.			
			(207.0'-212.0') Conglomeratic with 1.0 foot conglomerate.			
			(212.0'-218.0') Carbonaceous.			
			(218.0'-219.0') Conglomerate (3/8 inch).			
219.0	256.0	Sandstone and Shale	(219.0'-220.0') Shaly coal.			

Project [illegible] Hole No. [illegible] Page 4

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(220.0'-228.0') Medium and dark grey, interbedded at 85°-90°; shaly sandstone.			
			(228.0'-242.0') Sandstone, coarse-grained, medium grey; minor bedding and shale beds.			
			(238.0'-242.0') Carbonaceous seams to $\frac{1}{4}$ inch.			
			(245.0'-246.0') Shaly coal.			
			(246.0'-249.0') Shale, dark grey; slightly carbonaceous.			
			(249.0'-252.0') Sandstone, coarse-grained grading down to medium grained, banded at 86°-90°.			
			(252.0'-256.0') Shale, dark grey, slightly carbonaceous.			
256.0	276.0	Sandstone	Coarse-grained, light to medium grey, minor banding and carbonaceous material.			
276.0	320.0	Shale	Dark grey, bedding at 86°-90°.			
			(276.0'-278.0') Sandy; 8 inches coaly.			
			(278.0'-279.5') Fireclay.			
			(279.5'-281.0') Sandstone.			
			(281.0'-285.0') Sandy, slightly carbonaceous.			
			(288.0'-296.0') Sandstone, very slightly carbonaceous.			
320.0	405.0	Sandstone	Medium and coarse-grained, light and medium grey; feldspathic; minor carbonaceous sections and shale bands; mainly massive with 85°-90° bedding.			
			(320.0'-326.0') Turbid and conglomeratic.			
			(331.0') Conglomeratic to 3/8 inch.			
			(376.0'-377.0') Shaly coal and minor COAL.			
			(377.0'-380.0') Shale, dark grey; minor shaly coal.			
			(391.0'-393.0') Coaly shale.			
			(404.0'-405.0') Shale, dark grey; bentonite beds to 2 inches.			
405.0	472.0	Sandstone	Fine to medium grained, medium to dark grey, bedded at 85°-90°, turbid; sandy shale sections.			
			(419.0'-420.0') Carbonaceous.			
			(424.0'-431.0') Medium to coarse-grained, massive.			
			(435.0'-438.0') Carbonaceous shale.			
			(438.0'-446.0') Medium to coarse-grained, massive.			
			(469.0'-472.0') Coaly and carbonacous shale.			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
472.0	514.0	Sandstone	Medium to coarse-grained, light to medium grey, feldspathic; mainly massive; minor carbonaceous streaks thoughout.			
514.0	535.0	Sandstone	Fine to medium-grained, medium and dark grey, turbid; thin banded at 86°. (514.0'-517.0') Shale and shaly sandstone.			
535.0	548.0	Shale	Dark grey; ZONE No. 3 (535.0'-540.0') Shaly coal and 1.3 feet of COAL. (540.0'-543.0') Coaly shale. (545.0'-548.0') Shaly coal and carbonaceous shale.			
548.0	582.0	Sandstone	Fine to coarse-grained, light to dark grey; turbid, bedded and cross-bedded at 70° to 90°. (578.0'-579.0') Coaly.			
582.0	588.0	Shale	Dark grey, coaly and carbonaceous; 0.8 feet of COAL. ZONE No. 4.			
588.0	637.0	Sandstone	Coarse-grained, light to medium grey, feldspathic; mainly massive; minor carbonaceous streaks and bedding at 87°-90°; gradational upper contact. (624.0'-625.0') COAL, fragmental. (626.0'-629.0') Shale, sandy.			
637.0	653.0	Shale	Dark grey; coaly and carbonaceous; 0.8 feet COAL. ZONE No. 5. (645.0'-645.5') Fireclay.			
653.0	718.0	Sandstone	Fine-grained, light to dark grey, bedded at 86°-90°. Sandy shale and shale sandstone sections. (665.0'-667.0') (670.0'-678.0') (696.0'-701.0') Shale, dark grey. (706.0'-709.0') Shale, dark grey; shaly coal and carbonaceous.			
718.0	778.0	Sandstone	Medium to coarse-grained, light to medium and dark grey; mainly massive. Shaly sections.			
	778.0		END OF HOLE			
			No Dip Test			

Project [illegible] Hole No. S74-5 Page 4

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74- 6

LOCATION: 50 feet North of S.W. corner of Lot 16, Twp. 3, Rupert Land District.

COLLAR ELEV. 165' AZIMUTH -- DIP -90° LENGTH 728'

CORE SIZE NQ DATE DRILLED Sept. 17 to 20, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION FROM	LOCATION TO	LOCATION LENGTH	LITHOLOGY AND REMARKS
S6- 1	64-4867	320.0	321.8	1.8	0.8 feet coal, and carbonaceous shale
S6- 2	64-4868	347.2	353.1	5.9	0.5 feet coal; 1.5 feet shaly coal; 2.9 feet coaly and carbonaceous shale; 1.0 feet not sampled. ZONE No. 2.
S6- 3	64-4869	356.0	359.3	3.3	0.8 feet coal; 2.5 feet coaly and carbonaceous shale and sandstone. ZONE No. 2.
S6- 4	64-4870	466.0	472.5	6.5	0.6 feet coal; 0.9 feet shaly coal; 3.0 feet carbonaceous shale and sandstone. 2.0 feet not sampled.
S6- 5	64-4871	707.0	710.0	3.0	Coal. ZONE No. 5.
S6- 6to9	--	--	--	--	Not Sampled
S6-10	67-6048	723.0	728.0	5.0	Coaly and carbonaceous shale.
S6-11	67-6049	704.5	707.0	2.5	Carbonaceous shale. ZONE No. 5.
S6-12	67-6050	683.0	685.0	2.0	0.5 feet coal; 1.5 feet carbonaceous shale
S6-13	67-6051	671.5	673.0	1.5	Coaly and carbonaceous shale
S6-14	67-6052	515.8	517.7	1.9	1.0 feet coal; 0.9 feet carbonaceous shale
S6-15	67-6053	449.1	451.3	2.2	0.4 feet coal; 1.8 feet coaly and some carbonaceous shale.

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	23.0	Overburden	Swamp mud.			
			(22.0'- 23.0') Sand.			
23.0	123.0	Sandstone (with shale)	Medium to coarse-grained, light to medium and dark grey, feldspathic; massive and minor bedding at 85°-90°; minor shale and carbonaceous partings.			
			(29.5'- 38.0') (43.0'- 58.0') (62.5'- 71.0') (118.0'-123.0') Includes shale and sandy shale.			
			(38.0'- 43.0') (58.0'- 62.5') (114.5'-118.0') Shale, dark grey.			
			(38.0') (58.0'- 59.0') (114.5'-116.0') Minor coal and coaly shale.			
123.0	167.0	Sandstone	Coarse-grained, light to medium grey, feldspathic; mainly massive with minor bedding at 85°-90°.			
			(147.0'-147.1') Sandy coal.			
167.0	202.0	Sandstone (with shale)	Medium to coarse-grained, medium to dark grey; minor shale, minor bedding at 85°-90°; minor coal to 1 inch.			
			(172.0'-174.0') (176.0'-178.0') (180' -184.5') (198.0'-201.0') Shale, dark grey.			
			(182.0'-184.5') Carbonaceous; ZONE No. 1 (?)			
202.0	224.0	Sandstone	Coarse-grained, light to medium grey, feldspathic, massive.			
224.0	241.0	Sandstone and Shale	Interbedded, medium and dark grey.			
			(229.0'-229.7') Bentonitic mud.			
			(229.7') (240.0'-241.0') Coaly shale and sandstone.			
241.0	275.0	Sandstone	Coarse to very coarse-grained, light to medium grey, massive.			
			(250.0'-253.0') (273.0'-275.0') Conglomerate, sandy matrix			
275.0	322.0	Sandstone (with shale)	Medium to coarse-grained, medium to dark grey; bedded at 85°-90°; sandy shale and shaly sandstone			
			(275.0'-278.0') Carbonaceous and coaly.			
			(286.5'-288.0') Coaly and carbonaceous shale.			
			(288.0'-289.0') Shale, medium grey.			
			(320.0'-322.0') 1.0 foot COAL and coaly shale.			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
322.0	347.0	Sandstone	Coarse-grained, light to medium grey, massive.			
			(346.0'-348.0') Medium-grained, slightly carbonaceous. Minor bedding at 85°-90°.			
347.0	359.0	Shale	Dark grey, with COAL, shaly coal, and coaly and carbonaceous shale and sandstone; ZONE No. 2.			
359.0	365.0	Sandstone	Coarse-grained, light to medium grey, massive.			
365.0	393.0	Sandstone (with shale)	Interbedded, medium to dark grey.	381.0	388.0	100%
			(365.0'-368.0') Coaly and carbonaceous shale.			
393.0	446.0	Sandstone	Coarse-grained to very coarse-grained, light to medium grey, massive; rare bedding at 86°; conglomeratic sections - pebbles to 2½ inches.			
			(403.0'-409.0') Conglomerate.			
446.0	518.0	Sandstone (with shale)	Medium and coarse-grained, light to medium grey, mainly massive, minor bedding at 87°.			
			(466.0'-472.5') (480.0'-485.0') (508.0'-518.0') Shale dark grey, with coal beds; coaly and carbonaceous.			
			(496.0'-500.0') Shale dark grey, slightly carbonaceous.			
518.0	666.0	Sandstone	Medium to coarse-grained with fine-grained sections; light to dark grey; massive and bedded at 85°-90°; minor shale.			
			(557.0'-559.0') Carbonaceous shale, dark grey.			
			(579.0'-585.0') Coaly and carbonaceous.			
			(628.0'-640.0') Interbedded shale and coaly shale.			
			(640.0'-645.0') Bentonitic shale.			
			(651.0'-657.0') Shale, dark grey with shaly coal and carbonaceous shale.			
			(657.0'-666.0') Carbonaceous partings to ¼ inch.			
666.0	711.0	Shale	Dark grey; mainly carbonaceous and coaly with barren and sandy sections.			
			(707.0'-710.0') COAL			
			(677' -681.0') (691.0'-697.0') (701.0'-703.0') Sandstone.			
711.0	723.0	Sandstone	Fine to coarse-grained, medium to dark grey.			

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
723.0	728.0	Shale	Dark grey, carbonaceous.			
	728.0		END OF HOLE			
			Dip Test: 88° at 500'			

Project SUSQUAH Hole No. S74-6 Page 4

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74- 7

LOCATION: 1,350 feet N. and 2,650 feet E. of the S.W. corner of Section 12, Twp. 2, Rupert Land District.

COLLAR ELEV. 297' AZIMUTH -- DIP -90° LENGTH 357'

CORE SIZE NQ DATE DRILLED Nov. 25 to 30, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION			LITHOLOGY AND REMARKS
		FROM	TO	LENGTH	
					No samples. Hole stopped at 357 feet in overburden.

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	357.0	Overburden	Gravel.			
			HOLE stopped at 357 feet.			
			No Dip Test.			

Project

Hole No.

Page 2

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74-10

LOCATION: 4,300 feet N. of the S.W. corner of Lot 14, Twp. 3, Rupert Land District.

COLLAR ELEV. 228' AZIMUTH -- DIP -90° LENGTH 598'

CORE SIZE NQ DATE DRILLED Nov. 5 to 8, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION FROM	LOCATION TO	LOCATION LENGTH	LITHOLOGY AND REMARKS
S10- 1	67-6063	168.0	172.0	4.0	1.0 feet shaly coal; coaly and carbonaceous shale. ZONE No. 1 (?)
S10- 2to9	--	--	--	--	NO SAMPLES
S10-10	67-6054	592.0	596.0	4.0	Carbonaceous shale.
S10-11	67-6055	465.0	468.8	3.8	1.1 feet coal and shaly coal; coaly and carbonaceous shale.
S10-12	67-6056	362.7	365.5	2.8	Carbonaceous and coaly shale.
S10-13	67-6057	292.5	295.0	2.5	1.0 feet shaly coal; carbonaceous shale
S10-14	67-6058	288.5	292.2	3.7	Carbonaceous shale and shale
S10-15	67-6059	286.1	288.5	2.4	Carbonaceous and coaly shale, sandy
S10-16	67-6042	229.0	233.0	4.0	Carbonaceous shale
S10-17	67-6060	100.0	102.3	2.3	Carbonaceous and coaly shale; 0.3 feet bentonite not sampled
S10-18	67-6061	199.0	202.3	3.0	Carbonaceous and coaly shale
S10-19	67-6062	203.0	204.5	1.5	Carbonaceous and coaly shale

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	78.0	Overburden	Mainly boulder clay.			
78.0	185.0	Sandstone	Medium and coarse-grained, light to medium grey with minor dark grey; bedded at 78°-82°, turbid, massive.			
			(78.0'- 79.0') (99.0'-102.0') (168.0'-173.0') Shale, dark grey.			
			(168.0'-173.0') COAL, shaly coal, coaly and carbonaceous.			
			(86.0'- 88.0') (143.0'-147.0') (153.0'-156.0') Shaly sandstone and sandy shale.			
185.0	207.0	Shale	Dark grey, silty to sandy towards base.			
			(199.0') 2" white bentonite.			
			(199.0'-204.5') Carbonaceous and coaly shale with minor shaly coal.			
207.0	286.0	Sandstone	Sandstone, medium to coarse-grained, light to dark grey; feldspathic; massive, turbid, bedded at 85°-90° at top and 78° at base; minor shale and carbonaceous material.			
			(229.0'-233.0') Carbonaceous shale.			
			(263.0'-269.0') Fine-grained - turbid.			
286.0	300.0	Shale and Sandstone	Dark grey; sandstone upper 6 feet; coaly and carbonaceous.			
			(293.5'-294.5') Shaly coal.			
300.0	429.0	Sandstone	Medium to coarse-grained, light to medium to dark grey, feldspathic; massive, turbid, bedded at 78°-90°; shaly sandstone beds; minor carbonaceous material.			
			(310.0'-318.0') Sandy shale, dark grey.			
			(335.0'-340.0') Fine-grained, massive.			
			(361.0'-368.0') Shale, dark grey.			
			(362.7'-365.5') coaly, carbonaceous; minor shaly coal.			
			(420.0'-429.0') Fine-grained, interbedded with shale at 80°-85°.			
429.0	459.0	Sandstone	Coarse to very coarse-grained, light to medium grey, massive, feldspathic, quartzose; minor carbonaceous banding at 84°.			
459.0	500.0	Sandstone	Fine to coarse-grained; light, medium and dark grey; massive, turbid and bedded at 82°.			
			(459.0'-462.0') 490.0'-491.0') Carbonaceous shale.			
			(465.0'-469.0') 1.0' coal and shaly coal; coaly and carbonaceous shale.			

Project ____ Hole No. S74-10 Page 4

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(484.0'-500.0') Thin-bedded.			
500.0	517.0	Sandstone	Fine-grained, medium and dark grey; turbid to bedded at 84°.			
			(500.0'-504.0') Shale, dark grey, partially sandy; carbonaceous.			
			(509.0'-511.0') Coaly shale and shaly coal.			
			(514.0'-516.0') Carbonaceous shale.			
517.0	545.0	Sandstone	Coarse-grained, light to medium-grey, very slightly carbonaceous; massive and minor turbid.			
			(526.0'-531.0') Shale, dark grey.			
			(529.0'-531.0') Carbonaceous.			
545.0	583.0	Sandstone	Fine-grained, medium and dark grey; turbid and thin-bedded at 85°; shaly upper 4 feet.			
			(550.0'-553.0') Shale, dark grey.			
			(573.0'-579.0') Sandy shale and shale, dark grey.			
			(579.0'-583.0') Medium-grained, turbid.			
583.0	596.0	Shale	Dark grey.			
			(583.0'-590.0') Sandy.			
			(590.0') Bentonite (1").			
			(592.0'-596.0') Slightly carbonaceous.			
596.0	598.0	Sandstone	Coarse-grained, light grey, massive.			
	598.0		END OF HOLE			
			Dip Test: 87° at 500'			

Project [illegible] Hole No. [illegible] Page [illegible]

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74-12

LOCATION: At S.W. corner, Lot 12, Twp. 3, Rupert Land District.

COLLAR ELEV. 222' AZIMUTH -- DIP -90° LENGTH 538'

CORE SIZE NQ DATE DRILLED Oct. 22 to 25, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION			LITHOLOGY AND REMARKS
		FROM	TO	LENGTH	
S12-1	67-6041	341.0	342.0	1.0	Shaly coal. ZONE No. 1.

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	117.0	Overburden	(0.0'- 11.0') Gravel.			
			(11.0'- 58.0') Mudstone, green; rare pebbles.			
			(58.0'-117.0') Boulder clay; green.			
117.0	163.0	Sandstone	Coarse-grained, light and medium grey, feldspathic, massive and turbid.			
			(129.0'-130.0') Slightly carbonaceous.			
			(143.0'-150.0') Dark grey, thin-bedded at 85°.			
			(150.0'-153.0') Shale, dark grey, sandy; minor carbonaceous material; 2" bentonite at base.			
			(158.0'-160.0') Shale, dark grey interbedded with sandstone, fine-grained at 84°.			
163.0	183.0	Shale	Dark grey, silty with banding at 86°.			
			(180.0'-183.0') Carbonaceous with 2" bentonitic mud.			
183.0	317.0	Sandstone	Medium and coarse-grained, light to medium and medium to dark grey; massive, turbid, bedded 80°-90°; minor shale and carbonaceous material.			
			(183.0'-191.0') Fine-grained, interbedded medium and dark grey at 84°.			
			(250.0'-252.0') (308.0'-310.0') Shale, dark grey; sandy shale and sandstone.			
317.0	341.0	Shale	Dark grey; includes, ZONE No. 1.			
			(322.0'-332.0') Sandstone and shaly sandstone; massive, turbid, bedded.			
			(332.0'-338.0') Fireclay.			
			(340.0'-341.0') Shaly coal.			
341.0	362.0	Sandstone	Coarse-grained, light to medium grey with dark grey; massive and turbid; minor shaly sections.			
362.0	385.0	Sandstone	Fine-grained, medium to dark grey; turbid, graded, bedded at 86°.			
385.0	413.0	Sandstone	Medium and coarse-grained, light and medium grey; massive with minor bedding at 85°.			
413.0	466.0	Shale and Sandstone	(413.0'-424.0') Sandstone, fine-grained, dark grey, turbid; minor shale in upper part.			
			(424.0'-436.0') Shale, dark grey.			
			(427.0') 4" bentonite.			

Project [illegible] Hole No. S74-12 Page 4

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
			(428.0'-430.0') Sandy.			
			(430.0'-436.0') Bentonitic, broken.			
			(434.0'-443.0') Sandstone, fine-grained, medium grey; minor dark grey bedding at 87°.			
			(443.0'-455.0') Shale, dark, minor sand and carbonaceous material.			
			(455.0'-461.0') Sandstone, coarse-grained, light to medium-grained, massive.			
			(461.0'-466.0') Sandstone, fine-grained, sandy shale, and shale; dark grey.			
466.0	538.0	Sandstone	Coarse to very coarse-grained with conglomeratic sections, light to medium grey, massive.			
	538.0		END OF HOLE			
			Dip Test: 87° at 500'			

Project [illegible] Hole No. S74-12 Page 3

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

1974 SUQUASH DRILLING PROJECT

Vancouver Island, B.C.

HOLE NUMBER S74-13

LOCATION: At the S.W. corner, Section 19, Twp. 2, Rupert Land Division.

COLLAR ELEV. 390' AZIMUTH -- DIP -90° LENGTH 584'

CORE SIZE NQ DATE DRILLED Oct. 28 to Nov. 1, 1974 LOGGED BY Germundson

SAMPLE DATA

SAMPLE NUMBER	ANALYSIS NUMBER	LOCATION			LITHOLOGY AND REMARKS
		FROM	TO	LENGTH	
S13-10	67-6038	536.5	540.3	3.8	Coaly and carbonaceous shale.
S13-11	67-6039	522.5	526.2	3.7	Carbonaceous shale. ZONE No. 1.
S13-12	67-6040	508.3	509.7	1.4	Coaly shale.

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
0.0	148.0	Overburden	Primarily boulder clay.			
148.0	198.0	Sandstone and Shale	(148.0'-156.0') (166.0'-171.0') Sandstone, coarse-grained, light to dark grey, massive with minor bedding. (156.0'-166.0') Shale, dark grey. (171.0'-198.0') Sandstone, fine-grained with some medium and coarse-grained, dark grey with green sections; turbid and bedded at 84°-90°. (171.0'-186.0') Sandstone and shale interbedded. (179.0'-179.3') Shaly coal.			
198.0	216.0	Sandstone	Very coarse-grained to conglomeratic, light to medium grey, massive. (200.0'-204.0') Shale, dark grey.			
216.0	224.0	Shale	Dark grey.			
224.0	265.0	Sandstone	Fine with some medium and coarse-grained, mainly medium and dark grey with some light grey, massive to bedded at 85°-90°. (232.0'-233.0') (237.0'-240.0') Shale, dark grey. (262.0') Conglomeratic.			
265.0	318.0	Shale	Dark grey, sandy, mixed and bedded at 86°. (292.0'-300.0') Sandstone, fine-grained, medium and dark grey, conglomeratic. (296.0'-297.0') Shale, dark grey.			
318.0	342.0	Sandstone and conglomerate	Conglomeratic sandstone near top with ½" pebbles; towards base pebbles up to 1¼".			
342.0	370.0	Shale	Dark grey, very minor carbonaceous material. (343.0'-348.0') Red. (360.0'-365.0') Sandy and sandstone. (365.0'-370.0') Red.			
370.0	414.0	Conglomerate	Sandy matrix, light to medium grey; sand washed out in sections. (380.0'-383.0') Shale, dark grey. (401.0'-410.0') Shale, dark grey and sandy shale.			

Project [illegible] Hole No. S74-13 Page 2

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE	DESCRIPTION	CORE LOSS FROM	CORE LOSS TO	CORE LOSS LOST
414.0	465.0	Shale	Dark grey, sandy sections.			
			(447.0'-465.0') Interbedded with sandstone at 80°-85°.			
			(450.0') Conglomeratic.			
			(454.0'-465.0') Red sections.			
465.0	508.0	Conglomerate	Minor sandstone and shaly sandstone.			
508.0	527.0	Shale	Dark grey. ZONE No. 1.			
			(508.0'-508.8') Coaly.			
			(508.8'-517.0') Fireclay.			
			(517.0'-522.0') Very slightly carbonaceous.			
			(522.0'-527.0') Carbonaceous with minor coaly shale.			
527.0	552.0	Sandstone	Medium and coarse-grained, medium grey with brown sections.			
			(535.0'-536.0') Carbonaceous.			
			(536.0'-541.0') (546' -550') Carbonaceous and coaly shale; bentonitic sections.			
			(544.0'-552.0') Bentonitic.			
552.0	566.0	Conglomerate	Sandy matrix.			
566.0	584.0	Sandstone	Coarse-grained, light to medium grey, soft, crumbly, bentonitic. - swells - crumbly.			
	584.0		END OF HOLE			
			Dip Test: 85° at 500'			

Project [illegible] Hole No. [illegible] Page [illegible]

Appendix 2

Analyses Certificates

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

Please address all correspondence to:
147 Riverside Dr., North Vancouver, B.C. V7H 1T6

SINCE 1908

Office: Tel. (604) 929-2228
Roberts Bank Tel. (604) 946-7021

16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 64-4867

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S6-1
Core Hole No. S74-6
Footage from 320' to 321' 9"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.41	xxxxx
% Ash	25.39	27.13
% Volatile	24.14	25.79
% Fixed Carbon	44.06	47.08
	100.00	100.00
Btu	9100	9723
% Sulfur	0.68	0.73
% Equilibrium Moisture	7.67	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

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SINCE 1908

Office: Tel. (604) 929-2228
Roberts Bank Tel. (604) 946-7021

16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 64-4868

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S6-2
Core Hole No. S74-6
Footage from 347'2" to 353'1"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.15	xxxxx
% Ash	47.70	50.82
% Volatile	22.56	24.04
% Fixed Carbon	23.59	25.14
	100.00	100.00
Btu	5605	5972
% Sulfur	2.25	2.40

% Equilibrium Moisture 8.84

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

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SINCE 1908

Office: Tel. (604) 929-2228
Roberts Bank Tel. (604) 946-7021

16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 64-4869

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S6-3
Core Hole No. S74-5
Footage from 356'0" to 359'4"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.31	xxxxx
% Ash	65.63	70.05
% Volatile	15.55	16.60
% Fixed Carbon	12.51	13.35
	100.00	100.00
Btu	2815	3005
% Sulfur	0.56	0.60
% Equilibrium Moisture	7.02	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

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16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 64-4870

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S6-4
Core Hole No. S74-6
Footage from 466' to 472'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.63	xxxxx
% Ash	34.06	36.09
% Volatile	23.96	25.39
% Fixed Carbon	36.35	38.52
	100.00	100.00
Btu	7962	8437
% Sulfur	3.47	3.68
% Equilibrium Moisture	6.82	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

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16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 64-4871

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S6-5
Core Hole No. S74-6
Footage from 707' to 710'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.70	xxxxx
% Ash	8.26	8.76
% Volatile	32.04	33.98
% Fixed Carbon	54.00	57.26
	100.00	100.00
Btu	11840	12556
% Sulfur	1.09	1.16
% Equilibrium Moisture	6.97	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-4952

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S5-1
Core Hole No. S74-5
Footage from 17' to 18'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.24	xxxxx
% Ash	21.56	23.00
% Volatile	35.23	37.57
% Fixed Carbon	36.97	39.43
	100.00	100.00
Btu	9885	10543
% Sulfur	4.67	4.98
Specific Gravity	1.485	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-4953

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S5-2
Core Hole No. S74-5
Footage from 116' to 117'4"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.02	xxxxx
% Ash	20.43	21.97
% Volatile	34.03	36.60
% Fixed Carbon	38.52	41.43
	100.00	100.00
Btu	9893	10640
% Sulfur	1.66	1.79
Specific Gravity	1.459	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

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16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-4954

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S5-3
Core Hole No. S74-5
Footage from 375'6" to 377'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.80	xxxxx
% Ash	45.91	48.74
% Volatile	26.58	28.22
% Fixed Carbon	21.71	23.04
	100.00	100.00
Btu	6243	6627
% Sulfur	3.09	3.28
Specific Gravity	1.765	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-4955

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S5-4
Core Hole No. S74-5
Footage from 535' to 543'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.94	xxxxx
% Ash	32.97	35.43
% Volatile	27.34	29.38
% Fixed Carbon	32.75	35.19
	100.00	100.00
Btu	7931	8522
% Sulfur	1.89	2.03
Specific Gravity	1.572	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

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16 October 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-4956

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S5-5
Core Hole No. S74-5
Footage from 638' to 648'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.74	xxxxx
% Ash	59.40	63.69
% Volatile	20.67	22.16
% Fixed Carbon	13.19	14.15
	100.00	100.00
Btu	3403	3649
% Sulfur	1.47	1.58
Specific Gravity	1.908	

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5137

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-5-6
Core Hole No. S-74-6
Footage from 582' to 587'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.96	xxxxx
% Ash	53.25	56.63
% Volatile	21.30	22.65
% Fixed Carbon	19.49	20.72
	100.00	100.00
Btu	4626	4919
% Sulfur	4.57	4.86

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5138

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-3-1
Core Hole No. S-74-3
Footage from 117'6" to 119'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.46	xxxxx
% Ash	16.30	17.61
% Volatile	36.83	39.80
% Fixed Carbon	39.41	42.59
	100.00	100.00
Btu	10401	11240
% Sulfur	2.21	2.39

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5139

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-3-2
Core Hole No. S-74-3
Footage from 430' to 431'4"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.32	xxxxx
% Ash	27.79	29.98
% Volatile	31.74	34.25
% Fixed Carbon	33.15	35.77
	100.00	100.00
Btu	8797	9492
% Sulfur	3.35	3.61

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5140

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-3-3
Core Hole No. S-74-3
Footage from 262' to 266'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.87	xxxxx
% Ash	42.46	46.09
% Volatile	23.78	25.81
% Fixed Carbon	25.89	28.10
	100.00	100.00
Btu	5726	6215
% Sulfur	2.99	3.24

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5285

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-3-4
Core Hole No. S-74-3
Footage from 364'5" to 366'8"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.24	xxxxx
% Ash	23.19	25.00
% Volatile	34.22	36.89
% Fixed Carbon	35.35	38.11
	100.00	100.00
Btu	9413	10148
% Sulfur	1.98	2.13

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5286

PROJECT: Suquash Coal

Kind of Sample -Core
Sample No. 74-1-1
Core Hole No. S-74-1
Footage from 67' to 68'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.07	xxxxx
% Ash	12.61	13.57
% Volatile	41.17	44.30
% Fixed Carbon	39.15	42.13
	100.00	100.00
Btu	10962	11796
% Sulfur	3.51	3.78

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5287

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-1-2
Core Hole No. S-74-1
Footage from 159'6" to 161'4"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.33	xxxxx
% Ash	21.41	22.85
% Volatile	36.79	39.28
% Fixed Carbon	35.47	37.87
	100.00	100.00
Btu	9795	10457
% Sulfur	3.61	3.85

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5288

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-1-3
Core Hole No. S-74-1
Footage from 278' to 279'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	8.15	xxxxx
% Ash	12.61	13.73
% Volatile	36.29	39.51
% Fixed Carbon	42.95	46.76
	100.00	100.00
Btu	10814	11773
% Sulfur	1.51	1.64

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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7 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-5289

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. 74-1-4
Core Hole No. S-74-1
Footage from 285'6" to 288'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.89	xxxxx
% Ash	53.65	56.41
% Volatile	21.85	22.97
% Fixed Carbon	19.61	20.62
	100.00	100.00
Btu	4610	4847
% Sulfur	2.76	2.90

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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Office: Tel. (604) 929-2228
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26 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6038

PROJECT: Suquash Coal

Kind of Sample - Core S74-13.
Sample No. S-13-10
Footage from 536'6" to 540'3"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.21	xxxxx
% Ash	54.71	58.96
% Volatile	20.62	22.22
% Fixed Carbon	17.46	18.82
	100.00	100.00
Btu	4000	4311
% Sulfur	0.18	0.19

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6039

PROJECT: Suquash Coal

Kind of Sample - Core S74-13
Sample No. S-13-11
Footage from 522'6" to 526'3"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.85	xxxxx
% Ash	63.70	67.66
% Volatile	19.30	20.50
% Fixed Carbon	11.15	11.84
	100.00	100.00
Btu	2924	3106
% Sulfur	0.16	0.17

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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26 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6040

PROJECT: Suquash Coal

Kind of Sample - Core S74-13
Sample No. S-13-12
Footage from 508'3" to 509'8"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.16	xxxxx
% Ash	44.60	47.53
% Volatile	22.43	23.90
% Fixed Carbon	26.81	28.57
	100.00	100.00
Btu	6316	6731
% Sulfur	0.26	0.28

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

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26 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6041

PROJECT: Suquash Coal

Kind of Sample - Core S74-12
Sample No. S-12-1X
Footage from 341' to 342'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	8.60	xxxxx
% Ash	19.83	21.70
% Volatile	31.36	34.31
% Fixed Carbon	40.21	43.99
	100.00	100.00
Btu	9832	10757
% Sulfur	1.94	2.12

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

Please address all correspondence to:
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Office: Tel. (604) 929-2228
Roberts Bank Tel. (604) 946-7021

26 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6042

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-16
Footage from 229' to 233'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.35	xxxxx
% Ash	52.16	55.11
% Volatile	20.38	21.53
% Fixed Carbon	22.11	23.36
	100.00	100.00
Btu	5233	5529
% Sulfur	0.81	0.86

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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26 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6043

PROJECT: Suquash Coal

574-1

Kind of Sample - Core
Sample No. S-1-10
Footage from 415' to 422'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.80	xxxxx
% Ash	58.53	62.14
% Volatile	17.11	18.16
% Fixed Carbon	18.56	19.70
	100.00	100.00
Btu	3925	4167
% Sulfur	1.36	1.44

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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27 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6044

PROJECT: Suquash Coal

Kind of Sample - Core S74-1
Sample No. S-1-11
Footage from 427'10" to 429'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.70	xxxxx
% Ash	61.89	64.94
% Volatile	16.48	17.29
% Fixed Carbon	16.93	17.77
	100.00	100.00
Btu	3588	3765
% Sulfur	1.57	1.65

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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27 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6045

PROJECT: Suquash Coal

Kind of Sample - Core S74-1
Sample No. S-1-12
Footage from 474'3" to 478'3"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.30	xxxxx
% Ash	58.81	62.10
% Volatile	18.06	19.07
% Fixed Carbon	17.83	18.83
	100.00	100.00
Btu	3783	3995
% Sulfur	0.53	0.57

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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27 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6046

PROJECT: Suquash Coal

Kind of Sample - Core 574-1
Sample No. S-1-13
Footage from 541'4" to 543'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.06	xxxxx
% Ash	41.55	44.71
% Volatile	23.86	25.67
% Fixed Carbon	27.53	29.62
	100.00	100.00
Btu	6311	6790
% Sulfur	0.39	0.42

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

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27 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6047

PROJECT: Suquash Coal

Kind of Sample - Core S74-1
Sample No. S-1-14
Footage from 623'7" to 626'4"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.86	xxxxx
% Ash	64.83	68.14
% Volatile	16.29	17.12
% Fixed Carbon	14.02	14.74
	100.00	100.00
Btu	3151	3312
% Sulfur	0.30	0.32

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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27 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6048

PROJECT: Suquash Coal

Kind of Sample - Core 574-6
Sample No. S-6-10
Footage from 723' to 728'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.34	xxxxx
% Ash	65.33	69.02
% Volatile	16.23	17.14
% Fixed Carbon	13.10	13.84
	100.00	100.00
Btu	3093	3267
% Sulfur	2.18	2.30

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6049

PROJECT: Suquash Coal

Kind of Sample - Core S74-6
Sample No. S-6-11
Footage from 705'6" to 708'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.71	xxxxx
% Ash	63.60	66.74
% Volatile	17.39	18.25
% Fixed Carbon	14.30	15.01
	100.00	100.00
Btu	3522	3696
% Sulfur	3.48	3.65

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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26 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6050

PROJECT: Suquash Coal

Kind of Sample - Core 574-6
Sample No. S-6-12
Footage from 683' to 685'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.35	xxxxx
% Ash	26.90	29.03
% Volatile	28.00	30.22
% Fixed Carbon	37.75	40.75
	100.00	100.00
Btu	8837	9538
% Sulfur	0.32	0.35

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6051

PROJECT: Suquash Coal

Kind of Sample - Core S74-6
Sample No. S-6-13
Footage from 671'6" to 673'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.67	xxxxx
% Ash	40.32	43.20
% Volatile	23.43	25.10
% Fixed Carbon	29.58	31.70
	100.00	100.00
Btu	6710	7190
% Sulfur	1.02	1.09

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6052

PROJECT: Suquash Coal

Kind of Sample - Core S74-6
Sample No. S-6-14
Footage from 515'10" to 517'8"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.53	xxxxx
% Ash	46.69	49.95
% Volatile	20.02	21.42
% Fixed Carbon	26.76	28.63
	100.00	100.00
Btu	5511	5896
% Sulfur	0.97	1.04

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6053

PROJECT: Suquash Coal

Kind of Sample - Core 574-6
Sample No. S-6-15
Footage from 449'1" to 451'4"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.24	xxxxx
% Ash	28.84	31.09
% Volatile	27.08	29.19
% Fixed Carbon	36.84	39.72
	100.00	100.00
Btu	8604	9276
% Sulfur	1.71	1.84

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6054

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-10
Footage from 582' to 586'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	3.67	xxxxx
% Ash	68.65	71.27
% Volatile	17.06	17.71
% Fixed Carbon	10.62	11.02
	100.00	100.00
Btu	2431	2524
% Sulfur	1.24	1.29

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6055

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-11
Footage from 465' to 468'9"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.21	xxxxx
% Ash	47.96	50.07
% Volatile	23.02	24.03
% Fixed Carbon	24.81	25.90
	100.00	100.00
Btu	5990	6253
% Sulfur	0.88	0.92

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6056

PROJECT: Suquash Coal

S74-10

Kind of Sample - Core
Sample No. S-10-12
Footage from 362'8" to 365'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.45	xxxxx
% Ash	48.51	51.31
% Volatile	26.32	27.84
% Fixed Carbon	19.72	20.85
	100.00	100.00
Btu	5345	5653
% Sulfur	0.59	0.62

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

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DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6057

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-13
Footage from 292'6" to 295'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.95	xxxxx
% Ash	37.57	39.95
% Volatile	24.55	26.10
% Fixed Carbon	31.93	33.95
	100.00	100.00
Btu	7463	7935
% Sulfur	1.02	1.08

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6058

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-14
Footage from 288'6 to 292'3"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.80	xxxxx
% Ash	67.50	73.21
% Volatile	14.20	15.41
% Fixed Carbon	10.49	11.38
	100.00	100.00
Btu	2480	2690
% Sulfur	0.82	0.89

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT No. 67-6059

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-15
Footage from 286'1" to 288'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.06	xxxxx
% Ash	49.77	52.98
% Volatile	23.76	25.29
% Fixed Carbon	20.41	21.73
	100.00	100.00
Btu	5239	5577
% Sulfur	2.66	2.83

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6060

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-17
Footage from 100' to 102'4"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.89	xxxxx
% Ash	38.98	41.42
% Volatile	27.69	29.42
% Fixed Carbon	27.44	29.16
	100.00	100.00
Btu	6974	7410
% Sulfur	5.41	5.75

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT; B.C. Hydro & Power Authority REPORT NO. 67-6061

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-18
Footage from 199' to 202'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.03	xxxxx
% Ash	52.49	55.27
% Volatile	22.53	23.72
% Fixed Carbon	19.95	21.01
	100.00	100.00
Btu	5117	5388
% Sulfur	3.66	3.85

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6062

PROJECT: Suquash Coal

574-10

Kind of Sample - Core
Sample No. S-10-19
Footage from 203' to 204'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	9.25	xxxxx
% Ash	51.99	57.29
% Volatile	22.67	24.98
% Fixed Carbon	16.09	17.73
	100.00	100.00
Btu	4543	5006
% Sulfur	4.12	4.54

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6063

PROJECT: Suquash Coal

Kind of Sample - Core S74-10
Sample No. S-10-1
Footage from 164' to 168'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.62	xxxxx
% Ash	46.08	48.83
% Volatile	23.57	24.97
% Fixed Carbon	24.73	26.20
	100.00	100.00
Btu	5948	6302
% Sulfur	1.60	1.69

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434 ·

Please address all correspondence to:
147 Riverside Dr., North Vancouver, B.C. V7H 1T6

SINCE 1908

Office: Tel. (604) 929-2228
Roberts Bank Tel. (604) 946-7021

28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6064

PROJECT: Suquash Coal

Kind of Sample - Core S74-5
Sample No. S-5-10
Footage from 391'3" to 393'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.55	xxxxx
% Ash	52.89	55.41
% Volatile	19.32	20.24
% Fixed Carbon	23.24	24.35
	100.00	100.00
Btu	5028	5268
% Sulfur	0.47	0.49

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6065

PROJECT: Suquash Coal

Kind of Sample - Core S74-3
Sample No. S-3-10
Footage from 527' to 529'7"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.92	xxxxx
% Ash	52.92	55.66
% Volatile	20.01	21.04
% Fixed Carbon	22.15	23.30
	100.00	100.00
Btu	4869	5121
% Sulfur	2.97	3.12

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6066

PROJECT: Suquash Coal

574-3

Kind of Sample - Core
Sample No. S-3-11
Footage from 536' to 538'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.71	xxxxx
% Ash	26.99	28.62
% Volatile	28.50	30.23
% Fixed Carbon	38.80	41.15
	100.00	100.00
Btu	9025	9572
% Sulfur	3.27	3.47

Respectfully submitted,

COMMERICAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6067

PROJECT: Suquash Coal

S743

Kind of Sample - Core
Sample No. S-3-12
Footage from 554'7" to 558'

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.02	xxxxx
% Ash	57.88	60.94
% Volatile	17.39	18.31
% Fixed Carbon	19.71	20.75
	100.00	100.00
Btu	4380	4611
% Sulfur	2.72	2.86

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6068

PROJECT: Suquash Coal

574-3

Kind of Sample - Core
Sample No. S-3-13
Footage from 591'6" to 595'8"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.30	xxxxx
% Ash	44.88	46.90
% Volatile	25.37	26.51
% Fixed Carbon	25.45	26.59
	100.00	100.00
Btu	6235	6515
% Sulfur	2.41	2.52

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6069

PROJECT: Suquash Coal

Kind of Sample - Core 574-3
Sample No. S-3-6
Footage from 612' to 614'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.92	xxxxx
% Ash	46.68	49.10
% Volatile	22.03	23.17
% Fixed Carbon	26.37	27.73
	100.00	100.00
Btu	5806	6106
% Sulfur	2.32	2.44

Respectfully submitted,

COMMERCIAL TESTING & EGNINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6070

PROJECT: Suquash Coal

574-3

Kind of Sample - Core
Sample No. S-3-14
Footage from 293' to 294'3"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.20	xxxxx
% Ash	40.56	42.34
% Volatile	26.21	27.36
% Fixed Carbon	29.03	30.30
	100.00	100.00
Btu	6841	7141
% Sulfur	4.57	4.77

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6071

PROJECT: Suquash Coal

Kind of Sample - Core 574-3
Sample No. S-3-15
Footage from 352'9" to 355'2"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.11	xxxxx
% Ash	50.75	53.48
% Volatile	22.67	23.89
% Fixed Carbon	21.47	22.63
	100.00	100.00
Btu	5054	5326
% Sulfur	2.93	3.09

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6072

PROJECT: Suquash Coal

Kind of Sample - Core 5743
Sample No. S-3-16
Footage from 334' to 335'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.00	xxxxx
% Ash	55.11	58.01
% Volatile	18.93	19.93
% Fixed Carbon	20.96	22.06
	100.00	100.00
Btu	4585	4826
% Sulfur	3.18	3.35

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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28 November 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6073

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-3-17
Footage from 462' to 463'9"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.21	xxxxx
% Ash	41.61	43.44
% Volatile	25.15	26.25
% Fixed Carbon	29.03	30.31
	100.00	100.00
Btu	6428	6710
% Sulfur	6.15	6.42

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOWNAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6333

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-1
Core Hole No. S-74-1
Footage from 161' to 162'8"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.72	xxxxx
% Ash	37.37	40.06
% Volatile	25.84	27.70
% Fixed Carbon	30.07	32.24
	100.00	100.00
Btu	7130	7644
% Sulfur	4.30	4.61

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOWNIE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6334

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-2
Core Hole No. S-74-4
Footage from 175'9" to 177'10"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	8.29	xxxxx
% Ash	43.19	47.10
% Volatile	23.72	25.86
% Fixed Carbon	24.80	27.04
	100.00	100.00
Btu	6071	6620
% Sulfur	3.31	3.61

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6335

PROJECT: Suquash Coal

Kind of Sample - Coal
Sample No. S-4-3
Core Hole No. S-74-4
Footage from 340'6" to 344'7"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.27	xxxxx
% Ash	47.54	51.27
% Volatile	23.27	25.09
% Fixed Carbon	21.92	23.64
	100.00	100.00
Btu	5738	6188
% Sulfur	4.37	4.71

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6336

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4 4
Core Hole No. S-74-4
Footage from 364' to 366'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.94	xxxxx
% Ash	42.73	46.42
% Volatile	24.27	26.36
% Fixed Carbon	25.06	27.22
	100.00	100.00
Btu	6254	6793
% Sulfur	1.99	2.16

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6337

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4 5
Core Hole No. S 74-4
Footage from 417' to 418'3"

PROXIMATE ANALYSES

	As Received	Dry Basis
% Moisture	9.01	xxxxx
% Ash	38.93	42.78
% Volatile	24.81	27.27
% Fixed Carbon	27.25	29.95
	100.00	100.00
Btu	6788	7460
% Sulfur	1.46	1.60

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6338

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-6
Core Hole No. S-74-4
Footage from 519' to 522'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	7.64	xxxxx
% Ash	41.24	44.65
% Volatile	25.65	27.77
% Fixed Carbon	25.47	27.58
	100.00	100.00
Btu	6560	7103
% Sulfur	2.57	2.78

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6339

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-7
Core Hole No. S-74-4
Footage from 600'6" to 602'3"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.10	xxxxx
% Ash	47.86	50.97
% Volatile	22.93	24.42
% Fixed Carbon	23.11	24.61
	100.00	100.00
Btu	5482	5838
% Sulfur	3.01	3.21

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOWNIE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6340

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-8
Core Hole No. S-74 4
Footage from 602'3" to 607'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	8.10	xxxxx
% Ash	66.68	72.56
% Volatile	14.71	16.01
% Fixed Carbon	10.51	11.43
	100.00	100.00
Btu	2518	2740
% Sulfur	1.33	1.45

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6341

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-9
Core Hole No. S-74 4
Footage from 612' to 613'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.01	xxxxx
% Ash	59.25	63.04
% Volatile	18.06	19.21
% Fixed Carbon	16.68	17.75
	100.00	100.00
Btu	3293	3504
% Sulfur	0.74	0.79

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

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December 11, 1974

DOWNIE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6342

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4.10
Core Hole No. S-74-4
Footage from 720' to 721'6"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	6.83	xxxxx
% Ash	34.51	37.04
% Volatile	28.31	30.38
% Fixed Carbon	30.35	32.58
	100.00	100.00
Btu	7614	8172
% Sulfur	1.63	1.75

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6343

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-11
Core Hole No. S-74-4
Footage from 721.5 to 724.9

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	5.99	xxxxx
% Ash	74.59	79.34
% Volatile	13.57	14.43
% Fixed Carbon	5.85	6.22
	100.00	100.00
Btu	1348	1434
% Sulfur	0.30	0.32

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

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December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6344

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-12
Core Hole No. S-74-4
Footage from 750' to 752'3"

PROXIMATE ANALYSIS

	As Received	Dry Basis
% Moisture	4.92	xxxxx
% Ash	67.99	71.51
% Volatile	16.65	17.51
% Fixed Carbon	10.44	10.98
	100.00	100.00
Btu	2862	3010
% Sulfur	1.63	1.71

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs

CABLE ADDRESS COMTECO

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 · AREA CODE 312 726-8434

Please address all correspondence to:
147 Riverside Dr., North Vancouver, B.C. V7H 1T6

SINCE 1908

Office: Tel. (604) 929-2228
Roberts Bank Tel. (604) 946-7021

December 11, 1974

DOLMAGE CAMPBELL & ASSOCIATES LTD.
Vancouver, British Columbia
Canada

CLIENT: B.C. Hydro & Power Authority REPORT NO. 67-6345

PROJECT: Suquash Coal

Kind of Sample - Core
Sample No. S-4-13
Core Hole No. S-74-4
Footage from 754'3" to 756'

PROXIMATE ANALYSIS

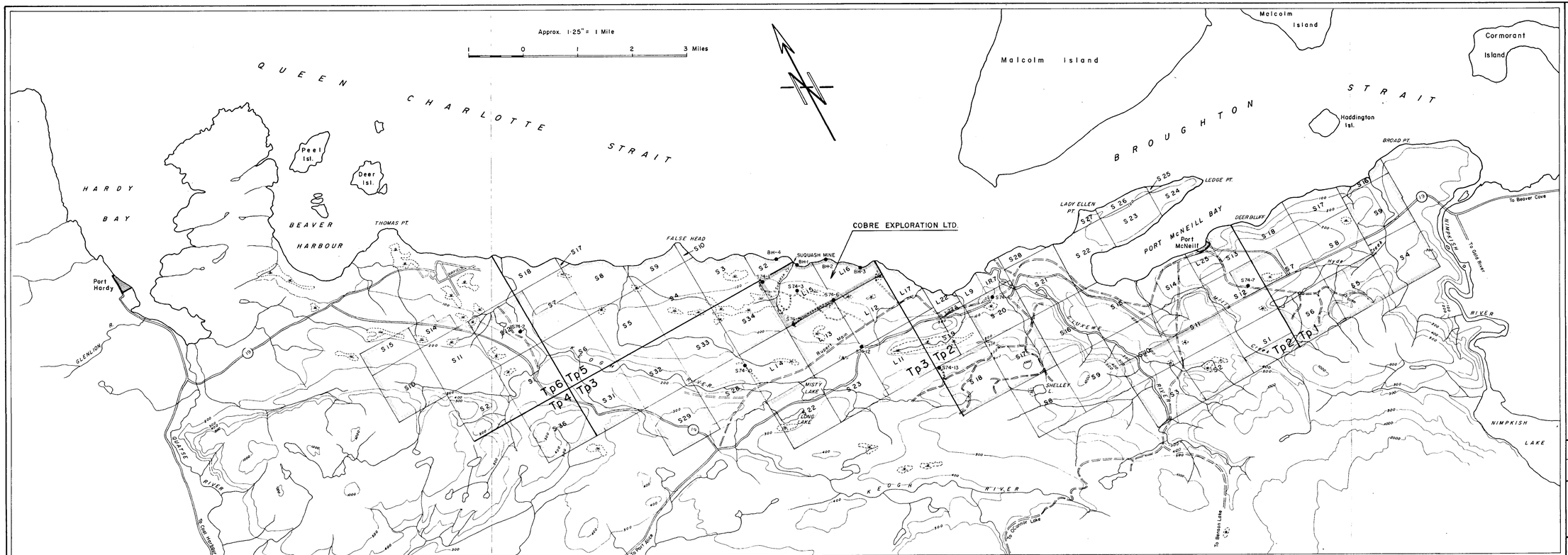
	As Received	Dry Basis
% Moisture	7.22	xxxxx
% Ash	44.11	47.54
% Volatile	24.31	26.20
% Fixed Carbon	24.36	26.26
	100.00	100.00
Btu	6217	6701
% Sulfur	0.86	0.93

Respectfully submitted,

COMMERCIAL TESTING & ENGINEERING CO.

R. A. Houser,
District Manager

RAH/cs



LEGEND

- B.C. HYDRO LICENCES
- L or S 10 — LOT OR SECTION 10
- Tp 4 — TOWNSHIP NO. 4
- 500 — ELEVATION CONTOUR
- OPEN SWAMP
- S74-2 — DIAMOND DRILL HOLE (1974)
- BH-1 — BORE HOLE (1908)
- PAVED HIGHWAY
- GRAVELLED LOGGING ROAD
- ACCESS TRAIL (DOZER)

214

50-SUQUASH 74(2)A.

M01

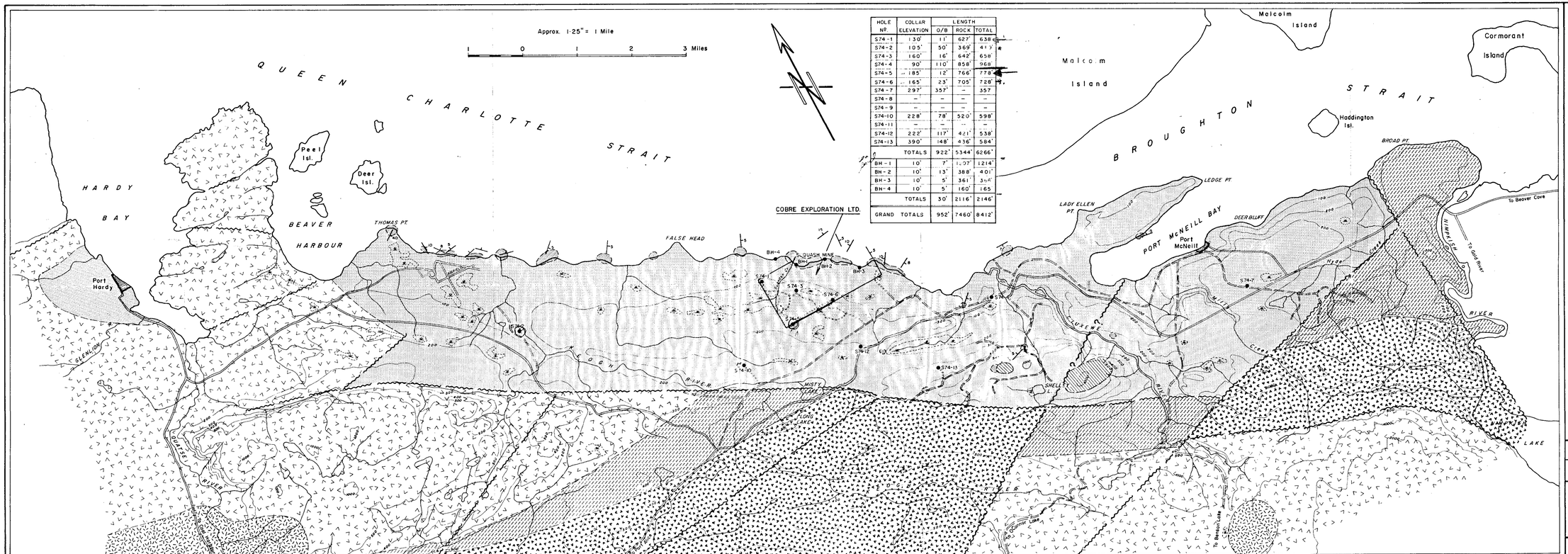
DOLMAGE CAMPBELL & ASSOCIATES LTD. CONSULTANTS
VANCOUVER, CANADA

B.C. HYDRO & POWER AUTHORITY
VANCOUVER, CANADA

1974 SUQUASH DRILLING PROJECT

COAL LEASES

SCALE 1:50,000 | JAN. 1975 | FIG. 2



HOLE NR	COLLAR ELEVATION	LENGTH O/B	LENGTH ROCK	LENGTH TOTAL
S74-1	130'	11'	627'	638'
S74-2	105'	50'	369'	419'
S74-3	160'	16'	642'	658'
S74-4	90'	110'	858'	968'
S74-5	185'	12'	766'	778'
S74-6	165'	23'	705'	728'
S74-7	297'	357'	–	357'
S74-8	–	–	–	–
S74-9	–	–	–	–
S74-10	228'	78'	520'	598'
S74-11	–	–	–	–
S74-12	222'	117'	421'	538'
S74-13	390'	148'	436'	584'
	TOTALS	922'	5344'	6266'
BH-1	10'	7'	1207'	1214'
BH-2	10'	13'	388'	401'
BH-3	10'	5'	361'	365'
BH-4	10'	5'	160'	165'
	TOTALS	30'	2116'	2146'
GRAND	TOTALS	952'	7460'	8412'

LEGEND

TERTIARY
- VOLCANICS : Basalt, Dacite

UPPER CRETACEOUS
- NANAIMO GROUP : Shale, Siltstone, Sandstone, Conglomerate, Coal

JURASSIC
- ISLAND INTRUSIONS : Quartz diorite, Granodiorite.
- BONANZA FORMATION: Andesite, Tuff, Breccia.

TRIASSIC
- PARSON BAY FORMATION : Calcareous siltstone, Shale, Limestone, Greywacke, Conglomerate, Breccia. (Includes 'Quatsino limestone')
- KARMUTSEN FORMATION : Andesite and basalt.
- UPPER CRETACEOUS EXPOSURES

- ATTITUDE OF BEDDING
- GEOLOGIC CONTACT (Approximate).
- FAULT OR LINEAMENT
- ELEVATION CONTOUR
- OPEN SWAMP
- S74-3 DIAMOND DRILL HOLE (1974)
- BH-2 BORE HOLE (1908)
- PAVED HIGHWAY
- GRAVELLED LOGGING ROAD
- ACCESS TRAIL (DOZER)

214 M02

3Q - SUQUASH 74(2)A.

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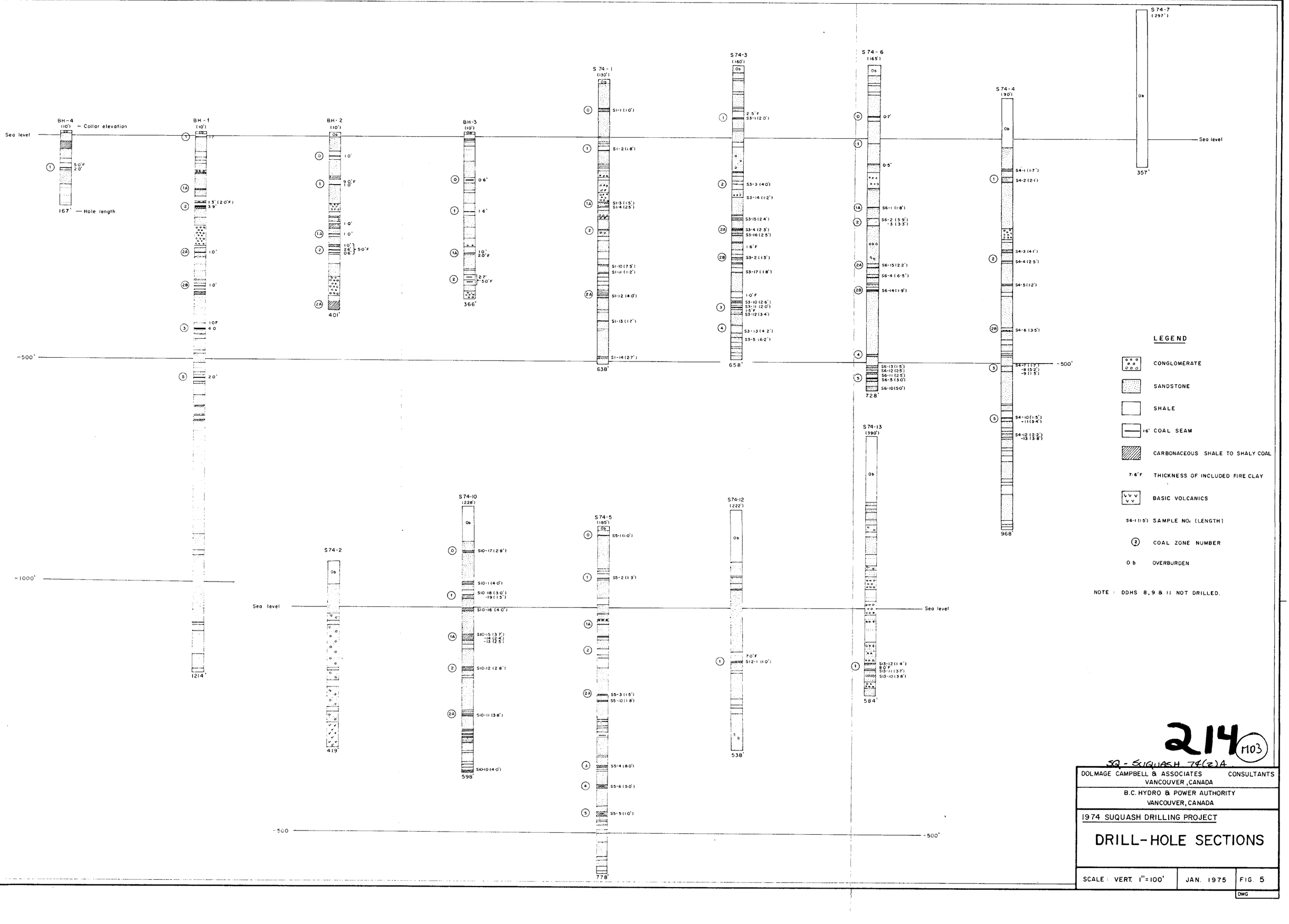
1974 SUQUASH DRILLING PROJECT

GEOLOGY

SCALE 1:50,000 | DEC. 1974 | FIG. 3



214 M103

SQ - SUQUASH 74(2)A

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B.C. HYDRO & POWER AUTHORITY
VANCOUVER, CANADA

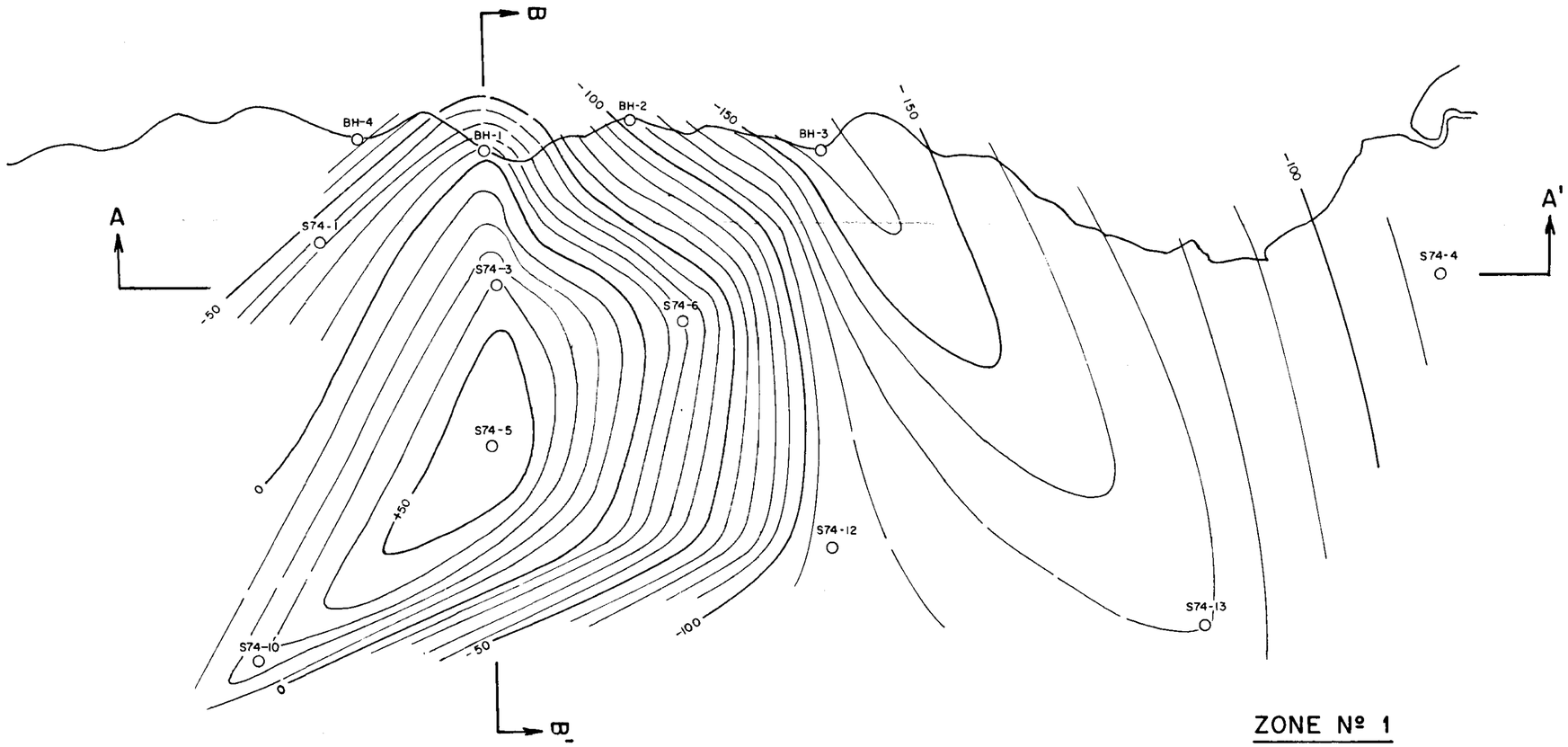
1974 SUQUASH DRILLING PROJECT

DRILL-HOLE SECTIONS

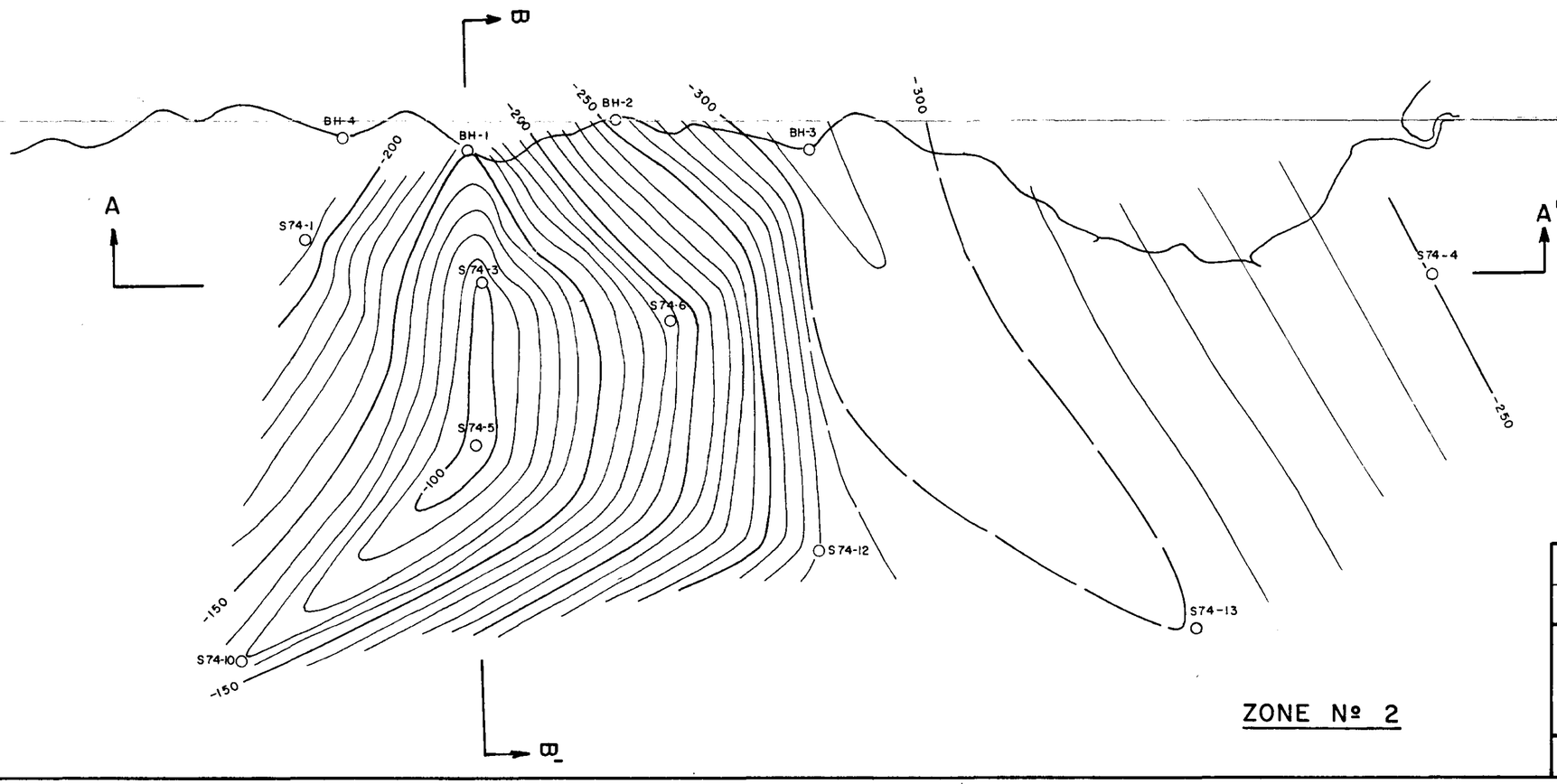
SCALE : VERT. 1"=100' | JAN. 1975 | FIG. 5

DWG

VANCAL



ZONE Nº 1



ZONE Nº 2

214 M04

50-SUQUASH 74(2)A.

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VANCOUVER, CANADA

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VANCOUVER, CANADA

1974 SUQUASH DRILLING PROJECT

CONTOUR MAPS OF Nº 1 & 2 ZONES

SCALE 1"= 2000'	JAN. 1975	FIG. 6

DWG. C