NETHERLANDS PACIFIC MINING COMPANY INC.

REPORT ON THE

GEOLOGICAL AND PHYSICAL WORK DONE ON

COAL LICENCES NOs. 5279-5300
(Both Inclusive)

IN THE

DUNSMUIR, NANOOSE, MOUNTAIN AND WELLINGTON

LAND DISTRICTS

BENSON MOUNTAIN AREA

WEST OF NANAIMO, B.C.

N.T.S. 92F/1E

LATITUDE : 49° 10' N

LONGITUDE : 124° 07' W

OWNER & OPERATOR: NETHERLANDS PACIFIC MINING COMPANY INC.

CONSULTANT : MICHELE P. CURCIO

DATE OF WORK : 23rd August 1979 - 22nd August 1980

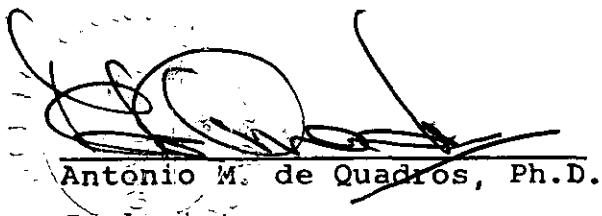
DATE SUBMITTED : September 1980

AUTHOR : Antonio M. de Quadros, Ph. D.

PREFACE

This report attempts to present the results of the 1979-1980 programme carried out by Netherlands Pacific Mining Company Inc. of Vancouver, B.C. under the supervision of their coal consultant, the late Mr. Michele P. Curcio of West Vancouver, B.C. The company is presently unable to obtain any of the late Mr. Curcio's field notes, geological mapping, percussion drill logs and locations, and sample localities. Should the information be obtained in the future, a supplementary report will be prepared and presented.

This report incorporates all the data at hand and presents a detailed statement of costs. Allocations of costs are subjective, based on the writer's judgement, but are believed to be fair.



Antonio M. de Quadros, Ph.D.
Geologist

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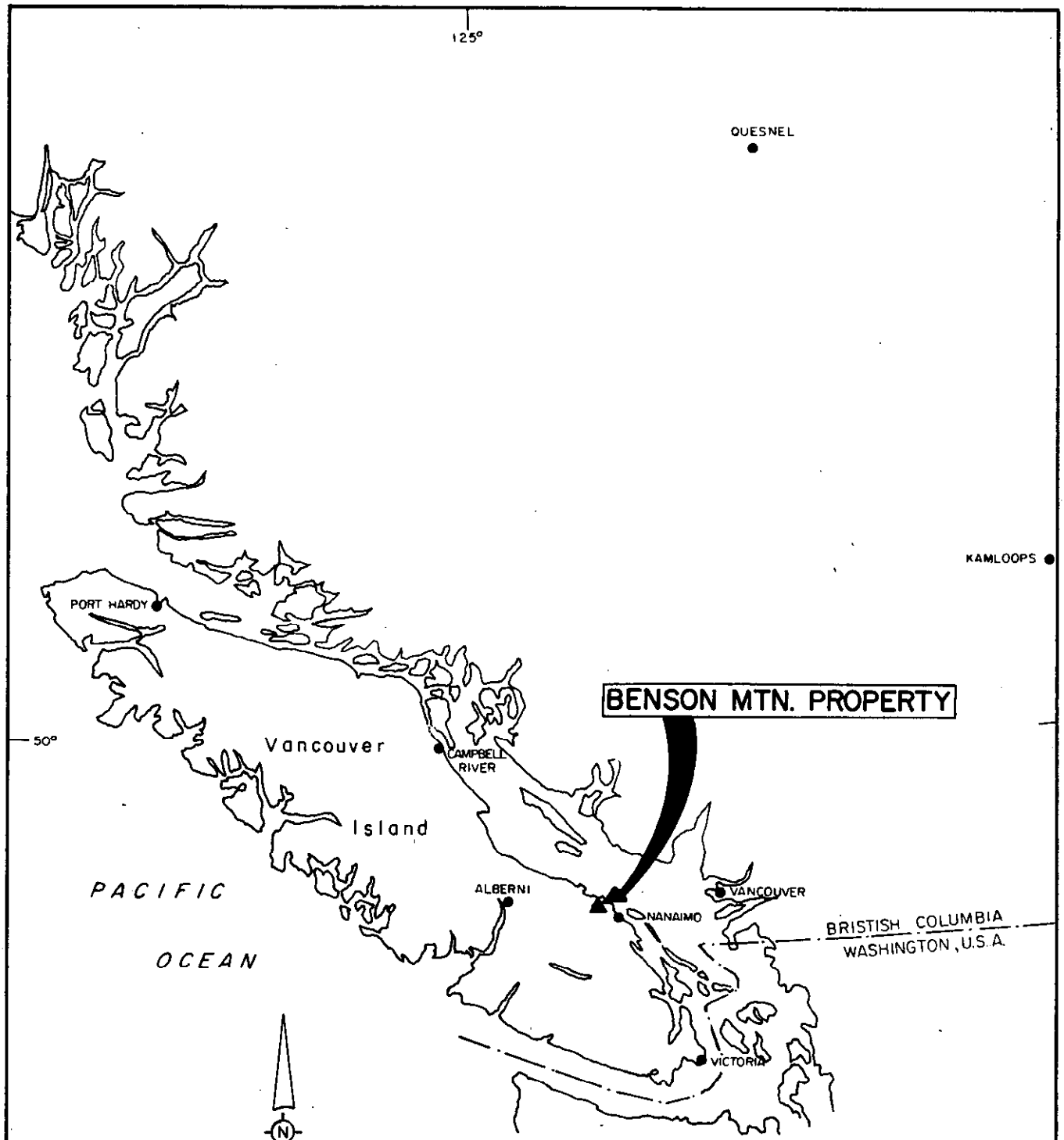
INTRODUCTION

The Netherlands Pacific Mining Company Inc. holds 21 coal licences covering about 5221 hectares in the Benson Mountain Area, west of Nanaimo, B.C., granted to the company on the 23rd of August, 1979. Investigation of the coal potential of the licences were conducted under the supervision of the late Mr. Michele P. Curcio.

The property encompasses three sedimentary formations of the Nanaimo Group: The Comox Formation, the lowermost, lying unconformably on the volcanic rocks of the Vancouver Group, the Haslam Formation and the Extension Formation. The last is the only formation that has yielded mineable coal in the past.

Coal mining started in the Nanaimo Area in about 1851 and continued until the early 1950's; during this period about 55 million tons of coal were produced. In the recent years, interest in this coal field has been renewed, and further exploration is being carried out in the area.



CX- Benson Mountain 79-80 (2") A "(1)

NETHERLANDS PACIFIC MINING CO. INC.
VANCOUVER, B.C.

BENSON MOUNTAIN AREA
NANAIMO M.D., B.C.
92 F / 1 E

LOCATION MAP

SCALE 1 : 3,168,000

AUG. 1980 FIGURE 1

PROPERTY INFORMATION

The Benson Area Property is covered by 22 coal licences totalling about 5221 hectares, granted to the company on 23rd August 1980. They lie in the Dunsmuir, Nanoose, Mountain and Wellington Land Districts. The details of the licences are as follows (Fig. 2):

Licence No.	Area (hectares)	Land District	
5279	163	Dunsmuir	Block 575
5280	213	Dunsmuir	Block 574
5281	251	Dunsmuir	Block 574
5282	201	Dunsmuir	Block 574
5283	218	Dunsmuir	Block 142
5284	178	Dunsmuir	Block 142
5285	220	Dunsmuir	Block 142
5286	157	Dunsmuir	Block 142
5287	173	Dunsmuir	Block 142
5288	233	Dunsmuir and Mountain	Block 142 Block 178
5289	259	Dunsmuir	Block 142
5290	252	Dunsmuir	Block 142
5291	181	Dunsmuir	Block 142
5292	365	Dunsmuir	Block 565
5293	367	Dunsmuir	Block 463
5294	247	Dunsmuir	Block 161 Block 355
5295	243	Mountain	Sections 16,17 of Ranges 1,2,3

GEOLOGY

The Nanimo Basin is a downwarped trough in which about 3000 metres of sediments were deposited from the Triassic to Recent times. These sediments are representative of several rapid transgressive and regressive cycles of deposition during which conglomerates, sandstones, shales and coal were deposited unconformably over the Triassic-Lower Jurassic rocks of the Vancouver Group, chiefly the basalts of the Karmutsen Formation. Much of the Nanimo Basin sediments appear derived from the Karmutsen Formation.

The area was intruded by granites and granodiorites of the Island Intrusives, which are placed in the Middle to Upper Jurassic though they may have extended into the Cretaceous Era.

The stratigraphy of the Nanaimo Basin is given on pages 6 and 7.

TABLE OF FORMATIONS

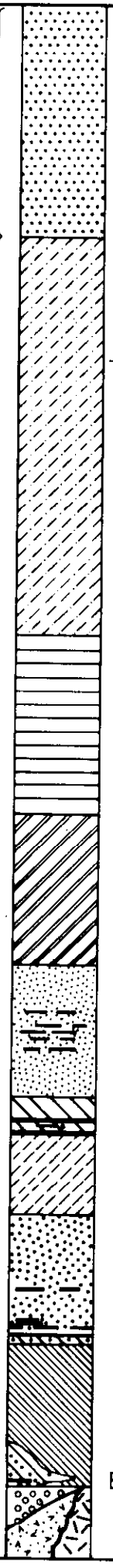
ERA	PERIOD OR EPOCH	GROUP AND FORMATION	MAP-UNIT	LITHOLOGY	THICKI (FEE
Cenozoic	Pleistocene and Recent		23	Till, gravel, sand, silt	
	Unconformity				
			22	Rhyolitic to dacitic tuff, breccia, ignimbrite	
	Relation unknown, perhaps coeval				
			21	Hornblende quartz diorite, quartz monzonite, porphyritic dacide, breccia	
Mesozoic and Cenozoic	Relations unknown				
	Cretaceous or Tertiary		20	Sandstone, conglomerate,(may be younger than Tl, Tv)	
	Upper Cretaceous and (?) Tertiary	Nanaimo Group			6,000 8,000
	Upper Cretaceous	Gabriola Formation	19	Sandstone, conglomerate,shale	300 1,400
		Spray Formation	18	Siltstone, shale, fine sandstone	225 950
		Geoffrey Formation	17	Conglomerate, sandstone	400 700
		Northumberland Formation	16	Siltstone, shale, fine sandstone	500 1,000
		DeCourcy Formation	15	Conglomerate, sandstone	800 1,400
	Sedimentary Deposition — Netherlands Pacific Licences	Cedar District Formation	14	Shale, siltstone, fine sandstone	1,000
		Extension - Protection	13	Sandstone, conglomerate, shale, coal	0 1,900
		Haslam Formation	12	Shale, siltstone, fine sandstone	280 1,000
		Comox Formation	11	Sandstone, shale, coal Benson member, mainly conglomerate	300 2,000
	Not known to be in contact				
	Upper Jurassic and/or Lower Cretaceous	Tofino Area Greywacke Unit	10	Greywacke, argillite conglomerate	severa thousa
	Nonconformity (also with Nanaimo Group)				
Mesozoic	Middle to Upper Jurassic	Island Intrusions	9	Biotite-hornblende granodiorite quartz diorite	

Intrusive Contact

STRATIGRAPHY OF THE NANAIMO BASIN

NANAIMO COALFIELD

COLUMNAR SECTION



FORMATION AND THICKNESS IN FEET		
GABRIOLA	1400'±	
NORTHUMBERLAND	2000 ±	
DE COURCY	900' ±	
CEDAR DISTRICT	750'±	
PROTECTION	650' ±	
NEWCASTLE	175' ±	DOUGLAS SEAM NEWCASTLE SEAM
CRANBERRY	400' ±	
EXTENSION	600' ±	
EAST WELLINGTON	35' ±	WELLINGTON SEAM
HASLAM	600' ±	
BENSON	100' ±	BLACK JACK SEAM

BIBLIOGRAPHY

BELL, W.A. 1957:
Flora of the Upper Cretaceous Nanaimo Group
Geol. Surv. of Canada Memoir 293

CLAPP, C.H. 1912:
Southern Vancouver Island
Geol. Surv. of Canada Memoir 13

_____ 1917:
Geology of the Nanaimo Map Area
Geol. Surv. of Canada Memoir 51

CURCIO, M.P. 1979:
Preliminary Report of the Nanaimo Coal Basin
Unpublished Report prepared for Netherlands Pacific Mining Company Inc.

GARDNER, S.L. 1980:
The Netherlands Pacific Mining Company Inc. Coal Exploration Licences in the Nanaimo Area: A Geologic Evaluation. Unpublished Report prepared for the Teck Corporation Ltd.

MULLER, J.E. and JELETZKY, J.A. 1969:
Geology of the Upper Cretaceous Nanaimo Group, Vancouver Island and Gulf Islands
Geol. Surv. of Canada Paper 69-25

APPENDIX I

ASSAYS

GENERAL TESTING LABORATORIES

DIVISION: SUPERINTENDENCE COMPANY (CANADA) LTD
1001 EAST PENDER STREET, VANCOUVER, B.C., CANADA V6A 1W2
PHONE (604) 254-1647 TELEX 04-507514 CABLE SUPERVISE

TO:
Mr. Steven L. Gardner
273 Westwood Road,
R.R. # 3 - Site S.
Nanaimo, B.C. V9R 5K3

CERTIFICATE OF ANALYSIS

No.: 7907-1014	DATE: August 10, 1979
FILE:	

WE HEREBY CERTIFY that we have analyzed the submitted samples herein described and report as follows:

Samples marked # 1 and # 2

ANALYSIS "as received" Basis

	Total Moisture	Ash	Volatile Matter	Fixed Carbon
Sample # 1	9.29%	61.27%	17.79%	11.65%
Sample # 2	8.15%	54.86%	19.95%	17.04%

AIR DRY BASIS:	Fraction %	Residual Moisture %	Ash %	Volatile Matter %	Fixed Carbon %	Sulphur %
# 1 Original	--	1.66	66.43	19.36	12.55	0.19
+ 2"	4.43	1.78	80.69	14.08	3.45	0.10
+ 1"	9.43	1.46	75.44	15.83	7.27	0.13
+ 1/2"	9.30	1.44	67.19	18.58	12.79	0.17
+ 1/4"	14.21	1.53	62.49	20.06	15.92	0.20
+ 1/8"	14.71	1.62	63.99	19.83	14.56	0.20
+ 1/16"	16.71	1.68	66.08	18.53	13.71	0.18
- 1/16"	31.22	1.84	66.16	18.54	13.46	0.19
#2 Original	--	1.57	58.79	21.45	18.19	0.48
+ 2"	4.71	1.51	67.08	18.31	13.10	0.49
+ 1"	6.85	1.31	72.08	17.05	9.56	0.27
+ 1/2"	10.20	1.42	57.21	22.05	19.32	0.35
+ 1/4"	14.80	1.57	55.89	22.50	20.04	0.48
+ 1/8"	14.92	1.59	55.98	21.96	20.47	0.45
+ 1/16"	15.22	1.60	57.26	21.74	19.40	0.45
- 1/16"	33.32	1.67	58.11	21.17	19.05	0.53

Calorific Value on Original Sample # 1 (air dry basis) ..... 3582 BTU/lb.
Calorific Value on Original Sample # 2 (air dry basis) ..... 5033 BTU/lb.

Calorific Value and Specific Gravity on Fractions with lowest Ash (air dry basis)
Sample # 1 - 1/4" ..... 4111 BTU/lb. ..... Specific Gravity 1.99 g/cm3
Sample # 2 - 1/4" ..... 5485 BTU/lb. ..... Specific Gravity 1.87 g/cm3

NOTE:
Specific Gravity was determined on air dry basis pulps -60 mesh.

LL:at

L. Lakosil - Chief Coal Chemist.
SIGNATURE AND TITLE

GENERAL TESTING LABORATORIES
DIVISION: SUPERINTENDENCE COMPANY (CANADA) LTD.
1001 EAST PENDER STREET, VANCOUVER, B.C., CANADA
V6A 1W2
PHONE (604) 254-1647 TELEX 04-507514 CABLE SUPERVISE

CERTIFICATE OF ANALYSIS

TO:

NETHERLAND PACIFIC MINING CO. LTD.
#301 - 1201 West Pender Street,
Vancouver, B.C., V6E 2V2

No.: 7909-0412	DATE:
FILE:	September 30,1979

WE HEREBY CERTIFY that we have analyzed the herein described samples and report as follows:

DESCRIPTION: Two (2) submitted samples of Coal

Marked: #1 ADIT
#2 OUTCROP

ANALYSIS: - #1 ADIT

BASIS	MOISTURE: (%)	ASH: (%)	VOL.M. (%)	FIXED CARBON (%)	SULPHUR: (%)	CAL.VALUE: BTU/LB
as received	7.9	54.84	20.17	17.09	0.30	4519
air dry	1.15	58.85	21.65	18.35	0.33	4851
dry	---	59.54	21.90	18.56	0.33	4907
grindability :		HGI 48 at 1.15% moisture				
#2 OUTCROP						
as received	9.1	53.69	19.55	17.66	0.33	4451
air dry	1.12	58.43	21.28	19.17	0.36	4844
dry	---	59.09	21.52	19.39	0.36	4899
On September 7, 1979 Mr. Curcio requested washability in SG 1.55 on both samples.						
	#1 Yield in 1.55: Float 22.1% Sink 77.9%					
1F air dry	2.47	15.97	33.36	48.20	0.60	11,699
dry	---	16.37	34.20	49.43	0.61	11,995
	#2 Yield in 1.55: Float 19.1% Sink 80.9%					
2F air dry	3.10	12.95	34.00	49.95	0.65	11,647
dry	---	13.36	35.09	51.55	0.67	12,020

Ash fusion on combined #1 and #2 clean Coal -

Atmosphere:	OXIDIZING	°C	REDUCING
	1324		1251
	1365		1308
	1382		1331
	1433		1339

1 x 5 to Netherland Pac.
1 cc to Mr. Curcio
1 cc to Mr. S.L. Gardner, P. Geologist

L. Lakosil

L. Lakosil - Chief Coal Chemist
SIGNATURE AND TITLE

GENERAL TESTING LABORATORIES

DIVISION: SUPERINTENDENCE COMPANY (CANADA) LTD.
1001 EAST PENDER STREET, VANCOUVER, B.C., CANADA V6A 1W2
PHONE (604) 254-1647 TELEX 04-507514 CABLE SUPERVISE

10 - A

TO:

MR. STEVEN L. GARDNER
274 Westwood Road,
R.R. # 3 - Site S.
Nanaimo, B.C. V9R 5K3

CERTIFICATE OF ANALYSIS

No.: 7908-0905	DATE: August 27, 1979
FILE:	

WE HEREBY CERTIFY that we have analyzed the herein described samples and report as follows:

DESCRIPTION: Two (2) submitted Coal Samples

1 FEED: Air Dry Ash 66.43% - Dry Ash 67.55%

SPECIFIC GRAVITY	F L O A T		S I N K	
	Yield %	Dry Ash %	Yield %	Dry Ash %
1.3	4.53	15.15	95.47	69.16
1.4	12.39	19.26	87.61	74.46
1.5	16.83	19.43	83.17	76.91
1.6	20.20	23.12	79.80	77.65
1.7	23.01	24.14	76.99	79.59
1.8	28.33	28.85	71.67	81.82
1.9	31.19	32.03	68.81	83.10

2 FEED: Air Dry Ash 58.79% - Dry Ash 59.73%

1.3	4.86	7.92	95.14	61.96
1.4	18.36	11.04	81.64	70.31
1.5	26.94	16.94	73.06	74.37
1.6	30.25	18.27	69.75	76.65
1.7	34.16	19.87	65.84	79.10
1.8	40.23	25.30	59.77	81.01
1.9	43.42	27.06	56.58	82.92

L. Lakosil

LL:at

L. Lakosil - Chief Coal Chemist

SIGNATURE AND TITLE

COPY

APPENDIX 2

STATEMENT OF COSTS

NETHERLANDS PACIFIC MINING COMPANY INC.

SUMMARY OF EXPENSES

AUGUST 23, 1979-AUGUST 22, 1980

	$	$
August 1979 (From 23rd)		
Supplies (Expendable)	764.36	
Equipment Transport	227.50	
Room & Board	411.43	
Assays	983.00	
Office Expenses	2,602.48	4,988.77
September 1979		
Supplies (Expendable)	688.82	
Equipment Repair	971.16	
Equipment Transport	2,719.00	
Drilling	1,200.00	
Miscellaneous Field Expenses	242.19	
Wages and Fees	4,502.47	
Room and Board	289.70	
Assays	317.00	
Office Expenses	1,404.38	12,334.72
October 1979		
Wages and Fees	12,500.00	
Office Expenses	10.00	12,510.00
November 1979		
Miscellaneous Field Expenses	32.73	
Office Expenses	2,887.84	
Personnel Travel	493.68	3,414.25
December 1979	Nil	Nil
January 1980	Nil	Nil
February 1980		
Personnel Travel	1,088.71	1,088.71

Forward

Summary of Expenses, Continued

March 1980	$	$
Office Expenses	1,400.00	1,400.00
April 1980	Nil	Nil
May 1980	Nil	Nil
June 1980		
Office Expenses	73.55	73.55
July 1980		
Equipment Rental	5,697.50	
Office Expenses	6.00	5,703.50
August 1980 to 22nd	Nil	Nil
		41,513.50
Report Preparation		1,600.00
	TOTAL	$43,113.50

A.M. de Quadros Ph. D.

WAGES & FEES

a)	F. BLACK - Backhoe Operator @ 12.37/hour	$	$
	August 19, 1979 - August 31, 1979	1,704.15	
	September 1, 1979 - September 10, 1979	983.88	
	W.C.B., C.P.P., Holiday Pay, etc.	389.51	3,077.54
b)	R.JOYETTE,Casual Labourer @ 12.69/hour		
	August 27, 28, 1979 - 17 hours	215.73	215.73
c)	R. NEWFIELD,Casual Labourer @ 10.92/hour	109.20	109.20
d)	S.L. GARDNER,Consulting Geologist @ 100./day		
	September 11, 12, 1979	200.00	
	August 21 - September 4, 1979	900.00	1,100.00
e)	Mechele P. Curcio,Consultant		
	Per Invoice Dated October 11, 1979	12,500.00	12,500.00
	TOTAL WAGES		$17,002.47

ROOM & BOARD

F. Black

August 19 - August 31, 1979

Room @ 18.00/day + tax	$ 226.60	
Board	188.83	$411.13

September 1 - September 10, 1979

Room @ 16.00/day + tax	$ 151.20		
Board	138.50		$289.70
		TOTAL	$701.13

EQUIPMENT TRANSPORTATION

1.	Arnold Bros. Transportation Model 925 Liebherr Backhoe D8 Clearing Blade Spare Bucket Winnipeg, Manitoba to Nanaimo, B.C.	$2,614.00
2.	Reg Dorman's Trucking Model 925 Liebherr Backhoe Nanaimo to Boomerang Lake	227.50
3.	Reg Dorman's Trucking Model 925 Liebherr Backhoe Boomerang Lake to Nanaimo	105.00
	TOTAL	$2,946.50

EQUIPMENT RENTAL

1. Chinook Construction & Engineering Ltd.

One Liebherr Backhoe August 19 - 31, 1979 107.5 hours @ $53.00/hour	$5,697.50

DRILLING

1.	Drillwell Enterprises September 11, 1979 5 hours 3 forty-foot holes 1 hundred-foot holes	$ 500.00	
2.	Drillwell Enterprises September 12, 1979 5½ hours 1 forty-foot hole 1 hundred-foot hole	550.00	
3.	Drillwell Enterprises Mobilization to & from Nanaimo	150.00	$1,200.00

EQUIPMENT USED

Bucyrus 12R Rotary Drill
with Mission Hammer

APPENDIX 3

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Antonio M. de Quadros, certify that:

a) I hold the following degrees in Geology:

B.Sc. Hons.	University of London	1964
M.S.	U.C.L.A.	1968
Ph. D.	University of Nairobi	1972

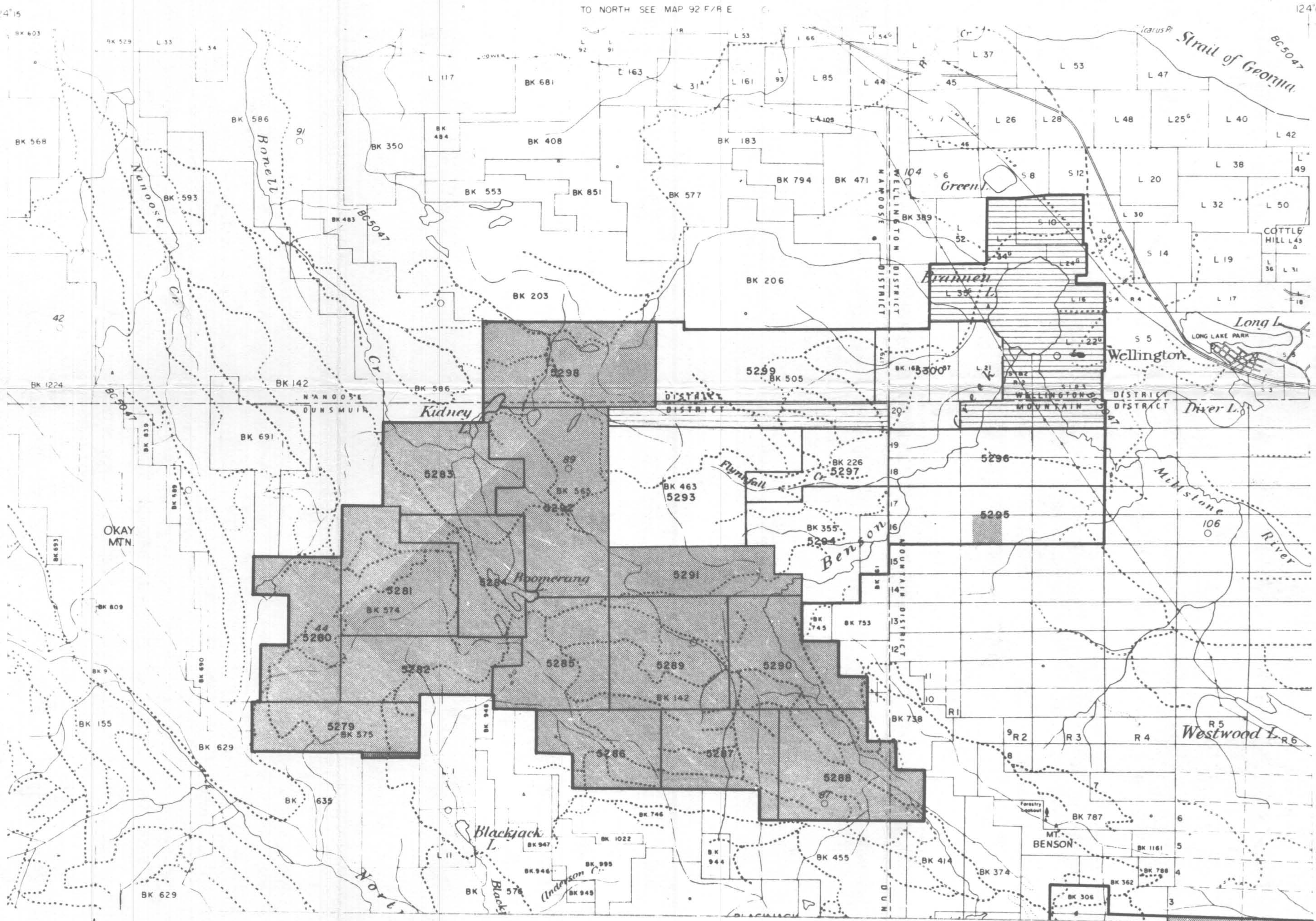
b) I have worked on geological projects since 1959, including:

i	1964-1965	Geologist, Geological Survey of Tanzania
ii	1968-1972	Lecturer in Geology, University of Nairobi, Kenya
iii	1973	Geologist, Agilis Exploration Services, Vancouver, B.C.
iv	1974	Geologist, Union Carbide Exploration, Vancouver, B.C.
v	1974-1976	Geologist, Kerr Addison Mines, Feasibility & Exploration, Grum Joint Venture
vi	1976-1977	Geologist, Dolmage Campbell & Associates Hat Creek Coal Deposit
vii	1977-1978	Project Geologist, Chinook Construction & Engineering Ltd., Prospecting, Property Work and Evaluation - Uranium in B.C. and Colorado Plateau.
ix	1978-Present	Self-employed geologist and prospector

c) I am i) a Fellow of the Geological Association of Canada

ii) an Engineer-in-Training of the Association of Professional Engineers of B.C.

A.M. de Quadros



LEGEND

Netherlands Pacific Mining Co. Inc.

MacMillan Bloedel Ltd.

0 — 2 MILES

0 1 2 3 KM.

168

(M1)

CX - Benson Mountain 79-80 (2#) A #(1)

NETHERLANDS PACIFIC MINING CO. INC.
VANCOUVER, B.C.

BENSON MOUNTAIN AREA
NANAIMO M.D., B.C.
92 F / 1E

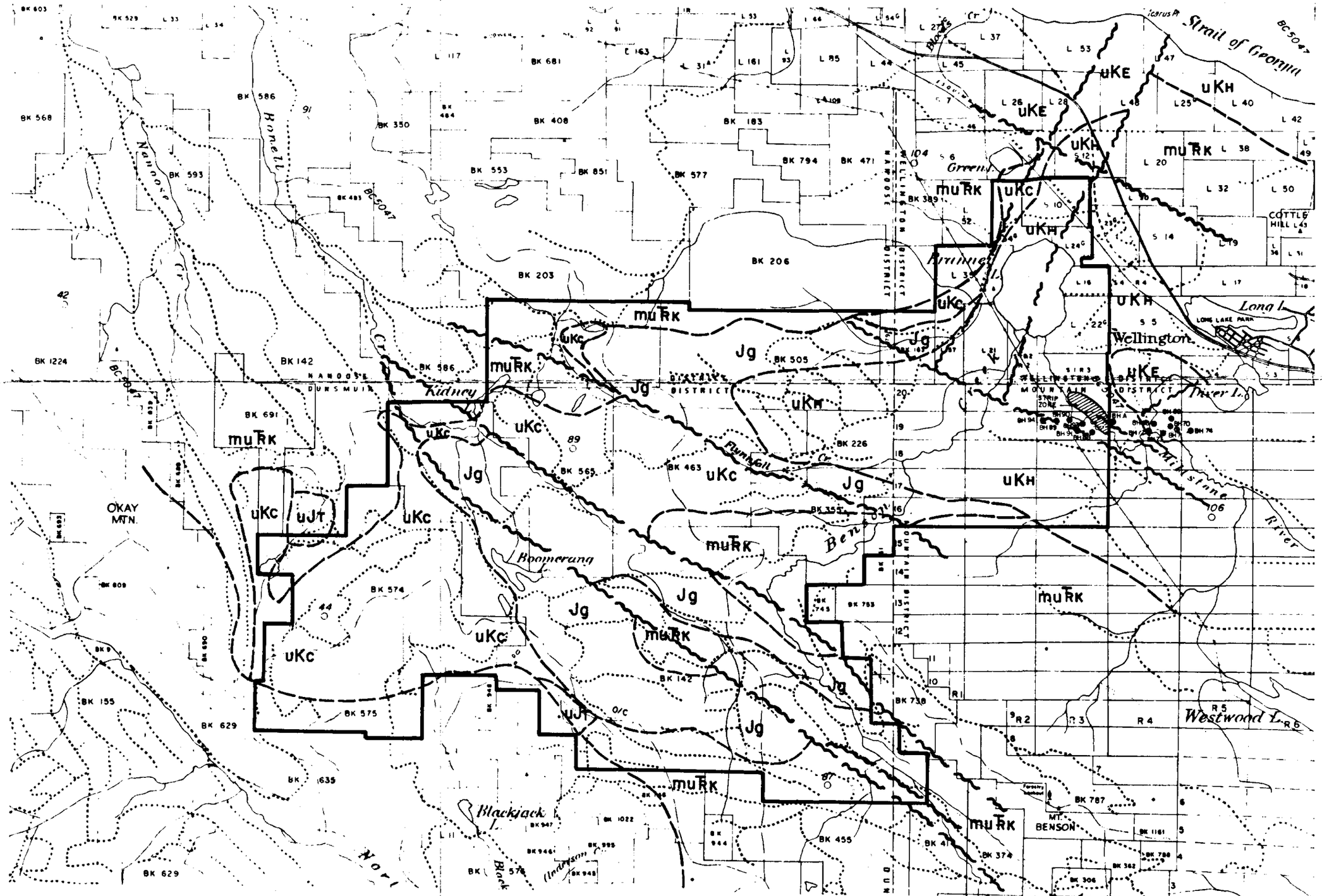
PROPERTY MAP

SCALE 1: 50,000

AUG. 1980

FIGURE 2

TO NORTH SEE MAP 92 F/8 E



PERIOD OR EPOCH		GROUP & FORMATION	MAIN LITHOLOGY	COAL MEMBERS
		OVERBURDEN		
		NANAIMO GROUP		
UPPER CRETACEOUS	uKE	EXTENSION	Sandstone, conglomerate, shale, coal	WELLINGTON NEWCASTLE DOUGLAS
	uKH	HASLAM FORMATION	Shale, siltstone, fine sandstone	
	uKc	COMOX FORMATION	Sandstone, shale, conglomerate	BENSON
UPPER JURASSIC and/or LOWER CRETACEOUS	uJT	TOFINO AREA GREYWACKE	Greywacke, argillite, conglomerate	
MIDDLE – LATE JURASSIC	Jg	ISLAND INTRUSIVES		
TRIASSIC / LOWER JURASSIC	muTRK	VANCOUVER GROUP	Volcanic rocks, mainly Karmutsen Fm. basalts	

0 1 2 MILES
0 1 2 3 KM.

CONTACT
FAULT
PROPERTY OUTLINE

168 (MA)

CX-Benson Mountain 79-80 (2) A (1)

NETHERLANDS PACIFIC MINING CO. INC.
VANCOUVER, B.C.

BENSON MOUNTAIN AREA
NANAIMO M.D., B.C.
92 F / 1E

GEOLOGICAL MAP

SCALE 1:50,000

AUG. 1980

FIGURE 3