82-#665-#10854

ASSESSMENT REPORT OF THE
GEOLOGICAL AND GEOCHEMICAL
SURVEY ON THE PM GROUP "B" CLAIMS
BY BP MINERALS LIMITED

NANAIMO MINING DIVISION
127°10' West Longitude, 50°34 North Latitude
NTS 92L/11E

PM GROUP B CLAIMS (59 Units) ARE
WHOLLY-OWNED BY BP MINERALS LIMITED

R.H. Wong,
Geologist
BP Minerals Limited

Date Submitted: September, 1982

BPVR 82-9

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1) SUMMARY

Work completed on the PM Group B claims by BP Minerals Limited during the period July 17, 1981 to May 15, 1982 includes geologic mapping at a scale of 1:20,000, soil and stream sediment sampling, and completion of six deep overburden drill holes.

Extensive overburden cover in the claim area severely limits the effectiveness of geochemical exploration. Absence of outcrop makes evaluation of the favourable host horizon, the Parson Bay Formation, impossible. No further work is recommended at the present time.

A total of $5,900 has been applied as assessment on the claims, thereby maintaining their good standing until June 22, 1983.

2) INTRODUCTION

This report details work done by BP Minerals Limited on PM Group B claims during the period July 17, 1981 to May 15, 1982. A programme of geologic mapping, overburden geochemistry and deep overburden drilling was conducted over the claim area.

The programme explored for disseminated gold mineralization in a favourable reactive host horizon, the Parson Bay Formation.

3) LOCATION AND ACCESS

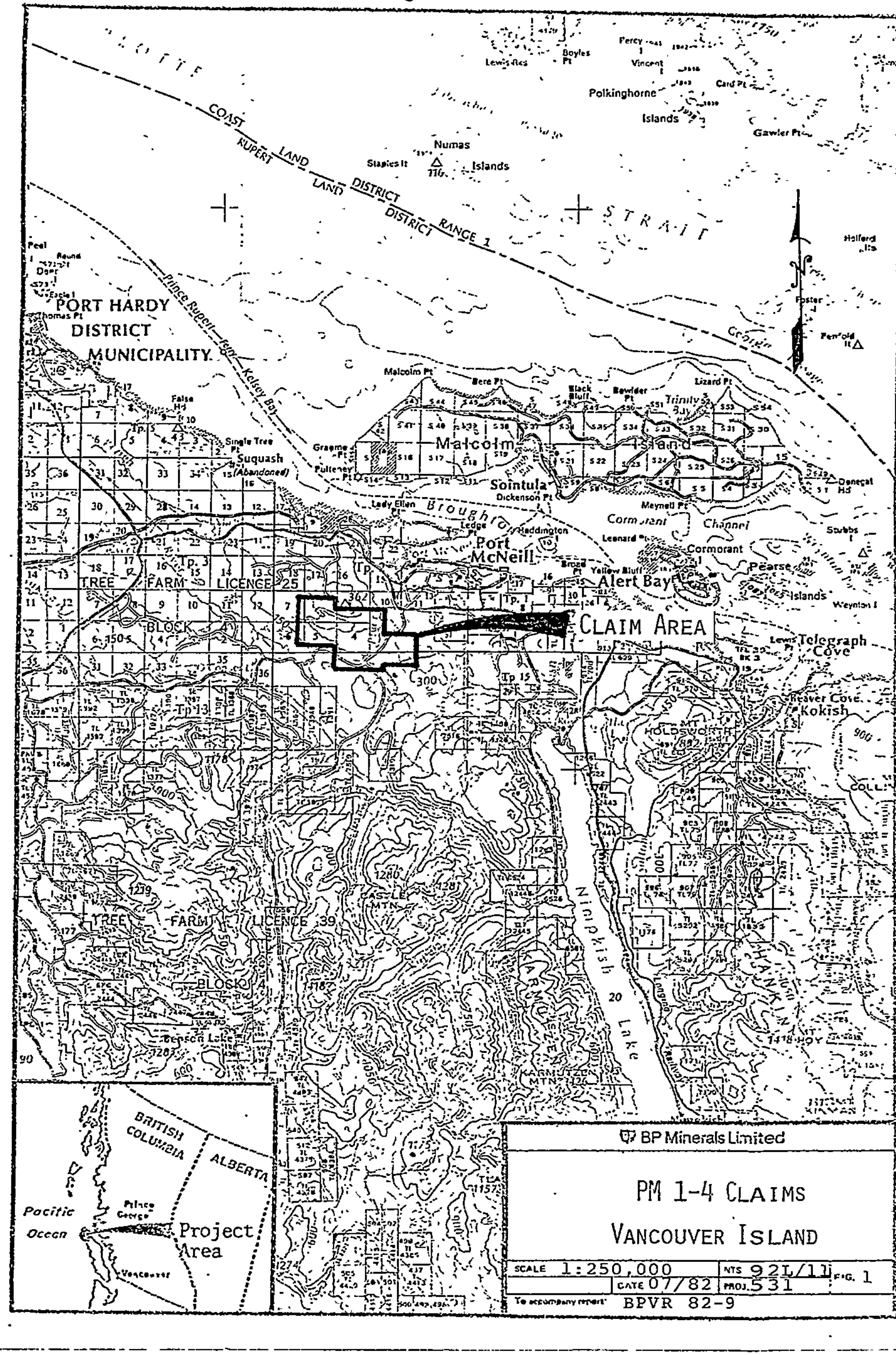
The claims are centred at 127°10' west longitude and 50°34' north latitude within the Nanaimo Mining Division. Access to the property is gained via a network of old logging roads which originate from the MacMillan Bloedel offices adjacent to highway 19.

4) TOPOGRAPHY

The property occupies a low-lying swampy valley situated between Cluxewe Mountain on the north and Twin Peaks on the south.

5) CLAIM STATUS

The PM 1 to 4 claims, comprising 59 units, were staked June 10 and 11, 1981 and are wholly-owned by BP



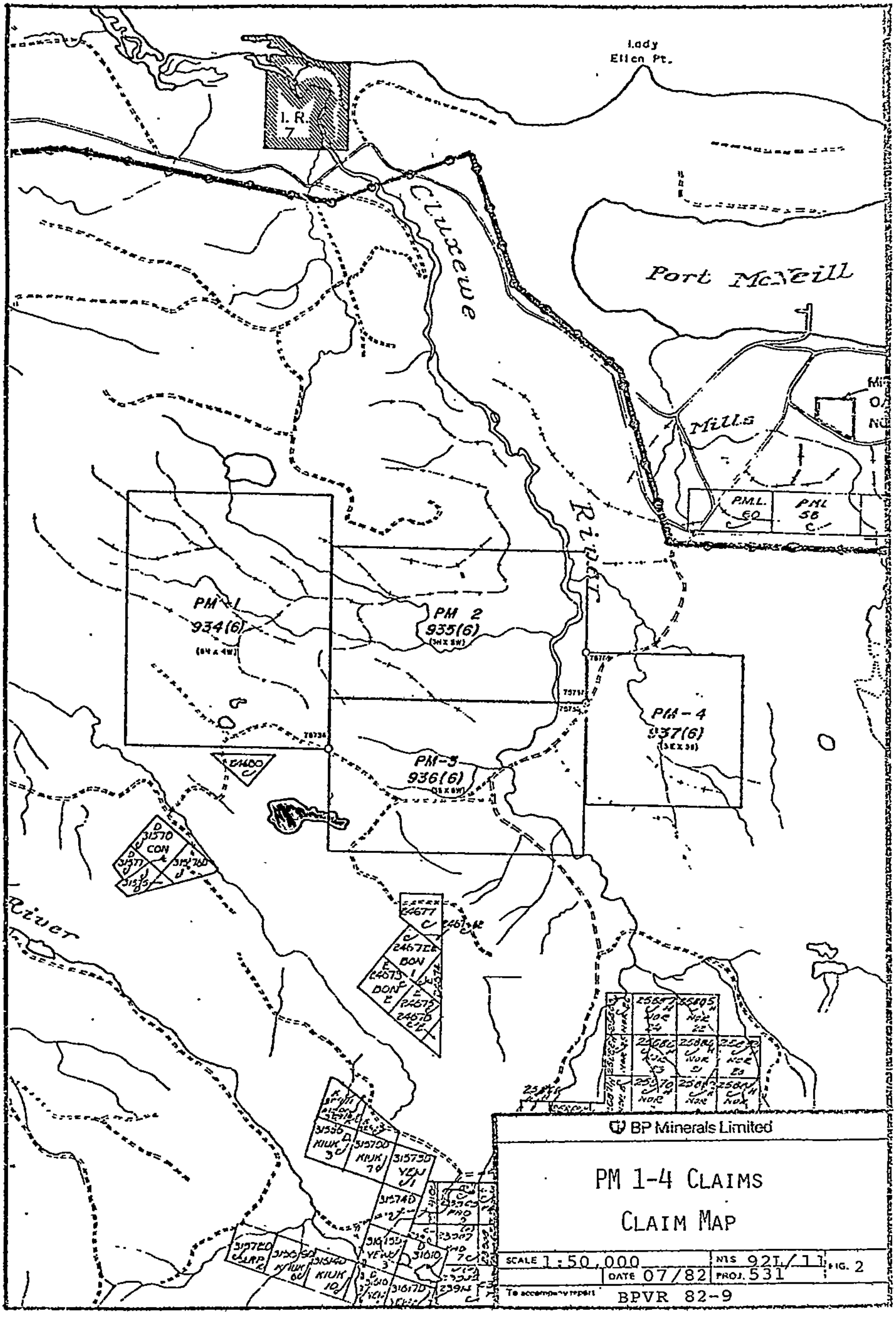
QUEEN CHARLOTTE STRAIT
COAST LAND DISTRICT RANGE 1
RUPERT LAND DISTRICT
Numas Islands
Polkinghorne Islands
PORT HARDY DISTRICT MUNICIPALITY
Malcolm Island
Sointula
Broughton Strait
Cormorant Channel
Port McNeill
Alert Bay
Cormorant Island
Pearse Islands
Telegraph Cove
Beaver Cove
Kokish
Suquash (Abandoned)
TREE FARM LICENCE 25
BLOCK 4
CLAIM AREA
TREE FARM LICENCE 39
BLOCK 4
CASTLE MTN
KARMUTZEN
KARMUTZEN MTN
Nimpkish Lake
MT HOLDSWORTH
Benson Lake
BRITISH COLUMBIA
ALBERTA
Pacific Ocean
Prince George
Vancouver
Project Area
BP Minerals Limited
PM 1-4 CLAIMS
VANCOUVER ISLAND
SCALE 1:250,000
NTS 92L/11
FIG. 1
DATE 07/82
PROJ. 531
To accompany report BPVR 82-9

Minerals Limited. All work detailed in this report was performed and/or paid for by BP Minerals Limited. The claims were grouped according to the Minerals Act in June, 1982 and a summary of the claims status is as follows:

	Claim Name	RECORD NUMBER	DATE STAKED	DATE RECORDED	No. of UNITS	APPLIED ASSESSMENT	NEW EXPIRY DATE
PM GROUP B	PM 1	934	6/13/81	6/22/81	20	$5,900	6/22/83
	PM 2	935	6/10/81	6/22/81	15		
	PM 3	936	6/10/81	6/22/81	15		
	PM 4	937	6/10/81	6/22/81	9		

6) GRID CONTROL AND TOPOGRAPHIC BASE

Topographic control for the geological and geochemical surveys consisted of a 1:20,000 map enlarged from the 1:50,000 topographic sheet for map-sheet 92L11. Ground surveys were conducted along topofil-compass lines and along overgrown logging roads evident on B.C. government 1:50,000 air photos.


Lady
Ellen Pt.
I. R.
7
Port McNeill
Cluxewe
River
Mills
P.M.L.
60
PML
58
C
PM-1
934(6)
PM 2
935(6)
PM-3
936(6)
PM-4
937(6)
River
BP Minerals Limited
PM 1-4 CLAIMS
CLAIM MAP
SCALE 1:50,000
NTS 92L/11
FIG. 2
DATE 07/82
PROJ. 531
To accompany report
BPVR 82-9

7) REGIONAL GEOLOGY

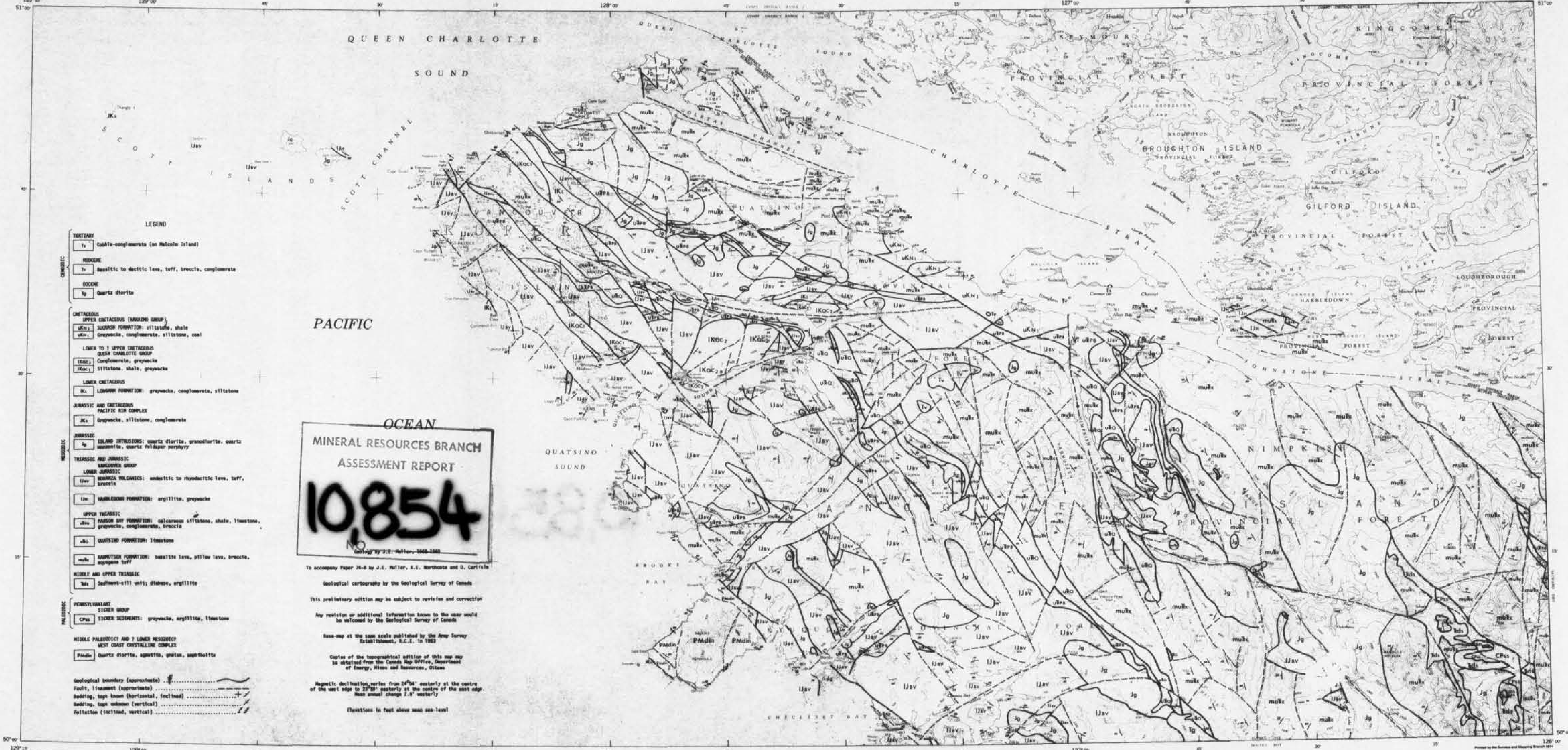
A) General Geology

Regional geology of Northern Vancouver Island is contained in Geological Survey of Canada Map 4-1974 (Alert Bay-Cape Scott, 1:250,000) by J.E. Muller (1968-69) and is discussed in Paper 74-8 by Muller, Northcote and Carlisle (1974).

Northern Vancouver Island is underlain predominantly by a Middle Triassic to Lower Jurassic volcanic-sedimentary sequence known as the Vancouver Group. This complex overlies Pennsylvanian carbonate-clastic sediments of the Sicker Group and older gneissic rocks of the Westcoast Gneiss Complex. All have been intruded by mesozonal and epizonal plutons of Early to Middle Jurassic age (Island Intrusions). Erosion of the entire sequence is followed by deposition on the west of a clastic wedge of Lower Cretaceous sediments, on the east by a wedge of Upper Cretaceous sediments, and again on the west by a wedge of Tertiary sediments. Minor plutonism occurred in the early Tertiary, and local volcanism occurred in late Tertiary time. The region is dissected by steep faults with dominant northwest trends which divide and subdivide the crust into numerous tilted blocks.

PRELIMINARY SERIES

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES



MAP 4 - 1974
PAPER 74-8
GEOLOGY

ALERT BAY - CAPE SCOTT

BRITISH COLUMBIA

Scale 1:250,000

Universal Transverse Mercator Projection

FIG. 3

PROJECT 531, JUNE 1982

MAP 4 - 1974
ALERT BAY - CAPE SCOTT
BRITISH COLUMBIA

PERIOD		STAGES	GROUP OR FORMATION	MAP UNIT	LITHOLOGY	THICKNESS (Feet)
TERTIARY		Miocene?	Tertiary Volcanics, Sediments	Tv Ts	Basaltic to dacitic lava, tuff, breccia; conglomerate conglomerate	1,000
TERTIARY		Not in contact; disconformable?				
TERTIARY		Eocene?	Tertiary Intrusions	Tg	Quartzdiorite	
TERTIARY		Intrusive contact in Alberni map-area				
CRETACEOUS	UPPER	Maestrichtian? Campanian	Nanaimo Group (incl. Suquash Fm.)	uKN	Greywacke, siltstone, shale conglomerate, coal	400
CRETACEOUS	UPPER	Disconformable contact?				
CRETACEOUS	UPPER	Cenomanian Albian	Queen Charlotte Group	lKQC	Greywacke, conglomerate, siltstone, shale, coal	1,000-3,500
CRETACEOUS		Disconformable contact				
CRETACEOUS	LOWER	Barremian Hauterivian Valanginian	Longarm Formation	lKL	Greywacke, conglomerate, siltstone	200-1,300
CRETACEOUS		Equal age but diverse tectonic setting				
CRETACEOUS			Pacific Rim Sequence	JKs	Argillite, greywacke? conglomerate	
JURASSIC	MIDDLE	Unconformable contact				
JURASSIC	MIDDLE		Island Intrusions	Jg	Quartz diorite, granodiorite, quartz monzonite, quartz-feldspar porphyry	
JURASSIC		Intrusive contact				
JURASSIC	LOWER	Pliensbachian Sinemurian	Vancouver Group (gradational contacts within group)			
JURASSIC	LOWER		Bonanza Volcanics Harbledown Fm.	lJBV JH	Andesitic to rhyodacitic lava, tuff, breccia; greywacke, argillite, tuff	1,000-18,500
TRIASSIC	UPPER	Norian	Parson Bay Fm.	uTRPB	Calcareous siltstone, shale, greywacke, conglomerate, breccia	1,000-2,000
TRIASSIC	UPPER	Karnian	Quatsino Fm.	uTRQ	Limestone	100-2,500
TRIASSIC	UPPER		Karmutsen Fm. includes in upper part Intervolcanic Limestone	muTRK uTRQ2	Basaltic lava, pillow lava, breccia Limestone	10,000-20,000
TRIASSIC	Mid.	Ladinian	Sediment - sill unit		Diabase, argillite	2,500
			Disconformable or unconformable contact			
PENNSYLVANIAN?			Sicker Group	Ps	Limestone, siltstone	700
PENNSYLVANIAN?			← ← ← Migmatic contact?			
		pre-Cretaceous	Westcoast Complex	PMdin	Quartz diorite, agmatite, amphibolite, gneiss	

TABLE I. Table of Formations (from Muller, et al, 1974).

Table 1 is the table of formations which correlates with the regional geologic map (Figure 3, in pocket).

The Vancouver Group includes calcareous siltstones of the Parson Bay Formation. These rocks, which locally contain quantities of carbonaceous material and pyrite, are thought to be favourable hosts for disseminated gold mineralization. A brief description of the Vancouver Group is therefore included.

The Vancouver Group is by far the most extensive unit of the Alert Bay-Cape Scott map-area. These rocks range in age from Middle Triassic to Lower Jurassic and have been divided into a basal sediment-sill unit, the Karmutsen, Quatsino, Parson Bay and Harbledown Formations, and the Bonanza Volcanics (Figure 4).

i) Sediment Sill Unit

The lowermost unit consists of a minor amount of thin-bedded black shales and siltstones occurring between numerous basaltic sills. The siliceous metasediments are Triassic in age while the basaltic dykes appear to be related to the Karmutsen Formation, dated as Late Triassic.

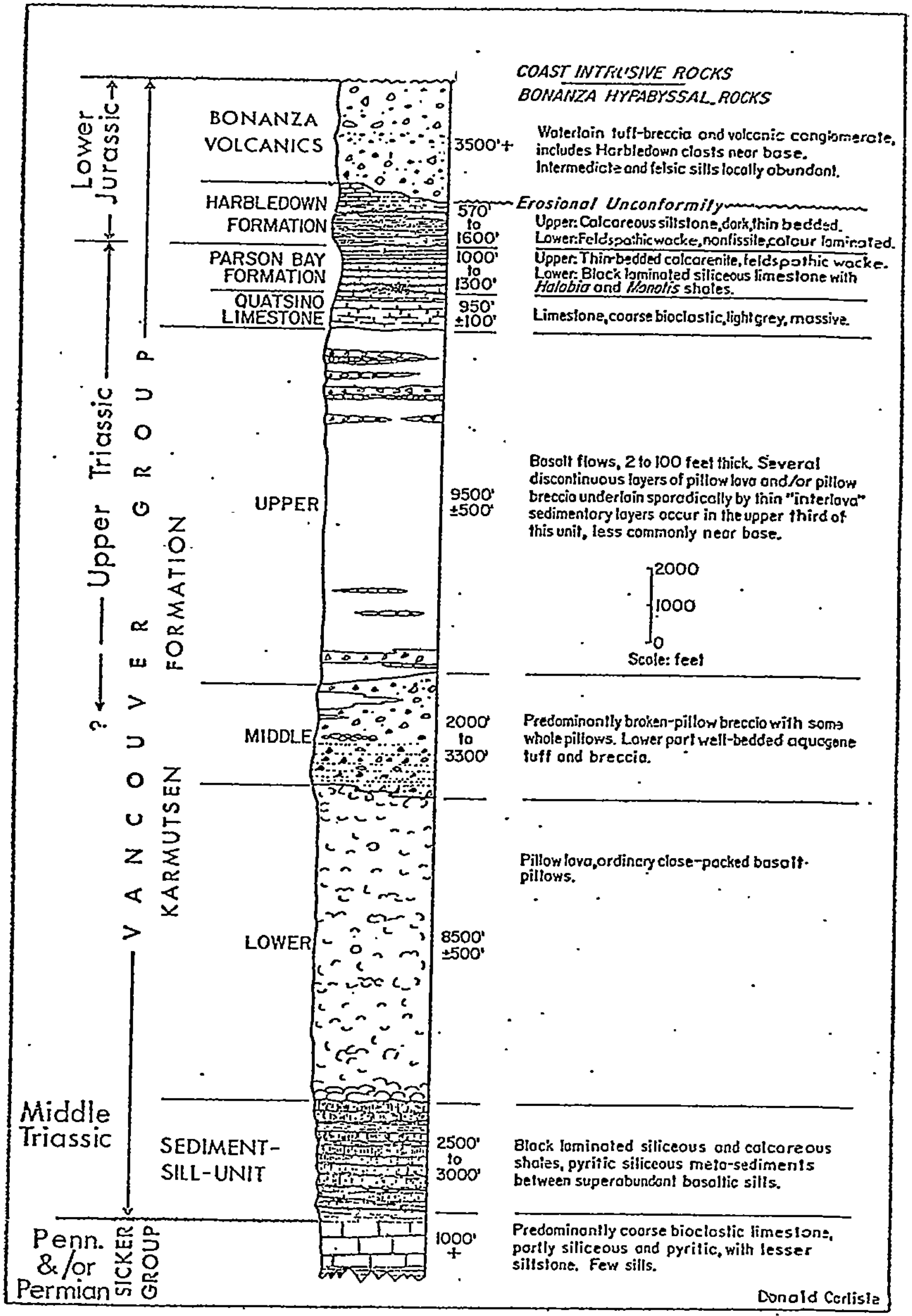


FIGURE 4. Stratigraphic chart for the Vancouver Group (from Muller, et al, 1974).

ii) Karmutsen Formation

The Karmutsen Formation forms the largest part of the Vancouver Group. Maximum thickness is considered to be approximately 19,000 feet. The stratigraphic succession within the Karmutsen Formation has been subdivided into three divisions; a lower one of pillow lavas, a middle one of pillow breccias and aquagene tuffs, and an upper one of layered flows. It has been hypothesized that the Karmutsen Volcanics were extruded in a rift-related inter-arc basin during late Triassic time.

iii) Quatsino Formation

The Quatsino Formation is exposed in three approximately linear belts in the Alert Bay-Cape Scott map-area. Due to the relatively recessive nature of the calcareous rocks, they generally underlie low-land areas.

The Quatsino Formation consists of a lower section of thick-bedded to massive limestone, and an upper section of medium to thin-bedded limestone. The upper section of Quatsino Formation is interlaminated with black calcareous siltstone. The contact between Quatsino limestone and overlying Parson Bay Formation is gradational and indicated by the appearance of laminae and layers of black calcareous shale between limestone beds.

Upwards, the shale intercalations increase in thickness while limestone beds become thinner. The contact is most logically placed where black shale and arenite first predominate over pure, light grey carbonate.

iv) Parson Bay Formation

The Parson Bay Formation was introduced as a map unit by Muller et a (1974) and defined as a group of Upper Triassic clastic carbonate sediments which overlie the Quatsino Formation. This division included a group of predominantly volcano-sedimentary upper Triassic units defined by Jeletzky (1976), which immediately underlie the basal Jurassic volcanics associated with the Bonanza Formation. In many areas the inclusion of these units within the Parson Bay Formation presents little problems, but locally they may reach a considerable thickness. This is particularly apparent around Quatsino Sound where a thick section of waterlain tuffs and tuff breccias, the Hecate Cove Formation (Jeletzky, 1976), are exposed. A similar situation exists at the top of Lippy Creek north of Port Alice. In both cases the development of this unit appears to have occurred at the expense of the typical black calcareous siltstones.

Muller, et al (1974) presented a number of sections of Parson Bay Formation in northern Vancouver

Island. These sections (Figure 5) display some of the variations in lithology and thickness between the west and east coast. Field work indicates considerably more variation than suggested by Muller, et al (1974). In very general terms, the lithological variations may be summarized as follows:

Beaver Cove (East Coast):

The Parson Bay Formation may be divided into two units. The lower unit consists of thickly-bedded calcareous siltstones which pass gradationally downwards into massive and bedded Quatsino limestone. The upper unit contains thinly-bedded weakly calcareous siltstones and siliceous cherty beds. The latter unit contains large amounts of pyrite. The total thickness is approximately 250 metres.

Alice Lake (Central Region):

This section is dominated by uniform well-bedded calcareous siltstone with a thickness probably in excess of 400 metres. Minor beds of calcareous tuffaceous sediments are present throughout the upper part of the section.

The Holberg Area (Northwest Region):

The thickness of Parson Bay Formation is very variable in this area, from 30 metres to in excess of

200 metres. Where the formation is thin, it is dominated by calcareous waterlain tuffaceous sediments. Calcareous siltstones become more prominent in the thicker sections.

West Coast:

Deformation and faulting hinders the development of a stratigraphy for the Parson Bay Formation on the west coast. An extensive thickness of well-bedded black calcareous siltstone does, however, appear to be present in most areas.

v) Harbledown Formation

The Harbledown Formation, which conformably overlies the Parson Bay Formation, consists of a Lower Jurassic argillite-greywacke sequence. It is most easily distinguished from the Parson Bay Formation by its noncalcareous nature.

iv) Bonanza Volcanics

Bonanza Volcanics represent renewed arc-type volcanism in the Early Jurassic. The lithology of the Bonanza Volcanics is varied and heterogeneous. Lavas range in composition from basaltic andesite to rhyodacite and are interbedded with tuffs, breccias and clastic sedimentary units.

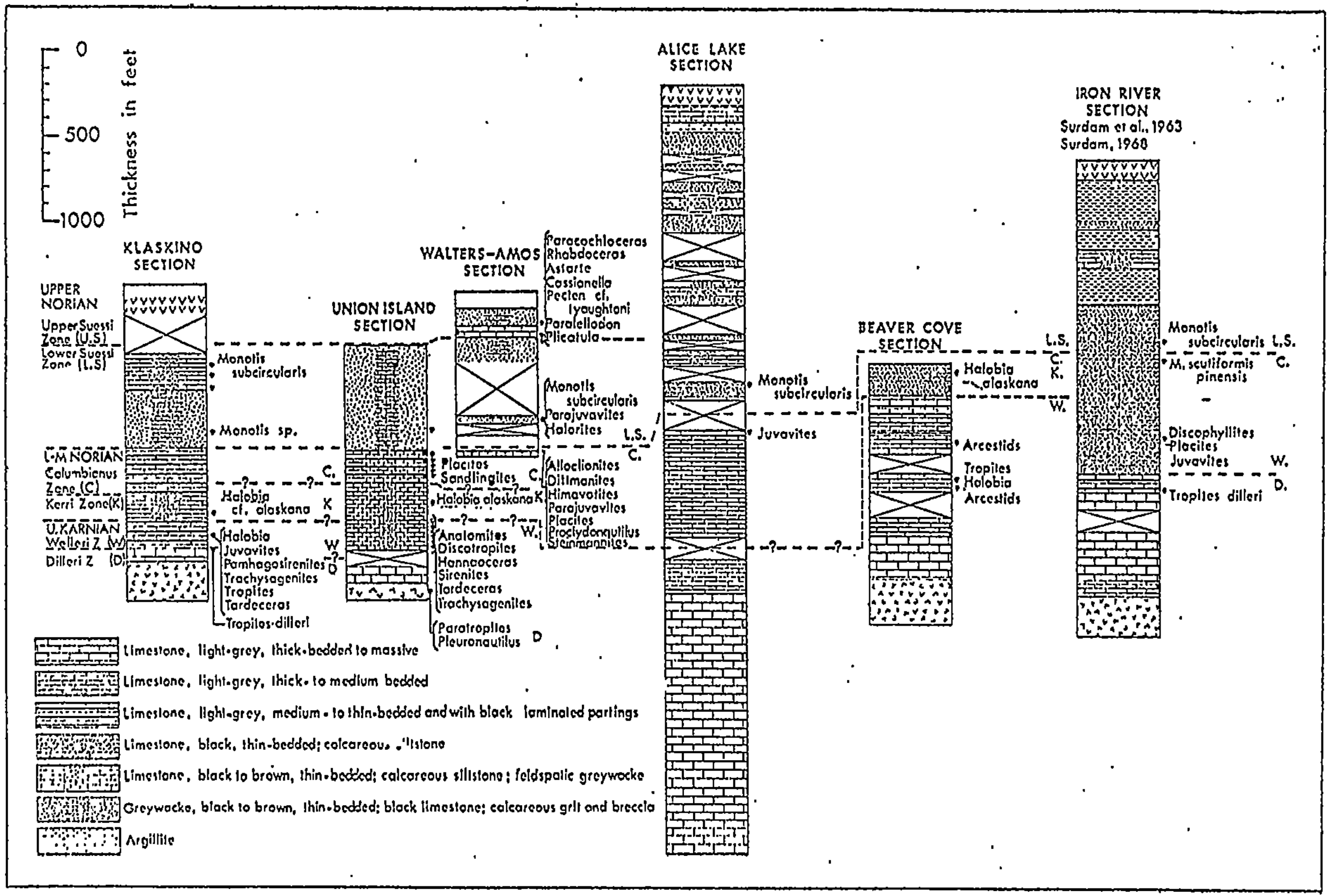


FIGURE 5. Sections of Parson Bay and Quatsino Formations (from Muller, et al, 1974).

8) PROPERTY GEOLOGY

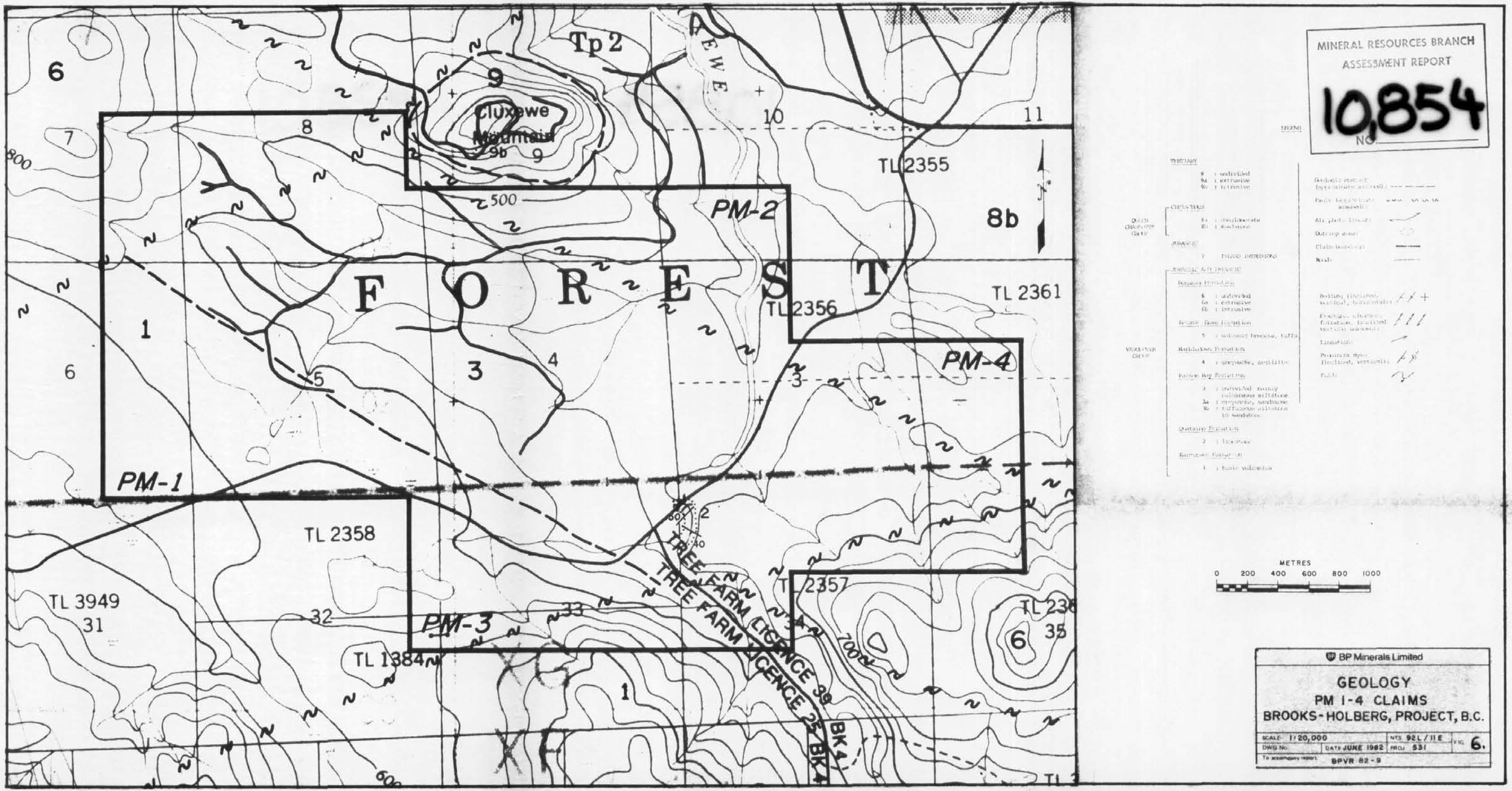
A considerable thickness of glacially-derived overburden, including extensive outwash, severely limits outcrop on the property. A small gorge on the Cluxewe River exposes Quatsino limestone on the southern boundary of the property. No outcrop was found in the central portion of the claims which Muller, et al, 1974 considered to be underlain by Parson Bay Formation. Cluxewe Mountain to the north of the property represents a Tertiary erosional surface upon which Tertiary dacite is preserved. Underlying this dacite are greywackes and siltstones of the Upper Cretaceous Nanaimo Group.

9) GEOCHEMISTRY

A) Introduction

A total of 54 soil samples, 1 stream sediment sample, and 3 rock chip samples were collected in the claim area (Figure 7). In addition, 6 deep overburden drill holes were completed on the property.

Soil sampling was primarily conducted along overgrown logging roads with a sample interval of 200 m. One soil line was run at a bearing of 023° to cross the area presumed to be underlain by Parson Bay Formation. Samples were collected from the top of the BF soil horizon at a depth of 20-40 cm.

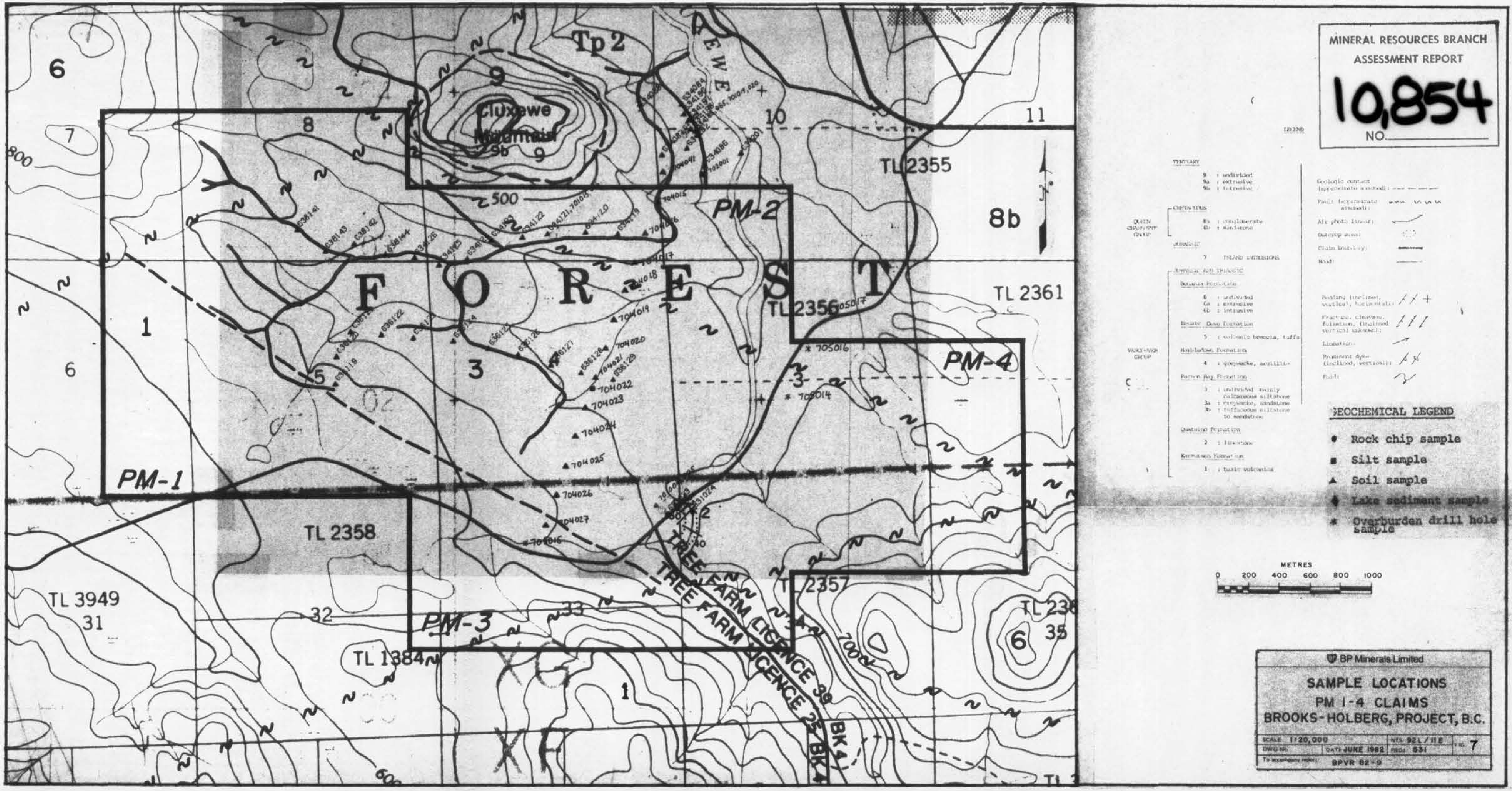

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,854
NO.
Tp 2
9
Cluxewe Mountain
9b
8
7
6
800
500
10
11
TL 2355
8b
PM-2
F O R E S T
TL 2356
TL 2361
1
3
4
5
6
PM-4
PM-1
TL 2358
2
TREE FARM LICENCE 39
TREE FARM LICENCE 25
BK 4
TL 2357
TL 3949
31
32
33
PM-3
TL 1384
700
35
600
1
9 : undivided
9a : extrusive
6 : undivided
6a : extrusive
6b : intrusive
5 : volcanic breccia, tuffs
4 : greywacke, argillite
1 : basic volcanics
METRES
0 200 400 600 800 1000
BP Minerals Limited
GEOLOGY
PM 1-4 CLAIMS
BROOKS-HOLBERG, PROJECT, B.C.
SCALE 1:20,000
NTS 92L/11E
DATE JUNE 1982
PROJ 531
FIG. 6.
BPVR 82-9

All samples were placed in numbered, wet-strength, 8 by 24 cm Kraft paper envelopes and air dried at room temperature.

Deep overburden drilling was carried out on the main logging road which traverses the southern portion of the claims. Drill holes were spaced at 400-800 m intervals. A 2-man-operated, semi-portable drill system called the Marlow Prospectorpac was used. This system is driven by a 10 horsepower Briggs and Stratton water-cooled engine which provides pressure for a connected hydraulic power pack. The hydraulics are used to drive a hand-held percussion-type hammering device which pounds the steel drill rods into the ground. A flow-through sampler bit retrieves a "core" sample approximately 20 cm long and 2 cm in diameter. Ideally, this will consist of a basal till or C-horizon overburden sample plus a few chips of the underlying bedrock.

Total weight of the system is over 300 lbs., therefore, the location of drill sites was limited to a large degree by road accessibility.

All samples were submitted to Acme Analytical Laboratories in Vancouver for I.C.P. (Inductively Coupled Plasma) analysis for the following 29 elements at a cost of $5.50/sample:



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,854
NO.
FOREST
PM-1
PM-2
PM-3
PM-4
Cluxewe Mountain
TL 2355
TL 2356
TL 2357
TL 2358
TL 2361
TL 3949
TL 1384
TREE FARM LICENCE 39
TREE FARM LICENCE 25
BK 4
Tp 2
8b
LEGEND
TERTIARY
9 : undivided
9a : extrusive
9b : intrusive
CRETACEOUS
JURASSIC
7 ISLAND INTRUSIONS
JURASSIC AND TRIASSIC
6 : undivided
6a : extrusive
6b : intrusive
5 : volcanic breccia, tuffs
4 : greywacke, argillite
3 : undivided mainly calcareous siltstone
2 : limestone
1 : basic volcanics
GEOCHEMICAL LEGEND
Rock chip sample
Silt sample
Soil sample
Lake sediment sample
Overburden drill hole sample
METRES
0 200 400 600 800 1000
BP Minerals Limited
SAMPLE LOCATIONS
PM 1-4 CLAIMS
BROOKS-HOLBERG, PROJECT, B.C.
SCALE 1/20,000
DATE JUNE 1982
NTS 92L/11E
PROJ. 531
FIG. 7
BPVR 82-9

Mo,Cu,Pb,Zn,Ag,Ni,Co,Mn,Fe,As,U,Au,Th,Cd,Sb,
Bi,V,Ca,P,La,In,Mg,Ba,Ti,B,Al,W,Cr,Nb.

Acme also completed geochemical assay for Au and Hg at an additional cost of $5.25/sample.

Additional charges for each soil, stream and lake sediment sample included $1.00 for pH analysis, $.40 for sample preparation, and $.25 for storage or reject fractions. For rock chips, $2.25 was charged for sample preparation.

Total cost of each soil, stream sediment and overburden drill sample was $15.40, while total cost for each rock chip sample was $17.25. These costs included an estimated cost of $3.00 per sample to cover data processing (i.e. sample plotting, etc).

B) ANALYTICAL PROCEDURE

The methods of analyses performed by Acme Analytical Laboratories are as follows:

SAMPLE PREPARATION

1. Soil samples are dried at 60°C and sieved to -80 mesh.
2. Rock samples are pulverized to -100 mesh.

GEOCHEMICAL ANALYSIS FOR Au

10.0 - 30.0 gram samples are subjected to Fire assay preconcentration techniques to produce silver beads. The silver beads are dissolved and Au is determined in the solution by Atomic Absorption.

Multi Element Analysis by ICP

Digestion of Sample

0.5 gram samples are digested with hot aqua regia for one hour and the sample is diluted to 10 ml. The diluted sample is aspirated into a chamber where it is heated to 5,000 to 10,000 K in an argon plasma generated inductively by a radio frequency generator. The temperature is high enough to cause elements to emit light which is measured.

The ICP method has an extended dynamic range, usually over many orders of magnitude of concentration. Interferences by other elements are electronically eliminated.

Interpretation of Results

Standard M-1 is a certified geochem standard used to monitor the results. M-1 has the following analysis.

1.	Ml	:	in ppm Ml	2.	ppm
2.	Cu	:	in ppm Ml	28.	ppm
3.	Pb	:	in ppm Ml	38.	ppm
4.	Zn	:	in ppm Ml	180.	ppm
5.	Ag	:	in ppm Ml	0.3	ppm
6.	Ni	:	in ppm Ml	32.	ppm
7.	Co	:	in ppm Ml	12.	ppm
8.	Mn	:	in ppm Ml	800.	ppm
9.	Fe	:	in % Ml	2.5	%
10.	As	:	in ppm Ml	8.	ppm
11.	U	:	in ppm Ml	3.	ppm
12.	IS	:	Internal Standard.		
13.	Th	:	in ppm Ml	3.	ppm
14.	IS	:	Internal Standard.		
15.	Cd	:	in ppm Ml	2.	ppm
16.	Sb	:	in ppm Ml	3.	ppm
17.	Bi	:	in ppm Ml	2.	ppm
18.	V	:	in ppm Ml	54.	ppm
19.	Ca	:	in % Ml	0.62	%
20.	P	:	in % Ml	0.11	%
21.	La	:	in ppm Ml	8.	ppm
22.	In	:	in ppm Ml	2.	ppm
23.	Mg	:	in % Ml	0.67	%
24.	Ba	:	in % Ml	0.023	%
25.	Ti	:	in % Ml	0.07	%
26.	B	:	in ppm Ml	12.	ppm
27.	Al	:	in % Ml	1.9	%
28.	IS	:	Internal Standard.		
29.	IS	:	Internal Standard.		
30.	W	:	in ppm Ml	1.	ppm

Notes:

1. Zinc over 5000 ppm interferes in W Channel.
2. Iron over 1.% interferes on In and Sb channel.

Monitoring of Results:

If analysis of standard M-1 is different than the certification, then compensate (add or subtract) samples appropriately.

Standardization:

Complete set of USGS standards, Canadian Certified Reference Materials and 72 specpure metals from Johnson Matthey.

C) RESULTS

Soil sampling yielded one clearly anomalous result from the northeastern corner of the claim area. This sample (634085) contains 150 ppb gold and is complemented by weak cobalt enrichment. The anomalous site is apparently underlain by thick accumulations of varied clays and outwash sands. A series of follow-up samples (634196-634203) were taken in the immediate vicinity and while these display weak to moderate cobalt, arsenic, silver and mercury enrichment, gold is not present.

Analyses of deep overburden drill samples proved uninteresting. A summary of the depths and material collected is as follows:

Hole Number	Sample Number	DEPTH (M)	Material Sampled
13	705014	8.4	Primarily till with angular chips of limestone bedrock at bottom of sample tube.
14	705015	3.5	Till with heterogeneous clasts.
15	No sample	5.0	Rods stuck, lose sampler tube and and three rods.
16	705016	8.3	Till with heterogeneous clasts.
17	705017	10.7	Till with heterogeneous clasts.
18	705018	3.5	Till with probable bedrock chips of limestone.

10) CONCLUSIONS AND RECOMMENDATIONS

Extensive and thick overburden in the area, substantiated by the deep overburden drilling makes a thorough evaluation of the property difficult. Parson Bay Formation was not found outcropping in the area. This may be due either to its recessive nature or to its absence. Geochemically, the single sample gold-in-soil anomaly may be related to glacial outwash containing a high background of metal. In such a case, no further follow-up would be warranted.

No further work is recommended at the present time.

References

Jeletzky, J.A. (1976): Mesozoic and Tertiary Rocks of Quatsino Sound, Vancouver Island; Geological Survey of Canada, Bulletin 242.

Muller, J.E., Northcote, K.E., and Carlisle, D. (1974): Geology and Mineral Deposits of Alert Bay-Cape Scott Map-Area, British Columbia; Geological Survey of Canada, Paper 74-8.

APPENDIX I

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Russell H. Wong of 890 West Pender Street - Suite 700, Vancouver, in the Province of British Columbia, Do Hereby State:

1. The I am a graduate of the University of British Columbia, Vancouver, B.C., where I obtained a B.Sc in Geology in 1975.

2. That I am currently completing an M.Sc. degree in Geology at the University of British Columbia, Vancouver, B.C.

3. That I have been active in mineral exploration since 1973.

4. That I am a member in good standing of the North-west Mining Association.

5. That I have practised my profession continuously as a staff geologist for BP Minerals Limited, since 1979.

Russell H Wong

September, 1982
Vancouver, B.C.

Russell H. Wong
BP Geologist

APPENDIX II

STATEMENT OF COSTS

STATEMENT OF COST FOR

PM GROUP B CLAIMS

A) NON-DRILL COSTS

1. BP LABOUR:

J. Thompson	- Project geologist July 17, 28 2 days @ $120/day	$ 240.00
M. Flanagan	- Geologist July 17, 28; August 24 3 days @ $110/day	$ 330.00
D. McClymont	- Assistant July 17, 28; August 24 3 days @ $75/day	$ 225.00
M. Renning	- Assistant July 17, 18 2 days @ $60/day	$ 120.00
R. Wong	- Project geologist April 13, 14 May 14(½day), 15 3 ½ days @ $200/day	$ 700.00
T. Fitzmaurice	- Geologist April 13, 14 May 14, 15 4 days @ $120/day	$ 480.00
W. Bleaney	- Geologist May 14(½day), 15 1½ days @ $105/day	$ 157.50
M. Renning	- Assistant May 14, 15 2 days @ $75/day	$ 150.00

2. GEOCHEMICAL ANALYSIS

55 soil/stream/lake sediment samples
@ $151.40/sample

(29 element ICP analysis, geochemical assay for Au and Hg, pH determination, sample preparation and storage, data processing). $ 847.00

3 rock chip samples @ $16.00/sample	
(29 element ICP analysis, geochemical assay for Au and Hg, sample preparation and storage, data processing).	$ 48.00
3. DRAFTING/REPRODUCTION/TYPING:	$ 150.00
4. SUPPORT COSTS:	
20 man-days of Food and Accommodation @ $40/man-day	$ 800.00
4½ days of truck rentals (Redhawk - 2 Four Wheel Drive Jimmys) @ $75/day (including fuel) for two vehicles).	$ 337.50
Miscellaneous consumable equipment and supplies (topofil, flagging, sample bags).	$ 150.00
TOTAL	$4,735.00

B. OVERBURDEN DRILL COSTS

Deep overburden drilling was conducted on five separate claim groups in the area. In total, 41 holes were completed at an overall cost of $7,536.12

1. TRANSPORTATION	
Ferry	$ 37.00
Truck Rental (13 days)	$ 529.66
Gas	$ 126.18
2. LABOUR: from Alex J. Turpin Co. Ltd. 2 men from May 8-21 @ $160/day	$4,480.00
3. ACCOMMODATION	
28 man-days @ $40/day	$1,120.00
4. PARTS	
3 drill rods @ $45 each	$ 135.00
4 drill bits @ $210 each	$ 840.00
Oil and spare parts	$ 44.28
SUB TOTAL	$7,536.12

41 holes drilled in total therefore cost per hole = $\frac{\$7536.12}{41}$	$ 183.80
Plus analytical cost of $12.50/hole	
6 holes completed on the PM Group B. claims @ a cost of: 6 x ($183.80 + $12.50)	$1,177.80

C) SUMMARY OF ASSESSMENT CREDITS TO BE APPLIED

Non-drill costs	$4,735.00
Drill Costs	$1,177.80
TOTAL ASSESSMENT	$5,912.80

APPENDIX III

ANALYTICAL RESULTS

SAMPLE TYPE LEGEND: 10 stream sediment, 30 lake sediment - lake centre, 32 lake sediment - near shore, 50 soil sample, 81 rock sample, 90 special sample.

	Sample Type	Sample No.	Mo	Cu	Pb	Zn	Ni	U	Mn	Fe%	Ag	Co	Au*	As	Hg*	Sb	W	Th	Cd	Bi
1	50	634084	4	41	5	20	30	6	179	7.5	0.	8	10	13	250	7	1	1	0	0
2	50	634085	1	49	6	36	46	2	201	3.5	0.	12	150	5	120	0	0	0	1	1
3	50	634086	2	49	8	20	23	3	85	5.1	.0	6	5	7	380	0	1	1	1	0
4	50	634087	1	59	9	55	24	7	2903	2.9	.0	57	5	4	170	0	0	0	1	1
5	50	634088	3	20	4	22	22	5	212	2.5	0.	13	5	8	75	0	1	0	1	0
6	50	634119	2	27	10	21	13	3	156	4.1	0.	8	5	4	280	0	0	0	0	0
7	50	634121	2	55	11	49	24	6	1234	4.2	0.	18	10	9	200	0	1	0	1	0
8	50	634122	0	52	10	36	34	2	511	2.9	.1	22	5	2	200	0	0	0	0	0
9	50	634123	2	45	12	23	19	5	124	4.6	0.	9	5	4	230	0	1	1	1	0
10	50	634124	1	22	8	14	10	3	124	2.2	0.	2	5	5	210	0	0	0	0	0
11	50	634125	0	5	6	5	2	4	24	.2	0.	0	5	9	80	0	0	0	1	0
12	50	634126	0	40	5	21	20	0	181	2.3	0.	9	5	5	40	0	0	0	0	1
13	50	634196	0	9	3	10	4	3	31	1.0	0.	0	5	6	90	0	0	0	0	0
14	50	634197	0	75	0	53	53	1	183	2.0	0.	16	5	12	240	0	1	0	1	1
15	50	634198	6	66	0	18	21	0	103	9.8	.5	3	5	29	340	2	1	2	4	0
16	50	634199	0	69	1	37	50	0	163	2.9	0.	13	5	14	190	0	1	0	2	0
17	50	634200	0	55	4	45	59	0	177	3.5	0.	14	5	15	220	0	0	0	2	0
18	50	634201	1	106	1	55	89	0	642	4.6	.3	37	5	18	140	2	0	0	3	0
19	50	634202	3	33	0	13	11	0	60	6.2	0.	3	5	17	350	2	1	1	1	0
20	50	634203	1	84	2	39	56	0	193	4.9	.2	19	5	16	300	2	0	1	2	0
21	50	636119	1	11	5	13	13	4	62	2.4	0.	4	5	4	160	0	0	0	1	0
22	50	636120	0	78	11	26	18	2	463	1.9	0.	29	5	0	330	0	0	0	1	0
23	50	636121	3	29	9	10	7	9	54	6.0	0.	0	5	2	220	2	0	0	0	0
24	50	636122	1	23	5	13	10	5	58	4.1	0.	0	5	3	210	0	0	0	0	0
25	50	636123	1	32	8	21	15	5	88	3.7	0.	3	5	6	150	0	0	0	1	0
26	50	636124	2	34	8	22	17	1	82	4.2	0.	4	5	6	260	0	2	0	1	0
27	50	636125	2	13	7	12	9	10	50	4.4	0.	4	5	8	50	0	0	0	0	0
28	50	636126	1	19	8	40	27	7	213	3.6	0.	15	5	8	90	0	0	0	1	0
29	50	636127	1	39	7	27	18	5	226	4.7	0.	7	5	10	200	0	0	0	1	0
30	50	636128	0	23	13	38	25	5	139	2.3	0.	8	5	7	75	0	0	0	1	1
31	50	636129	2	11	6	6	7	15	36	6.1	0.	0	5	9	150	6	0	0	0	0
32	50	638141	2	24	9	11	7	3	53	4.5	0.	0	10	6	140	0	0	1	0	0
33	50	638142	0	8	5	11	4	2	44	.4	0.	0	5	7	50	0	0	0	1	0
34	50	638143	1	25	10	12	6	5	52	4.3	0.	0	5	0	280	0	0	0	0	0
35	81	631023	0	12	0	5	0	1	37	0.	.4	0	5	1	10	0	5	0	0	1
36	81	631024	0	2	0	1	0	5	47	.1	0.	0	5	5	10	0	4	0	0	7

* Geochem Assay

SAMPLE TYPE: LEGEND: 10 stream sediment, 30 lake sediment - lake centre, 32 lake sediment - near shore, 50 soil sample, 81 rock sample, 90 special sample.

	Sample Type	Sample No.	V	Ba	Al%	Fe%	Mg%	Ca%	Ti	P	Mn	La	In	B	Cr	Nb	Au
1	50	634084	252	29	2.99	7.5	.39	.25	.71	.02	179	15	0	14	115	10	1
2	50	634085	166	11	3.51	3.5	.65	.43	.51	.03	201	9	3	11	108	8	0
3	50	634086	183	14	4.69	5.1	.22	.21	.52	.03	85	13	1	13	87	9	1
4	50	634087	141	32	3.29	2.9	.34	.33	.35	.04	2903	11	2	10	71	6	0
5	50	634088	170	20	1.70	2.5	.32	.24	.52	.01	212	8	3	9	61	5	0
6	50	634119	176	12	3.50	4.1	.13	.15	.49	.04	156	10	1	13	56	9	1
7	50	634121	172	21	3.83	4.2	.27	.28	.41	.03	1234	12	3	12	64	7	0
8	50	634122	84	28	3.57	2.9	.47	.38	.28	.04	511	10	1	10	53	6	0
9	50	634123	220	16	4.84	4.6	.20	.13	.52	.04	124	13	1	11	73	9	1
10	50	634124	107	8	2.05	2.2	.13	.19	.33	.03	124	6	1	8	33	6	0
11	50	634125	89	9	.73	.2	.04	.09	.49	.01	24	2	2	3	22	5	0
12	50	634126	111	10	2.28	2.3	.45	.41	.34	.03	181	8	2	9	31	6	0
13	50	634196	108	6	.69	1.0	.11	.10	.42	.01	31	1	1	1	20	4	0
14	50	634197	93	20	2.48	2.0	.77	.57	.28	.18	183	3	0	3	103	5	0
15	50	634198	262	4	3.05	9.8	.33	.15	.78	.04	103	6	0	0	125	12	0
16	50	634199	143	11	2.86	2.9	.61	.38	.48	.03	163	3	1	3	98	6	0
17	50	634200	128	19	2.31	3.5	.78	.38	.47	.03	177	3	1	3	96	6	0
18	50	634201	159	33	2.78	4.6	1.08	.50	.43	.03	642	5	0	2	126	6	0
19	50	634202	182	25	2.05	6.2	.12	.14	.48	.04	60	3	0	0	42	8	0
20	50	634203	160	46	3.21	4.9	.52	.29	.48	.03	193	4	0	2	96	8	0
21	50	636119	118	7	.42	2.4	.18	.27	.13	.03	62	2	0	3	20	3	0
22	50	636120	101	22	5.95	1.9	.16	.13	.30	.05	463	9	1	8	60	7	1
23	50	636121	331	5	2.45	6.0	.10	.16	.76	.02	54	13	1	15	70	9	1
24	50	636122	193	7	2.57	4.1	.15	.23	.64	.02	58	10	2	13	67	9	1
25	50	636123	175	11	3.57	3.7	.23	.28	.55	.03	88	11	2	11	61	8	1
26	50	636124	148	7	4.24	4.2	.21	.23	.46	.02	82	10	1	12	76	8	1
27	50	636125	284	27	1.16	4.4	.08	.19	.63	.02	50	11	2	12	40	7	1
28	50	636126	227	18	1.93	3.6	.48	.37	.69	.02	213	8	3	12	73	7	1
29	50	636127	230	20	2.73	4.7	.22	.32	.67	.04	226	11	2	13	77	10	1
30	50	636128	210	37	1.98	2.3	.38	.47	.73	.01	139	7	4	11	66	7	1
31	50	636129	405	5	1.04	6.1	.06	.10	.82	.02	36	11	1	14	55	9	1
32	50	638141	190	5	3.42	4.5	.13	.15	.51	.01	53	10	1	12	69	8	1
33	50	638142	67	15	.79	.4	.08	.21	.49	.01	44	3	2	5	29	5	0
34	50	638143	168	5	3.74	4.3	.09	.12	.48	.02	52	10	1	11	64	8	1
35	81	631023	3	9	.04	0.	.50	46.49	.00	0.	37	0	4	10	0	74	0
36	81	631024	4	19	.03	.1	.37	36.65	.00	0.	47	0	1	35	1	26	0

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM OF SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 NITRIC ACID TO HYDROCHLORIC ACID TO WATER AT 90 DEG. C FOR 1 HOUR.
THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THE RESULTS ARE REPORTED IN PPM EXCEPT FOR : FE, CA, P, MG, BA, TI, AL,NA, AND K WHICH ARE IN PERCENT.
THIS LEACH IS PARTIAL FOR : CA , P, MG, AL, TI, LA, NA, K, W & CR SI, ZR, CE.
IS= INTERNAL STANDARD. AU DETECTION 3 PPM.

MO	CU	PB	ZN	AG	NI	CO	MN	FE	AS	Hg
U	AU	TH	SR	CD	SB	BI	V	CA	P	Au
LA	CR	MG	BA	TI	B	AL	NA	K	W	
SI	ZR	CE	IS	IS	IS	IS				

*0/701001
EGC

BURN # 1 30GE 9:23 12MAY82
1379

.243	1.64	1.65	1.15	-.08	.376	.044	48.6	.187	-1.3	.020
-2.8	.234	-1.3	.810	-.12	2.07	4.11	1.81	26.1	-.01	.005
.155	.375	.994	.001	.002	4.02	.031	.005	-.02	1.73	
.024	.700	37.9	2.75	1.01	56.5	1.07				

*0/701004
EGC

BURN # 1 30GE 9:05 12MAY82
1379

.162	27.6	10.6	20.7	.255	16.9	2.73	460	2.18	4.11	.280 (H
4.56	.574	.910	23.2	.590	-.45	.169	94.9	.895	.039	.005 (A
2.11	30.1	.207	.002	.201	7.05	.761	.025	.015	.211	
.078	5.64	-1.5	13.0	1.53	46.4	3.09				

*0/701005
EGC

BURN # 1 30GE 9:06 12MAY82
1379

-.07	43.7	18.7	17.1	.397	22.0	4.47	94.6	6.03	19.0	.290
5.77	1.37	1.07	10.1	2.14	1.16	2.12	270	.370	.021	.005
6.35	101	.277	.002	.571	9.29	4.07	.020	-.01	.244	
.284	26.0	7.52	28.9	9.71	55.1	2.47				

*0/701015
EGC

BURN # 1 30GE 9:07 12MAY82
1379

1.05	36.7	10.5	24.7	.250	12.4	4.78	1329	2.37	2.82	.320
-2.0	.310	.994	37.0	1.23	-.84	1.90	139	.937	.070	.005
7.55	43.6	.193	.006	.140	5.56	1.90	.015	-.00	.246	
.087	3.72	9.88	6.43	10.1	111	4.09				

*0/7Ø1Ø19
EGC

BURN # 1 3ØGE 9:Ø9 12MAY82
1379

.619	25.7	8.8Ø	21.2	.161	2Ø.7	32.1	2636	4.3Ø	5.4Ø	-.21
.2	.6Ø6	2.Ø9	27.4	1.15	.863	2.71	87.Ø	.692	.Ø48	.00
2.98	43.6	.346	.ØØ3	.146	6.99	1.27	.Ø21	.ØØ5	-.28	
.156	7.Ø5	-.3Ø	1Ø.8	3.37	217	2.73				

*0/7Ø1Ø2Ø
EGC

BURN # 1 3ØGE 9:1Ø 12MAY82
1379

-.79	67.8	15.6	25.4	.176	42.1	12.1	412	4.36	9.Ø9	-.14
2.57	.512	.921	13.5	1.75	-2.1	2.12	16Ø	.578	.Ø28	-.00
5.65	136	.793	-.ØØ2	.475	5.61	4.53	.Ø14	-.Ø1	-.39	
.Ø94	23.5	8.56	11.1	11.8	7Ø.2	1.71				

*0/7Ø2ØØ1
EGC

BURN # 1 3ØGE 9:14 12MAY82
1379

-.35	73.3	11.7	43.Ø	.Ø71	36.1	28.9	1625	4.27	9.93	.080
1.54	.614	2.13	23.6	1.33	3.48	2.66	121	.833	.Ø36	-.005
4.11	56.1	1.Ø5	.ØØ6	.31Ø	5.55	2.71	.Ø38	.ØØ8	-.14	
.111	12.2	7.49	15.1	6.15	147	.9Ø5				

H0/7Ø1Ø16
EGC

BURN # 1 3ØGE 9:Ø8 12MAY82
1379

.685	37.1	15.6	35.Ø	.296	18.7	7.5Ø	174	3.Ø1	16.8	.150
2.56	.847	.967	19.Ø	1.34	.Ø56	.884	216	.567	.Ø24	.005
5.46	67.9	.428	.ØØ4	.531	3.48	2.88	.Ø18	-.ØØ	.ØØ3	
.156	11.8	9.ØØ	14.9	7.Ø1	45.3	4.Ø3				

SAMPLE #	MO ppm	CU ppm	PB ppm	ZN ppm	AG ppm	NI ppm	CO ppm	MN ppm	FE %	AS ppm	U ppm	AU ppm	TH ppm	SR ppm	CD ppm	SB ppm	BI ppm	V ppm	CA %	P %	LA ppm	CR ppm	MG %	BA ppm	TI %	B ppm	AL %	NA %	K %	W ppm	AU* ppb	HG* ppb
704014	1	37	17	26	.1	16	7	128	6.63	7	2	ND	2	12	1	2	2	235	.44	.01	10	91	.44	20	.65	13	3.43	.02	.01	2	5	55
704015	1	26	14	23	.1	11	4	99	5.63	12	2	ND	2	10	1	2	2	230	.33	.02	8	93	.21	16	.37	13	4.06	.02	.01	2	5	150
704016	1	24	12	33	.1	17	10	363	4.53	6	5	ND	2	22	1	2	2	181	.83	.02	6	62	.50	20	.51	13	2.24	.02	.01	2	5	60
704017	1	37	7	10	.3	15	3	68	.43	2	5	ND	2	26	1	2	2	55	.57	.05	6	32	.12	39	.08	3	1.40	.02	.03	2	5	140
704018	2	58	7	17	.2	20	7	153	1.21	2	2	ND	2	25	1	2	2	91	.62	.05	8	56	.27	58	.16	20	2.34	.02	.01	2	5	165
704019	2	27	5	7	.1	11	7	165	.36	2	5	ND	2	54	1	2	2	88	1.85	.05	3	30	.18	24	.03	10	.72	.03	.01	2	5	100
704020	2	19	2	7	.1	12	3	37	.24	2	6	ND	2	49	1	2	2	71	1.79	.06	3	26	.16	18	.01	9	.62	.02	.01	2	5	100
704021	2	47	17	21	.1	18	7	229	7.19	12	2	ND	2	8	1	2	2	236	.38	.02	9	112	.32	11	.55	16	4.43	.01	.01	2	5	80
704022	1	45	9	32	.1	26	14	537	3.30	5	2	ND	2	32	1	2	2	127	1.19	.04	6	51	.71	43	.29	10	2.37	.03	.01	2	5	25
704023	1	43	18	13	.1	15	3	76	4.39	5	2	ND	2	7	1	2	2	153	.38	.02	7	100	.27	9	.42	10	6.45	.01	.01	2	5	120
704024	1	15	4	8	.1	15	4	36	.15	2	5	ND	2	22	1	2	2	22	.62	.04	2	9	.09	27	.01	13	.56	.02	.01	2	5	70
704025	1	26	15	21	.1	15	4	107	5.08	3	2	ND	2	9	1	2	2	180	.50	.02	7	103	.32	9	.35	13	4.44	.01	.01	2	5	125
704026	1	47	16	25	.2	13	29	362	3.87	7	3	ND	2	10	1	2	2	183	.49	.03	8	87	.29	14	.47	10	4.44	.01	.01	2	5	170
704027	1	27	6	11	.2	17	5	89	.69	4	2	ND	2	12	1	2	2	49	.34	.04	5	22	.09	22	.07	6	1.32	.02	.01	2	5	95
705014	2	112	12	52	.2	53	22	1953	4.05	35	2	ND	2	124	1	3	3	109	7.00	.07	7	55	1.01	64	.17	11	2.38	.04	.02	2	5	150
70515	2	83	9	27	.1	33	10	334	2.92	3	3	ND	2	40	1	4	2	95	1.52	.05	6	39	.83	28	.24	8	1.93	.08	.02	2	5	20
705016	2	196	10	110	.1	104	65	492	3.81	25	2	ND	2	43	1	2	2	165	.80	.10	8	82	.93	102	.07	19	1.74	.02	.06	2	5	150
705017	1	86	11	36	.1	37	14	301	3.33	3	4	ND	2	48	1	3	2	86	1.41	.08	6	43	1.26	23	.23	8	2.23	.12	.05	2	5	40
705018	1	60	6	38	.3	45	12	362	1.64	10	2	ND	2	116	1	2	2	80	10.00	.32	6	87	.29	13	.01	9	.66	.01	.07	2	5	30