82-#663-#10852

ASSESSMENT REPORT OF THE GEOLOGICAL AND GEOCHEMICAL SURVEY ON THE PH GROUP A CLAIMS

BY BP MINERALS LIMITED

NANAIMO MINING DIVISION
127°39' West Longitude, 50°41' North Latitude
NTS 92L/12E

THE PH 1 and 2 CLAIMS (32 Units) ARE
WHOLLY-OWNED BY BP MINERALS LIMITED

R.H. Wong,
Geologist
BP Minerals Limited

Date Submitted: September, 1982

BPVR 82-8

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1) SUMMARY

Work completed on the PH Group "A" claims by BP Minerals Limited during the period June 20, 1981 to May 16, 1982 includes geologic mapping at a scale of 1:20,000 and geochemical sampling.

Presence of a favourable reactive host horizon (Parson Bay Formation) and evidence of high angle faulting are considered encouraging with respect to occurrence of disseminated gold mineralization. In that some geochemical encouragement was also provided, additional mapping and sampling are recommended.

A total of $3,200 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 the PH Group "A" claims during the period June 20, 1981 to May 16, 1982. A programme of geologic mapping and soil and stream geochemistry was conducted over the claim area.

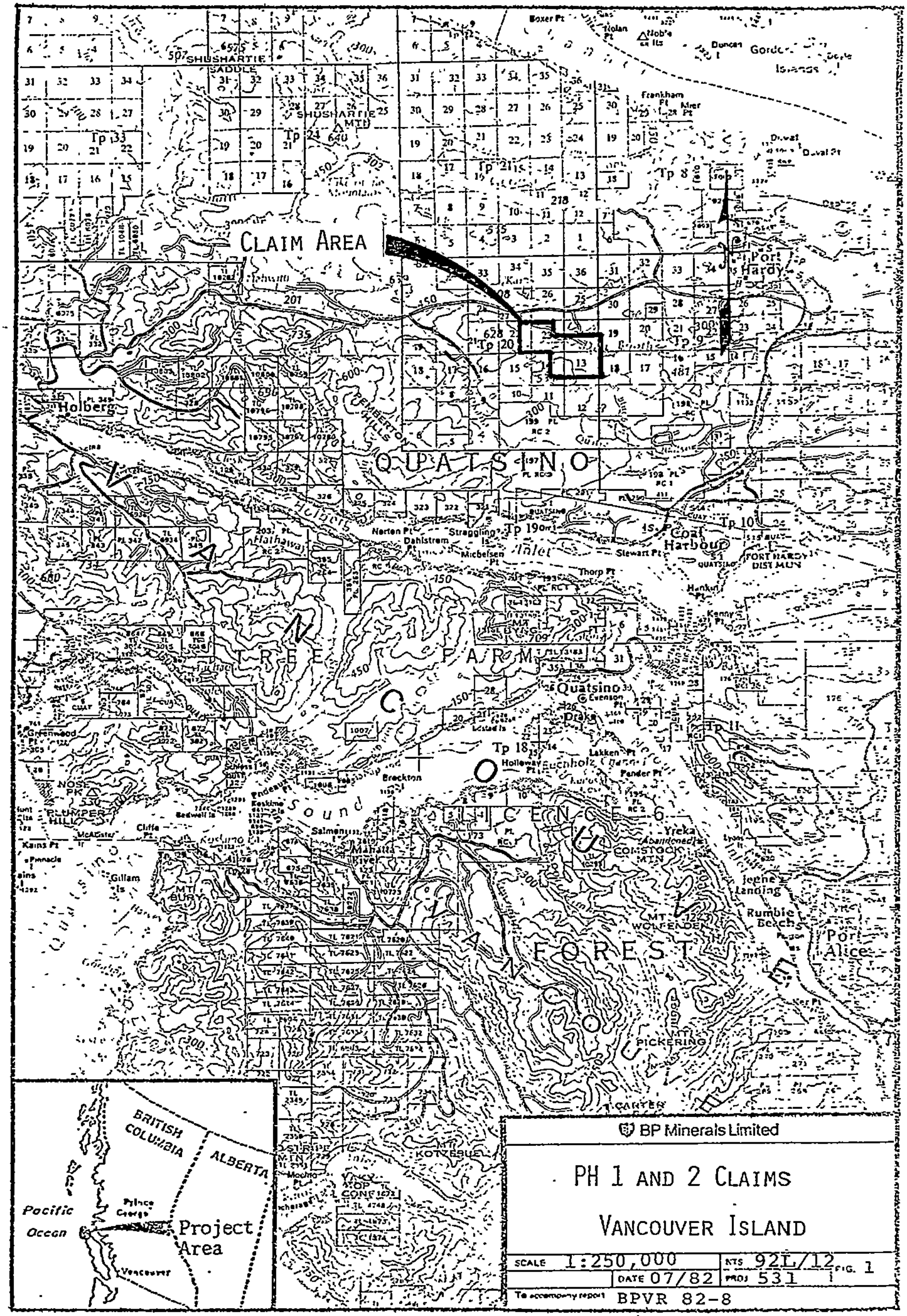
The programme explored for disseminated gold mineralization in a favourable reactive host horizon, the Parson Bay Formation.

3) LOCATION AND ACCESS

The claims are centred at 127°39' west longitude and 50°41' north latitude within the Nanaimo Mining Division. Access is gained via a number of inactive logging roads which lead from the main Port Hardy-Holberg road south of Kains Lake.

4) TOPOGRAPHY

The property occupies a series of gentle northeast-facing slopes and a low-lying swampy valley which extends in a southeasterly direction from Kains Lake. Most of the area has been logged.



CLAIM AREA
QUATSINO
VANCOUVER
TREE FARM
LICENCE 6
FOREST
Port Hardy
Coal Harbour
Holberg
Quatsino
Port Alice
Holberg Inlet
Quatsino Sound
SHUSHARTIE SADDLE
SHUSHARTIE MTN
Tp 33
Tp 24
Tp 21
Tp 20
Tp 9
Tp 8
Tp 19
Tp 10
Tp 18
Tp 11
BRITISH COLUMBIA
ALBERTA
Pacific Ocean
Prince George
Vancouver
Project Area
BP Minerals Limited
PH 1 AND 2 CLAIMS
VANCOUVER ISLAND
SCALE 1:250,000
NTS 92L/12
FIG. 1
DATE 07/82
PROJ 531
To accompany report BPVR 82-8

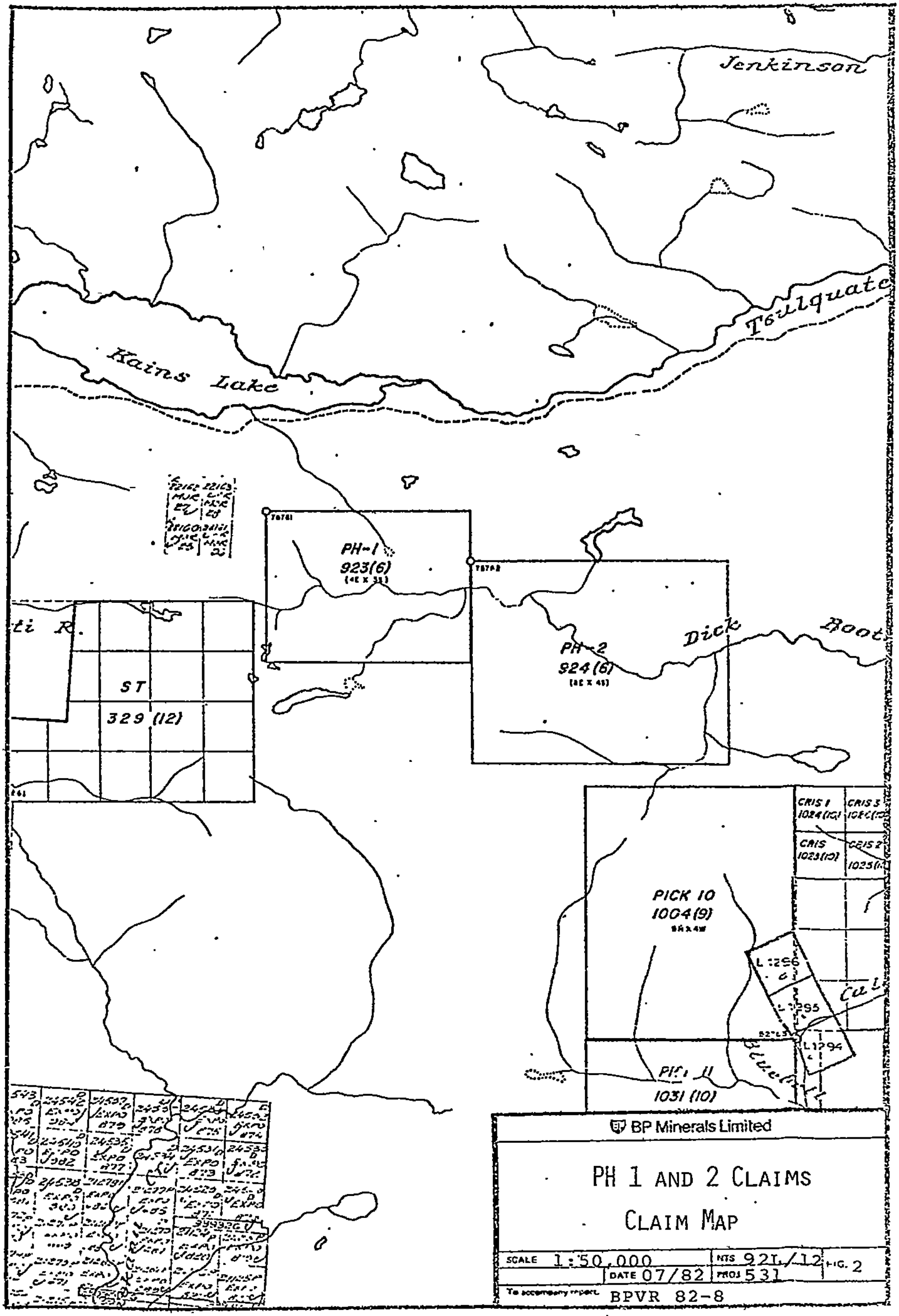
5) CLAIM STATUS

The PH1 and 2 claims, comprising 32 units, were staked June 18 and June 17, 1981, respectively, and are wholly-owned by BP Minerals Limited. All work detailed in this report was performed and/or paid for by BP Minerals Limited. The PH 1 and 2 claims were grouped according to the Minerals Act in June of 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
PH GROUP "A"	PH 1	923	6/18/81	6/22/81	12	$3,200	6/22/83
	PH 2	924	6/17/81	6/22/81	20		

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 92L12. Ground surveys were conducted along topofil-compass lines, along creek channels and along the numerous logging roads.


Jenkinson
Kains Lake
PH-1
923(6)
PH-2
924(6)
Dick
Boot
ST
329 (12)
PICK 10
1004(9)
1031 (10)
CRIS 1
CRIS
BP Minerals Limited
PH 1 AND 2 CLAIMS
CLAIM MAP
SCALE 1:50,000
NTS 92L/12
FIG. 2
DATE 07/82
PROJ 531
BPVR 82-8

7) REGIONAL GEOLOGY

A) General Geology

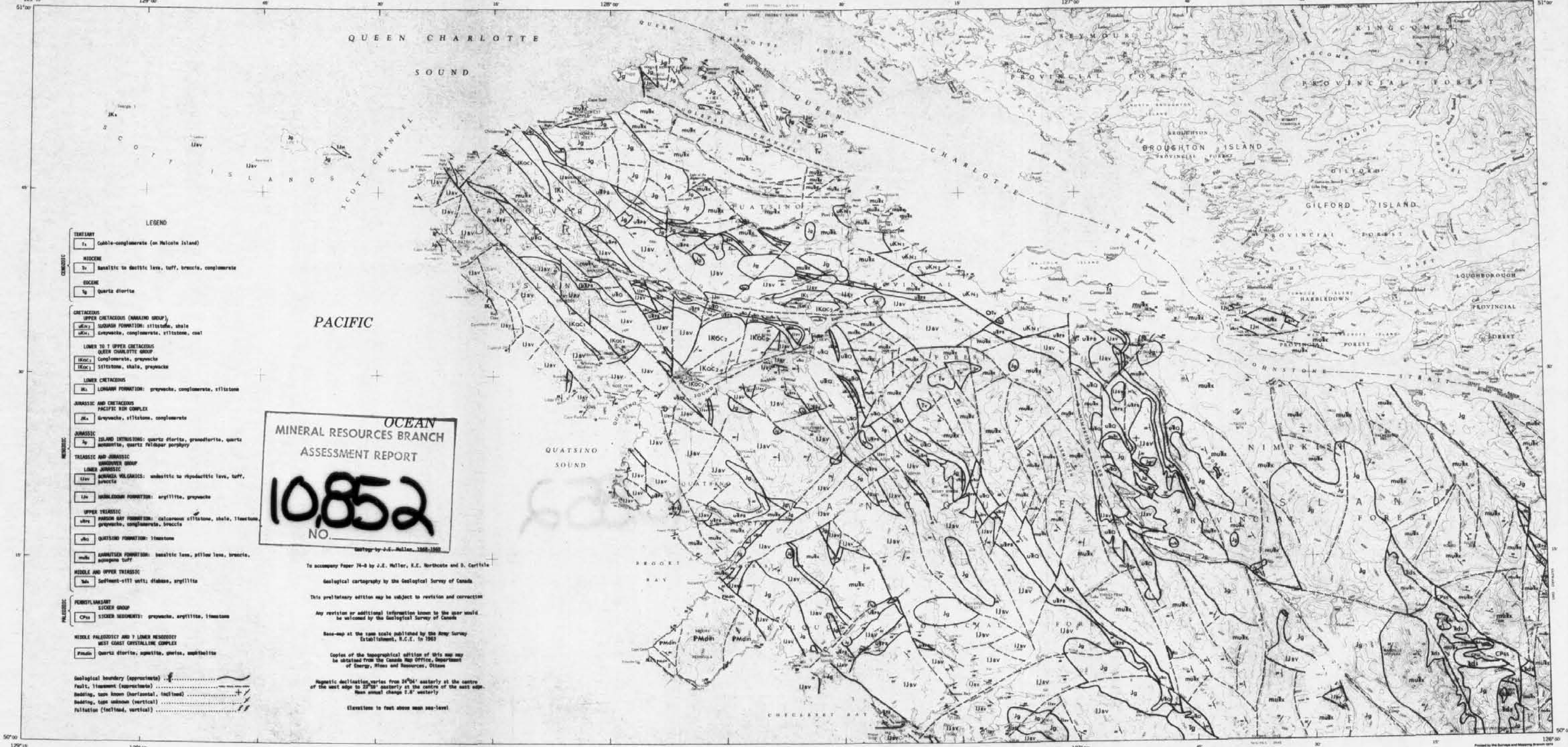
Regional geology of Northern Vancouver Island is contained in Geological Survey of Canada Map 4-1974 (Alert Bay-Cape Scott, 1:250,000) by J.E. Muller (1968-69) and is discussed in Paper 74-8 by Muller, Northcote and Carlisle (1974).

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.

7.

GEOLOGICAL SURVEY OF CANADA

PRELIMINARY SERIES



MAP 4-1974
PAPER 74-8
GEOLOGY

ALERT BAY - CAPE SCOTT

BRITISH COLUMBIA

Scale 1:250,000

FIG. 3

PROJECT 531, JUNE 1982

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		Vancouver Group (gradational contacts within group)			
JURASSIC	LOWER	Pliensbachian Sinemurian	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		Quatsino Fm.	uTRQ	Limestone	100-2,500
TRIASSIC	UPPER	Karnian	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
			← ← ← 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.

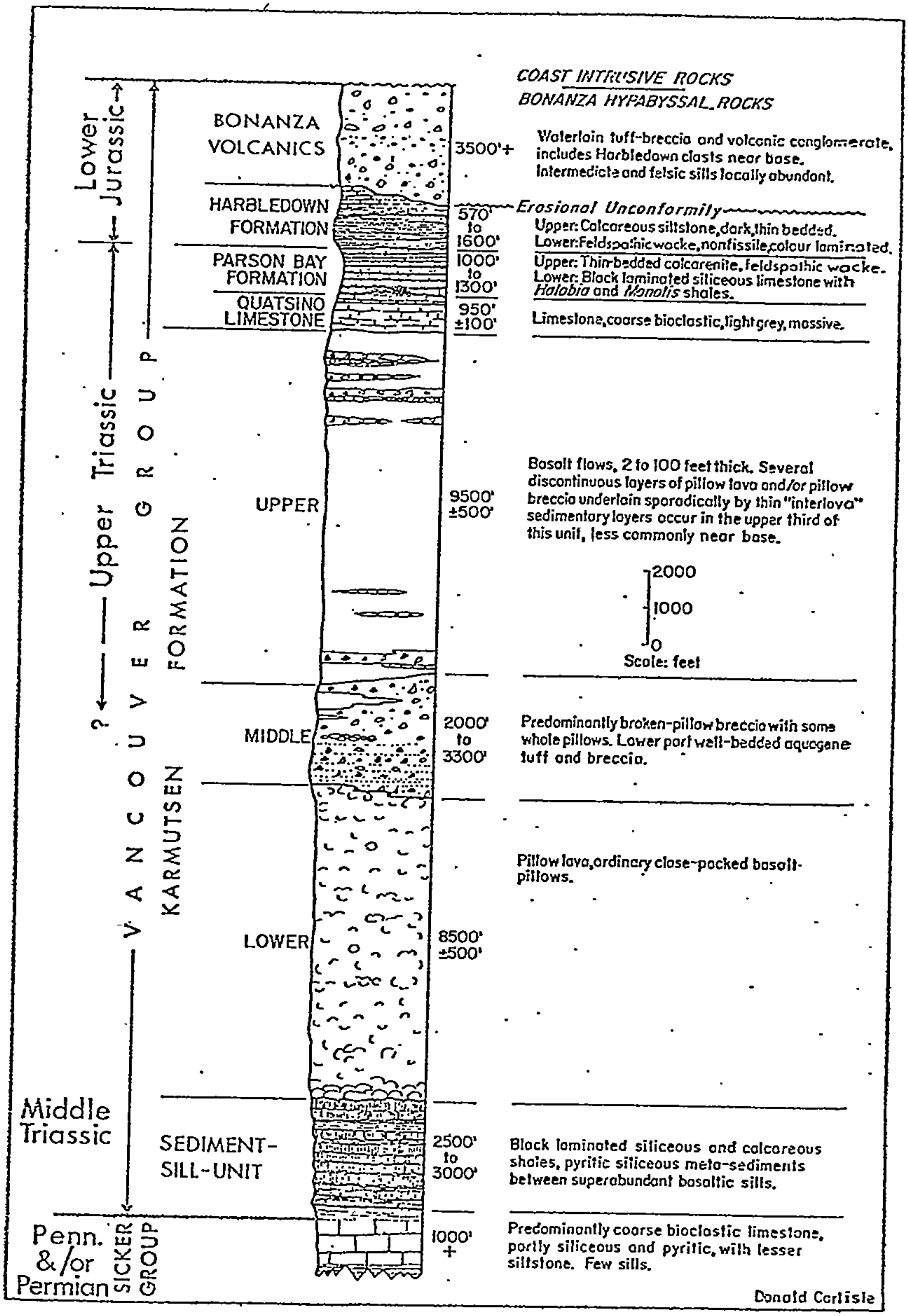


FIGURE 4. Stratigraphic chart for the Vancouver Group (from Muller, et al, 1974).

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 Müller, 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.

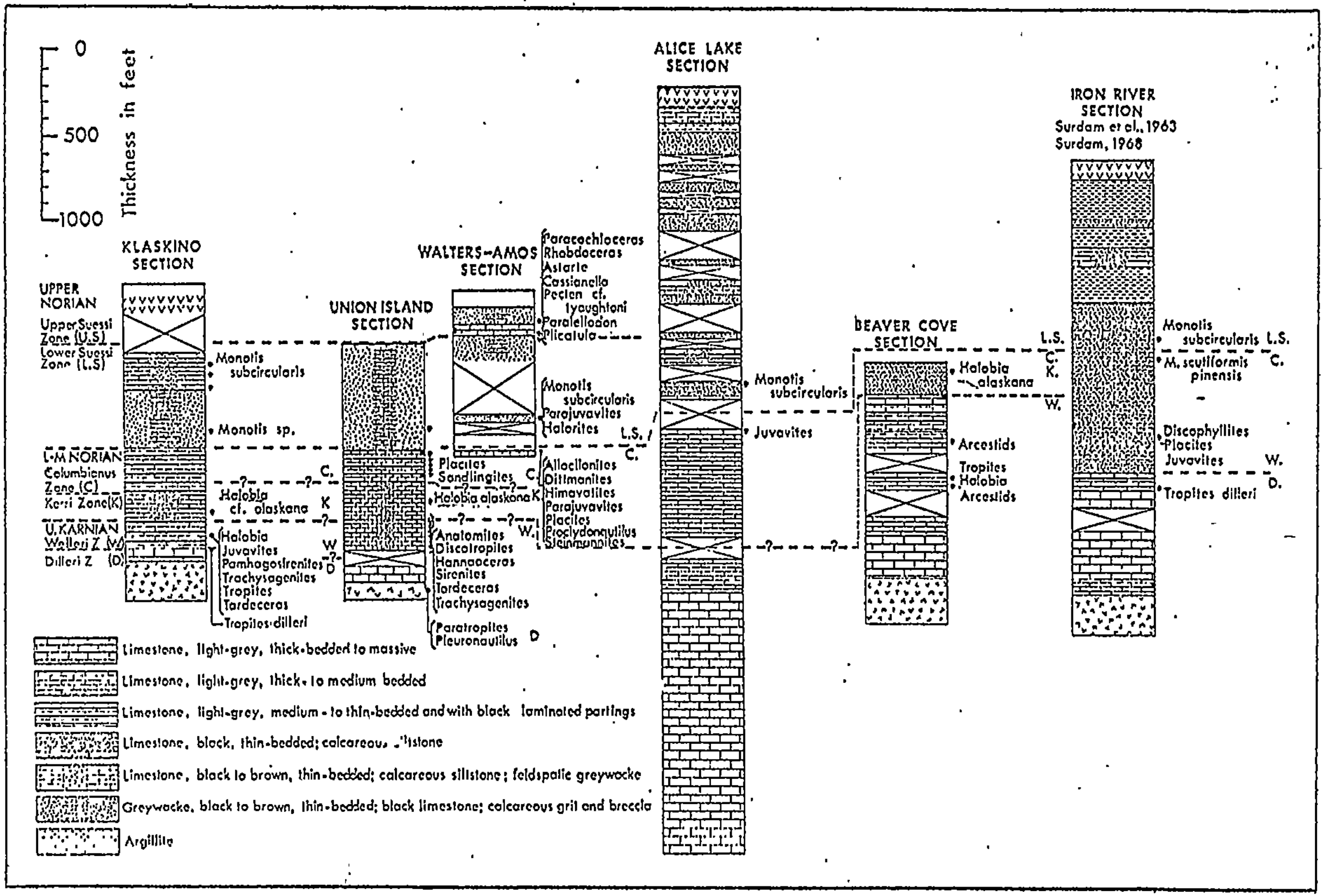


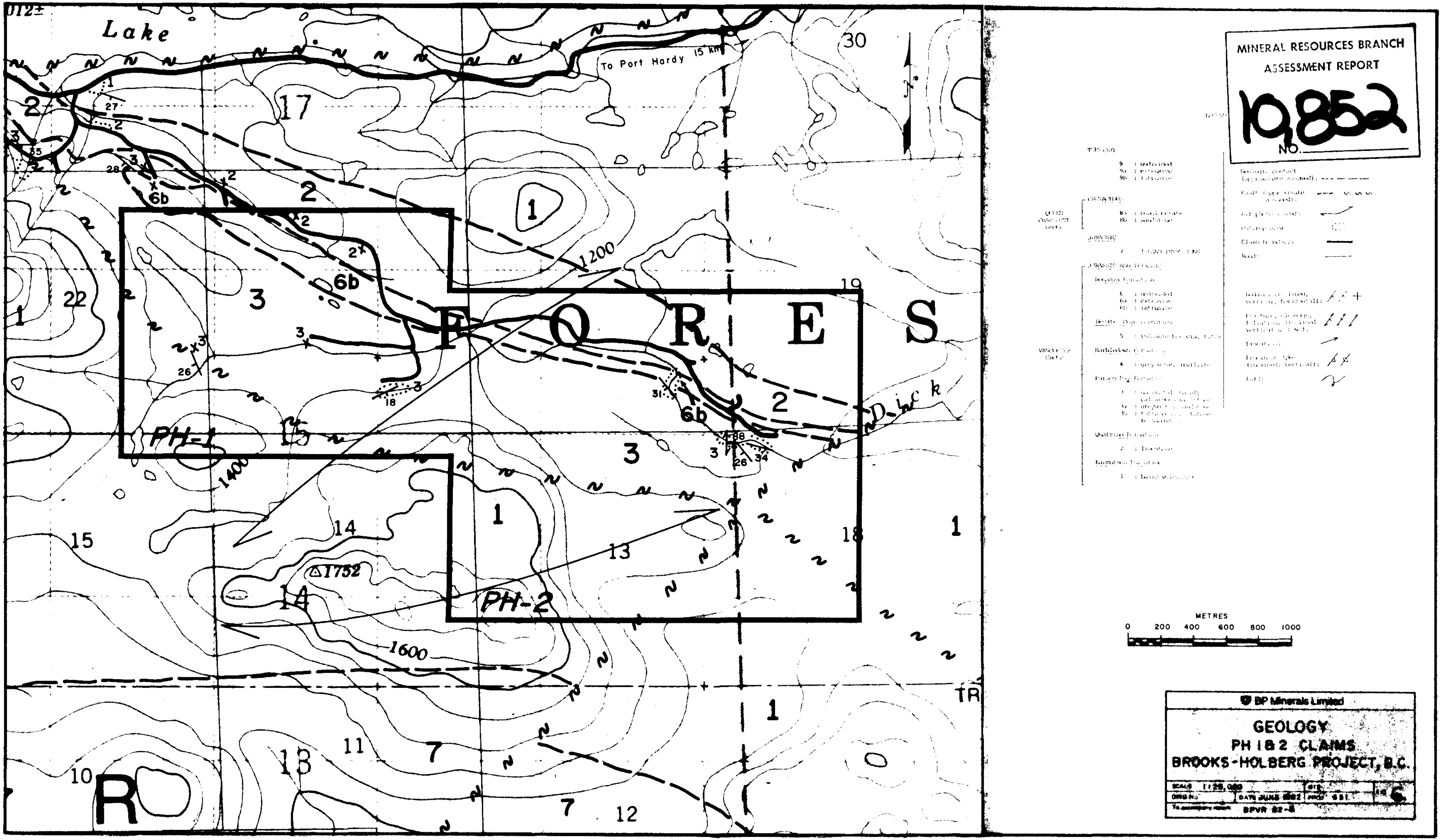
FIGURE 5. Sections of Parson Bay and Quatsino Formations (from Muller, et al, 1974).

8) PROPERTY GEOLOGY

Except along logging roads and creek cuts most of the property has poor outcrop exposure, limiting geological interpretation. The claim area occupies a subdued valley which appears to be underlain by a down dropped block of Quatsino Limestone and overlying Parson Bay Formation. The hills to the north and south reflect the graben structure, and are composed of Karmutsen Volcanics.

Parson Bay Formation outcrops across the southern half of the claim area striking northwesterly with gentle to moderate dips to the southwest. Creek exposures and outcroppings of Parson Bay Formation on the western half of the claims are sheared and extensively intruded by Bonanza volcanic-related feeder dykes. Due to poor outcrop exposure elsewhere on the property the structural complexity of the unit is largely unknown.

Quatsino Limestone outcrop across the northern portion of the claim area striking northwesterly, conformably underlying the Parson Bay Formation. For the most part the limestone is massive and unaltered, however, in one locality jasperoid-like bodies of silica replace the limestone at fracture intersections. The jasperoid bodies are thought to be a diagenetic feature of the limestone.


Lake
To Port Hardy 15 km
F O R E S
PH-1
PH-2
Dick
1200
1400
1600
△1752
METRES
0 200 400 600 800 1000
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 10,852
BP Minerals Limited
GEOLOGY
PH 1 & 2 CLAIMS
BROOKS-HOLBERG PROJECT, B.C.
BPVR 82-8

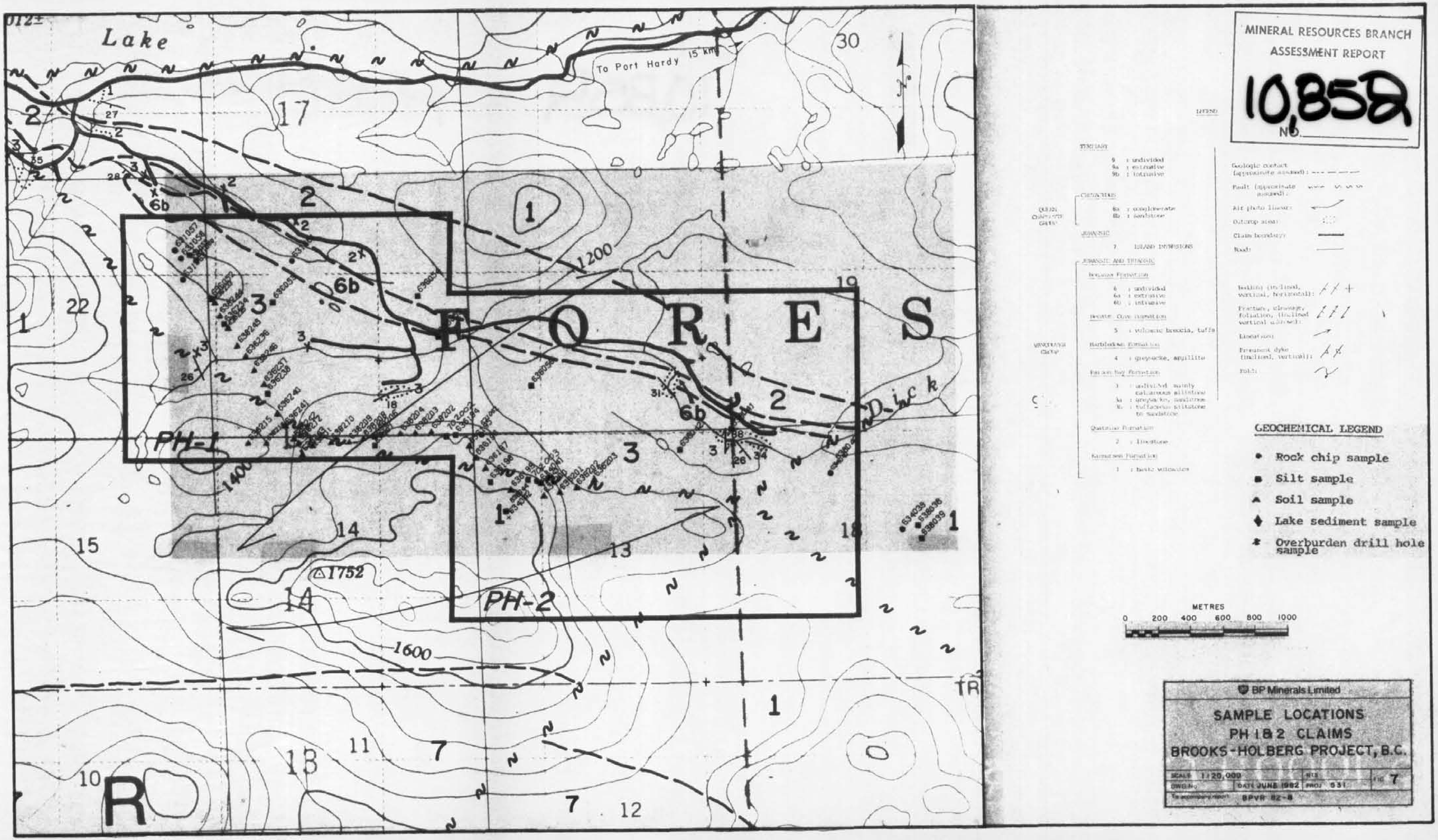
9) GEOCHEMISTRY

A) Introduction

A total of 31 soil samples, 22 stream sediment samples, and 9 rock chip samples were collected in the claim area (Figure 7).

A limited number of rock chips and stream sediment samples were collected along roads during initial sampling. Because these samples produced a number of weakly anomalous gold, mercury and arsenic results, three topofil-compass lines were run across the slope of the southeast portion of the claim area in order to evaluate Parson Bay Formation present. Soil samples were collected at 100 m intervals and all streams draining this slope were also sampled.

Due to locally marshy ground conditions, soil sampling was difficult. BF soil horizons were collected wherever possible from depths of 20 - 40 cm.


Lake
To Port Hardy 15 km
F O R E S
Dick
PH-1
PH-2
1200
1400
1600
△1752
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,858
NO.
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
PH 1 & 2 CLAIMS
BROOKS-HOLBERG PROJECT, B.C.
SCALE 1:20,000
DATE JUNE 1982
PROJ 631
FIG 7
BPVR 82-8

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

Samples were submitted to Acme Analytical Laboratories in Vancouver for ICP (Inductively Coupled Plasma) analysis for the following 29 elements at a cost of $5.50/sample:

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 and lake sediment 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 of 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.

Geochemical Analysis of Hg

Digestion

A .50 gram sample is digested with aqua regia and diluted with 20% HCL.

Determination

Hg in the solution is determinated by cold vapour AA using F & J Scientific Hg assembly. An aliquot is added to stannous chloride-hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is determined by AA.

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.	Mo :	in ppm	M1	2.	ppm
2.	Cu :	in ppm	M1	28.	ppm
3.	Pb :	in ppm	M1	38.	ppm
4.	Zn :	in ppm	M1	180.	ppm
5.	Ag :	in ppm	M1	0.3	ppm
6.	Ni :	in ppm	M1	32.	ppm
7.	Co :	in ppm	M1	12.	ppm
8.	Mn :	in ppm	M1	800.	ppm
9.	Fe :	in %	M1	2.5	ppm
10.	As :	in ppm	M1	8.	ppm
11.	U :	in ppm	M1	3.	ppm
12.	IS :	Internal Standard.			
13.	Th :	in ppm	M1	3.	ppm
14.	IS :	Internal Standard			
15.	Cd :	in ppm	M1	2.	ppm
16.	Sb :	in ppm	M1	3.	ppm
17.	Bi :	in ppm	M1	2.	ppm
18.	V :	in ppm	M1	54.	ppm
19.	Ca :	in %	M1	0.62	%
20.	P :	in %	M1	0.11	%
21.	La :	in ppm	M1	8.	ppm
22.	In :	in ppm	M1	2.	ppm
23.	Mg :	in %	M1	0.67	%
24.	Ba :	in %	M1	0.023	%
25.	Ti :	in %	M1	0.07	%
26.	B :	in ppm	M1	12.	ppm
27.	Al :	in %	M1	1.9	%
28.	IS :	Internal Standard.			
29.	IS :	Internal Standard.			
30.	W :	in ppm	M1	1.	ppm

Notes:

1. Zinc over 5,000 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

Initial sampling produced two adjacent stream sediments yielding 60 and 20 ppb gold, respectively. These results prompted the detailed soil sampling, however, no interesting values were obtained from this follow up. Rock chips of available Parson Bay Formation outcrop in the immediate area also failed to yield interesting results.

10) CONCLUSIONS AND RECOMMENDATIONS

Presence of a favourable reactive host horizon (Parson Bay Formation) and evidence of high grade angle faulting are considered encouraging with respect to occurrence of disseminated gold mineralization. Initial silt sampling and rock chip sampling yielded weak Au, As and Hg anomalies. These results prompted detailed soil sampling follow up, however, the results were not encouraging.

Further work is recommended to follow up the initial anomalous samples and to explore the untested ground to the east. A programme of detailed rock chip sampling is recommended to follow up the anomalous samples. A programme of soil sampling is recommended to test the Parson Bay Formation to the east.

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

1. BP LABOUR:

J. Thompson	- Project geologist June 20, 21; Aug. 15 3 days @ $120/day	$ 360.00
M. Flanagan	- Geologist June 20, 21; Aug. 15 3 days @ $110/day	$ 330.00
D. McClymont	- Assistant June 21; August 15, 21 3 days @ $75/day	$ 225.00
M. Renning	- Assistant June 21; August 15, 21 3 days @ $60/day	$ 180.00
T. Fitzmaurice	- Geologist May 16 1 day @ $120/day	$ 120.00
M. Renning	- Assistant May 16 1 day @ $75/day	$ 75.00

2. GEOCHEMICAL ANALYSIS

53 soil/stream/lake sediment samples @ $15.41/ sample

(29 element ICP analysis, geochemical assay for Au and Hg, pH determination, sample preparation and storage, data processing). $ 816.20

9 rock chip samples @ $16.00/sample

(29 element ICP analysis, geochemical assay for Au and Hg, sample preparation and storage, data processing). $ 144.00

3. DRAFTING/REPRODUCTION/TYPING: $ 100.00

4. <u>SUPPORT COSTS</u>:

14 man-days of Food and Accommodation @ $40/man-day	$ 560.00
3½ days of truck rentals (Redhawk - 2 Four Wheel Drive Jimmys) @ $75/day (including fuel) for two vehicles).	$ 262.50
Miscellaneous consumable equipment and supplies (topofil, flagging, sample bags).	$ 100.00
TOTAL	$3,272.70

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
10	631060	3	74	0	106	58	0	671	5.0	.5	30	5	20	75	0	0	0	6	1	
10	636052	2	21	0	46	23	0	1182	5.7	.2	46	5	18	55	1	0	0	5	0	
10	636053	1	5	2	36	8	0	550	3.4	0.	15	5	8	50	0	0	0	2	0	
10	636054	4	30	0	120	33	5	3579	5.9	.3	51	10	42	40	1	0	0	5	0	
10	636055	37	18	0	131	19	15	7298	14.2	1.7	138	10	186	40	3	0	0	10	0	
10	636056	17	16	1	82	13	8	4147	9.8	1.0	61	5	99	50	2	0	0	7	0	
10	636194	2	21	10	63	18	0	746	3.8	.4	18	5	18	120	2	0	0	1	0	
10	636198	6	82	3	120	32	0	561	4.1	.5	21	5	18	100	2	1	0	2	1	
10	636234	3	10	5	79	52	1	664	7.5	.6	32	5	26	210	2	1	0	3	1	
10	636238	0	24	4	46	26	0	602	3.5	.0	31	5	9	130	2	0	0	1	0	
10	638038	2	49	3	91	34	0	685	4.6	.1	24	5	13	40	0	0	0	4	0	
10	638039	1	48	1	44	25	0	440	3.7	0.	19	5	7	40	0	0	0	3	1	
10	638040	2	34	2	107	34	0	895	4.9	.2	25	5	11	40	1	0	0	5	0	
10	638041	2	29	0	104	29	0	1063	4.9	.2	24	5	13	40	1	0	0	4	0	
10	638042	4	32	1	112	28	1	1087	4.9	.3	24	5	14	60	1	0	0	4	0	
10	638043	5	33	5	95	29	2	1552	4.5	.5	35	60	14	80	1	0	0	4	0	
10	638044	1	93	3	71	41	3	2454	4.4	.4	52	20	14	170	0	0	0	5	1	
10	638206	1	33	3	64	21	0	807	4.7	.4	22	5	27	30	2	0	0	2	0	
10	638207	0	45	5	50	30	0	513	4.6	.2	23	5	15	25	1	1	0	2	0	
13	631059	2	48	5	68	21	1	908	3.8	.0	21	5	17	80	0	0	0	3	0	
50	636195	0	37	0	14	5	0	60	3.0	.2	1	5	7	300	1	1	1	2	0	
50	636196	5	33	2	23	12	0	72	7.7	.9	2	5	19	400	2	0	1	3	1	
50	636197	0	10	8	10	3	3	41	2.1	0.	0	5	7	120	0	0	0	1	0	
50	636199	7	16	4	9	4	0	34	10.2	0.	0	5	34	100	2	1	1	0	1	
50	636200	2	29	3	11	5	0	46	7.3	0.	0	5	23	150	2	1	1	2	1	
50	636201	0	4	6	5	1	2	14	.7	0.	0	10	6	60	0	0	0	0	0	
50	636202	0	5	6	5	1	1	16	.6	0.	0	5	5	100	0	0	0	0	0	
50	636203	0	4	4	8	2	1	33	.9	0.	1	5	6	80	0	1	0	0	0	
50	636233	8	25	6	25	5	0	94	9.8	.4	1	5	33	170	2	2	1	3	0	
50	636235	9	20	2	17	8	0	64	11.4	0.	0	5	36	100	2	1	1	2	0	
50	636236	3	50	3	31	13	0	78	6.5	.3	3	5	21	200	2	0	1	2	0	
50	636237	0	7	3	5	3	1	13	.6	0.	0	5	6	110	0	0	0	0	0	
50	636240	0	31	2	15	8	0	66	4.2	.1	2	5	17	160	1	0	2	2	0	
50	636241	0	3	6	3	1	1	8	.3	0.	0	5	4	60	0	0	0	0	0	
50	636242	0	11	7	10	4	2	37	1.5	0.	1	5	11	130	0	0	0	0	0	
50	636243	0	39	0	12	5	0	41	3.8	.2	0	5	9	210	2	0	2	2	0	
50	638202	4	33	2	21	7	0	58	9.5	1.2	2	5	25	770	2	2	1	1	0	
50	638203	3	15	0	6	4	3	23	9.6	0.	0	5	25	30	2	1	1	0	0	
50	638204	0	1	4	2	0	0	28	.3	0.	0	5	1	30	0	0	0	0	0	
50	638205	0	4	5	8	1	1	34	.4	0.	0	5	0	100	0	0	0	0	0	
50	638208	0	17	3	17	8	1	75	1.8	0.	3	5	11	100	0	0	0	1	0	

* Geochem Assay

Au and Hg measured in ppb.

Sample No.	V	Ba	Al%	Fe%	Mg%	Ca%	Ti%	P%	Mn	La	In	B	Cr	Nb	Au
631060	162	50	3.15	5.0	1.67	1.22	.31	.06	671	5	0	2	70	5	0
636052	160	32	2.34	5.7	1.11	1.09	.25	.06	1182	6	0	2	32	5	0
636053	84	16	1.16	3.4	.62	.30	.14	.04	550	3	0	3	16	3	0
636054	130	65	1.79	5.9	.78	.81	.14	.06	3579	6	0	1	36	5	0
636055	230	98	1.85	14.2	.67	.54	.14	.05	7298	8	0	0	34	8	0
636056	229	71	1.72	9.8	.78	.66	.18	.08	4147	7	0	0	29	6	0
636194	120	119	1.90	3.8	.89	.60	.11	.07	746	4	0	3	33	5	0
636198	127	85	1.83	4.1	.92	.65	.14	.06	561	4	0	2	45	4	0
636234	195	11	2.12	7.5	1.55	.15	.36	.03	664	3	0	0	79	6	0
636238	109	23	1.62	3.5	.86	.37	.18	.03	602	2	0	0	33	4	0
638038	145	42	1.87	4.6	1.17	.94	.25	.07	685	7	0	3	42	4	0
638039	139	23	1.59	3.7	.77	.93	.27	.05	440	5	0	3	30	4	0
638040	149	48	2.15	4.9	1.22	.99	.22	.09	895	7	0	3	45	4	0
638041	147	72	2.05	4.9	1.14	.81	.17	.07	1063	7	0	4	46	4	0
638042	162	70	2.22	4.9	1.03	.69	.11	.06	1087	6	0	4	50	4	0
638043	169	113	1.99	4.5	.91	.67	.10	.06	1552	6	0	3	49	4	0
638044	146	29	2.33	4.4	1.39	1.29	.26	.06	2454	6	0	4	50	4	0
638206	119	28	1.98	4.7	1.08	.66	.24	.07	807	4	0	1	27	5	0
638207	134	49	1.50	4.6	.97	.51	.32	.04	513	2	0	1	28	5	0
631059	163	35	1.88	3.8	.44	.60	.21	.06	908	4	0	1	37	4	0
636195	167	7	5.92	3.0	.16	.05	.31	.04	60	9	0	1	62	6	0
636196	291	10	3.35	7.7	.26	.05	.38	.03	72	3	0	0	116	7	0
636197	221	9	1.21	2.1	.04	.06	.28	.01	41	3	0	0	35	4	0
636199	319	4	.93	10.2	.09	.05	.61	.03	34	2	0	0	56	8	0
636200	516	6	2.28	7.3	.10	.05	.64	.02	46	3	0	0	56	8	0
636201	86	7	.48	.7	.06	.04	.26	.01	14	1	1	1	21	2	0
636202	89	13	.59	.6	.07	.07	.21	.01	16	1	0	1	14	3	0
636203	55	10	.41	.9	.08	.08	.14	.01	33	1	0	1	11	2	0
636233	239	11	2.93	9.8	.18	.04	.46	.03	94	3	0	0	30	8	0
636235	383	4	1.62	11.4	.17	.05	.73	.03	64	3	0	0	75	8	0
636236	199	11	3.14	6.5	.24	.07	.41	.02	78	3	0	0	58	7	0
636237	85	2	.40	.6	.06	.07	.26	.01	13	1	1	1	17	3	0
636240	150	4	3.58	4.2	.20	.12	.37	.02	66	1	0	0	77	5	0
636241	54	6	.33	.3	.03	.02	.21	.01	8	2	0	2	16	2	0
636242	164	6	1.21	1.5	.13	.10	.38	.01	37	2	1	1	37	4	0
636243	162	4	5.44	3.8	.13	.09	.41	.03	41	2	0	1	78	7	0
638202	379	10	2.85	9.5	.17	.03	.31	.03	58	1	0	0	63	7	0
638203	419	3	.69	9.6	.03	.03	.54	.02	23	0	0	0	41	7	0
638204	34	7	.63	.3	.01	.02	.10	.00	28	1	0	1	4	1	0
638205	44	9	1.19	.4	.08	.04	.04	.01	34	1	0	0	11	3	0
638208	130	11	1.15	1.8	.24	.17	.38	.01	75	1	1	1	26	5	0

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
50	638209	1	18	2	11	10	2	46	6.0	0.	1	5	19	80	2	1	0	0	0	
50	638210	0	25	3	17	8	1	80	1.1	0.	4	5	4	100	0	0	0	0	0	
50	638211	1	18	6	9	4	1	32	7.0	0.	0	5	19	720	2	0	1	0	0	
50	638212	0	7	4	6	1	1	18	.4	0.	0	5	8	60	0	0	0	0	0	
50	638214	0	2	5	2	0	1	5	.2	0.	0	5	4	70	0	0	0	0	0	
50	638215	0	5	10	4	1	1	10	.4	0.	0	5	7	190	0	0	0	0	0	
50	638244	0	8	6	15	6	3	49	2.7	0.	1	5	10	60	0	1	0	0	0	
50	638245	0	4	7	5	1	1	22	.3	0.	0	5	4	110	0	0	0	0	0	
50	638246	0	6	8	7	1	2	25	.3	0.	0	5	2	160	0	0	0	0	0	
60	634042	5	93	3	219	52	1	657	3.1	1.4	18	5	12	145	2	0	0	3	0	
81	631057	1	57	5	153	57	1	659	2.0	.7	12	5	10	35	0	0	0	2	1	
81	631058	0	58	10	265	63	0	441	1.9	1.2	12	20	10	30	0	0	1	3	2	
81	631061	46	112	15	856	112	6	237	1.8	.2	10	10	20	35	23	0	1	8	2	1
81	631062	5	76	2	117	38	0	247	2.7	1.9	9	10	11	20	0	0	0	2	0	
81	631063	0	57	4	159	66	0	650	2.5	.9	15	5	26	15	0	0	0	3	3	
81	631251	1	47	4	139	44	6	777	1.7	1.3	8	5	10	60	0	1	0	1	4	
81	634039	14	18	0	15	21	1	163	.7	.2	2	5	8	5	0	2	0	1	5	
81	634040	52	57	0	793	85	0	311	1.0	.6	4	5	7	20	2	0	1	18	5	
81	634041	7	75	3	168	49	0	251	2.1	1.5	9	5	14	15	0	0	0	3	1	

* Geochem Assay

Au and Hg measured in ppb.

Sample No.	V	Ba	Al%	Fe%	Mg%	Ca%	Ti%	P%	Mn	La	In	B	Cr	Nb	Au
638209	213	22	1.12	6.0	.13	.12	.44	.02	46	0	0	0	34	6	0
638210	84	12	1.45	1.1	.24	.18	.20	.01	80	2	0	2	24	4	0
638211	192	5	1.79	7.0	.10	.07	.42	.02	32	0	0	0	52	7	0
638212	75	6	.74	.4	.05	.08	.39	.01	18	1	1	2	16	3	0
638214	39	4	.38	.2	.02	.03	.21	.01	5	1	0	0	8	2	0
638215	74	6	.46	.4	.04	.03	.35	.01	10	2	1	1	14	2	0
638244	177	14	.91	2.7	.17	.09	.31	.01	49	1	0	1	22	4	0
638245	51	11	.58	.3	.04	.05	.19	.02	22	1	0	1	14	2	0
638246	58	12	.66	.3	.05	.05	.20	.02	25	1	0	1	17	2	0
634042	89	138	1.85	3.1	.82	.33	.00	.18	657	17	0	1	68	3	0
631057	178	321	2.17	2.0	.73	2.39	.02	.87	659	26	0	10	87	4	0
631058	236	45	3.02	1.9	.89	4.05	.11	.27	441	14	0	17	91	4	0
631061	337	95	1.42	1.8	1.85	.48	.11	.10	237	14	1	19	207	3	0
631062	95	266	1.60	2.7	.94	.53	.03	.07	247	9	0	3	85	2	0
631063	110	90	2.35	2.5	1.77	4.41	.18	.05	650	9	0	5	51	5	0
631251	31	99	.95	1.7	.86	9.92	.01	.03	777	6	1	6	28	12	0
634039	27	31	.37	.7	.16	22.48	.02	.02	163	2	0	5	7	11	0
634040	571	17	.56	1.0	.54	15.67	.07	.03	311	8	0	3	145	9	0
634041	79	104	.97	2.1	.59	3.97	.00	.03	251	6	0	5	52	4	0

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H20 AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
AU* PPB AU ANALYSIS BY AA FROM 10 GRAM SAMPLE. HG* PPB HG ANALYSIS BY FLAMELESS AA FROM .500 GRAM SAMPLE. SAMPLE TYPE - SOIL/SILT

DATE RECEIVED MAY 28 1982 DATE REPORTS MAILED June 8/82 ASSAYER D. Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

BP MINERALS FILE # 82-0341 PAGE # 1 PROJECT # 82531

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
90-702002	2	25	14	66	.3	22	13	872	4.74	11	2	ND	2	43	1	2	2	144	1.24	.06	10	34	1.66	98	.26	11	2.07	.09	.03	2	3	40
702003	2	26	13	52	.2	31	15	484	4.61	6	4	ND	2	78	1	2	3	177	1.35	.02	7	51	1.49	33	.43	8	2.24	.05	.02	2	5	25