GEOLOGICAL REPORT

GARD CLAIM GROUP

Consisting
of

GUARD 17
GARD 18 - 20
GARD 21 - 25

VANCOUVER M.D.

BUTE INLET AREA

NTS MAP 92K/11E

Latitude: 50 33'
Longitude: 125 08'

OWNER/OP. SOUTHGATE RESOURCES GROUP.

by

Jay W. Page BA.,BSc.,F.G.A.C.

WESTEX EXPLORATION LTD.
515 -510 West Hastings Street
Vancouver, B.C.

CONTENTS

TABLES

FIGURES

1. INTRODUCTION

The Gard claim group is made up of 9 claims for a total of 40 units. The claim group is located on the west side of Bute Inlet, covering the mountain slopes immediately south of Moh Creek. Access to the property is by boat, helicopter or airplane .

A geological mapping program was carried out on the Gard claim group in June, 1992. The objective of this program was to identify horizons favourable for hosting a volcanogenic massive sulphide deposit. The program was contracted to Westex Exploration Ltd. by Southgate Resource Group Inc.

Preliminary geological mapping of accessible parts of the property was completed and a favourable horizon was identified. A follow-up program of detailed geological mapping and geophysics is recommended for the central part of the Gard 19 and Guard 17 claims.

2. LOCATION & ACCESS

The Gard claim group is located on the west side of Bute Inlet, where it covers the southwestern side of Moh Creek valley. This area is approximately 50 km north-northeast of the regional service centre of Campbell River on Vancouver Island.

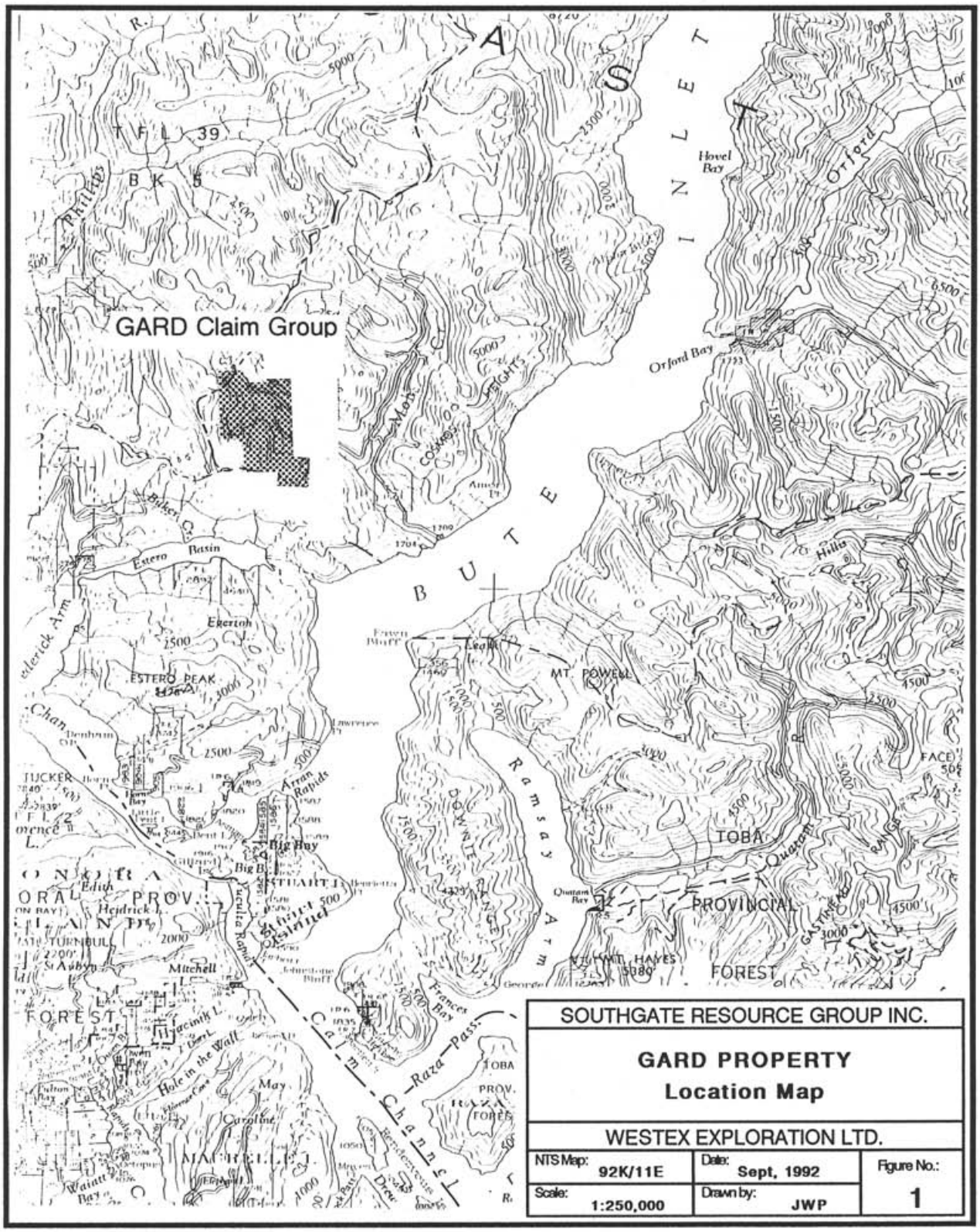
Access to the property is by boat, helicopter or airplane from Campbell River. Port Neville Logging Company conducts logging operations in the Moh Creek Valley and they maintain a logging camp with an airstrip on Bute Inlet. A network of logging roads exists in Moh Creek valley, providing good access to all of the lower elevation areas of the claim group.

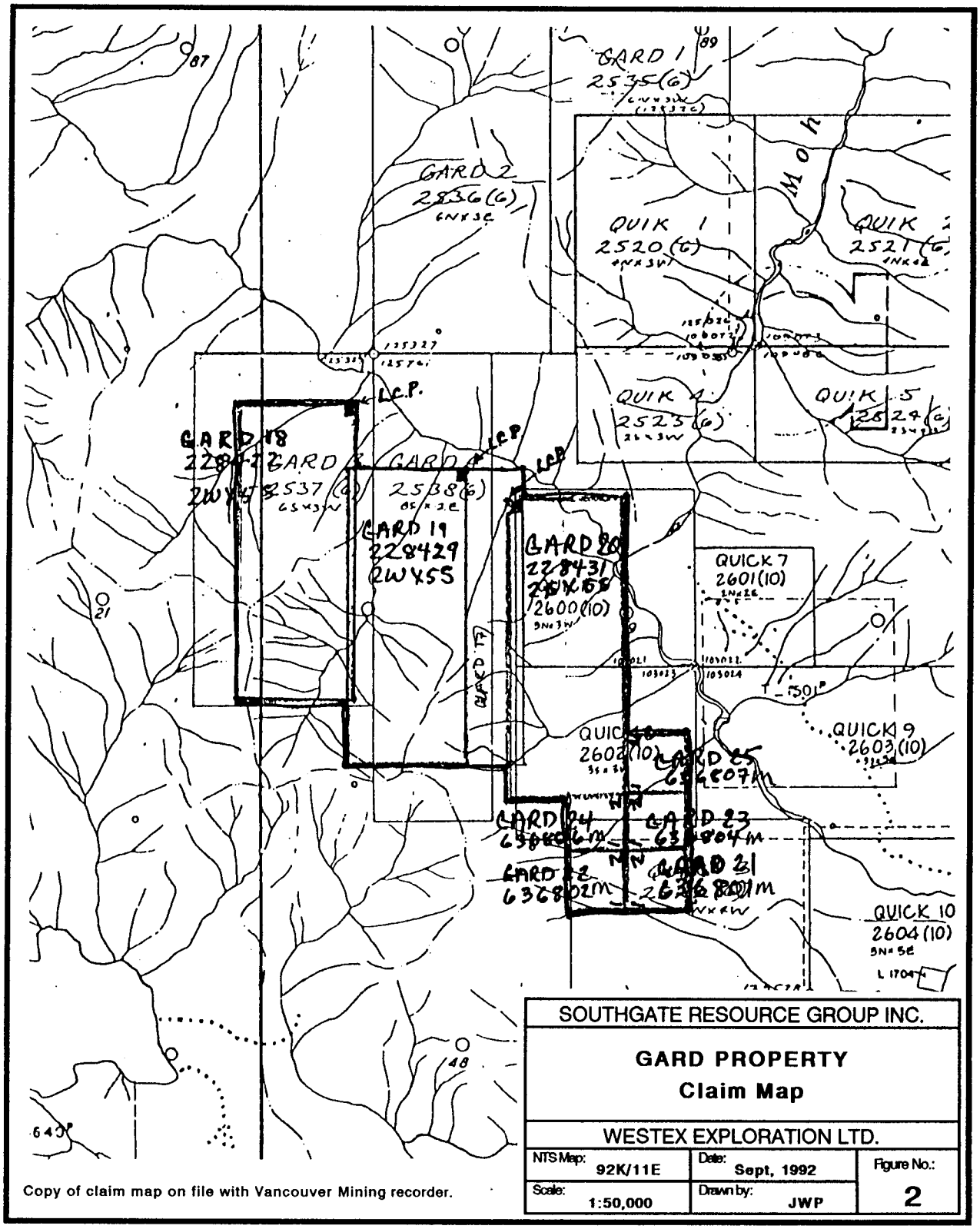
3. PHYSIOGRAPHY

The Gard claim group is located in the moderately rugged, western side of the British Columbia Coast Range. Elevations on the property range from a low of 150 metres on Moh Creek, to a high of approximately 1580 metres on several rounded peaks. The terrain is generally precipitous and most 1st and 2nd order streams are incised. The principle valley, Moh Creek, is U-shaped with steep valley sides and several hanging tributary valleys. Glacial till is present in the Moh Creek valley floor but alluvial deposits are most commonly seen in road cuts. Forest cover is heavy and is dominated by hemlock, fir and red cedar species.

4. CLAIM DATA

The claims are owned by Southgate Resource Group Inc. and are recorded in the name of Jay W. Page. There are a total of 40 units in the Gard Claim Group.


GARD Claim Group
N
SOUTHGATE RESOURCE GROUP INC.
GARD PROPERTY
Location Map
WESTEX EXPLORATION LTD.
NTS Map: 92K/11E
Date: Sept, 1992
Figure No.: 1
Scale: 1:250,000
Drawn by: JWP



Copy of claim map on file with Vancouver Mining recorder.

TABLE I
CLAIM DATA

CLAIM NAME	UNITS	RECORD NO.	RECORD DATE
GUARD 17	5	259021	April 25, 1991
GARD 18	10	310708	June 20, 1992
GARD 19	10	310709	June 20, 1992
GARD 20	10	310710	June 21, 1992
GARD 21	1	310702	June 21, 1992
GARD 22	1	310703	June 21, 1992
GARD 23	1	310704	June 21, 1992
GARD 24	1	310705	June 21, 1992
GARD 25	1	310706	June 21, 1992

5. PREVIOUS WORK

There are no records of previous mineral exploration in the Moh Creek area. Geological mapping of the Bute Inlet Area was released by the Geological Survey of Canada as Open File 480 in 1978. The Regional Geochemical Survey for this area, MEMPR BC RGS 22 (GSC O.F. 2039), was released in 1989. Assessment Reports on this area were filed in 1990 and 1991 by Jay W. Page.

6. WORK CARRIED OUT

Work on the property was carried out during the period June 19 - 27, 1992 by geologist Jay W. Page who was assisted by prospector Eric Mackenzie. Work consisted of locating roads by chain and compass and mapping road-cuts and outcrops.

7. GEOLOGY

7.1 REGIONAL GEOLOGY

The Moh Creek area is located in the Coast Plutonic Complex which forms virtually all of the mainland area in the Bute Inlet Map Sheet 92K. The Coast Plutonic Complex forms the core of the Pacific Orogeny which resulted from the collision with, and the accretion of Wrangellia onto North America during the late Mesozoic (Monger, etal, 1972). The extensive plutonism that resulted from the crustal thickening of this collision and the development of a eastward dipping subduction zone west of Vancouver Island has

overprinted and obscured the pre-existing volcanic rock which formed the eastern margin of Wrangellia. Ages of the plutonic bodies comprising the Coast Plutonic Complex range from Cretaceous to early Tertiary, and compositions vary from quartz diorite to granodiorite. Tertiary uplift and erosion has unroofed the complex leaving narrow bands of the pre-existing volcanic and sedimentary rocks and exposing the root zones of the plutons in high relief.

The sinuous bands of pre-existing volcanic and sedimentary rocks, or "screens" as they are often referred to, are thought to be fault slices, or graben type features (Roddick,1978). The screens in the southern Coast Range are remnants of calc-alkaline volcanic centres, and their composition suggests a lower Jurassic volcanic island arc setting co-extensive with the Insular Belt at that time (Woodsworth, pers. comm. Sept 19/1989). The most recent Generalized Terrane Map of the Canadian Cordillera (Gabrielse and Yorath, 1989) now includes the Toba, Bute and Knight Inlet areas as part of the Wrangellia (Vancouver Island) Terrain.

In the Bute Inlet area the screens form a series of northwest striking sinuous bands which help to define the regional fabric. These screens are of a low metamorphic grade and hence, many textures and structural relationships are recognizable. Rhyolitic and dacitic flows and breccia are common, as are associated marine sediments.

The screens in the Bute Inlet area were originally assigned (Roddick, 1978) to the lower Cretaceous Gambier Group based on their general trend from similar rocks in the Howe Sound and Sechelt areas. Recent work by the Geological Survey of Canada (Woodsworth, pers comm. Sept 19, 1990) indicates that these screens actually have a wide range of ages, with a general trend from mid Cretaceous in the southwest to mid Palaeozoic in the northeast. Age dating of zircons collected in the Fawn Point Area indicates a late Jurassic to early Cretaceous age and the screens in this area may be the only ones correctly mapped as Gambier Group.

Work by Rosen-Spense and Sinclair (1987) has identified the Gambier Group as a medium-K arc tholeiitic sequence. Their interpretation follows that the presence of older arc sequences and Carboniferous zircon ages indicates that the Gambier Group rocks were formed on a well developed arc crust (Roddick etal.,1979 in Rosen-Spense and

Sinclair, 1987). This combined with deep marine conditions and the occurrence of the Britannia volcanogenic massive sulphide deposit suggests that this is an intra-arc extensional environment with similarities to the Green Tuffs-Kuroko trough in Japan (Sillite, 1982; Cathles etal., 1983 in Rosen-Spense and Sinclair, 1987).

7.2 PROPERTY GEOLOGY

7.2.1 General

The property covers part of a meta-volcanic and meta-sedimentary pendant which extends from Bute Inlet in the southeast to Mount Gardiner in the northwest. The volcanic rocks exposed on the east side of Moh Creek valley include greenstone, rhyolite which are overlain by green tuff, lithic tuff and a thick sequence of thinly laminated, fine grained, silicious meta-sediments. The Gambier Group meta-sediments generally strike between 120 and 165 degrees and dip between 80 and 90 degrees to the northeast suggesting that they have been overturned. This is consistent with the regional trend of older screens in the northeast and younger screens in the southwest.

7.2.2 Lithology

Volcanics

Greenstone - Greenstone is exposed in the northern part of the GARD 20 claim. There it is massive and commonly contains clots of epidote which may be vesicle fillings. Zones of chlorite schist are common within this area of greenstone and contacts between the greenstone and schist are gradational.

Rhyolite - Rhyolite is found in outcrop only on top of the "Dome-like" topographic feature located on the prominent ridge centred in the GARD 19 and GUARD 17 claims. There, it is a hard, massive, dark grey to green coloured rock which commonly weathers a distinctive white colour. The rhyolite extends to the northwest; however steep topography and cliffs prevented mapping its extent. Boulders of rhyolite are found over the slopes north of the Dome. They commonly exhibit brecciated textures and some are mineralized with pyrite, which is found as disseminated clots or as fracture controlled veins. Slabbing and staining with sodium cobaltnitrite produced variable results. The amount of yellow stain ranged from about 1% for samples from the Dome to 5% for some boulders. The potassium content of the rhyolitic rocks has not yet been quantified through whole rock analysis. Contacts with the rhyolite were not observed during field work.

Massive Sulphide - No massive sulphide has been found in place; however, a cobble of massive pyrite was found in the stream immediately northwest of the Dome as marked in figure 3. The cobble contained small irregular shaped fragments of quartz. These fragments may have originally been rhyolite or chert.

Tuffs

Green Tuff - The green tuff is a massive, medium to dark green coloured rock which is commonly found on the east side of the pendant. No contacts were found but it appears grade into the lithic tuff south of the Dome. The green tuff includes minor amounts of crystal tuff in the southeastern part of the claim group. Contacts with the chlorite schist also appear to be gradational.

Lithic Tuff - The lithic tuff is most dramatically exposed on the south side of the Dome where it is composed of up to 30% matrix supported silicious fragments believed to be derived from the underlying rhyolite. The fragments define a crude layering roughly parallel to the contact between the rhyolite and the tuff. These fragments average about 5mm in diameter with larger fragments up to about 2 cm. Boulders containing rhyolite fragments up to 30 cm are found along the slope north of the Dome. The lithic tuff exposed along road cuts in the southeastern part of the claims contain small (average 3mm) black fragments believed to be argillite. No silicious fragments are found in the tuffs in this area. No contacts were observed in either area, but the green tuff and the lithic tuff should be viewed as end members of a continuum.

Meta-sediments

Silicious Meta-sediment - The silicious meta-sediment is believed to form the stratigraphic upper part of the Gambier Group rocks. It is a relatively thick (over 1 km) package of monotonous thinly laminated, fine grained, silicious, grey coloured meta-sediments which are only occasionally interrupted by rusty weathering strata containing very thin laminations of pyrite, and by small zones of chlorite schist or shale. Small intrusive bodies of granodiorite, diorite, and amphibolite are found within the meta-sediments. The contacts with the intrusions are sharp but irregular.

Chlorite Schist and Phyllite - These rocks are common to most of the claim group but are dominant on the east side of the pendant. Contacts between the green schist and phyllite

are gradational, as are contacts with other rock types except with the small intrusive bodies.

Shale - Shale is found in the southeastern part of the claim group. It is a relatively thin unit, rarely more than 50 metres thick and where mapped as a bigger unit, it is made up of several layers alternating with the silicious meta-sediment. It is brown coloured, thinly laminated and friable. It is identified at this preliminary stage of mapping only because it may be useful as a marker horizon in future mapping.

Conglomerate - One large exposure of conglomerate was found immediately south of the GARD 20 claim. The conglomerate is made up of approximately 10% rhyolite (to 30 cm in length), 30% tuff boulders, and 20% intrusive (plagioclase porphyry) boulders. The boulders are rounded, clast supported and all appear to be elongated parallel to the regional strike. This elongation appears to define a bedding (pseudo-bedding?) oriented at 132/90. It is underlain by a hard dark green rock containing plagioclase crystals which is believed to be a crystal tuff. The contact between the conglomerate and the tuff was not seen.

Gambier Intrusions

Within the Gambier Group are numerous intrusions, and in the absence of detailed work, it is difficult to determine if the intrusions are part of the Gambier Group, ie. predate the formation of the pendant. Most of the intrusions do not have a foliation suggesting that they are post pendant.

Quartz - K-spar Porphyry - This rock is exposed on the north side of the Dome and is in contact with the rhyolite and lithic tuff, It is texturally unlike any of the Coast Plutonic rocks in the area and it is considered to be a Gambier Group Intrusion, although it must post-date the formation of the rhyolite and tuff units. It is reasonable to suggest that this is a fault contact. This contact is not exposed but the rhyolite is sheared near the assumed contact.

Other Minor Intrusions - Fine grained, diabase intrusions, often containing plagioclase crystals to 3mm are included in this category, as are minor intrusions of diorite and amphibolite. Chlorite alteration of mafic minerals is common but the intrusions are rarely foliated.

Coast Plutonic Rocks

Granodiorite - the Gambier Group pendant exposed at Moh creek is bounded on its west side by a large mass of Granodiorite, which is part of the Quantum Pluton (Roddick, 1978). It is medium grained and is commonly composed of approximately 25 -35% quartz, 25 - 35% K-spar, 30 - 40% plagioclase and about 5% chloritized mafic minerals. The relative proportions of K-spar and plagioclase show wide variation. Contacts are intrusive, being sharp but inter-fingering is common, as are xenoliths of Gambier Group.

Quartz Diorite - The Quartz diorite is composed of 10 - 20% quartz, 60 -70% plagioclase, 5 -10% K-spar and 10 -20% biotite (as fine-grained clots). The contact with the Gambier Group observed in the southeastern part of the property is sharp but irregular. No hornfelsing of the meta-sediments was observed. the southwestern contact of the pendant is taken from Roddick(1978) who has mapped it as a fault contact.

7.2.3 STRUCTURE

The Pendant is composed of long sinuous bands of meta-sediments and meta-volcanics which range from silicious, fine-grained, well laminated meta-sediments on the west to green tuff, chlorite schist and greenstone on the east. The meta-sediments give a strong impression of considerable shearing and elongation along the regional trend which varies from about 120 degrees in the southeast to 165 degrees in the northwest, dip are near vertical +/- 10 degrees. The elongated clasts described in the conglomerate support the assumption of extensive shearing. In contrast, the volcanics appear relatively fresh suggesting that much of the shearing was taken up by the sediments. Zones of green schist within in the greenstone may also represent zones of ductile movement.

7.2.4 METAMORPHISM

The metamorphic grade of the pendant, overall, is low - probably not more than green schist. An initial impression is that metamorphic grade may be slightly higher on the west side of the pendant. There, a very fine-grained pink mineral has developed in the meta-sediments which may be garnet; however, because of the different lithologies it is difficult to compare the east and west sides of the pendant. In general, the volcanic rocks, especially the tuffs, show very little metamorphism other than the formation of chlorite and their textures remain fresh-looking.

7.2.5 MINERALIZATION

No economic mineralization was found, although the piece of massive pyrite float found down-slope from the rhyolite and lithic tuff exposed on the Dome is an interesting association, suggesting a possible volcanogenic massive sulphide environment.

7.2.6 INTERPRETATION

The Gambier Group rocks exposed in this pendant represent a Cretaceous volcanic pile and overlying sediments. Stratigraphic tops is to the west in the monotonous silicious meta-sediments, while the volcanic edifice is assumed to be to the east, although only small parts now remain in the pendant. These are exposed in the northwest part of the property as greenstone. More of the volcanic pile may exit to the east in the adjacent pendants. The rhyolite exposed on the Dome and the overlying lithic tuff represent a submarine paleo-surface, and the rhyolite breccia and massive sulphide float suggest a submarine volcanic environment, such as an island arc.

9. RECOMMENDATIONS

It is recommended that a program of detailed mapping of the rhyolite and tuff units be carried out and that the contact be prospected by geophysical techniques. Initial surveys should consist of magnetometer and VLFEM surveys. The steep, treacherous terrain in this area will require suitably trained and equipped personnel. The use of a GPS satellite positioning unit may prove invaluable to future mapping in this area. Alternatively, airborne geophysics should be considered using techniques appropriate for a VMS target.

10. REFERENCES:

Cathles, L.M., A.L. Guber, T.C. Lenagh and F.O. Dudas (1983): Kuroko-type Massive Sulphide Deposits of Japan: Products of an aborted Island-arc Rift; Econ. Geol., Mono. 5, pp 96-114.

Gabrielse H. and C.J. Yorath (1989): DNAG #4. The Cordilleran Orogeny in Canada; In Geoscience Canada, June 1989, Vol 16, No. 2, pp 67-83, Map p 68.

Matysek, P.F., J.L. Gravel and W. Jackaman (1988): British Columbia Regional Geochemical Survey, Stream Sediment and Water Geochemical Data, NTS 92K - Bute Inlet; MEMPR BC RGS 22, GSC OF 2039.

Monger, J.W.H., Souther, J.G. and Gabrielse, H. (1972): Evolution Of The Canadian Cordillera: A Platetectonic Model; Amer. J. of Sc., Vol. 272, pp 577-602.

Roddick, J.A. (1978): Notes on the Stratified Rocks of Bute Inlet Map-area; Geol. Surv. Can. OF 480, 20p.

Roddick, J.A., J.E. Muller and A.V. Okulitch (1979): Fraser River; Geol. Surv. Can. Map 1386A.

Rossen-Spense A. and A.J. Sinclair (1987): Classification of the Cretaceous Volcanic Sequences of British Columbia and Yukon; In Geological Fieldwork 1986, B.C. Min. of Energy, Mines and Pet. Res., Geol. Surv. Br. pp 419-427.

Sillitoe, R.H. (1982): Extensional Habits of Rhyolite Hosted Massive Sulphide Deposits; Geology, Volume 10, pages 403-407.

11. COST STATEMENT

STATEMENT OF WORK (filed June 30, 1992)
LABOUR

Jay W. Page			
June 19/92 Travel			
June 20-26/92 Field work			
June 27/92 Travel			
Sept 28,29/92 Slab & stain rocks			
Total: 11.5 days @ $240		$2,760	
Eric Mackenzie			
June 22-26/92 Field work			
June 27/92 Travel			
Sept 28,29/92 Demobilization			
Total: 7 days @ $150		$1,050	$3,810.00
DISBURSEMENTS:			
Food & Accommodation:			
Moh Creek Camp - June 19 - 27/92		$780.00	
Supplies:		17.27	
Meals:		34.98	
Travel (17%)			
Truck Rental June 19, 27/92	$135.45		
Truck Rental June 20-26/92	250.00		
B.C. Ferry	62.00		
Air Charter:			
Helifor Helicopters			
June 24/92	293.40		
Western Straits Airways			
June 27/92	95.00		
Comox Flying Service			
June 19/92	121.90	957.75	1,790.00
	Total:		$5,600.00

STATEMENT OF WORK (filed Sept 18/92)
LABOUR

Jay W. Page			
Sept 2-4,6,7,14-17 compilation, drafting, report			
Total: 9 days @ $240		$2,160	
DISBURSEMENTS:			
Drafting supplies (NCI, Bensons)	$54.29		
Reproduction (Dominion Blueprint)	41.34	$95.63	$2,255.63

12. CERTIFICATE

I, Jay W. Page, hereby certify:

1. That I am a practising geologist with offices at 515 - 510 West Hastings Street, Vancouver, British Columbia.

2. That I am a graduate of the University of British Columbia in physical geography B.A. (1977), and geology B.Sc. (1984).

3. That I am a fellow of the Geological Association of Canada.

4. That the observations and opinions expressed in herein are based on my personal examination of the property and a review of available data and reports.

5. That I am the president and controlling shareholder of Southgate Resource Group Inc.

6. That I have practised mining exploration in Canada, the United States and West Africa since 1977 while employed by Placer Development Ltd., D.G. Leighton and Associates Ltd., Bema Industries Ltd., AGIP Canada Ltd., Beaty Geological Ltd. and Westex Exploration Ltd.

7. I have made application for registration under the Association of Professional Engineers and Geoscientists of British Columbia.

Dated at Vancouver, British Columbia, This 18 day of Sept ,19 92.

Jay W. Page B.A., B.Sc., F.G.A.C.

LCP GARD 18

LCP GUARD 17

LCP GARD 19

LCP GARD 20

Massive pyrite float

Rhyolite breccia boulders

Moh Creek

2000 Feet

1000 Feet

3000 Feet

4000 Feet

"DOME" referred to in text

Granodiorite

Quartz diorite contact from Roddick (1978)

GARD 18

GARD 19

GUARD 17

GARD 20

GARD 24

GARD 25

GARD 23

GARD 22

GARD 21

Gd

Quartz diorite

S

I

V

T

LEGEND

MAP SYMBOLS

- Stream
- Road
- Rock outcrop
- PYRITE
- Orientation of bedding, foliation
- Definite contact
- Approximate contact
- Projected contact

SCALE 0 100 200 400 metres

Contour interval 100 feet. Contours from NTS 1:50,000 scale topographic map no. 92K/11E
Hydrology from B.C. Forest cover map no. 92K.055.. Roads located by chain and compass.

CRETACEOUS
Gambier Group

Volcanic

- V1 - Greenstone, meta-andesite, meta- basalt
- V2 - Rhyolite

Tuff

- T1 - Green tuff, minor crystal tuff
- T2 - Lithic tuff

Sediment

- S1 - Meta-sediment, thinly laminated, fine grained, silicious, grey or rusty weathering
- S2 - Chlorite schist and phyllite
- S3 - Shale
- S4 - Conglomerate

Intrusions

- I1 - Quartz - K-spar Porphyry
- I2 - Diabase, amphibolite, diorite

Coast Plutonic Rocks

- Gd - Granodiorite (Quantam pluton)
- Qd - Quartz Diorite

SOUTHGATE RESOURCE GROUP INC.

GARD CLAIM GROUP

GEOLOGY

Preliminary map

WESTEX EXPLORATION LTD.

Map Sheet: 92K/11E	Date: September, 1992	Figure No.: 3
Scale: 1:5,000	Drawn By: JWP	

22,545

GEOLOGICAL BRANCH
ASSESSMENT REPORT