

84-1112 - 13079

PROSPECTING REPORT

SLEEPER GROUP

OMENICA M.D.

Whitesail Lake (93E/6E)

54° 27' N, 127° 11' W

For:

Westrex Development Ltd.

and

Whitecap Energy Corp.

June, 1984

By: Dr. T. A. Richards

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

R. R. #1

Hazelton, B.C.

13,079

## TABLE OF CONTENTS

	<u>Page</u>
Location and Access	1
Physiography	1
Work Done	3
Regional Geology	4
Local Geology	5
Property Geology	7
Mineralization & Alteration	10
Itemized Cost Statement	15
Author's Resume	16

### Figures

Location Map	2
Local Geologic Elements	6
Geology and Geochemistry	8
Sample Location	9

### Tables

Rock Specimen description	13
Rock Geochemistry	14

#### LOCATION AND ACCESS

The Sleeper Group comprises four claim blocks comprising 75 units located between Core Mountain and Troitsa Creek in the Whitesail Lake map area (93E/6E). The centre of the group is at approximate 54° 27' N latitude and 127° 11' W longitude. It lies some 130 kilometers south of Houston, B.C.

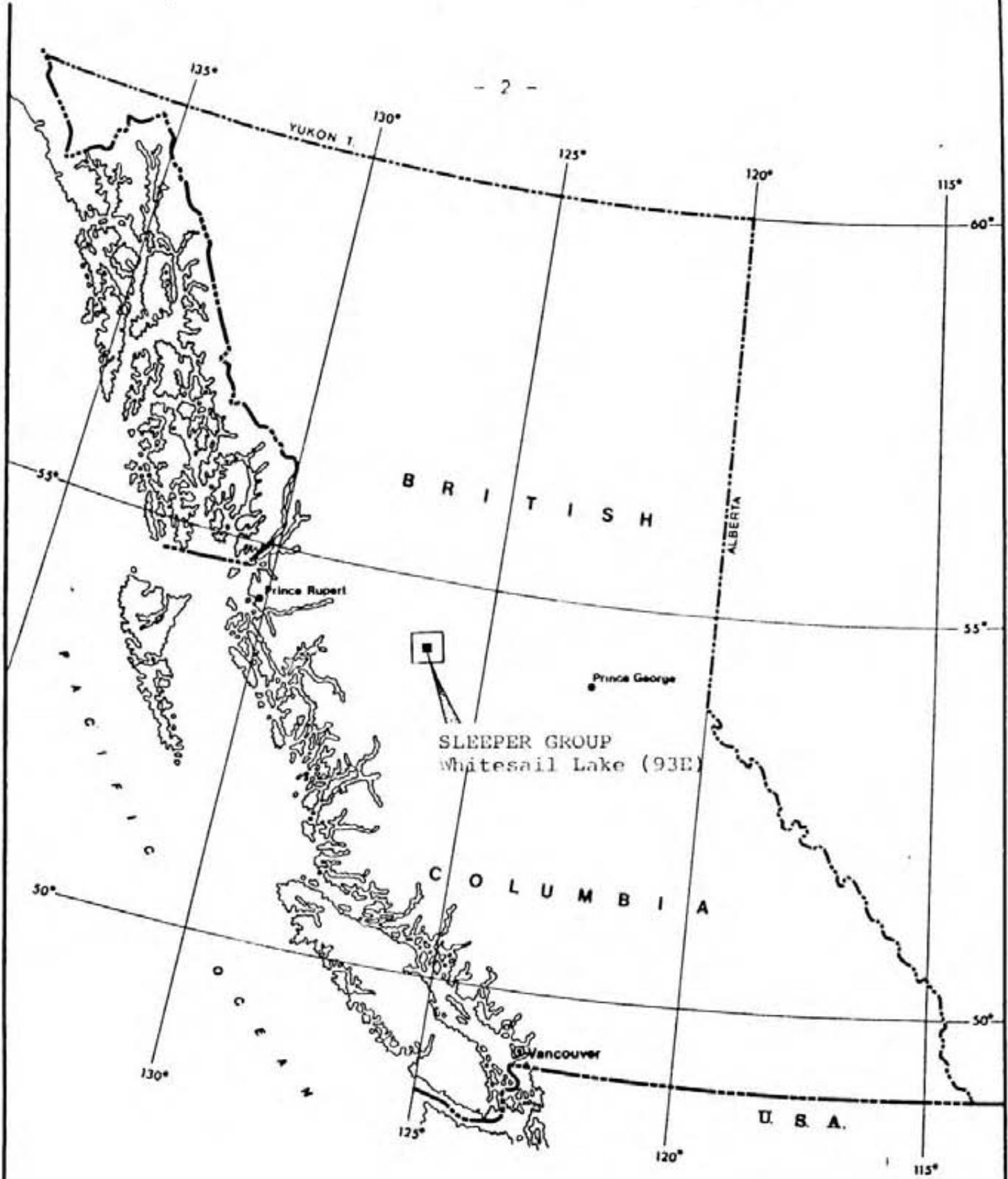
Access is via boat from Ootsa Lake to Whitesail Lake, a distance of some 70 kilometers or by fixed wing or helicopter from Smithers or Houston, B.C.


The Sleeper Group comprises four claim blocks, including:

<u>Claim</u>	<u>No. Units</u>	<u>Record No.</u>
Rasta	20	5322
Lucky Buck	15	5323
Sleeper	20	5324
Northside	20	5325

#### PHYSIOGRAPHY

The Sleeper Group underlies variable topography from mountains to swampy lowland areas east of the Coast



SLEEPER GROUP		
LOCATION MAP		
OMINECA M.D., B.C.		NTS 93 E
DATE: Sept. 1983	SCALE: 0  100 miles	FIG. 1

Mountains bordering on the western margin of the Nechako Plateau. The southern part of the claims is underlain by the northern half of Core Mountain (elevation 5680 feet, 1731 meters), a prominent block-like mountain. It has an uplifted plateau surface at higher elevations, its north face is steep and rugged. The northern half of the claim group is underlain by a low, broad swampy valley, rising gently to the north from 3000 feet (915 meters) to 3500 feet (1070 meters).

Upper elevations of Core Mountain are open alpine with little or no vegetation, its slopes are dominated by scrub spruce, balsam and hemlock on snow-slide chutes. The lower bottom land is mature balsam and spruce with little undergrowth. The broad, central valley is mainly grassy swamp land.

#### WORK DONE

Prospecting the claims was carried out in July, 1983 by two men for two days and in June, 1984 by four men working from a mobile fly camp serviced by boat. Extreme snow conditions in June significantly hindered working much of the terrain, mostly from snow-slide hazards and buried gullies.

## REGIONAL GEOLOGY

The property lies near the western boundary of the Intermontane Belt in west Central British Columbia. Stratified and intrusive rocks in this region range in age from Lower Jurassic to Lower Tertiary. A stratigraphic column of this portion of the Intermontane Belt is as follows:

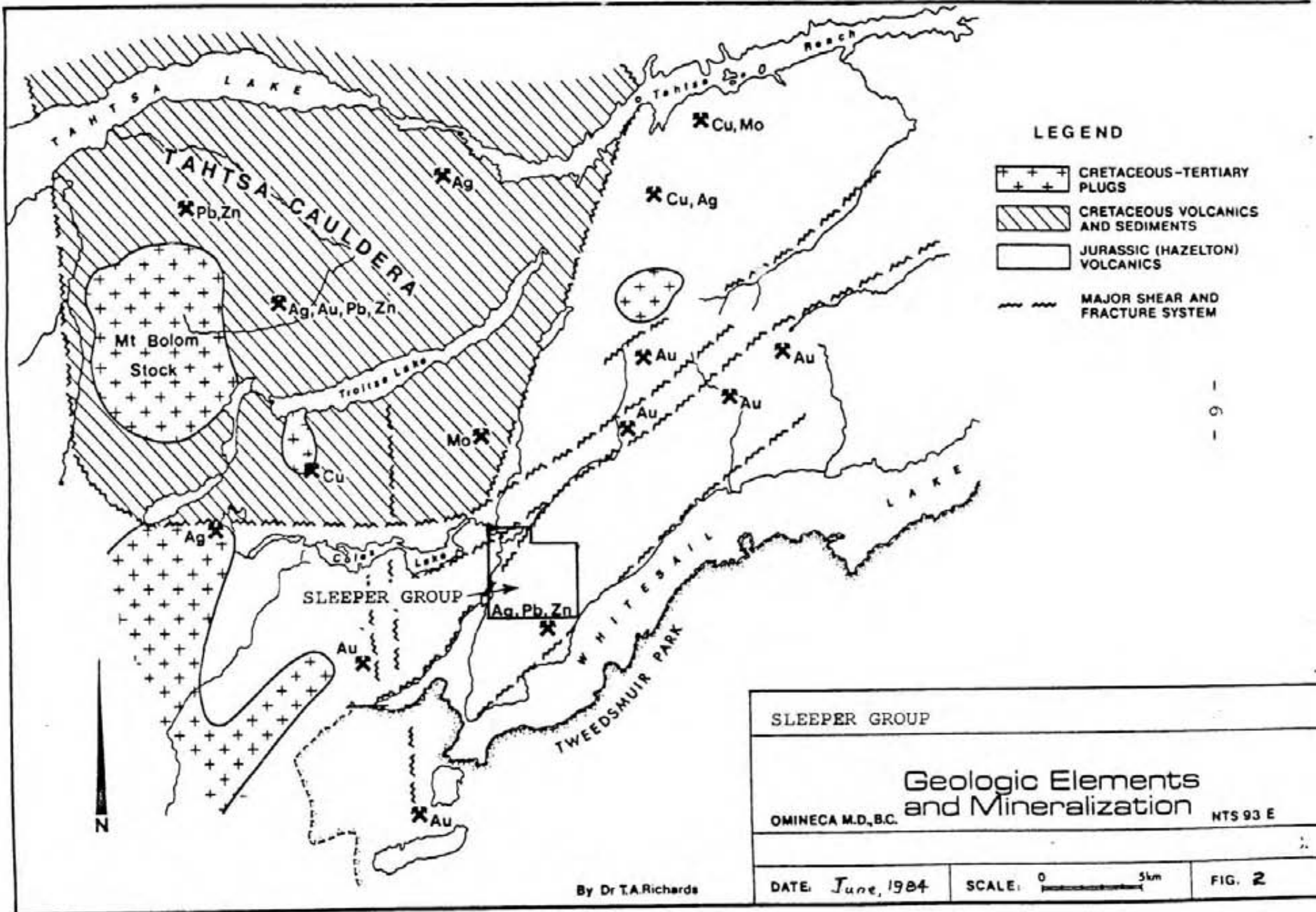
- Early Tertiary:
  - : Ootsa Lake Group; continental volcanics, rhyolite to andesite; coeval intrusives
- Upper Cretaceous - Early Tertiary:
  - : Kasalka Group, continental volcanics, rhyolite to andesite; flows, breccias, tuffs; coeval intrusives.
- Lower Cretaceous:
  - : Skeena Group; continental and shallow marine sandstone, shale, conglomerate.
- Upper Jurassic:
  - : Ashman formation; marine shale, siltstone and sandstone.
- Lower and Middle Jurassic:
  - : Harelton Group; island arc, marine and non-marine volcanics; rhyolite to andesite; flow, breccias, tuffs and sediments; and coeval intrusives.

The structure of the area is dominated by faulting, comprising long linear fault zones trending ENE and NNW and block fault morphology. Folding is generally confined to well sediments in proximity to fault zones and intrusions.

## LOCAL GEOLOGY

The area immediately surrounding the claim group comprises most of the stratigraphic and intrusive elements outlined above. The local region is dominated by a major structural-stratigraphic feature termed the Tahtsa Caldera. This is a major, Upper Cretaceous to Early Tertiary, down-drop volcanic basin measuring some 40 km north-south by 20 km east-west. Within the caldera, rock units comprise the Skeena Group sediments overlain by up to 1,000 meters of volcanics of the Kasalka Group and intruded by coeval granitic stocks. Peripheral to this structure, most of the bed-rock is composed of various volcanic facies of the Hazelton Group.

The Sleeper Group lies about three kilometers south-south east of the southeastern border of the Tahtsa Caldera. The Property lies astride the intersection of two major fault zones; a north to northeast trending zone whose locus lies within the Coles Creek valley and roughly defines the eastern boundary of the caldera and the northern portion of a five to ten kilometer wide, northeast trending fault zone termed the Whitesail Lake Fault Zone. Both fault systems are known to contain base and precious





metal mineralization, either within the trace of major shears or within associated splays and gash-systems.

#### PROPERTY GEOLOGY

The Sleeper Group is underlain by two units; the Lower Jurassic Hazelton volcanics and intrusive rocks related to the Upper Cretaceous Kasalka volcanics. Faulting is common with strong north-east trending and a north-south trending component.

The main massif of Core mountain is underlain by subareal deposited pyroclastics and intravolcanic sediments of the Hazelton Group. In the upland area and steep north-facing slopes of the mountain, interbedded red tuff, lapilli tuff, tuffaceous mudstone and minor sandstone. The units are well bedded and are horizontal to gently warped. Thick interbeds of light purple rhyodacite flows stand out as prominent steps on the mountain slope.

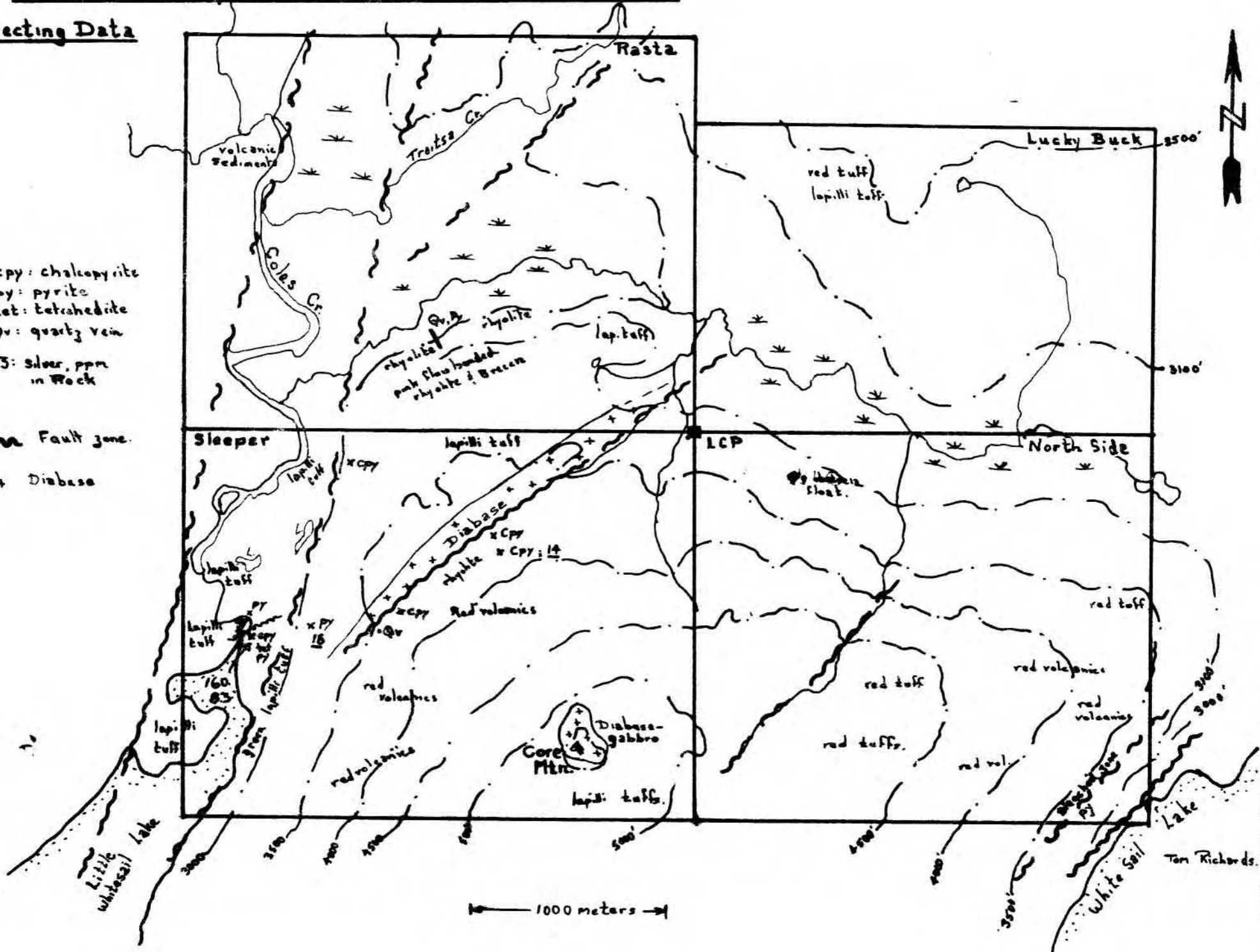
# Sleeper Group Mineral Claim: Whitesail Lake, 93E/6

## Prospecting Data

x cpy: chalcopyrite  
 py: pyrite  
 tet: tetrahedrite  
 Qv: quartz vein  
 83: silver, ppm  
 in Rock

~ Fault zone

+ Diabase

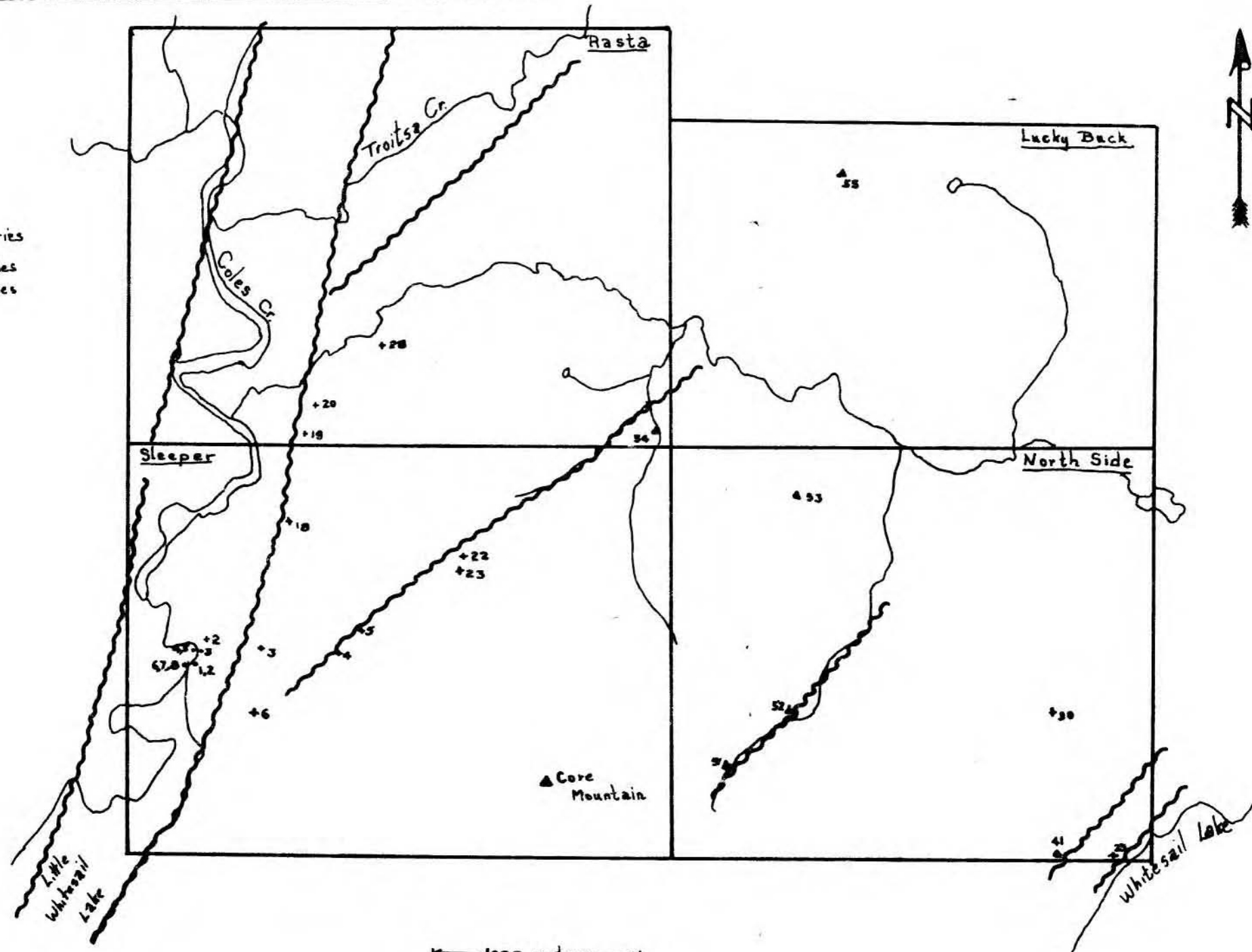


1000 meters

Tom Richards

# Sleeper Group: Rock Sample Location

- PS Series
- + BH Series
- ▲ TR Series



← 1000 meters →

Low, rolling hills to the northwest of Core Mountain and immediately east of Coles Creek are exposures of massive bedded feldspar andesite and a large, prominent flow-banded rhyolite exposed mainly south of the small west-draining creek. Bedrock exposures adjacent Coles Creek are mainly massive bedded lapilli tuffs.

Two intrusive bodies were noted. The main peak of Core Mountain is a circular pipe-like body of diorite some 200 meters diameter. A second dioritic body is a large, dyke-like unit separating the main massif of Core Mountain from the lower hills to the northwest.

Two fault systems are present. A northeast trending system (part of the Whitesail Lake fault system) cuts through Core Mountain and develops prominent north-east trending gullies in the hills to the northwest. A strong north-trending fault system parallels the Coles Creek valley. This is a major system that appears to be some 500 meters wide and contains a set of parallel structures.

#### MINERALIZATION AND ALTERATION

Few zones in the Sleeper Group revealed the presence of

anomalous mineralization, although the presence of abnormal snow conditions limited somewhat proper evaluation, particularly on the north slopes of Core Mountain.

A chalcopyrite-tetrahedrite bearing shear zone was uncovered in the canyon at the mouth of Coles Creek. Here a 1 -3 meter wide shear zone contained finely disseminated chalcopyrite and tetrahedrite as disseminations and fracture coatings. Mineralization occurs in strongly bleached, thin (5-30 cm) zones within propylitized red lapilli tuffs. Copper mineralization was noted on both sides of the creek, with anomalous silver (160 and 83 ppm Ag, PS 1 and 2 locality) only on the east bank. The zone appears to trend east-northeast, with exposures limited only to the creek canyon. A soil grid over probable extensions of the zone would be required for future evaluation.

Chalcopyrite mineralization was noted in two localities on the low hills northwest of Core Mountain and east of Coles Creek. A lower location comprised minor chalcopyrite disseminations, fracture fillings and breccia cement in a pinkish, feldspathic rhyolite. Copper is spread over 10 - 20 meter area in a wooded bluff region, where little time was spent as it was found at the very end of this examination. A specimen collected gave a single silver value of 14 ppm.

Few quartz-pyrite veins in this region showed anomalous precious metal values.

No mineralization was noted in the alpine region of Core Mountain, albeit, little time was spent there. Further exploration is required for evaluation of the north face of Core Mountain as the trace of north-east trending faults and gossan-alteration zones in gullies have been noted from distal visual examination.

TABLE OF ROCK SPECIMENS:  
(for Au/Ag analysis)

<u>Sample</u>	<u>Minerals</u>	<u>Host</u>	<u>Alteration</u>
BH 2	hm 1%, py 5%	green volcanic	greenstone
3	py 3%	volcanic + Qtz	prop
4	py ½%, gal ½%	white vuggy Qtz	prop
5	py - tr, cpy - tr	lapilli tuff	prop + Qv
6	py 3%	Qtz + Cc	prop
18	py 1%, cpy 1%	breccia + Qv	prop + Qtz
19	py - tr	rhyolite	argillic + Qv
20	py 1%	rhyolite	str argillic + Qv
22	py - tr	altered rock	argillic + Qv
23	cpy 3%, py 1%	rhyolite breccia	argillic + Qv
28	py 15%	altered rock	argillic + Qtz
29	py 10%	cherty Qv	Qv
30	py 8%	diorite	prop
PS 1	cpy 2%, py 2%, tet 1%	altered tuff	argillic + Qv
2	cpy 1%, py 2%, tet ½%	altered tuff	argillic + Qv
3	py - tr	altered rock	vuggy Qv
4	cpy - tr	green tuff	prop
5	hm, tet? - tr	breccia	ank + Qv
6	py 2%	tuff	prop, Qv, Cc
7	py - tr	tuff breccia	Qv, prop, Cc
8	py - tr	tuff, Qv	banded Qv
41	py 3%	leached rhyolite	bleached

Legend

ank = ankenite  
Cc = calcite  
cpy = chalcopyrite  
hm = hemitite  
prop = propylite  
py = pyrite

Qtz = quartz  
Qv = quartz vein  
str = strong  
tet = tetrahedrite  
tr = trace

ROCK GEOCHEMISTRY: SLEEPER GROUP

Analysed for Ag and Au (FA/AAS)

**VANGEMMEL LAB LIMITED**

1521 Pemberton Avenue  
 North Vancouver B.C. V7P 2S3  
 (604) 986-5211 Telex: 04-352578

PREPARED FOR: MR. TOM RICHARDS

NOTES: rd = none detected  
 : -- = not analysed  
 : 15 = insufficient sample

SAMPLE #	Ag ppm	Au ppb
BH-02R-84	1.3	10
BH-03R-84	16.6	30
BH-04R-84	1.0	5
BH-05R-84	6.4	20
BH-06R-84	3.3	rd
BH-18R-84	8.5	40
BH-19R-84	2.7	25
BH-20R-84	3.3	5
BH-22R-84	.7	rd
BH-23R-84	-14.1	5
BH-28R-84	.6	10
BH-29R-84	.3	10
BH-30R-84	2.8	rd
PS-01R-84	162.1	40
PS-02R-84	83.2	5
PS-03R-84	4.5	30
PS-04R-84	3.1	rd
PS-05R-84	2.9	rd
PS-06R-84	3.5	40
PS-07R-84	1.0	10
PS-08R-84	.8	10
PS-41R-84	.8	rd
TR - 51-83	.3	15
TR - 52-83	.8	10
TR - 53-83	.6	10
TR - 54-83	.4	rd
TR - 55-83	.6	5



Itemized Cost Statement, Sleeper Group

Wages:		
T. Richards, 7 days @ 300	2100.00	
J. Watkins, 1/2 day @ 300	150.00	
B. Holden, 6 days @ 150.00	900.00	
P. Suratt, 4 days @ 150	600.00	
R. Himmelright, 4 days @ 125	500.00	
Employee Expenses	637.50	
	<u>4887.50</u>	4887.50
Transportation		
Helicopter	750.00	
Fixed Wing	125.00	
Boat Charter	200.00	
Boat/motor rental	200.00	
Truck/fuel	200.00	
	<u>1475.00</u>	1475.00
Food		350.00
Camp costs, insurance, expiditing		150.00
Equipment rentals		150.00
Supplies		75.00
Office expenses		100.00
Travel, accommodation: Vancouver-Smithers		550.00
Report preparation, typing, drafting		400.00
Engineering Report		
T. L'Orsa, 30% of 1163.41		348.90
Geochemistry		<u>250.00</u>
	Total Costs	8776.40

## AUTHOR'S RESUME

Thomas A. Richards, PhD.

R. R. #1

Hazelton, B.C.

Bachelor Science; University of British Columbia,

1965

Ph.D. - University of British Columbia, 1971

1970 - 1978 : Research Scientist,

Geological Survey of Canada

Cordilleran Section

Vancouver, B.C.

1979 - Present : Mineral Exploration and

Consulting, British Columbia