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GEOCHEMISTRY AND PROSPECTING

SAMUEL MINERAL CLAIM

OMENICA M.D.

Whitesail Lake Area (93E/6).

53° 28' N; 127° 16' W

June, 1984

BY: Dr. T. A. Richards

R. R. #1

Hazelton, B.C.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

12,714

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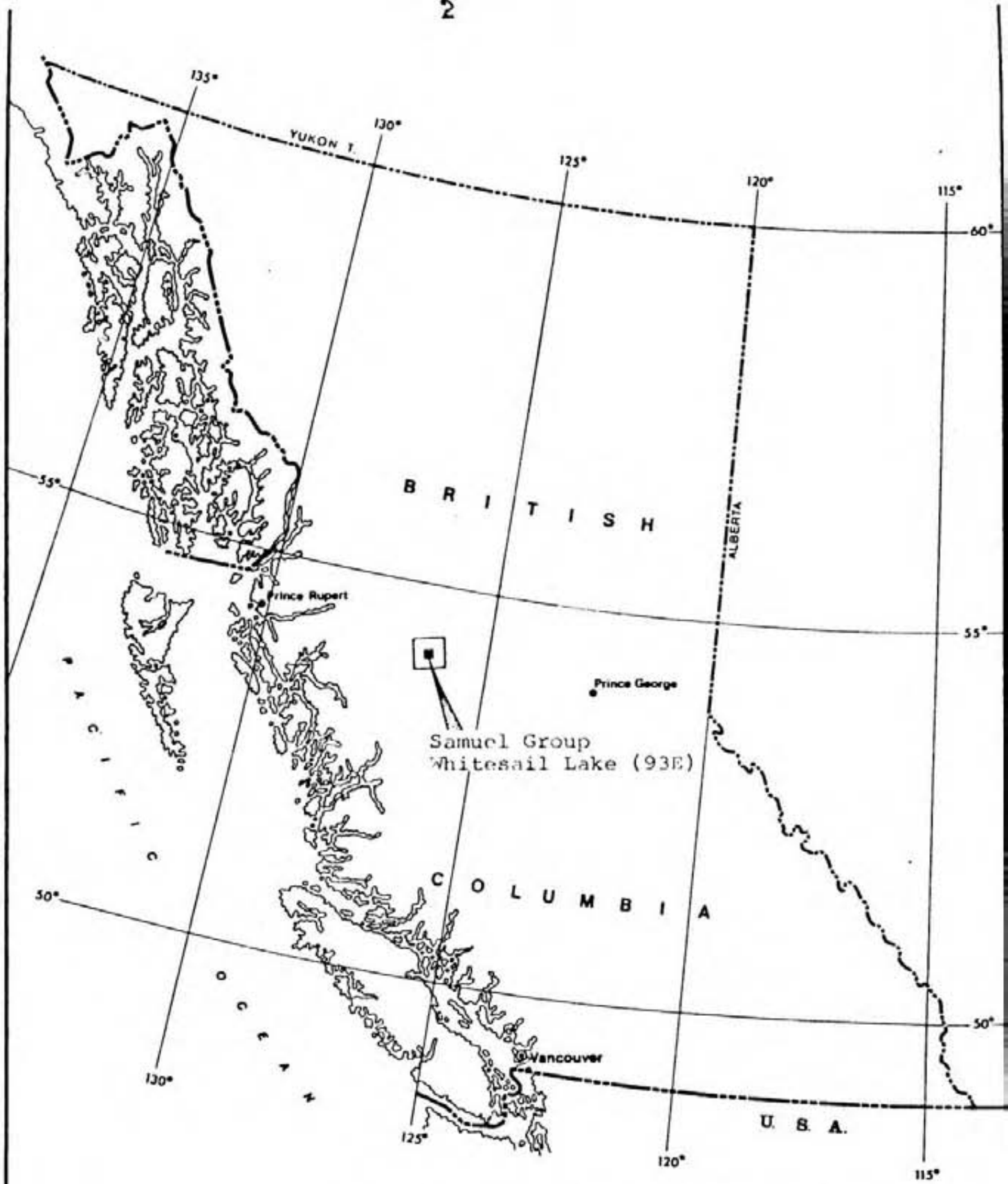
LOCATION AND ACCESS

The Samuel Mineral Claim comprises 36 units located along the north shore of Coles Lake, in the Whitesail Lake map area (93E/6W). The claims are centered at latitude $53^{\circ}28'$ and longitude $127^{\circ}16'$, 130 kilometers south of Houston, B.C.

Access is via float plane from Smithers or by helicopter from Smithers or Houston. A mobilization point is located some 25 kilometers to the north, at the end of the Tahtsa Lake-Kemano Road, 120 kilometers south of Houston.

PHYSIOGRAPHY

The claims lie along the north shore of Coles Lake (900 meters elevation) and extend northerly to elevation 1400 meters. They lie along a wooded, south facing exposure that has steep relief in its eastern exposures and low, hummocky topography in its western exposures. A prominent creek, deeply incised into the hillside bisects the claim group.



SAMUEL GROUP Mineral Claim

LOCATION MAP

OMINECA M.D., B.C.

NTS 93 E

Tom Richards

DATE: Sept. 1983

SCALE: 0 100 Miles

FIG. 1

mature balsam, spruce and hemlock underlie much of the claim. Exposures are limited to creek gullies, cliffs in the eastern part, shore line and the south-facing hills in the west. Much low s ampy land underlies the western third of the property.

HISTORY

The claims were staked in 1983 to cover exposed gossan zones and extentions of structures known to contain anomalous precious metal mineralizations.

WORK DONE

Exploration on the claims was carried out by two prospectors and a geologist working from a fly camp based on Coles Lake. Work comprised mainly prospecting and preliminary geologic investigations as no record of previous work was available.

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:

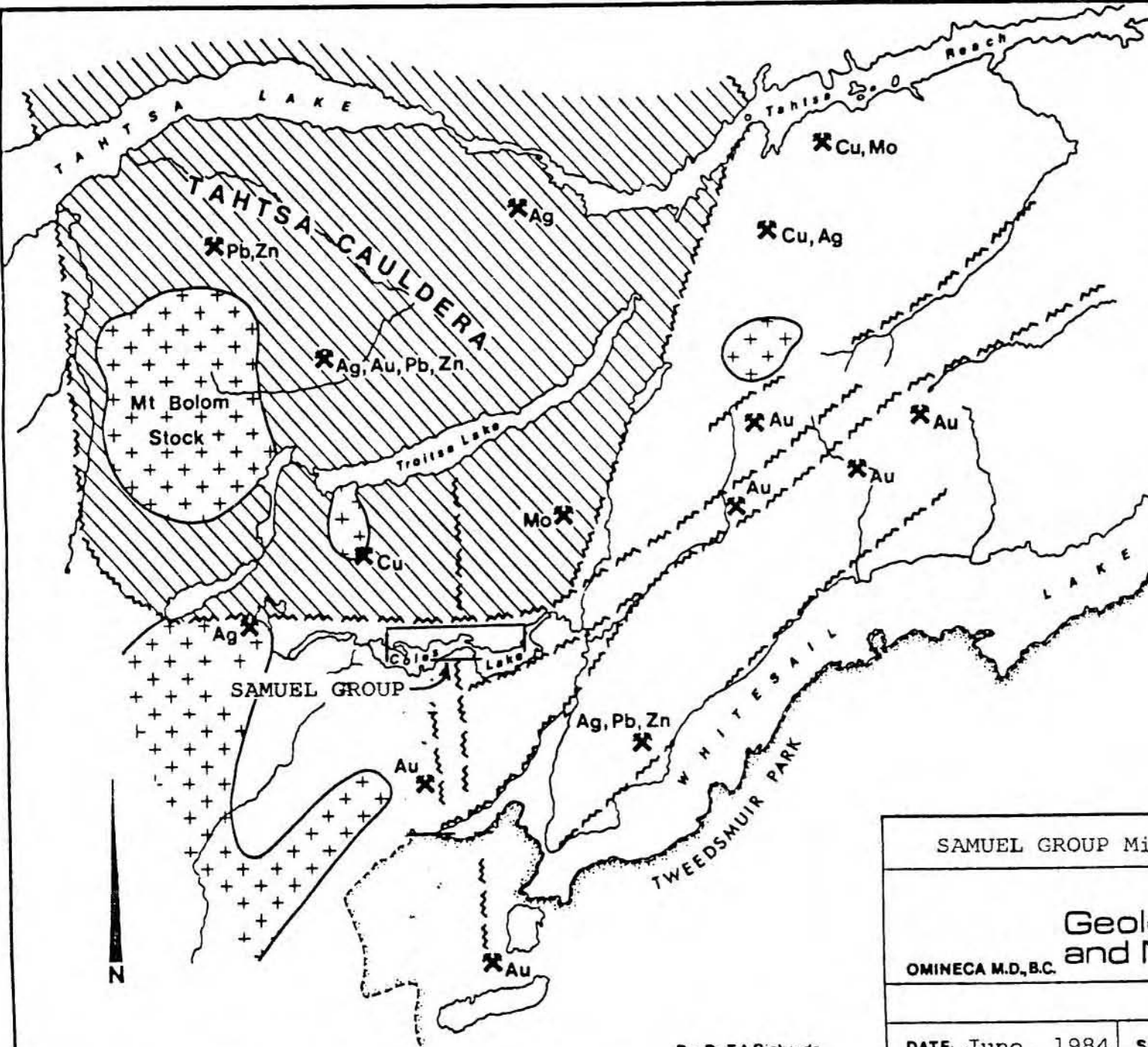
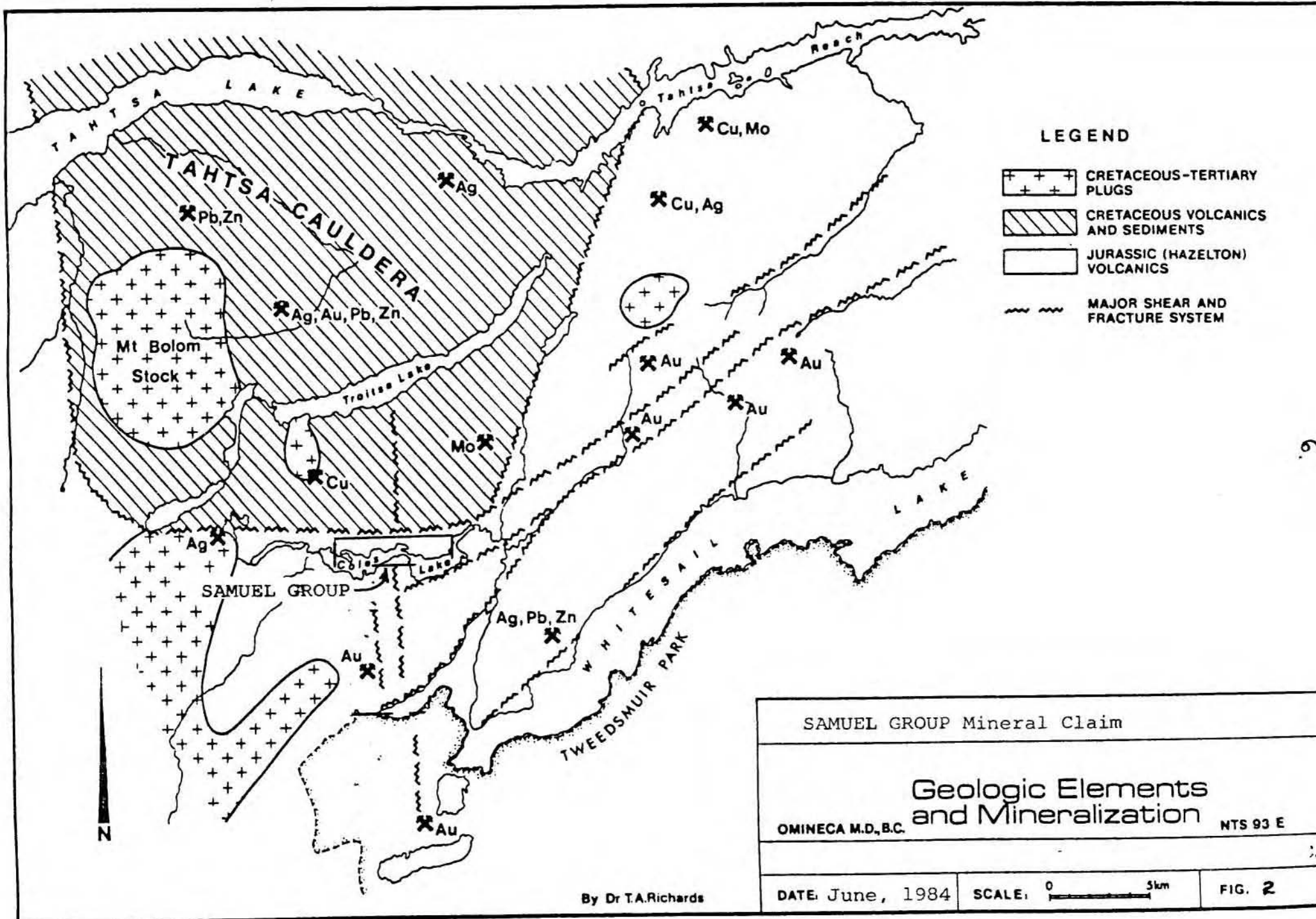
- Early Tertiary:
 - : Ootsa Lake Group; continental volcanics, rhyolite to andesite; coeval intrusives
- Upper Cretaceous - Early Tertiary:
 - : Kasalka Group, continental volcanics, rhyolite to andesite; flows, breccias, tuffs; coeval intrusives.
- Lower Cretaceous:
 - : Skeena Group; continental and shallow marine sandstone, shale, conglomerate.
- Upper Jurassic:
 - : Ashman formation; marine shale, siltstone and sandstone.
- Lower and Middle Jurassic:
 - : Hazelton 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 Samuel Group is located at the southern margin of the Tahtsa Caldera. This southern boundary is a major east-west fault zone defined by the valley occupied by Coles Lake. Large dykes and sills, up to 90 meters thick, intrusive into Skeena Group sediments define the caldera margin. These bodies merge westerly into granodiorite and quartz monzonite that appear to be apophyses of the Coast Intrusions. This area represents a region of intersection of three major fault systems that define the south boundary of the caldera,



SAMUEL GROUP Mineral Claim		
Geologic Elements and Mineralization		
OMINECA M.D., B.C.		NTS 93 E
DATE: June, 1984	SCALE: 0 5km	FIG. 2

the western extension of the northern segment of the northeast trending Whitesall Lake Fault Zone, the east-west trending southern margin of the caldera and a prominent north-south system that carries known anomalous precious metal mineralization on mineral claims (Nuspar Resources Ltd.) to the south and its extension northward to Troitsa Lake.

PROPERTY GEOLOGY

The claims lie at the extreme southern boundary of the Tahtsa Caldera. The north boundary of the claim is roughly coincident with an east-west trending fault zone marking this boundary. Linears, probably faults, parallel to this structure are numerous on the claims.

Bedrock geology comprises three units; Hazelton volcanics underlie the eastern and southern region, Jurassic sediments underlie the central part, and intrusive stocks and hornfelsed sediments underlie the western part. The three zones appear to be in fault contact with one another.

Massive bedded lapilli tuff is the main lithology underlying the areas of Hazelton strata. These are purple to reddish

units comprised of a great variety of unsorted volcanic clasts from ash to thumb size. These are particularly abundant south of Coles Lake. Massive rhyolitic to dacitic flow or hypabyssal intrusive units are interbedded with lapilli tuff in the eastern parts, and as isolated shoreline exposures by the narrows of Coles Lake.

The central part of the claims north of Coles Lake is underlain by well bedded dark gritty siltstone, grey-wacke, cherty tuff and minor breccia. Exposures are limited to creek gullies. Bedding tends east-west and dips northerly. Rhyodacite and andesite dykes and sills are present.

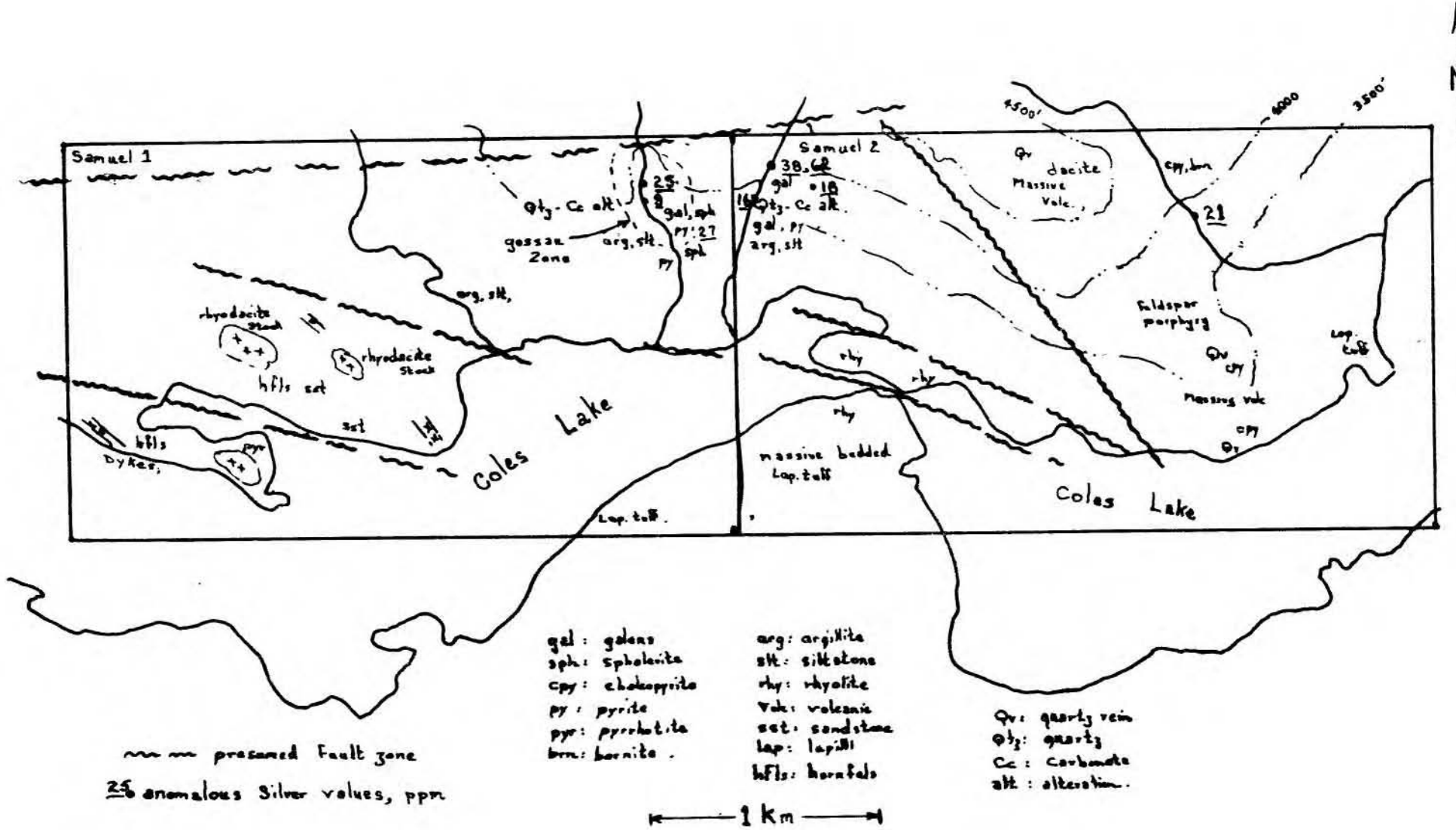
The western portion of the claims is underlain by a variety of intrusive rocks, mainly rhyodacite with porphyritic andesite and diabase. The prominent small hills are composed of fine-grained rhyodacite stocks and adjacent hornfelsed sediments. Along the shoreline of Coles Lake, the rocks are a mixture of dykes, hornfelsed sediments and tuffs. These intrusive units are correlative with the Upper Cretaceous Kasalka Volcanics.

Samuel Mineral Claim

Omanica M.D.

Whitesail Lake; 93E16

Sketch: Geology & Mineralization



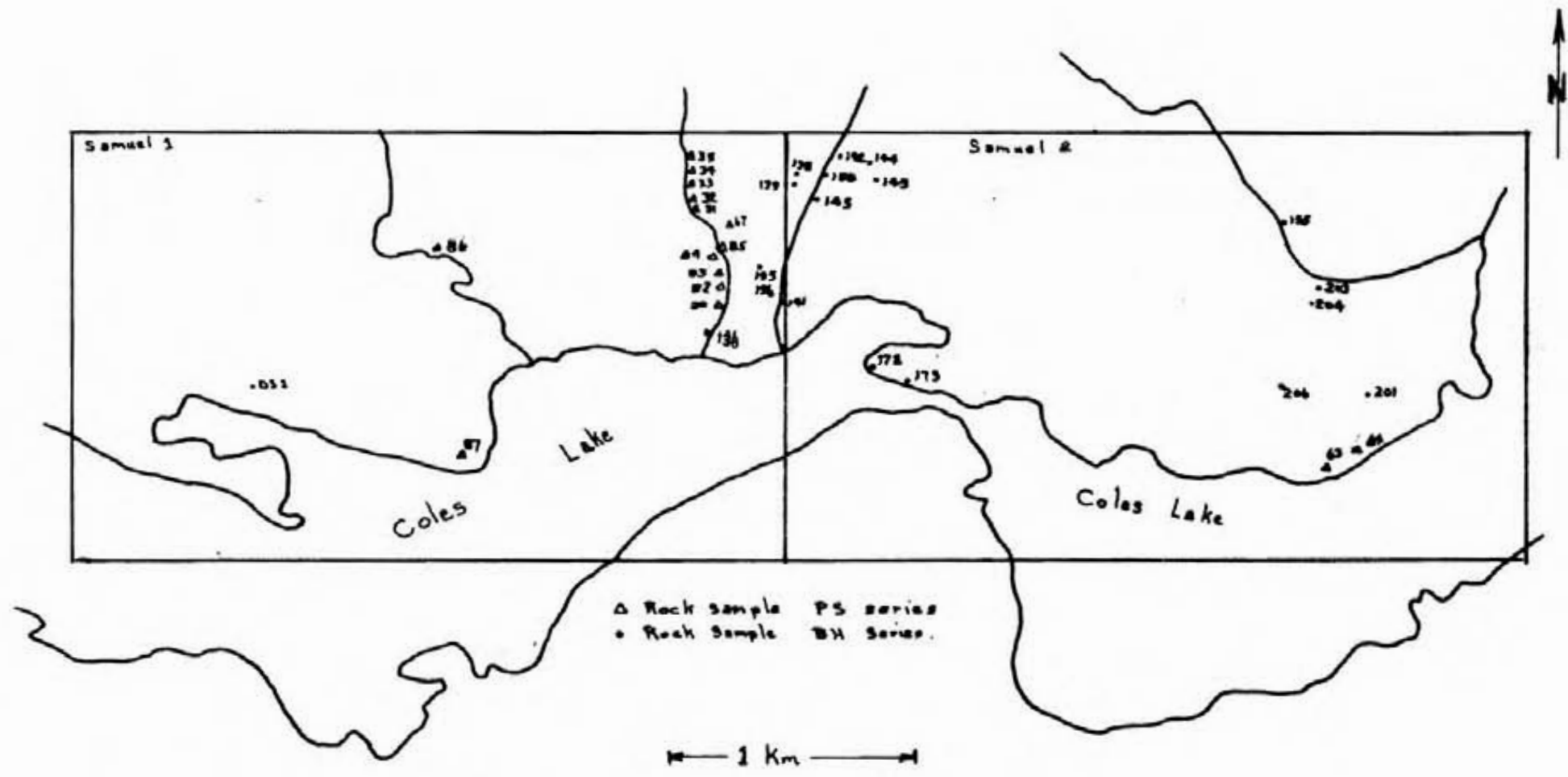
Samuel Mineral Claim

Omenica M.D.

Whitesail Lake 93E/6

Sketch: Sample Location, rock samples

10:



Geochemical data in accompanying table

Faults appear to be numerous on the property. Definitive faults were noted only in the two creeks traversing the property, these being of minor scale. Major faults are inferred from the juxtaposition of Hazelton volcanics against sedimentary rocks coincident with prominent linear zones trending mainly east-west. It is likely the claims overlap a major fault zone defining the southern boundary of the Tahtsa Caldera.

MINERALIZATION AND ALTERATION

Two areas contained anomalous mineralized zones, one in the incised creeks bisecting the claim group, and the other on the eastern part of the group. Sulphides were noted elsewhere but of minor significance.

Within the canyons carved by two small creeks in the north central part of the claims is a well developed quartz-calcite ankerite alteration zone associated with east-west shearing containing disseminated and fracture fillings of galena, sphalerite, chalcopryrite and pyrite. Mineralization is widely distributed in outcrop and float. Within the zone are centimeter to meter-wide silicic alteration zones and

quartz cemented breccias. Calcite veining and stringers are abundant, with lesser ankerite and siderite. Barite was noted in one locality. Silver values to 62 ppm were noted, with five values between 16 and 38 ppm Ag. No significant gold values were noted. Alteration and mineralization is hosted in early Upper Jurassic sediments and is probably associated with shearing and dyking related to the Tahtsa Caldera.

The second anomalous zone comprises pyrite, chalcopyrite and bornite bearing quartz veins and stringers in Hazelton volcanics. A single value of 20 ppm Ag from a quartz vein constitutes the anomaly.

Pyrrhotite was noted on some of the hornfelsed sediments in the western areas. A small gossan zone and proximal quartz vein float was noted south of Coles Lake.

ROCK GEOCHEMISTRY: SAMUEL GROUP

Analysed for Ag and Au (FA and AAS)

VANGEOCHEM LAB LIMITED

1521 Pemberton Avenue

North Vancouver B.C. V7P 2S3

(604) 986-5211 Telex: 04-352578

PREPARED FOR: MR. TOM RICHARDS

NOTES: nd = none detected

: -- = not analysed

: is = insufficient sample

SAMPLE #	Ag	Au
	ppm	ppb
BH136R-83	.1	nd
BH138R-83	.2	nd
BH139R-83	.3	10
BH141R-83	.6	nd
BH142R-83	37.8	10
BH144R-83	63.8	10
BH145R-83	16.1	10
BH149R-83	18.2	nd
BH150R-83	.4	nd
BH155R-83	20.8	40
BH195R-83	.3	nd
BH196R-83	3.6	35
BH197R-83	.2	nd
BH198R-83	.5	10
BH201R-83	.4	nd
BH203R-83	.5	nd
BH204R-83	.2	nd
BH206R-83	.4	nd
BH212R-83	.5	nd
DS - 1-83	nd	15
PS -67R 80	22.4	50
PS -31R 83	.4	nd
PS -32R 83	.2	nd
PS -33R 83	8.9	nd
PS -34R 83	25.2	30
PS -34R 83	1.4	5
PS -35R 83	.1	30
PS -80R 83	8.5	nd
PS -82R 83	1.3	nd
PS -83R 83	4.5	30
PS -84R 83	.2	nd
PS -85R 83	.3	nd
PS -86R 83	2.7	10
PS -87R 83	.1	nd

Itemized Cost Statement, Samuel Group

Wages:		
P. Suratt 5 days/ 150	750.00	
B. Holden 5 days/ 150	875.00	
D. Smith 5 days/ 100	500.00	
B McLaughlin 5' days/100	550.00	
T. Richards 2 days/ 300	600.00	
Employee Expenses	<u>483.75</u>	
	3708.25	3708.75
Transportation:		
Fixed Wing	113.49	
Helicopter	117.35	
Truck/fuel	<u>114.00</u>	
	1344.84	1344.84
Food		456.00
Boat/motor rental		150.00
Camp costs, insurance, expiditing		140.00
Geochemistry		408.00
Equipment rentals		150.00
Supplies		75.00
Office expenses,		75.00
Report preparation, drafting, typing		<u>250.00</u>
	Total costs	6757.59

AUTHOR'S RESUME

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1965

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