

84-1007-13070

8/88

PROSPECTING REPORT

CINDERELLA GROUP

OMENICA M.D.

Whitesail Lake Area (93E/6)W

53° 27' N 121° 20' W

1984

Owner/op. C. A. Gardison

By: Dr T.A. Richards
RR#1, Hazelton, B.C.
VOJ 1Y0

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,070

TABLE OF CONTENTS

Location and Access	1 /
Physiography	1 /
Work Done	3 /
Regional Geology	3 /
Local Geology	5 /
Property Geology	7 /
Mineralization and Alteration	9 /
Itemized Cost Statement	13 /
Authors Resume	14 /

TABLES

Rock Geochemistry	12 /
Silt Geochemistry	12 /

FIGURES

Location Map	2 /
Local Geological Elements	6 /
Prospecting Data	8 /

LOCATION and ACCESS

The Cinderella Group claims are located in the Omenica Mining Division, in the Whitesail Lake map sheet, (93E/6). Its approximate position is $53^{\circ} 27'$ north latitude and $127^{\circ} 20'$ west longitude, and covers the terrains between the west ends of Coles and Little Whitesail Lakes.

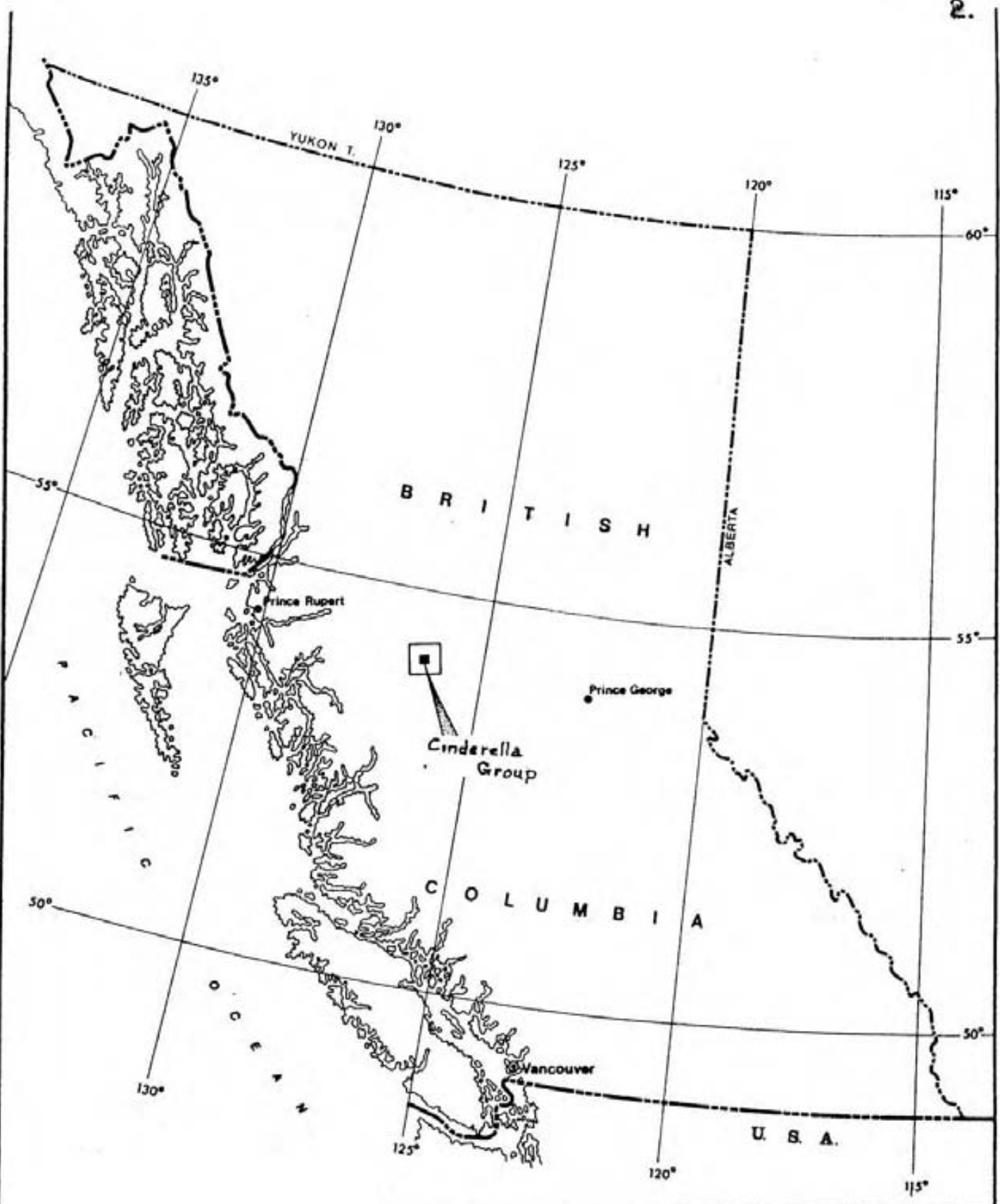
Access is by float plane or helicopter, some 140 kilometers south of Smithers, B.C. Boat and barge access is possible from Ootsa Lake, along Whitesail Lake into Little Whitesail Lake which takes one onto the southern extremity of the property. Mobilization onto the property by air is convenient from the southern termination of the Kemano-Tahtsa road, 95 kilometers south of Houston and 25 kilometers north of Coles Lake.


PHYSIOGRAPHY

The property lies within the transition zone between the Coast Mountains and the Intermountain Belt. The claims lie within the southern extension of the Tahtsa Ranges. Relief ranges from 950 meters (3100 feet) at Coles Lake, and 870 meters (2800 feet) at Little Whitesail Lake, to a maximum of 1950 meters (6500 feet) on an unnamed mountain near the southern portion of the claims.

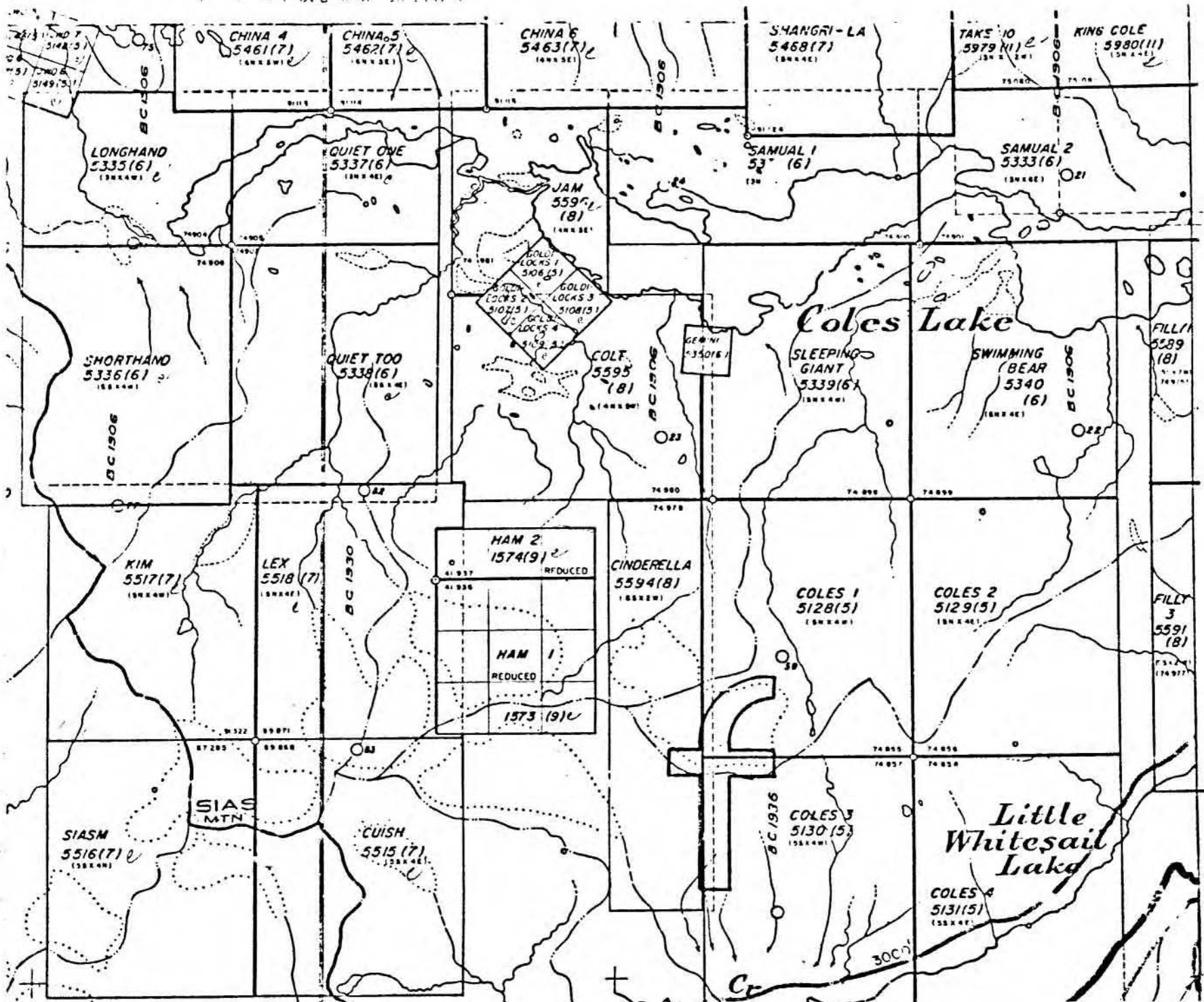
The northern portion of the claim is underlain by an undulating topography rising steadily from Coles Lake to a prominent rounded 1950 meter mountain to the south, some five kilometers distance. The topography of the south part of the claim drops off abruptly from the height of land via steep cliffs towards Little Whitesail Lake. Tree line is about 1380 meters (4500 feet) elevation. Scrub and overmature spruce and balsam are the main tree species. Undergrowth is moderate.

North-flowing streams are deeply incised between 1200 and 1500 meters elevation. Below, they are broad, gravelly channels with intermittent bedrock exposures. Exposures on the property is poor, being less than 5% below 1500 meters.

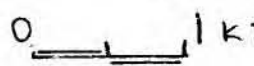


Cinderella Group Claims		
LOCATION MAP		
OMINECA M.D., B.C.		NTS 93 E
Tom Richards		
DATE: Sept. 1983	SCALE: 0  100 miles	FIG. 1

53°30'



CLAIM MAP
1:50000



WORK DONE

Three men spent a total of 10 man-days prospecting and evaluating the claims in August, 1983, supported by a cook and labourer. No previous work was noted on the ground. 30 rock and 5 silt samples were sent to Vangeochemical Laboratories for geochemical analysis. Streams were silted but samples collected were not sent for analysis as they did not represent properly collected samples.

REGIONAL GEOLOGY

The property lies astride the boundary between the Coast Crystalline Complex and the Intermontane Belt. Stratified and intrusive rocks range in age from Upper Triassic to Early Tertiary. A stratigraphic column of these units is outlined below:

Early Tertiary

Ootsa Lake Group; continental volcanics of rhyolite to basaltic composition, mainly pyroclastic rocks in the acidic members and flow in the intermediate and basic. Coeval intrusives and subvolcanic dykes, plugs, necks and small stocks.

Upper Cretaceous

Kasalka Group; continental volcanics; rhyolite, dacite, and andesite ash flows, flows, breccias, tuffs and lahar; intravolcanic conglomerate, sandstone and lacustrine sediments. Coeval intrusives, dykes, plugs, stocks. May appear similar to Ootsa Lake Group in isolated exposures.

Lower Cretaceous:

Skeena Group; fluvitile, deltaic and shallow marine shale, siltstone, sandstone and conglomerate with quartz, chert, muscovite and volcanic detritus.

WORK DONE

Three men spent a total of 10 man-days prospecting and evaluating the claims in August, 1983, supported by a cook and labourer. No previous work was noted on the ground. 30 rock and 5 silt samples were sent to Vangeochemical Laboratories for geochemical analysis. Streams were silted but samples collected were not sent for analysis as they did not represent properly collected samples.

REGIONAL GEOLOGY

The property lies astride the boundary between the Coast Crystalline Complex and the Intermontane Belt. Stratified and intrusive rocks range in age from Upper Triassic to Early Tertiary. A stratigraphic column of these units is outlined below:

Early Tertiary

Ootsa Lake Group; continental volcanics of rhyolite to basaltic composition, mainly pyroclastic rocks in the acidic members and flow in the intermediate and basic. Coeval intrusives and subvolcanic dykes, plugs, necks and small stocks.

Upper Cretaceous

Kasalka Group; continental volcanics; rhyolite, dacite, and andesite ash flows, flows, breccias, tuffs and lahar; intravolcanic conglomerate, sandstone and lacustrine sediments. Coeval intrusives, dykes, plugs, stocks. May appear similar to Ootsa Lake Group in isolated exposures.

Lower Cretaceous;

Skeena Group; fluvatile, deltaic and shallow marine shale, siltstone, sandstone and conglomerate with quartz, chert, muscovite and volcanic detritus.

Upper Jurassic:

Bowser Lake Group; fluvitile, deltaic, shallow marine and distal marine siltstone, shale, sandstone and conglomerate, minor grey limestone interbeds; mainly volcanic detritus

Middle and Lower Jurassic:

Hazelton Group; Island Arc marine and nonmarine calcalkaline volcanics; dominantly fine to coarse grained, reddish to maroon lapilli tuffs; includes rhyolitic to basaltic flows, tuffs, breccias, lahars and intravolcanic marine and nonmarine sediments; minor limestone. Coeval stocks and batholithic bodies of the Topley Intrusions.

Upper Triassic

Takla Group; Dominated by massive to bedded, green augite porphyry flows, breccias, tuffs and volcanic sediments, mainly marine. Interbedded, thin bedded dark grey shale, siltstone and greywacke, locally limestone.

Upper Paleozoic

Interbedded, massive limestone, argillite, siltstone; rhyolitic to a desitic volcanic flows, breccias, and tuffs.

Upper Paleozoic to Early Tertiary

Coast Crystalline Complex; Interlayered metasediments and metavolcanics ranging from greenschist to amphibolite facies assemblages. Gabbroic to granitic complexes and bodies, dykes, stocks and batholiths.

Strata of the Hazelton and Skeena Groups blanket the western part of the Intermontane Belt from the headwaters of the Stikine River to south of the Bella Coola highway. The Bowser Lake Group is generally confined to regions north of latitude $54^{\circ} 40' N$. Volcanic strata of the Kasalka and Ootsa

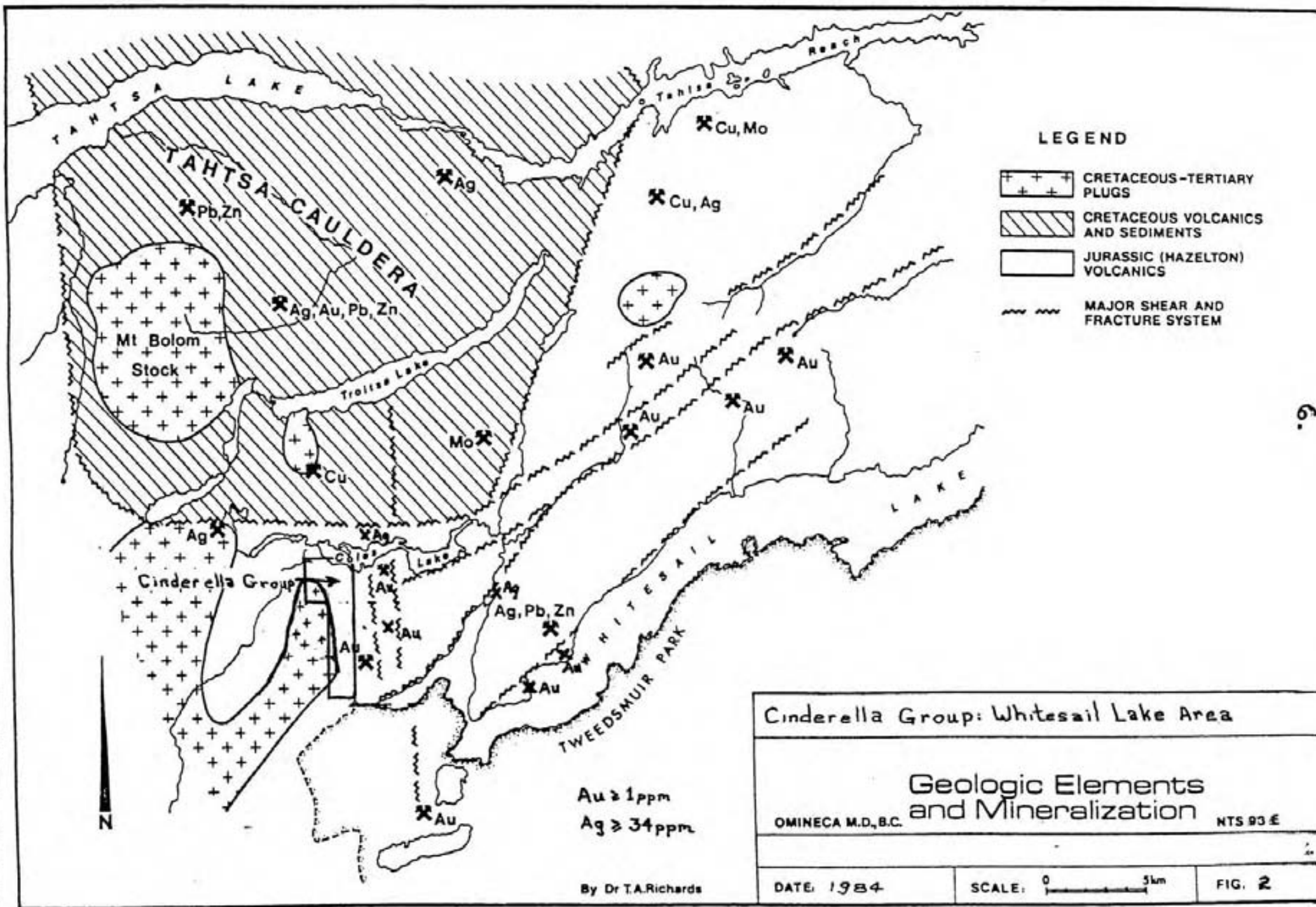
Lake Groups are restricted to isolated areas up to 800 square kilometers throughout westcentral British Columbia. Strata of the Upper Triassic Takla Group is exposed mainly in the eastern part of the Intermontane Belt, with isolated, fault bounded exposures scattered throughout.

The structure of the Intermontane Belt in westcentral British Columbia is dominated by faults. Two major systems are present, a prominent northwest trending system and a east-northeast trending system. These patterns strongly accentuate the present geomorphological pattern of west-central B.C. Long, linear fault zones, block faults (Basin and Range) and down-drop volcanic basins combine to define this geologic and geomorphic geometry. Folding is of secondary importance, confined mainly to well-bedded sediments in proximity to fault zones and intrusives, or where the regional lithologies are almost entirely composed of sedimentary rocks. Large areas underlain by Bowser Lake and Skeena Group strata are usually folded.

LOCAL GEOLOGY

The geology surrounding the Cinderella Group claims includes most of the geologic elements discussed above. Basement rocks to the area are mostly reddish coloured lapilli tuffs of the Hazelton Group and isolated exposures of black, laminated sediments of probable Upper Triassic age. Overlying unconformably and disconformably these older strata are shallow marine and fluvatile clastics of the Skeema Group, which is, in turn, unconformably overlain by the Late Cretaceous Kasalka Group volcanics.

The local region is dominated by a major down-drop volcanic structure termed the Tahtsa Caldera. This is a volcanic basin measuring some 40 kilometers north-south by 20 kilometers east-west. Within the caldera, Skeena Group sediments are overlain by in excess of 1000 meters of Kasalka volcanics and intruded by coeval, subvolcanic intrusions. The boundaries of the caldera are controlled by an array of ring and radial fault structures.



Cinderella Group: Whitesail Lake Area

Geologic Elements and Mineralization

OMINECA M.D., B.C.

NTS 93 E

DATE: 1984

SCALE: 0 5km

FIG. 2

By Dr T.A. Richards

$Au \geq 1 \text{ ppm}$
 $Ag \geq 34 \text{ ppm}$

The Cinderella claims are located adjacent the southern boundary of the caldera, within the older Jurassic and Triassic strata. Immediately west of the Tahtsa Caldera is exposed assemblages of the Coast Crystalline Complex. Apophyse of granodioritic intrusives from batholithic bodies that are part of the Coast Crystalline Complex intrude the western boundary of the Intermontane Belt, including the southwest margin of the caldera and the Cinderella claims.

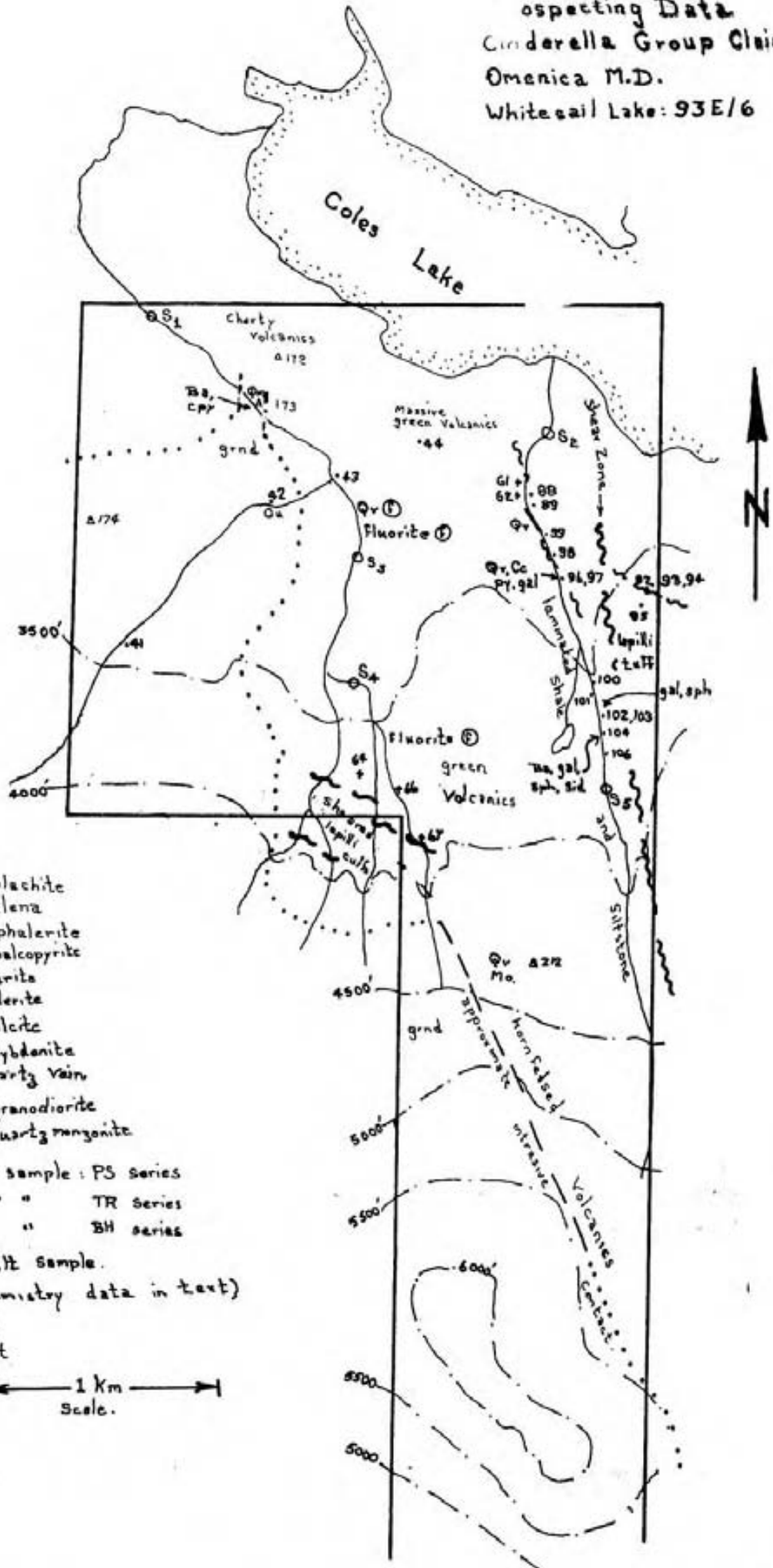
PROPERTY GEOLOGY

The property is underlain by three rock assemblages; red and green lapilli tuffs and fine breccias of the Jurassic Hazelton Group, thin bedded siltstone and shale of the Upper Triassic Takla (?) Group and granitic bodies and associated dykes that represent apophyse from the Coast Crystalline Complex.

Volcanic rocks are exposed south of Coles Lake and on slopes above 4000 feet elevation. Most of these exposures comprise massive lapilli tuff, breccia and feldspar porphyry. They are variably altered, sheared and hornfelsed into epidote-chlorite greenstone when in proximity to large intrusive bodies. Away from faults and granitic bodies, they are reddish coloured.

In a northerly flowing creek near the east boundary of the claims (east boundary creek), thin, even-bedded to laminated, interbedded dark-to light grey shale, siltstone and greywacke are exposed in a prominent canyon. Thin-bedded light coloured cherty tuffs and dark grey limestone lenses are a distinctive, but minority part of this assemblage. It is very planar bedded, with exposures forming conspicuous slabs generally striking north-west and dipping steeply north-east. Definitive age of this assemblage is unknown, but is probably correlative with black, laminated clastics elsewhere in the region of Upper Triassic age.

Aspecting Data
 Cinderella Group Claims
 Omernia M.D.
 Whitesail Lake: 93E/6



- Cu : malachite
- gal : galena
- sph : sphalerite
- cpy : chalcopyrite
- Ba : barite
- sid : siderite
- Cc : Calcite
- Mo : molybdenite
- Qv : quartz vein
- grnd : granodiorite
- Qm : quartz monzonite
- rock sample : PS Series
- + " " " TR Series
- Δ " " " BH Series
- OS_i silt sample.
- (geochemistry data in text)
- ⊙ Float
- ~ Fault

1 Km
 Scale.

The western portion of the claims are underlain by granitic rocks of probable Early Tertiary age. These are mainly even-grained granodiorites and quartz diorites that are broadly uniform in composition. Contacts with the volcanics, seen mostly above 4500 feet elevation, are abrupt with little evidence of chilling. Dykes are common. They are mostly leucocratic, fine-grained rhyodacitic bodies trending both northwesterly and easterly, with verticle dips. One dyke, in the west central part of the claim, is a composite body composed of diabase and rhyolite.

Fault zones are important on the property as they are correlative with mineralization and alteration. The most prominent fault zone is a north-west trending crush zone that parallels the east boundary creek. The lower portion of this creek is within the fault zone, while further upstream, it runs subparallel to, and immediately east of the creek. This is a major fault zone as it separates the thin-bedded Triassic strata from the massive-bedded Jurassic volcanics to the east. Other, parallel, fault zones were noted. The intensity of these is obscured by a lack of exposure.

MINERALIZATION AND ALTERATION

Mineralization was noted in seven separate areas on the property, with the highest potential in and adjacent to the east boundary creek.

In the lower portion of this creek, numerous quartz veins, stringers and box-works are exposed in strongly propylitized and sheared volcanics. Minor argillic alteration is common as selvages to these veins. Pyrite is present up to 1% as fine-grained, isolated crystals in both vein and propylite. No significant gold or silver values were obtained from six grab samples. Here, rhyolitic dykes are common.

Up-creek from this propyllite zone, commencing below samples PS-96 and 97, outcrops in the creek are well-bedded fine-grained clastics. A major fault zone parallels the creek and is exposed in side-gullies immediately east of the creek. Within the shear zone, in fault breccias and in veins, stringers and boxworks associated with the fault zone are occurrences and showings of galena, reddish-brown sphalerite, pyrite and minor chalcopyrite. These occur as disseminations, splashes, and masses within a variable gangue composed of quartz, calcite, siderite, ankerite and barite as well as disseminations within the sedimentary rocks and in sheared, crushed rock. These zones are incompletely investigated. Mineralized zones are narrow, (5 to 20cm) and discontinuous as exposed. Weakly anomalous silver was present in some of the rock samples analysed (to 7.5 ppm Ag in rock).

East of the creek, and east of the fault zone, 10 to 50 cm, vuggy quartz veins are poorly exposed in side creeks hosted in propyllitized lapilli tuffs. Pyrite (to 2%) was the only sulphide noted.

A minor occurrence of chalcopyrite and barite was noted in an ankerite altered shear zone in granitic rocks in a small canyon cut in the northwest part of the claim.

Malachite stain was noted in the north-east fork in the western creek, about 300 meters from the forks. Granodiorite rocks here are weakly altered with chloritized mafics, saussuritized feldspar and epidote.

Ankeritic-carbonate-quartz shear zones were noted in a series of gullies near the headwaters of the east fork of the western creek. These zones are up to 10 meters wide and contain up to 2% pyrite. They are irregular in width, pinching out along strike (east-west). One zone (TR-67) contained the highest silver anomaly noted on the property with 42.8 ppm silver.

A glassy, milky to transparent quartz vein, 60cm wide is exposed in hornfelsed volcanics near the 4500 foot contour. This vein contained disseminated molybdenite, minor pyrite and the highest gold geochemical anomaly noted on the property at 65 ppb gold.

VAN GEOCHEM 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

PS -41R 83	.	nd	nd
PS -42R 83		2.3	nd
PS -43R 83		.3	10
PS -44R 83		.2	nd
PS -88R 83		.4	15
PS -89R 83		.5	nd
PS -92R 83		nd	nd
PS -93R 83		.2	nd
PS -94R 83		.2	nd
PS -95R 83		.7	nd
PS -96R 83		2.7	nd
PS -97R 83		3.4	nd
PS -98R 83		.2	nd
PS -99R 83		.3	nd
PS -100R 83		.2	10
PS -101R 83		.1	20
PS -102R 83		1.2	nd
PS -103R 83		.2	nd
PS -104R 83		1.2	nd
PS -105R 83		7.5	nd
PS -106R 83		.8	nd
BH172R-83		.2	nd
BH173R-83		.3	nd
BH174R-83		.5	nd
BH212R-83		.5	65
TR - 61-83		.6	15
TR - 62-83		nd	nd
TR - 64A -83		.8	nd
TR - 64B -83		.8	nd
TR - 66 - 83		.6	10
TR - 67 - 83		42.8	nd
		Ag (ppm)	Au (ppb)
DETECTION LIMIT		0.1	5

Silt Samples

Sample	Cu	Pb	Zn	Ag	Mn	As	Sb	Au	Hg
S-1	24	23	61	0.2	365	6	2	10	15
S-2	21	22	88	0.3	311	20	4	nd	20
S-3	24	16	46	0.2	301	5	2	10	20
S-4	24	21	60	0.3	363	5	2	25	15
S-5	18	12	43	0.2	498	10	2	nd	25

Au & Hg: in ppb
 others in ppm

ITEMIZED COST STATEMENT

Wages		
B. Holden 3½ days.....	525.00	
P Suratt 3 days.....	450.00	
T. Richards 3 days.....	900.00	
D. Smith 3 days.....	300.00	
Barb McLaughlin 3 days.....	300.00	
Employee expenses.....	495.00	2970.00
Transportation		
Helicopter.....	570.00	
Fixed Wing	175.00	
Boat/motor/fuel	150.00	
Truck/fuel	100.00	995.00
Food		250.00
Geochemistry		480.00
Equipment rentals		75.00
Supplies		95.00
Office expenses/expiditing/insurance		105.00
Travel/accomodation		150.00
Report preparation/drafting/secretarial		<u>500.00</u>
Total Costs		5620.00

AUTHORS RESUME

Address:

Dr. T.A. Richards
RR# 1,
Kispiox Valley Road,
Hazelton, B.C.
VOJ 1Y0

Education:

BSc, Honours Geology,
University of British Columbia,
1965

PhD,
University of British Columbia,
1971

Geological Experience:

1963-65
Summer Field work, Mineral Exploration

1966-69
PhD Field Research

1970-71
Senior assistant,
Geological Survey of Canada

1972-78
Research Scientist, Regional Field Geology
Cordilleran Section
Geological Survey of Canada

1979-present
Regional Mineral Exploration and consulting

Dr. T.A. Richards

Tom Richards